



Healthy Rivers
PLAN FOR CHANGE

Wai ora

HE RAUTAKI WHAKAPAIPAI

Regional Council approaches to diffuse discharges and water quality

20 March 2014

Collaborative Stakeholder Group Healthy Rivers: Wai Ora Project

Policy work stream report for discussion at CSG meeting 5

Disclaimer

This report has been prepared by Waikato Regional Council policy advisors for the use of Collaborative Stakeholder Group Healthy Rivers: Wai Ora Project as a reference document and as such does not constitute Waikato Regional Council's policy.

1 Purpose

To provide the Collaborative Stakeholder Group with a brief description of current (early 2014) regional council approaches to set water quality limits and methods to manage adverse effects of diffuse discharges, under the National Policy Statement for Freshwater Management.

2 Methodology

A desktop document review of regional plans that address effects of diffuse discharges on water bodies was undertaken by a WRC policy staff member, with clarification phone calls to policy advisors in each of the councils. The topic headings below were used to focus the search for information. Caveats on information contained in this report are that:

- Information will become rapidly out of date as plans are altered through consultative processes, drafting, and changes through the First Schedule process including Environment Court
- The methodology did not include assessment of all of the associated Resource Management Act section 32 documents¹, thus the different context, background and alternatives considered by each council were not analysed
- Even when clarification was sought from staff at the different councils, the underpinning principles or rationale for the policy approach was not always articulated
- Some councils reviewed water take and use at the same time as water quality, but these aspects are not summarised in Table 1.
- No comparison of the relative merits of the different regional council approaches has been made.

The resulting description of each council approach is summarised in Table 1 under the following topic headings:

1. Overall outcome sought
2. Contaminants of concern and link to landowner actions
3. Receiving water body limit – how is it written?
4. Process² followed to decide on limits?
5. For farmers: What is expected at a property level?
6. Allocation. For instance, how are discharge rights allocated amongst individuals and land use sectors?
7. Reductions in concentration or load required and how will they be achieved?
8. Nutrient trading allowed for?
9. Overseer™ model - is it used and if so is the version specified?

Regional Council plans considered included:

1. Canterbury Regional Council Land and Water Proposed Plan
2. Canterbury Regional Council sub regional plan Selwyn Waihora Variation 1
3. Waikato Regional Council (WRC) Regional Plan Chapter 3.10 Lake Taupo Catchment
4. Environment Bay of Plenty Lake Rotorua Plan review
5. Manawatu Wanganui Regional Council One Plan³
6. Otago Regional Council Proposed Plan Change 6A (Water Quality)

¹ Section 32 of the Resource Management Act (RMA) sets out detailed requirements for councils to undertake and publically notify an evaluation of the appropriateness of its RMA objectives and the effectiveness and efficiency of alternative policies, methods and rules, when it publically notifies any Resource Management Plan, Plan Change or variation to a Plan.

² International Association of Public Participation (IAP2) defines a spectrum of increasing level of public impact on policy decision making, from Inform, Consult, Involve, Collaborate and Empower. Each level has a different 'promise to the public'.

³ Environment Court interim decisions version 2012 upheld by a 2013 High Court decision to dismiss the appeals

Other council plans with water quality limits and methods to achieve them, that were considered but not included in Table 1 are:

- i. Southland Regional Council Plan Change 13 New Dairy Farms
- ii. Hawkes Bay Regional Water Plan (Tukituki catchment)

Reasons for not including information about these sub regional plans are that they are either very narrow in focus (Southland Plan Change 13) or awaiting decisions that may substantially change the content (Hawkes Bay). They are described briefly below.

Southland Regional Council decisions for Plan Change 13 were notified in March 2014. It seeks to manage water quality risk posed by new dairy farms by requiring a discretionary activity resource consent⁴ for the change of land use. The new rule requires the documentation of risks and measures to avoid or mitigate risks to water quality, in what is termed a Conversion Environmental Plan.

Hawkes Bay Regional Council Tukituki River Catchment Plan Change 6 was notified in 2013, and set nitrogen and phosphorus water quality limits in the River. It relied on farm plans to mitigate effects of diffuse discharges, and future development of industry-led property-level targets. In mid 2013, the Minister for the Environment made the Plan Change part of the Ruataniwha Environmental Protection Authority process, as it is downstream from this major water storage project. Hawkes Bay Regional Council is expecting the Board of Inquiry to release its decision at the end of April 2014.

3 Overview

Note: For additional legislative background and context on regional plans, and more description about the Waikato Regional Plan Chapter 3.10 Lake Taupo Catchment see:

1. *“Statutory and Planning Context for Healthy Rivers - Plan for Change/Wai Ora - He Rautaki Whakapaipai” WRC document number 2372369 handed out to the Collaborative Stakeholder Group at CSG Workshop 1, on 28 March 2014.*
2. *“Case Study: Lake Taupo catchment property-level nitrogen discharge limits”. WRC document number 3034258. For Collaborative Stakeholder Group Healthy Rivers: Wai Ora Project. Policy work stream report for discussion at CSG workshop 2.*

Brief history of regulating effects of discharges under the Resource Management Act

The Resource Management Act (RMA) was enacted in 1991. In terms of managing adverse effects on water, regional councils had already been regulating point source discharges, such as municipal and industrial discharges to land and water, using previous legislation. The first generation of regional plans under the RMA were developed and notified in the mid to late 1990s. The new RMA plans continued to require improvements in the quality of point source discharges through resource consent processes.

In contrast, addressing diffuse or non point source⁵ discharges of nitrogen and phosphorus, microbes and sediment, historically focused on non regulatory tools such as providing information, extension, and financial incentives. Regulatory exceptions to managing diffuse

⁴ A discretionary activity is an activity in an RMA plan that requires application for a resource consent from the council, which may be granted with conditions, or declined.

⁵ The terms 'diffuse discharges' and 'non point source discharges' are often used interchangeably. These are discharges that cannot be traced back to a single point, such as a storm water pipe.

contaminant discharges tended to focus on a handful of land management practices, for example plantation forestry harvesting, disposal of dairy shed, chicken and piggery effluent.

In the Waikato, some of the rules in the Regional Plan that control diffuse contaminant discharges require resource consent, but the majority are permitted activities. At the time it was publically notified in 1998, the Regional Plan was described as 'enabling'⁶.

While the Waikato Regional Plan had over 80 permitted activity rules when it was notified, it was silent about some activities that result in diffuse discharges to land where they may enter water. This was also the case for other regional plans, despite the presumption in section 15(1)(b) of the RMA that discharges to water or to land where they may enter water, either require a resource consent or need to be explicitly permitted in a plan. This situation changed when WRC notified a variation to its regional plan for the Lake Taupo Catchment, noting that "*in terms of section 15(1)(b) of the RMA all discharges of nitrogen as a contaminant from land use activities in the catchment have probably been unlawful since the passage of the RMA.*"(WRC 2007 p23).

Change of approach in the National Policy Statement for Freshwater Management

The development of the National Policy Statement for Freshwater Management 2011 was influenced by recommendations of the Land and Water Forum's⁷ first report "A Fresh Start for Freshwater".

As of April 2014, seven regional councils have proposed land use and diffuse discharge regulation for all or part of their regions. The regional plans reviewed have followed the approach set out in policies A1 and A2 of the National Policy Statement for Freshwater Management (NPS-FW). These policies are reproduced below, noting that the government proposes to amend these and other policies, without changing their overall intent. This is likely to take effect in late 2014.

Policy A1

By every regional council making or changing regional plans to the extent needed to ensure the plans:

a) establish freshwater objectives and set freshwater quality limits for all bodies of fresh water in their regions to give effect to the objectives in this national policy statement, having regard to at least the following:

i) the reasonably foreseeable impacts of climate change

ii) the connection between water bodies

b) establish methods (including rules) to avoid over-allocation.

Policy A2

Where water bodies do not meet the freshwater objectives made pursuant to Policy A1, every regional council is to specify targets and implement methods (either or both regulatory and non-regulatory) to assist the improvement of water quality in the water bodies, to meet those targets, and within a defined timeframe.

Regional Council approaches to managing water quality set out in Table 1 appear to be based on the principle that plan methods should achieve specific outcomes in the water bodies of concern. In contrast, the approach of some first generation regional plans could be

⁶ Issue 1 of Section 1.2.2 of the Regional Plan notes that activities are enabled by Permitted Activity rules, and that requiring resource consent for activities that have less than minor adverse effects leads to unnecessary bureaucracy and costs.

⁷ Subsequent reports were released by the Land and Water Forum in April and October 2012, and "put forward a comprehensive set of practical recommendations which chart a new approach to the management of fresh water" (LAWF Third Report p.3)

described as one where achievement of all the methods in the plan would result in a positive but unknown quantum of effect on water quality. For instance, in the Waikato Regional Plan (outside the Taupo catchment), there are narrative and numeric water quality standards that apply to the different water bodies. However, not all activities that affect water bodies are covered by methods and rules in the plan. This means there is no direct link between the effects of diffuse discharges and the achievement of the water quality standards.

Themes in the Regional Plans reviewed

Where property-level limits are specified, they tend to focus on nitrogen discharges, written as kilograms per hectare per year. Property-level limits are often phased in, including for the following reasons:

1. Taking time to build awareness and capacity amongst landowners.
Some councils have taken an interim approach that focuses on developing farmer knowledge about managing contaminant discharges, without the requirement for them to meet a property-level limit. For instance, Otago Regional Council makes diffuse discharges from farming a permitted activity⁸ until 2020, with requirements for farmers to develop nutrient plans and supply them to the council on request.
2. When improvements in water quality are required.
In some areas, the existing water quality is lower than community desired levels. The receiving water body is given a 'target' water quality, and over time, landowners are expected to make changes to reduce the amount of contaminant leaving their property. Canterbury Regional Council has done this in the Selwyn Waihora catchment, using rules that set dates by which the allowable nitrogen leaching on a property is reduced.

Some councils have opted for a hierarchy of planning controls based on:

1. The sensitivity of the receiving environment or
2. Risk of adverse effects on water quality.

Plans usually contain more than one rule category. Rule categories range from permitted activities which can be undertaken as of right as long as rule conditions are complied with, through to those that require resource consent (controlled, discretionary, restricted discretionary, non-complying), to prohibited activities where no consent may be applied for or granted.

Council plans may contain permitted activities in locations where there is confidence that water quality is acceptable. In other areas of the same region, higher environmental performance or increasingly specific conditions on resource consents can be required in sensitive areas. For instance the Canterbury Land and Water Plan permits the use of land for farming activities in catchments where water outcomes are met, and requires resource consents with nitrogen leaching limits, for farming activities that are in areas with degraded water quality.

⁸ A permitted activity is an activity that may be carried out without the need for applying for a resource consent from the council, as long as the conditions listed in the rule are complied with.

Linkages between water quality and quantity

For several of the council plans reviewed, policy changes were made to limits for water quality and quantity (water takes) at the same time. Water quantity aspects are not summarised in Table 1. However, it may be instructive for the Collaborative Stakeholder Group to discuss how the amount of water in a river can affect water quality. One example is in the Canterbury Selwyn Waihora catchment, where the package of solutions is tightly tied together, and contains a mix of additional development opportunities as well as new restrictions on water takes and the amount of nitrogen allowed to be discharged. Alongside the regulatory restrictions on water takes, an additional source of water brought into the catchment from a consented water storage and irrigation project, provides for new irrigated land use development. Additional water is also required to be used for stream and groundwater augmentation, which assists water quality outcomes.

Summary

The National Policy Statement for Freshwater Management 2011 has changed expectations around management of diffuse discharges from non-regulatory methods to targets and limits. Second generation regional plans follow the approach set out by the Land and Water Forum and formalised in the National Policy Statement. Waikato and Waipa River catchments Plan Change 1 will be required to implement the new approach under the NPSFM and can draw on what other councils have learnt in developing their second generation plans.

In the following section, Table 1 summarises council approaches to limit-setting to manage the adverse effects of non point source discharges on water quality.

Table 1: Regional plans, water quality and diffuse discharges

Topic	Canterbury Proposed Regional Land and Water Plan Council decision version 2014	Canterbury Selwyn Waihora catchment Variation1 Notified March 2014	Waikato Regional Plan Lake Taupo Catchment chapter 3.10 Operative version	Environment Bay of Plenty Rotorua Lakes review In development	Manawatu Horizons One Plan Environment Court decision version 2012	Otago Proposed Plan Change 6A (Water Quality) Council decisions version April 2013
Overall water quality outcome sought	Maintain where currently meet water outcomes, improve within specified time period where not meeting. Region split into different management units of Lakes, rivers, wetlands and aquifers. Sub regional plans develop more specific outcomes and limits.	Improve. Manage land use to improve water quality and Lake, catchment and flow restoration and sustainable use of water and improved flows	Maintain. Manage land use to protect existing high water quality of Lake Taupo. Acknowledge will get worse before it is back to current water quality by 2080.	Improve. Manage land use to improve water quality of Lake Rotorua Current nitrogen load to the Lake from the catchment is approximately 755 tN/yr. To achieve the 435 tN/yr sustainable nitrogen limit, a reduction of 320 tN/yr is required.	Maintain the existing high water quality in upper reaches of rivers and deep groundwater. Improve degraded water quality in mid and lower reaches of rivers and shallow groundwater.	Maintain existing high water quality Improve degraded Nitrogen Sensitive Zones identified.
Key contaminant of concern and in which receiving water body? Link to landowner actions?	Nitrogen concentrations in all rivers and shallow groundwater Contaminants of concern also include microbes, sediment, phosphorus. Landowner actions expected for all 4 contaminants.	Nitrogen and phosphorus concentrations in rivers and groundwater Nitrogen loads to Lake Te Waihora. Landowner actions for all 4 contaminants	Nitrogen Lake Taupo Landowner actions required for nitrogen leaching activities	Nitrogen and phosphorus loads to Lake Rotorua.	Nitrogen in rivers and groundwater Some zones identified as having elevated levels – property level limits in these zones only apply to intensive farming (dairy, horticulture, and irrigated sheep and beef)	Nitrogen and phosphorus concentrations in rivers. Nitrogen in lakes.
How is receiving water body	Numerical Policies have specific	Numerical Indicators for	Numerical and time-bound	Numerical RPS sets nutrient	RPS sets values and narrative goals	Numerical and time bound Five receiving water

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limit specified?	narrative outcomes and lake and river tables contain numerical outcomes based on different habitats. e.g. Macro invertebrate index, nitrate, periphyton Maps show nutrient state and therefore management response - sensitive Lake catchments shown and colour coded Nutrient Allocation Zones where outcomes are not being met (red), at risk (orange) or ok (green)	ecological health, eutrophication, visual quality, cultural and contact recreation Table 11(b) Nitrogen tonnage loads for Lake from listed sources are contained in Table 11(i). Community sewerage and industrial are based on existing nitrogen loads, and farming nitrogen load is smaller than the existing load and written as a target to be met by 2037	Objective sets out nitrogen concentration and indicators and achievement date of 2080 to account for time lag of nitrate discharged to land and effect in Lake. Note: Other Regional Plan water quality standards do not refer to N or P and are not time bound. Instead, different narrative and numerical standards in Chapter 3.2 relate to five water classes.	tonnage limits for each lake. Regional Plan sets numerical Trophic Level Indicator for each lake. Nitrogen limit of 435 tonnes is reached by 2032. A reduction of 320 tonnes is needed.	Numerical in Regional Plan Water quality outcomes specified for each water management sub zone (group of lakes or river reaches). Regional Plan Schedule D has detailed numerical water quality targets for each river reach within each water management zone. Thirteen indicators for each include dissolved oxygen, water clarity, macroinvertebrate indicator, periphyton.	groups (3 land areas from mountains to sea, and two groups of lakes - upland and lowland). Standards for turbidity, E.coli, ammonical nitrogen, phosphorus, nitrate-nitrite/total N. Standards apply when water flow is at or below median and either immediately or not until 2025. E.g. Lakes Hawea, Wakatipu, Wanaka having total N of 0.1mg/L, effective immediately, then upland lakes at 0.55mg/L effective 2025 (except L. Hayes)
What process was followed to decide on limits? What was the promise to the	Collaborative to get to a water management strategy, using wide range of people and stakeholders to develop agreed list of specific regional outcomes (environ,	Collaborative to develop sub-regional plan, using Zone Committees made up of stakeholders from different sectors, who developed a detailed Zone Implementation	Consultative process with wider community, alongside a three year pastoral farmer process of involvement in the policy development.	Initial limits were set using consultative process (confirmed in mid 2000s by Environment Court). To review the limits a collaborative process Lake Rotorua	Consultative process Intensive process that trialed new techniques of gathering feedback and ideas from a wide range of	Consultative process with wider community, alongside some tailored processes with pastoral farmers.

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public (IAP2 definition ⁹)	social, cultural, economic) Then consultative to draft the region-wide plan provisions	Plan to implement the Water Strategy. Variation 1 is the RMA response. A complementary non regulatory response is set out in the section 32 analysis but not in Variation 1 e.g. methods include proposed funding of approx 190 million for in-lake interventions.	Once the RMA document was publically notified, a First Schedule RMA prescribed formal process was followed.	Catchment Stakeholder Advisory Group (StAG) was established to provide oversight, advice, and recommendations on these new rules as well as incentives to achieve the nitrogen limit. Reports to a Council Strategy Group after which a RMA response is to be developed.	people.	
For farmers: Are limits specified at a property level? How?	Property level nitrogen limit. See section 5.39 – 51 in council decisions version of the Plan. One major change that was made by the council from the notified version of the Plan was a shift from nitrogen limits being specified in permitted activities to a rule	Property-level nitrogen limits For other contaminants, the resource consent conditions will specify particular activities that must be carried out to mitigate the effects of the contaminant.	Property level nitrogen limits Controlled activity consent is required unless land use is leaching very low nitrogen levels. In that case, the activity is permitted and no resource consent is needed as long as conditions are met. This applies to rural	Operative regional Plan has Property level nutrient rules (permitted activity Rule 11) Draft rules: Permitted activity 10kgN/ha/year Controlled activity if meet sector average property limit (set in rule as a range) Non-complying activity	Property level nitrogen limits Nitrogen limits based on Land Use Capability (LUC) classes ¹⁰ Soil maps are required to establish which LUC classes are present on the property.	Property level nitrogen limits Limits are based on the nutrient sensitive zone the farm is in (mapped on topographical 1:50 000 scale map)

⁹ International Association of Public Participation (IAP2) defines a spectrum of increasing level of public impact on policy decision making, from Inform, Consult, Involve, Collaborate and Empower. Each level has a different 'promise to the public'.

¹⁰ Note that the Environment Court decision reversed the Horizons Manawatu Regional Council decision, and generally preferred the nitrogen limit setting approach taken in the notified version of the Plan.

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	regime that requires consent.		residential land use and forestry.	if can't comply.		
<p>For farmers: What is expected? Are there requirements to do things differently? What are the likely changes to farmers operating systems and cost?</p>	<p>If 5ha or bigger, and more than 10KgN/ha/year, there are new requirements. Depends which nutrient zone the farm is in. Nutrient Management Rules set out a different set of rules for each of the colour coded Nutrient Allocation Zones</p> <p>With exception of catchments meeting water outcomes, farmers required to do a Farm Environment Plan (Schedule 7) with specific mitigation actions, either now (e.g. lake zone) or by 2016 or 2017</p> <p>Red zone – permitted up to 20 kgN/ha/year till 2017, then restricted Lake zone – permitted</p>	<p>If over 15kgN/ha/year: From notification Farming permitted activity Nitrogen discharge is capped at historic levels as long as list of practices followed (schedule 24 sets out requirement for Overseer nutrient budget, efficient irrigation, stock exclusion and 5m vegetated riparian (unless set stocked drystock) and 2m cultivation setback.</p> <p>From 2017 Restricted discretionary Good management practice N & P limits From 2022 percentage nitrogen reductions for each farm type</p>	<p>Farming is a controlled activity capped at historic levels. To gain a resource consent, the farm inputs must be run through Overseer™ 5.4.3, with farmer able to choose a farming year between 2001 and 2005. The consent sets the property-level nitrogen limit. Farmers are required to prepare a Nitrogen Management Plan that describes how the farm will be managed over the farming year, including livestock levels, nutrient applications and feed regimes. Nitrogen can be traded permanently or through a temporary lease agreement. Trading involves formal (consent processes)</p>	<p>Currently, it appears that most farmers will operate under controlled activity consents required and staged reductions. Approved Farm Nutrient Plans in place on all farms by end 2015. Plans must include specific plans for nitrogen reduction.</p> <ul style="list-style-type: none"> • Staged reductions via Farm Nutrient Plans mandated through resource consents. • Individual farmer must apply for resource consents by end 2017 • Individual farmers obligated to meet nitrogen discharge limit by end 2032. <p>Council is waiting on Cabinet approval to use existing central government funding for farm mitigations</p>	<p>Most farmers will operate under restricted discretionary activity consents required and staged reductions.</p> <p>Table 13.2 has Cumulative nitrogen leaching maximum by Land Use Capability Class. All properties require nutrient management plan using latest version of Overseer.</p> <p>If existing land use properties are at or below this limit they get controlled activity consent. If over the limits in the table, or a new intensive use, restricted discretionary activity</p>	<p>Limits depending where the property is located. Permitted activity to discharge nitrogen, with condition from May 2014 that an Overseer 6 parameter report has to be produced if council requests it, then from 2020 limits apply under a restricted discretionary activity consent</p> <p>Nitrogen Sensitive Zone default limit across region is 30kgN/ha/year</p> <p>Properties above specific, small, mapped aquifers have limit of 20kgN/ha/year and if farm is in the catchment of one of the 3 big upland lakes, limit is 10kgN/ha/year. Other contaminant discharges are</p>

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	up to 10 KgN/ha/year, then restricted discretionary. Orange zone (at risk) restricted discretionary from 2016, allowing 5kgN/ha/year increase in N leaching.		adjustments to the resource consents held by the purchaser and the seller. All resource consents have a common expiry date of 2036.	instead of solely for in-lake interventions.		prohibited if produce scums, foams etc (link to s70 RMA). Rule 12.C.03 prohibited 'any discharge from..animal waste system, silage storage..'
Initial Allocation of rights to discharge	Generally, approach is grand parenting, with additional requirement of good management practice in some areas. When consents are required, The Farm Environment Plan sets out "management practices to avoid or minimise the discharge of nitrogen, phosphorus, sediment and microbiological contaminants to water from the use of land"	Grand parenting with additional requirement of good management practice of historical N leaching at a property level Good management practices listed in Schedule 24 are: Fertiliser application according to industry code, dairy shed effluent, stock exclusion from water bodies.	Grand parenting ¹¹ of historic nitrogen leaching at a property level (no additional requirement for good management mitigations) For farms, this was modelled for each property 2001 -2005 and farmer chose one of these years for their individual nitrogen limit.	Sector average Council paper 2013 with 3 sectors: Forestry Dairy Drystock (includes dairy support)	"Natural capital approach' where a system called Land Use Capability ¹² is the basis for nitrogen limits. The system of land use classes was changed slightly by the council for their Plan. It was adjusted for development that has occurred e.g. soil fertility improvement in dairy farmed west coast sandy soils	Not based on land use. Limits set based on whether land is over a sensitive nitrogen area or next to it
Regulated reductions?	No	Yes Nitrogen limits go downwards over time	No	Yes	Yes Phased regulatory reductions	No

¹¹ Grandparenting is the term given to an initial allocation of rights to an individual that are based on the amount of resource used or taken by that individual. It relates to the use of the resource at a particular point in time.

¹² Land Use Capability is a system based on soil maps that specify classes of land related to their versatility of productive use, with Class I land being able to be used for all productive purposes, and Class VIII only being suitable for native vegetation or in some cases Plantation forestry.

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		through phased in rules in 2017 and 2022			e.g. one year, five, and 20 year reductions set out in the policy in Table 13.2.	
Nutrient Trading?	No nitrogen or phosphorus trading	No nitrogen or phosphorus trading	Yes Nitrogen trading via controlled activity	Yes Nitrogen trading via controlled activity	No nitrogen or phosphorus trading but Plan change to do so was suggested in Environment Court decision.	No nitrogen or phosphorus trading
Overseer™ version specified?	No	No	Yes Overseer™ 5.4.3 specified in rule	No	No. Current version to be used. Table 13.2 contains limits calculated using Overseer™ 5.3.	Yes Rule 12.c. specifies nitrogen leaching rates 'as calculated using Overseer™ version 6.

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