



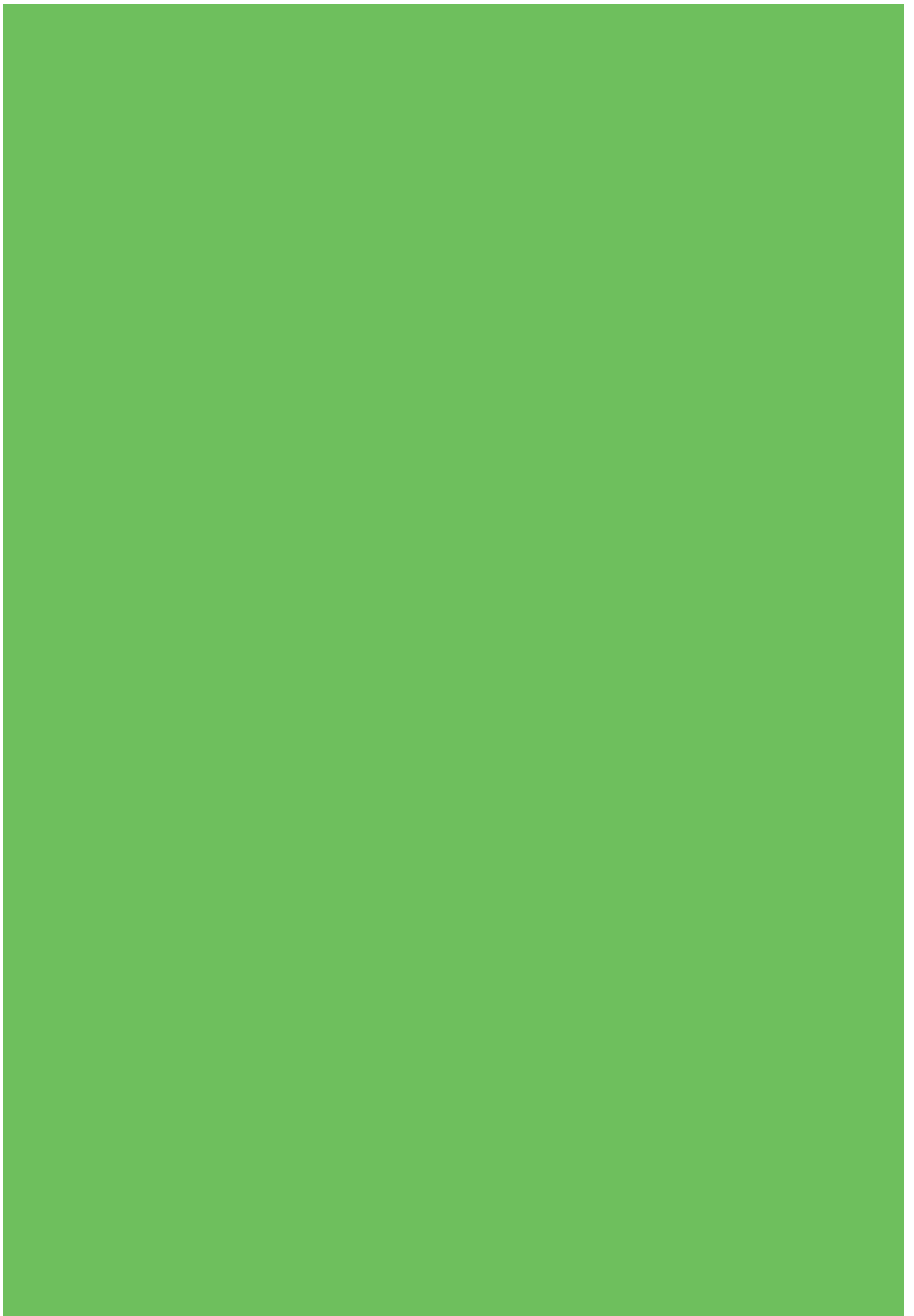
Peer Review

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DAIRY AND DECLINING WATER QUALITY

Why has the Dairying and Clean Streams Accord not delivered cleaner streams?



CONTEXT OF THIS PEER REVIEW

In 2003 Fonterra, the Ministry for the Environment, the Ministry of Agriculture and Forestry, and Local Government New Zealand on behalf of regional councils, signed up to what is known as the Dairying and Clean Streams Accord (**the Accord**). The Accord aims to promote sustainable dairy farming in New Zealand and reduce the impacts of dairying on the quality of New Zealand's waterways. The Accord is intended to sit alongside community driven regional council plans and objectives for water quality, not as a replacement for them. The Accord intends to accelerate farmers' investment in voluntary environmental enhancement.

In October 2008, Fish & Game New Zealand and Forest & Bird co-authored a report (**the Report**) by Neil Deans and Kevin Hackwell looking into the Accord, claiming it has failed to reduce the negative impact of dairying on water quality.

This Peer Review was initiated to assess the quality of the Report. As such it does not comment on the success or otherwise of the Accord, aside from where errors of fact appear in the Report.

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EXECUTIVE SUMMARY

- This Report purports to be a serious and critical examination of the Accord. Instead, it is poorly constructed and written as a campaign tool. The Report appears to be partisan and it should be represented as such.
- The Report itself is a reinterpretation of data already in the public domain with added communication to councils by Fish & Game. The manner of the data collection deserves criticism. The Report fails to use the same methodology for research as that undertaken by the Accord partners. The difference in data collection means no valid comparative analysis can be done; it is comparing apples with kiwifruit.
- The peer reviewers have little confidence in the methodology of data collection by Fish & Game staff. It should make no difference to results if 'different people were spoken to' at councils, as the monitoring data collected by councils should remain the same regardless of who reports it.
- The Report authors make a number of unfounded suppositions and reach conclusions unsupported by the source data. Worse, the data, in places, is 'spun' to support a negative conclusion when the actual data is either neutral or positive.
- The peer reviewers are further concerned the Report authors have made assumptions with respect to the role of the Accord alongside the Resource Management Act, regional plans, and the role of enforcing authorities. This weakness is exposed within the Report by the authors repeatedly calling for greater powers of enforcement where the enforcing authorities already have sufficient provision for enforcement under the Act.
- Given the Accord is specific to dairy farming, the discounting of all non-council data sources as being unreliable was a mistake. The Report cannot be a thorough or independent analysis without considering all data and data sources.
- The peer reviewers also express alarm about the leaps in logic, based on statements from regional councils, which are used to justify criticism of the Accord. The reviewers' criticism is directed at the way these comments have been used in a negative way without any factual basis.



INCONSISTENCY IN DATA COLLECTION

Inconsistencies in data collection undermine the credibility of the Report. Since this is intended to be a critique of the Accord, failure to understand, adopt, and implement the same collection methodology is a major weakness of the Report.

The Report (page 10) states:

“it is possible this data differs from those formally advised to the reviewers of the Accord which produced the 2006-07 review, as Fish & Game staff may have contacted different people in those organisations.”

The Report details results received from councils that are different to those reported in the *Snapshot of Progress 2006-2007 (Fonterra Snapshot Report)*. Some of those differences are due to different interpretations, which will be discussed later, but some stem from different figures supplied by the councils to the ‘reviewers.’

Nowhere in the Report is concern expressed about the lack of consistency in council data. Rather, the Report calls the *Fonterra Snapshot Report* “inaccurate” and states that:

“little reliance can be placed on the conclusions drawn by the Accord annual reports...”

Data provided by councils should be the same regardless of which individuals are spoken to within an organisation. In itself the fact that councils are providing different figures for the monitoring they have undertaken is a huge concern. It draws into question the reliability of councils and consequently the Report’s methods, data, and conclusions, rather than the conclusions in the Accord reports.



FAILURE TO CONSIDER ALTERNATIVE DATA SOURCES

There are several instances throughout the Report where doubt is cast over figures provided by sources other than regional councils.

Some results from the *Fonterra Snapshot Report* were discounted as inaccurate by the Fish & Game and Forest & Bird Report's authors if they could not be verified by regional councils. This is despite some progress indicators are not monitored by regional councils. This information would necessarily have to come from alternative sources. Examples include activities that are not regulated in most areas, such as nutrient budgeting. Nutrient budget figures were specifically mentioned in the *Fonterra Snapshot Report* as being supplied by Fonterra's *On-farm Environmental and Animal Welfare Assessment* and Fert Research.

The Report simply dismissed these results as being unreliable and inaccurate since they were supplied by farmers. Independent audits undertaken by some regional councils have supported significant progress toward the Accord targets.

Concern is expressed in the Report that not all activities with effects on nutrient levels on farms, such as fertiliser application, are being monitored by councils because they aren't permitted. Activities that affect the level of nutrients on a property, such as fertiliser application, are measured as part of nutrient budgets and nutrient management systems and are also monitored in some cases by other bodies or agencies.

The development and implementation of nutrient management systems, including nutrient budgets, is evolving, supported by industry funded research through Fert Research. If an activity is permitted in a regional plan, that does not preclude the monitoring or enforcement of conditions.



INTERPRETATION OF TERMS

Much is made in the Report of the lack of consistent interpretation of terms that are being used as the basis of monitoring progress, such as 'serious non-compliance'. This is actually recognised in the *Fonterra Snapshot Report* and highlighted as an area for improvement. A broad definition of 'significant non-compliance' is provided in the *Fonterra Snapshot Report*, as being "*generally defined by councils as*

non-compliance which has or may have a negative environmental effect". The purpose of the Accord is to encourage farmers to adopt practices that minimise the impact of their farm on water quality. Reporting the incidence of non-compliance that has, or is likely to have, a negative environmental effect is therefore appropriate.



MONITORING AND AUDITING

The Report states the “*key issue of achieving and measuring improved water quality*” is not adequately addressed. The Report further quotes Canterbury Regional Council to substantiate this:

“...there is little monitoring of progress towards achieving the Accord targets and no auditing of the information supplied by the shareholders.”

The assertion above is not supported by fact. The Ministry for the Environment, regional councils and organisations such as the National Institute of Water & Atmospheric Research all monitor water quality.

Regional councils monitor compliance with regional plans and consent conditions, while Fonterra’s role in the Accord is to monitor progress towards the Accord goals. Fonterra’s *2006/2007 On-farm Environmental and Animal Welfare Assessment* suggests the Report assertion is incorrect. Fonterra, furthermore, has the results of its assessments independently audited, as reported in the *Fonterra Snapshot Report*. It seems to the peer reviewers that Canterbury Regional Council has confused monitoring and assessing water quality with monitoring the practical on-farm based *Accord* targets aimed at improving on-farm environmental management.



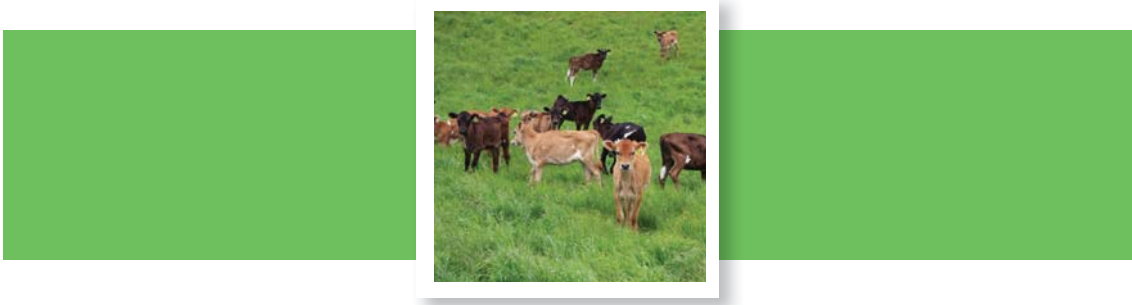
TIMEFRAMES AND PERCEIVED 'FAILURE'

The Report claims the Accord *"has so far proven unsuccessful in reducing the negative impact of dairying"* on water quality.

The research of Wilcock and others into implementation of best practice to manage water quality and a report prepared for the Ministry for the Environment on the development of a monitoring and reporting strategy for the Accord (quoted on page 17 of the Report), both suggest results may not be seen for 10-15 years, which suggests the five

year timeframe may be too short to see measurable improvements. The Report fails to respond to or consider research on groundwater age in catchments such as Taupo and Rotorua. In fact the research on groundwater age suggests results of the actions taken to improve water quality may not be seen for a much longer timeframe; up to 135 years in the Lake Rotorua catchment for example¹.

¹ Environment Bay of Plenty (2007) Proposed Lakes Rotorua and Rotoiti Action Plan



REGULATIONS AND CONSENTS

The Report repeatedly criticises the Accord for *“the absence of mechanisms to deal with poor performers.”* It highlights non-compliance with resource consents for dairy effluent discharge, in particular, as being an indication that *“the Accord in its present form is failing.”*

The Report does not show an understanding of the Resource Management Act (RMA). Where conditions for activities in regional plans are not being met, there are mechanisms under the RMA to deal with transgressors. The failure of councils to initiate these mechanisms is not a failure of the Accord, but a failure of either the RMA or its implementation. Turning the Accord into regulation under the RMA, as the Report calls for, would not address this issue, because some areas of failure, such as non-compliance with dairy effluent discharge conditions, are already under regulation.

The Report further claims that, *“the requirement that dairy effluent discharges comply with regional plans has disappeared from the reporting regime.”*

The *Fonterra Snapshot Report* does in fact include reference to compliance with regional plans as well as consent requirements. The data for this requirement is received from regional councils who should be monitoring these activities under their regional plans. Failure to do so is not a failure of the Accord, it is a failure of the RMA or its implementation.

The Report does not refer to items in the *Fonterra Snapshot Report*, which outlines steps Fonterra and the Accord parties are undertaking to improve compliance with council plans and resource consents, including improved information for farmers, standardising definitions for levels of consent non-compliance, implementing and monitoring Fonterra’s Effluent Indicator System, and working together to identify and work with poor performers.



IMPACT OF THE RESOURCE MANAGEMENT ACT

As noted above, the Report seems to disregard the fact that the Resource Management Act (RMA) applies to everyone irrespective of the Accord.

Concerns are raised in the Report that the Accord does not cover those farms who do not supply milk, such as grazing properties. These are, by definition, outside of the scope of the Accord. Fonterra can only commit its suppliers to the Accord, not other farmers who may contract grazing or other services to Fonterra suppliers.

Despite this limitation, RMA requirements apply to all properties, so *“environmental consequences [which] can be poor”* would be subject to any conditions and standards contained in the relevant regional plan.

If environmental standards are not being reached, regional councils have the mechanisms contained in the RMA to address this.



INHERENT BIAS AND UNSUPPORTED CONCLUSIONS

The Report's tone is one of a campaign document designed to create a sense of crisis. It uses unfounded statements in an attempt to lead readers to conclusions not supported by facts.

On page eight, it states “...voluntary approaches... should not be used as a means of avoiding legal responsibilities.”

The context of this statement is not explained, nor is it backed by any facts or examples of where this has occurred. This is of concern because it has never been suggested the Accord should or could be used as an excuse not to meet legal responsibilities, nor would it be an acceptable excuse. The Accord is used as an adjunct and, in some cases, an alternative to regulation. This is not a means of avoiding legal responsibilities.

The targets for fencing stock from, or bridging of, Accord water bodies are written off as “modest”. The Report goes on to state that the progress of fencing off water bodies in some regions “is not as good as the Snapshot Report would indicate,” as some waterways had been fenced off prior to the Accord being implemented.

Regardless of whether good practice occurred before or after implementation of the Accord, the fencing of waterways to exclude stock is contributing to meeting Accord targets. Good practice should be recognised as such, irrespective of when or why it has occurred. The Report places good stewardship in a negative light.

The figures for stock exclusion, bridges, and culverts listed in the Snapshot Report for the initial year of

monitoring are high (see Table 1 of the *Fonterra Snapshot Report*). As farming is not static and farmers have many motivations for undertaking particular activities, it is reasonable to expect that some of the fencing, bridging, and culverting reported in the figures would have taken place prior to the 2003/04 season.

The assumption that the progress for future fencing of waterways will be linear is illogical and without foundation. It fails to take into account other relevant factors that impact on farm business decisions, such as costs, ease of access, and other priority actions.

The Report criticises farmers with the statement that:

“Nutrient budgets are readily available to most farmers from their fertiliser agents, so it should be relatively easy for dairy farmers to put into place nutrient management systems to manage nutrient inputs and output.”

Nutrient budgets are criticised throughout the Report, however, as being an inadequate target for nutrient management systems.

The Report states that:

“When read carefully, the Snapshot Report confirms that this percentage refers to nutrient ‘budgets’ rather than ‘nutrient management systems’ which is the actual Accord target.”

This is highlighted as an area of focus in the *Fonterra Snapshot Report*, which discusses nutrient budgets as being “an important and commendable step towards implementing full nutrient management plans” and sets out plans for Fonterra and the



INHERENT BIAS AND UNSUPPORTED CONCLUSIONS

fertiliser industry to work with farmers to help implement nutrient management plans.

The Report states that *“If all regional councils were to operate rigorous random inspection regimes this figure of serious non-compliance **would** be much higher.”* [Our emphasis] This is another statement that is not backed up by any facts. Many regional councils already carry out “rigorous random inspection” regimes annually, where farms are visited unannounced.

On page 16 the Report states:

“compliance with consents is not the only form of compliance, as many activities such as bridging or culverting regular cattle crossings are likely breaches of RMA plans.”

There is no explanation of whether this is actually occurring in any region and, again, is not based on any facts presented in the Report. Many regional councils help farmers to achieve the environmental benefit of keeping stock out of water, at low cost, by allowing the bridging or culverting of small streams as a permitted activity.

The Report criticises the Accord for focusing on criteria that *“...relate to the achievement of certain objectives on-farm”* rather than measurement of water quality.

The Report fails to recognise that the Accord is aimed at implementation by individual dairy farmers and therefore it is appropriate to have practical on-farm methods to achieve the objectives. Local and central government undertake water quality monitoring, as noted earlier, so inclusion of water quality targets in the Accord is neither appropriate nor necessary. The Accord is specific to dairy farmers.

There are many other factors impacting on water quality in dairy catchments. For instance, a 2007 Ministry for the Environment report highlighted the highest average levels of faecal pollution in rivers and streams come from bird, cat, and dog faeces and leaking sewerage systems emanating from cities and towns. To include non-specific targets for water quality in the Accord would not improve water quality outcomes, nor would it be a true measure of the progress of dairy farmers towards improving on-farm environmental management.



FURTHER DEFICIENCIES IN THE REPORT

The Report specifically discusses the decline in Taranaki water quality as its rivers pass through dairy farmland. It is acknowledged that there can be negative impacts on water quality from dairying, which is the primary purpose of for the Accord.

Given that the intention of the Report is to comment on the effectiveness or otherwise of the Accord in improving water quality, the Report's authors have failed to show any linkage between falling water quality in Taranaki and a failure of the Accord. Indeed the Report's findings in Taranaki are at best inconclusive with "few consistent trends." To quote the Report, "most have shown little change; some have shown a slight improvement while others have shown declines."

On Page 23 it is stated that Marlborough's improving water quality trends "have been allowed to reverse". The inference that this change was within the direct control of individuals or organisations is at odds with earlier Report statements that:

"inherent variability in water quality due to rainfall events means that water quality trend analysis requires long time frames to have any certainty..."

The Report concludes from the research of Wilcock and others, on water quality management through implementing best practice, that:

"improvements, where these have occurred, are over longer periods as a result of reduced – rather than increased – intensification."

This is a total misrepresentation of the research results quoted, which stated that improvements

were attributable to reductions in point sources and improved stock management, which included less intensive grazing among other practices. Improved water quality results were not, as suggested by the Report, solely attributable to reduced intensification.

The Report states that "The obvious solution to water quality problems from over-intensification is to carry out less intensive management." Intensification, however, is not necessarily the cause of all water quality problems and less intensive management, which we assume to mean lower stocking rates, is not the only solution. Other innovative, efficient, and more practical options are available and more are being developed. It is agreed that these methods should be encouraged and adopted.

According to the Report:

"Regional council evidence shows Fonterra's goal of 4% compound growth is directly working against achievement of the Accord's goal of improving water quality."

The 'evidence' produced in the Report does not show a direct link. At best, it 'supposes' that there is a link. Waikato Regional Council is quoted as saying:

*"These increases (in nitrate and phosphorus) **presumably** result from the increase in agricultural intensity..."* [Our emphasis]

and that

*"a disturbing pattern of insidious water quality degradation which in many cases **is likely** to be related to the widespread and intensive use of land for pastoral farming in the Waikato region."* [Our emphasis]



FURTHER DEFICIENCIES IN THE REPORT

Environment Canterbury is also quoted as concluding low water quality is:

“presumably because of run-off from surrounding pasture.” [Our emphasis]

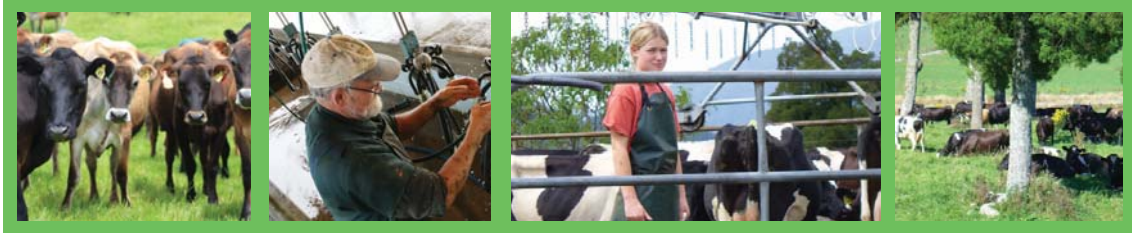
There is also no evidence to show that the intensification that has occurred is a result of Fonterra’s productivity gain goal.

The Report takes no account of previous impacts on water quality, either from the pastoral sector or other land uses, and makes unjustified assumptions about the impact of current land intensification on water quality.

The results outlined in the Report for wetland protection targets are misleading.

The Accord target specifically relates to wetlands that have been identified as regionally significant. If regionally significant wetlands are yet to be identified, it is not a failure of farmers not to have fenced them off. It is more a failure of the councils which have not identified these areas.

Many councils have been recorded as **not knowing** whether the wetlands target has been met, and it is explained that these councils could not confirm achievement of the targets because the regionally significant wetlands have yet to be identified. It is impossible to meet or monitor a target that has not been defined.



CONCLUSION

The report by Fish & Game New Zealand and Forest & Bird does not accurately or adequately review the *Dairying and Clean Streams Accord* progress. The Report:

- fails to recognise the lack of consistency in council figures as being a concern;
- fails to recognise the validity or relevance of Accord data other than that collected by regional councils;
- fails to take into account the effects of time-frames and groundwater age when assessing Accord targets in relation to achieving the goal of improved water quality;
- fails to take into account the implementation of the Resource Management Act and how the Accord targets are progressed alongside district and regional plans;
- incorrectly cites failure to address consent non-compliance as a failure of the Accord;
- fails to acknowledge the Accord as a dairy specific agreement aimed at the adoption of on-farm management techniques to improve environmental outcomes;
- fails to recognise that the Accord is an addition to achieving improved water quality outcomes, and that it is not default regulation;
- incorrectly dismisses monitoring and auditing of the Accord progress; and
- makes baseless and misleading statements unsupported by verified or independent sources of information.

