

THE DAIRYING AND CLEAN STREAMS ACCORD: SNAPSHOT OF PROGRESS 2010/2011



EXECUTIVE SUMMARY

- The Dairying and Clean Streams Accord is a key environmental initiative alongside many other projects and strategies that support and improve the dairy industry's social, economic and environmental performance. Progress toward the Accord targets is summarised below.
- Dairy cattle are excluded from Accord-type waterways on 84 percent of farms supplying Fonterra.
- The 2012 Accord target of 90 percent of regular stock crossing points for dairy cattle to have bridges and culverts in place has been achieved. Less than 1 percent of these crossings still require bridging or culverts.
- Some progress has been made toward the Accord target of 100 percent full compliance with regional council dairy effluent rules and consent conditions. Nationally, the level of full compliance in 2010/11 increased to 69 percent compared to 65 percent in 2009/10. Across the regions, full compliance varied between 40 percent and 95 percent. There have been improvements in effluent compliance in the Waikato (52 percent in 2009/10 to 66 percent in 2010/11), Tasman (73 percent to 92 percent) and Canterbury (59 percent to 65 percent) regions.
- Nationally, the average level of significant non-compliance with regional council dairy effluent rules and consent conditions decreased from 16 percent in 2009/10 to 11 percent in 2010/11.

Increases in significant non-compliance occurred in Bay of Plenty (10 percent to 14 percent), Marlborough (5 percent to 23 percent) and Southland (13 percent to 18 percent). Northland and Marlborough had the highest levels of significant non-compliance. Continually improving effluent compliance is a major challenge for the Accord Partners.

- The 2007 Accord target of 100 percent of dairy farms with a nutrient management plan has not been achieved. However, there has been an improvement in 2010/11 with 46 percent of dairy farms recorded as having a plan in place.
- This is the second year that nutrient management plan information has been available for this report. In the past, this report has highlighted the percentage of farmers with nutrient budgets, which are an important precursor to a nutrient management plan. Ninety-nine percent of farmers now have a nutrient budget in place.
- Ten regional councils have defined and identified their regionally significant wetlands. The remaining three councils are currently working towards identifying and assessing wetlands in their areas. In three regions, the 2005 target of fencing off 50 percent of wetlands that border dairy farms has been met. Only Taranaki has met the 2007 target of 90 percent of regionally significant wetlands having been fenced.



1. INTRODUCTION

The Dairying and Clean Streams Accord is an agreement between Fonterra, the Ministry of Agriculture and Forestry, the Ministry for the Environment, and Local Government New Zealand (on behalf of regional councils). Signed in May 2003, the Accord provides a framework for these organisations to work together.

The Accord's aim is to contribute toward clean, healthy freshwater resources including streams, rivers, lakes, groundwater, and wetlands in dairying areas. It is an important voluntary environmental initiative alongside other projects and strategies that support and improve the dairy industry's social, economic and environmental performance.

The Accord sets out five targets for dairy farmers:

1. Dairy cattle to be excluded from 50 percent of Accord-type¹ streams, rivers and lakes by 2007, rising to 90 percent by 2012.
2. Fifty percent of regular crossing points to have bridges or culverts by 2007, and 90 percent by 2012.
3. All dairy farm effluent discharges to comply with resource consents and regional plans immediately.
4. All dairy farms to have in place systems to manage nutrient inputs and outputs by 2007.

¹ Accord-type waterways are defined as deeper than a red-band gumboot (ankle deep), wider than a stride (1 metre) and permanently flowing.

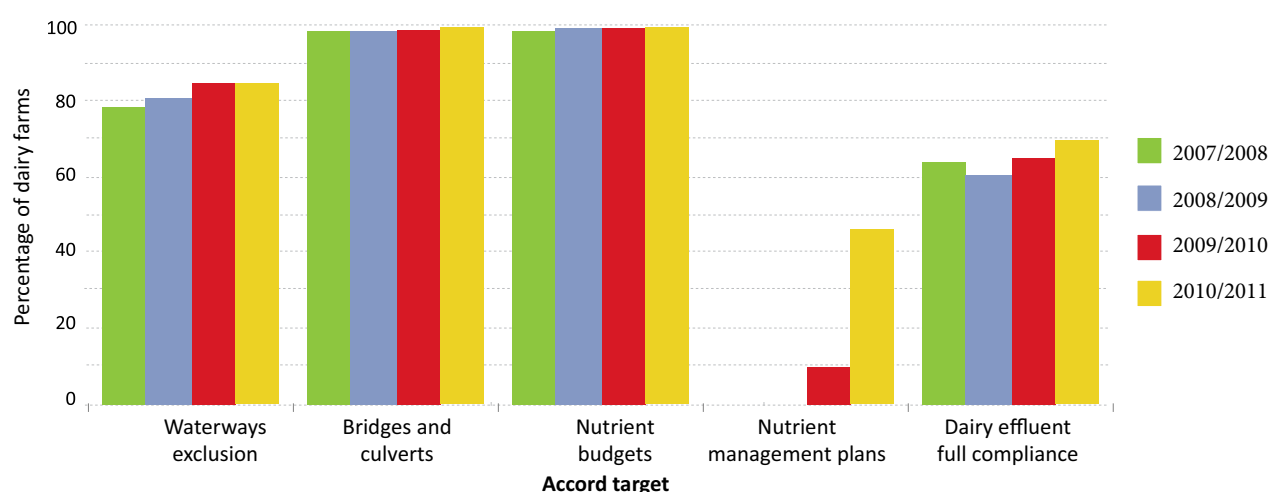
5. Fifty percent of regionally significant wetlands to be fenced by 2005, rising to 90 percent by 2007.

Progress is measured by:

- The results of Fonterra's annual *On-Farm Environmental and Animal Welfare Assessment 2010/11*. The *Assessment* involves a trained assessor meeting with dairy farmers and asking them a range of questions aimed at assessing their environmental and animal welfare performance. Two of the questions relate to stock exclusion from waterways. The first question asks farmers how many kilometres of Accord-type waterways they have on their farm. The second question asks what percentages of those waterways have stock access. A farm is only counted as having full stock exclusion if stock are excluded from all Accord-type waterways on the farm.
- Regional council monitoring of compliance with regional plans and resource consents for dairy effluent disposal. A standardised system for reporting dairy effluent compliance was initiated for the 2007/08 season. This enables more accurate comparisons between the past four seasons and across regions.

The Accord expires in 2012. The dairy industry is now consulting with all stakeholders to get views about what form a successor to the Accord could take and what value it would have. An announcement is expected by late 2012.

Figure 1: Progress towards meeting the Dairying and Clean Streams Accord targets (2007/08–2010/11)¹



Note

- 1 Progress from 2003/04 to 2006/07 has been omitted to ensure a more accurate comparison is made between seasons, particularly as a number of adjustments were made in the 2007/08 season. These include:
 - revising the waterway exclusion target to only include farms that have Accord-type waterways (previously this target was based on all farms, both with and without Accord-type waterways);
 - a standardised system of reporting dairy effluent compliance between councils. This aims to improve the reliability of the data presented and enables more accurate comparisons between seasons. Prior to 2007/08 different criteria was used between regions for reporting compliance rates.
 - the wetland target is not presented in Figure 1 and Table 1 because there is incomplete and inconsistent data.

2. PROGRESS AGAINST THE TARGETS

Overall progress

The 2010/11 season produced similar results to the previous two seasons in achieving two of the five Accord targets – dairy exclusion from Accord-type waterways, and bridging and culverting regular crossing points. The percentage of dairy farmers with a nutrient management plan has increased although there is significant room for improvement². The number of councils that have identified regionally significant wetlands continues to increase. Nationally, full compliance with dairy effluent consents has increased but it still remains an area of significant concern for the Accord partners. The changes in the performance of dairy farmers in meeting the Accord targets are shown in Figure 1 (on page 3) and Table 1 (below).

Stock access to waterways

The *On-Farm Environmental and Animal Welfare Assessment 2010/11* results confirm that 68 percent (5959 farms) of Fonterra's suppliers (excluding the Taranaki region) have waterways that meet the Accord definition³.

² Data on the percentage of farms with a nutrient management plan has been collected over the past two seasons through the Primary Sector Water Partnership. This is presented in Figure 1 and Table 1 together with the percentage of farms with a nutrient budget. Previous *Snapshots* have only recorded the percentage of farms with a nutrient budget.

³ Taranaki suppliers are excluded because information relating to waterways is provided directly by the Taranaki Regional Council through its farm riparian planning programme. 1631 km of riparian fencing and 790 km of riparian planting has been completed in Taranaki since the start of the programme in the 1990s. The riparian planting scheme has now provided over 2 million plants to Taranaki farmers for planting along waterways. Taranaki Regional Council aims to fence and plant 90 percent of waterways by 2015. Additional information can be found on the Council's website www.trc.govt.nz/riparian-management.

Nationally, the proportion of farms with stock excluded from Accord-type waterways remained similar to 2009/10 at 84 percent. The number of farms that these percentages represent has increased from 4735 in 2009/10 to 5012 farms in 2010/11. Progress towards total exclusion of Accord-type waterways from stock access is highlighted in Figure 2.

Five regions (Auckland, Horizons, Wellington, Marlborough and Tasman) have 10 percent or more of farms needing to exclude stock from waterways to meet the 2012 target of 90 percent stock exclusion from Accord-type waterways.

Waterway crossings

The *On-Farm Environmental and Animal Welfare Assessment 2010/11* recorded 14 643 Accord-type crossings. Of these, 112 crossings (0.8 percent) still require a bridge or a culvert. This is an improvement from last year, when 204 crossings (1.4 percent) still required a bridge or a culvert. The 2012 Accord target of *ninety percent of regular crossing points to have bridges or culverts* has been exceeded in all regions.

Compliance with regional plan and resource consent requirements

The third Accord target states that *all dairy farm effluent discharges to comply with resource consents and regional plans immediately*. The percentages quoted in this report are based on information provided by regional councils and unitary authorities across New Zealand. The national weighted average is based on Fonterra suppliers in each region.

Table 1: Progress towards Accord targets – 2007/08 to 2010/11

Accord target	2007/08	2008/09	2009/10	2010/11
Dairy cattle are excluded from streams, rivers and lakes (2012 TARGET: cattle excluded from 90 percent of Accord-type waterways) ^a	78%	80%	85%	84%
Regular race crossing points have bridges or culverts (2012 TARGET: 90 percent of regular crossing points bridged or culverted)	98%	98%	99%	99%
Farm dairy effluent is appropriately treated and discharged. (TARGET: Full compliance with regional council resource consent and/or permitted activity conditions immediately)	64%	60%	65%	69%
All farms have a system in place to manage nutrient inputs and outputs (2007 TARGET)	Farms with a nutrient budget ^b	98%	99%	99%
	Farms with a nutrient management plan ^c		10% ^d	46%

Notes

A Based on farms with Accord waterways – deeper than a red band gumboot (ankle deep), wider than a stride (1 metre) and permanently flowing.

B These figures represent the percentage of dairy farms with a nutrient budget, which is an important step in the development of a nutrient management plan.

C These figures are provided by Fertiliser Research through the Primary Sector Water Partnership.

D This figure differs from the 2009/10 *Snapshot*. The previous figure was up to September 2010 while this figure is to 30 June 2010.

Regional councils have different policies and rules for dairy effluent and levels of dairying in their regions. This has led to each region having different consenting and consent monitoring regimes. These differences include: not all farms being visited annually; visits being decided based on the previous season's compliance performance; testing of water quality; aerial surveys; and the inclusion of feed pads and stock underpasses. Individual results may reflect these differences and the different conditions of rules and resource consents that are in place.

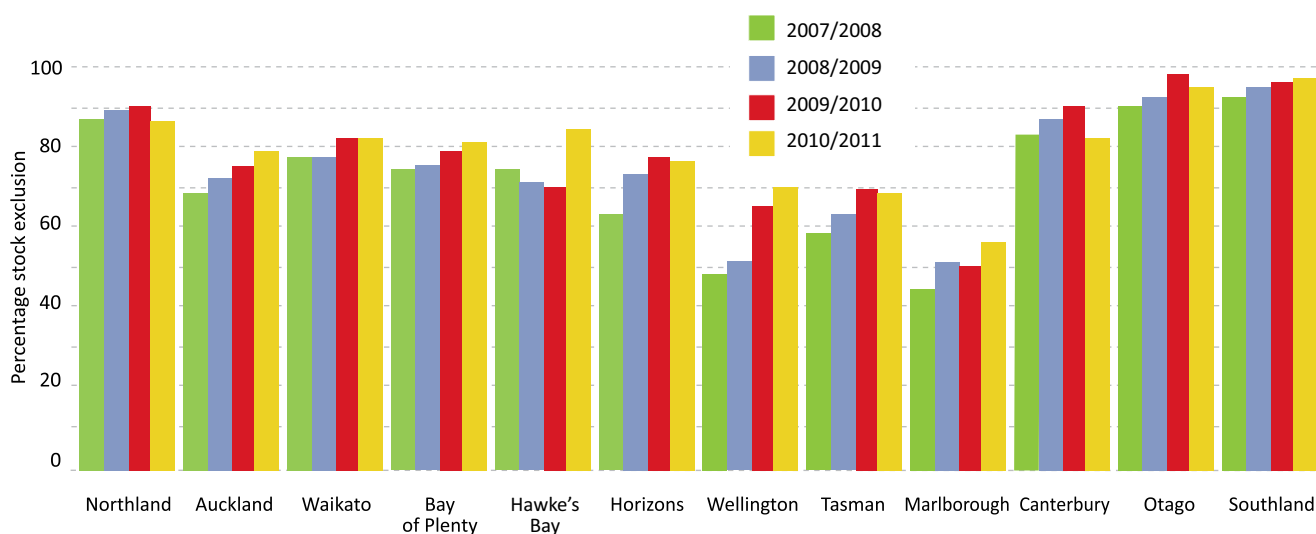
All councils use the same criteria, outlined below, to classify dairy farm effluent compliance.

- **FULL COMPLIANCE:** Those conditions of the rule or resource consent that were monitored were being fully complied with.
- **NON-COMPLIANCE:** Any other non-compliance where a rule or resource consent has not been complied with, but there has been no discharge to water, and a discharge to water is not likely to occur.
- **SIGNIFICANT NON-COMPLIANCE:** A discharge has either entered water, or is likely to enter water, and the discharge is not authorised by a rule or resource consent. Also, where an abatement notice has been not been complied with.

Councils meet annually to audit inspection records ensuring that compliance criteria are applied consistently and to identify and share monitoring best practice.



Figure 2: Percentage of farms with total stock exclusion from Accord-type waterways (2007/08–2010/11)^{1, 2}



Notes

¹ Data are only based on those farms that have Accord-type waterways.

² Annual percentage changes for each region are affected by farm sales (that is, an Accord-complying farm is bought and becomes part of a non-complying farm, or vice versa), as well as adoption of Accord farm practices.

2. PROGRESS AGAINST THE TARGETS *continued*

Full compliance

The data shows that full compliance has increased from 65 percent in 2009/10 to 69 percent in 2010/11. Across the country, full compliance varied between 40 percent and 95 percent. The overall level of full compliance, while improving, remains a concern particularly because 100 percent full compliance is the agreed Accord target.

A regional breakdown of the changes in full compliance and significant non-compliance since 2007/08 is shown in Table 2 (on page 8) and Figure 3 (on page 9).

Full compliance from the 2009/10 season was maintained or improved for 2010/11 in nine regions. There have been significant improvements in the Waikato (increased from 52 percent of farms in 2009/10 to 66 percent in 2010/11), Tasman (73 percent to 92 percent) and Canterbury regions (59 percent to 65 percent).

A high level of full compliance (91 to 95 percent) continues to be maintained in Taranaki, Wellington and Otago. The lowest levels of full compliance, ranging from 40 percent to 58 percent, occurred in Northland, Auckland, Marlborough and Southland.

Progress towards meeting this Accord target in 2012 will be a significant challenge. Fonterra, regional councils and unitary authorities and industry organisations such as DairyNZ, will continue to work with poorly performing farmers and the wider farming community to improve compliance levels and nutrient management. Several of these programmes are outlined in Section 3.

Significant non-compliance

Nationally, the level of significant non-compliance has dropped to 11 percent down from 16 percent in 2009/10. This is the lowest significant non-compliance rate since a standardised system of reporting was introduced in 2007/08. Factors leading to significant non-compliance include poor management of effluent systems, for example, pond overflows and a lack of storage capacity; inadequate infrastructure to cater for increasing stock numbers; run-off from feed/standoff pads and poor effluent disposal methods onto land.

Across the country significant non-compliance varied between one percent and 24 percent. There have been improvements in the Waikato (27 percent to 12 percent), Tasman (8 percent to 2 percent) and Auckland (6 percent to 3 percent). A low level of significant non-compliance (1 to 5 percent) occurred in Auckland, Taranaki, Hawke's Bay, Wellington, Tasman and Otago. The highest levels of significant non-compliance, ranging from 14 percent to 24 percent, occurred in Northland, Bay of Plenty, Horizons, Marlborough and Southland.

The Accord partners acknowledge that full compliance is a regulatory requirement and, although there have been improvements, this level of dairy effluent non-compliance is unacceptable and remains a major focus of collaborative efforts.

Regional variations of note

Of particular note is the reduction in significant non-compliance in the Waikato region, decreasing from 27 percent in 2009/10 to



12 percent in 2010/11. The Waikato Regional Council (WRC) has identified a number of key factors that have led to this improvement. These include:

- Fonterra's "Every Farm Every Year" inspections;
- more Fonterra Sustainable Dairying Advisors in the field;
- the effluent compliance checklist and rules summary distributed by DairyNZ;
- joint effluent management field days with farmers;
- an Effluent Expo for dairy farmers organised by WRC;
- the release and promotion of the Dairy Effluent Storage Calculator by WRC;
- the development of the Accredited Effluent Supplier Code of Practice;
- a more positive attitude among farmers.

In the Marlborough district, significant non-compliance has increased from 5 percent in 2009/10 to 23 percent in 2010/11⁴. The main driver for this increase was the inability of marginal effluent management systems to accommodate increasing herd sizes, as well as a particularly wet season. Marlborough District Council, together with industry agencies, will continue to focus on farmer education to improve effluent management practices. The Council has also commissioned a catchment study of Marlborough's most intensive dairying area to determine how to focus resources to achieve the best environmental gains.

In the Southland region significant non-compliance increased from 13 percent to 18 percent. This was driven primarily by poor management on farm. Farmer education is a key focus for industry agencies, in partnership with Southland Regional Council. A particular focus will be improving the availability and use of best practice effluent management resources by Southland farmers. Northland continues to record high levels of significant non-compliance and low levels of full compliance⁵.

Infringement and abatement notices

There has been a 13 percent decrease in infringement notices⁶ issued to farmers in 2010/11. The main regional changes in the number of infringement notices issued were a decrease in the Waikato (from 56 down to 21) and an increase in Southland (23 up to 63).

Nationally, the average number of abatement notices has reduced by 8 percent with notable decreases in Northland, Auckland and Bay of Plenty. There were increases in abatement notices in Taranaki, Horizons and Southland. The average number of prosecutions initiated nationally in the 2010/11 season has remained similar to 2009/10 with notable changes in Waikato (five down to one) and Southland (seven up to 14).

The decision on what action to take in response to significant non-compliance takes into account a wide range of factors, including:

- the significance of the discharge;
- previous history of the parties involved;
- the degree of effort that has been put into remediation and clean-up;
- whether the event was one off or a repeat offence;
- whether there had been any prior instructions given;
- the degree of recklessness or failure to take due care;
- whether partial or full cost recovery was possible.

Nutrient management

Fonterra suppliers have been required to have nutrient management plans to manage nutrient inputs and outputs since 2007. Fonterra, the fertiliser industry and DairyNZ are continuing to work to ensure nutrient management plans are in place as per the Accord target. This will be achieved by working with regional councils to identify priority catchments and ensuring that the industry targets as developed under the Primary Sector Water Partnership⁷ are met.

4 Marlborough district has 61 dairy herds, representing less than one percent of the national dairy herd numbers.

5 Northland Regional Council notes that, while the region's compliance figures are low, they operate a monitoring programme which is different to other regions. Some of these differences include:

- monitoring between August and early December. This is an attempt to monitor the "worst case" conditions that occur during these months. These conditions include increased rainfall and farm systems generally being under more pressure, for example, more extensive use of feedpad and standoff facilities;
- no prior notification of visits;
- undertaking "whole of farm" monitoring for compliance with not only resource consent conditions, but regional rules relating to dairy effluent, silage-making and disposal of dead stock. Any non-compliance is recorded as such. For example, unauthorised discharges from standoff pads or dead stock in or near waterways are reported as significant non-compliance;
- carrying out meter readings and taking water quality samples wherever there is a discharge to water. These samples are analysed and the test results compared with consent conditions when compliance is assessed.

6 Infringement notices are used in situations where an offence requires a penalty, but is not considered serious enough to warrant prosecution. Abatement notices are issued to individuals or parties who have committed an offence against a plan, rule or other legislative requirement.

7 The Primary Sector Water Partnership is a group of major primary sector organisations who are committed to ensuring the sustainable use of freshwater resources in the primary sector.

2. PROGRESS AGAINST THE TARGETS continued

Data supplied by Fert Research shows that up until the end of May 2011, 5372 nutrient management plans have been completed for dairy farms. This represents 46 percent of dairy farms. Nutrient budgets are an important step in the development of a nutrient management plan. Fonterra's *On-farm Environmental and Animal Welfare Assessment Report 2010/11* indicated that almost all farms (99 percent) have nutrient budgets.

Regionally significant wetlands

A critical step in meeting this target is the definition and identification of regionally significant wetlands. To date, ten regional councils⁸ have completed the identification work. Tasman, Marlborough and Canterbury are currently working towards

identifying and assessing wetlands in their areas. Dairy farmers, with support from industry organisations and councils, are then responsible for fencing these wetland areas and maintaining the fences.

The 2005 Accord target of 50 percent of regionally significant wetlands on or bordering dairy farms to be fenced⁹ has been met in the Bay of Plenty and Manawatu-Whanganui regions. Taranaki is the only region to have met the 2007 Accord target of 90 percent of regionally significant wetlands on or bordering dairy farms to be fenced.

⁸ Northland, Auckland, Bay of Plenty, Waikato, Taranaki, Hawke's Bay, Horizons, Wellington, Otago and Southland.

⁹ Hawke's Bay has no wetlands on or bordering dairy farms.

Table 2: Regional dairy effluent compliance rates for the 2007/08–2010/11 seasons

Regional Council	% Full compliance				% Minor non-compliance				% Significant non-compliance				Total farms (Fonterra) ^B	Farms assessed ^{C, D}
	2007/2008	2008/2009	2009/2010	2010/2011	2007/2008	2008/2009	2009/2010	2010/2011	2007/2008	2008/2009	2009/2010	2010/2011	2010/2011	2010/2011
Northland	43	39	43	40	31	34	33	36	26	27	24	24	930	937
Auckland	73	45	62	58	19	32	32	39	7	23	6	3	313	218
Waikato	48	41	52	66	42	39	21	22	10	20	27	12	3 719	798
Bay of Plenty	76	73	79	71	15	18	11	15	9	9	10	14	643	340
Taranaki	96	96	96	95	4	3	3	4	0.2	0.5	1	1	1 674	1 723
Hawke's Bay	74	83	62	65	16	13	33	31	11	5	4	4	82	73
Horizons	78	77	81	81	0	9	4	5	22	14	15	14	822	885
Wellington	53	72	89	92	19	24	9	6	28	4	1	2	177	177
Tasman	93	89	73	92	5	6	19	5	2	5	8	2	136	137
Marlborough	75	88	57	48	25	10	38	30	0	2	5	23	60	61
Canterbury	46	43	59	65	34	37	33	25	20	19	8	10	824	917
Otago	83	75	95	91	10	20	4	7	8	5	2	2	350	391
Southland	65	69	39	42	22	18	48	40	13	13	13	18	768	796
Weighted average ^A	64	60	65	69	25	26	20	20	12	15	16	11	10 498	7 453

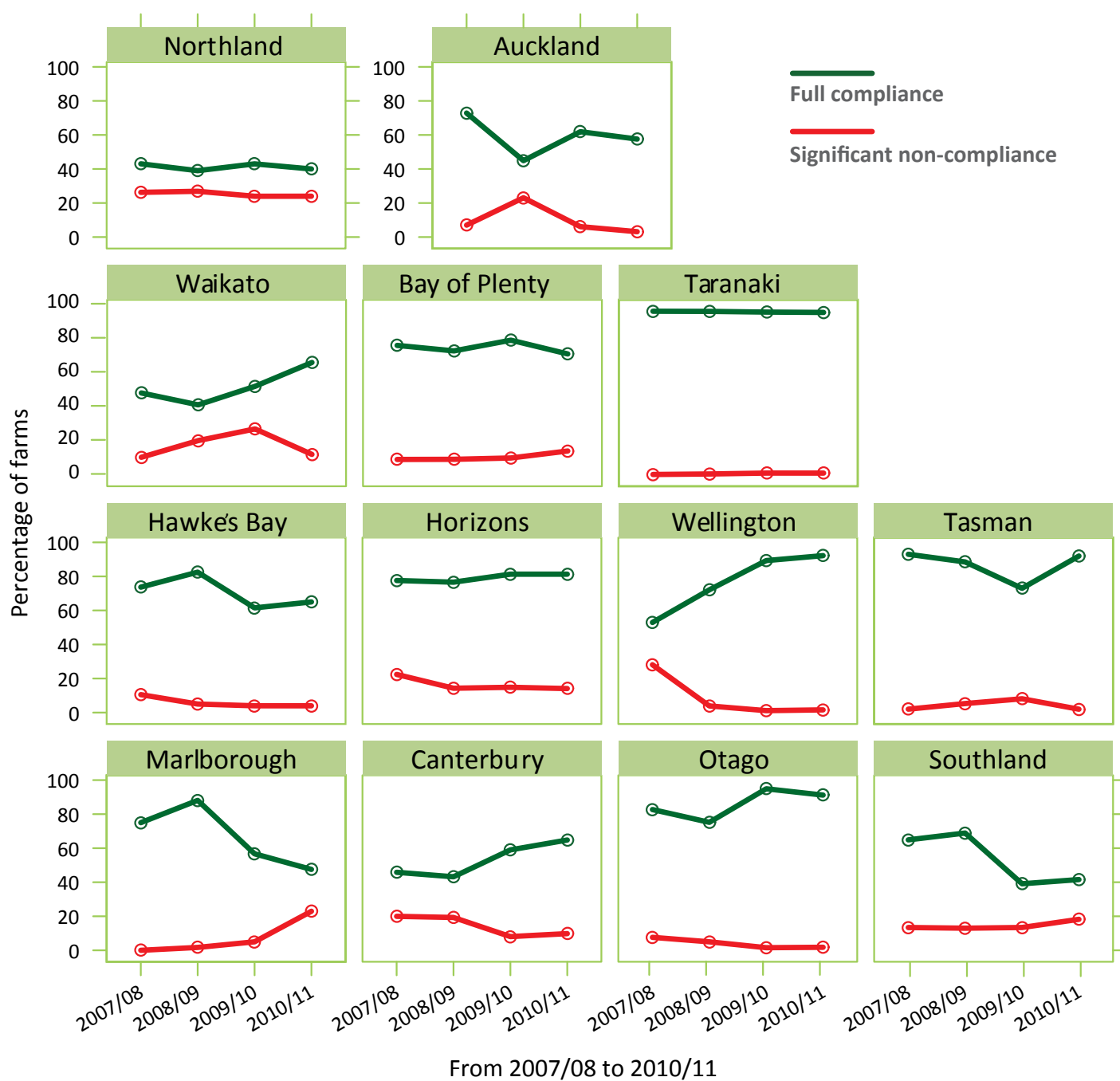
A Weighted average is calculated using the Fonterra farm numbers and therefore does not include the Gisborne or West Coast regions.

B Numbers of suppliers in each region provided by Fonterra.

C Farms assessed by regional councils to monitor dairy effluent management compliance.

D In some regions the number of farms assessed may differ from Fonterra farm numbers because regional councils are assessing dairy farms supplying all dairy companies.

Figure 3: Dairy farm effluent discharge compliance with resource consent and regional plan requirements from 2007/08 season to 2010/11¹



Note

¹ Figure 3 replaces the map that has been used in previous *Snapshots* to highlight changes in dairy farm effluent compliance across the regions. These graphs, showing changes in full compliance (green) and significant non-compliance (red), enable seasonal comparisons both within and across regions.

3. AREAS OF FOCUS

This section outlines key initiatives from regional councils and industry that will help to improve performance against the Accord targets.

Protection of waterways

Councils around the country continue to work with landowners to protect and restore waterways. Two examples are highlighted below.

Horizons ran a campaign in late 2010 informing farmers in the Tararua district of the need to fence streams. Included in the campaign was an offer by Horizons to assist with fencing costs; up to 50 percent for individuals and 75 percent for groups of four or more neighbours. Horizon's results for the programme up to July 2011 indicate that:

- 25 farmers had their fencing approved for 2010/11;
- 25 farmers have completed and claimed their agreed fencing rebates;
- 80 kilometres of fencing has been completed, with \$143 000 of funding assistance from Horizons.

Wellington Regional Council, in association with Federated Farmers, DairyNZ, the New Zealand Deer Farmers Association, and Fonterra has produced a guide entitled *Guidelines for Managing Stock Access to Waterways in the Wellington Region*. The guide helps farmers to manage stock access to water bodies that run through their properties. The guide describes farm features and farm practices that may affect surface water quality, and provides a range of management options for protecting and improving water quality. The guide can be found on Wellington Regional Council's website: www.gw.govt.nz/stock-guide.

Effluent compliance

Improving compliance with resource consents and regional plan rules for dairy farm effluent discharges remains a significant area of concern and a key focus for the Accord partners. Many industry and council-led programmes have been implemented to support farmers and continue to raise awareness in this area.

Effluent Improvement System

Fonterra introduced an "Effluent Improvement System" (EIS) in August 2009. During the period August 2009 to August 2010, all Fonterra suppliers identified by regional councils as being subject to infringement or prosecution action were visited by Sustainable Dairy Advisors. Effluent Improvement Plans were put in place and general notice was provided that if further enforcement action occurred then deductions to milk payouts of \$1500 for an

infringement notice and \$3000 for a prosecution would be put in place the subsequent year. There would be an opportunity for that deduction to be refunded if effluent improvements were made. To date, no deductions have been made to suppliers.

Since the EIS came into effect, Fonterra has found it challenging, at a national level, to impose fair and consistent payout deductions on suppliers with inadequate effluent infrastructure. One of the challenges has been the wide variation in the availability of data pertaining to infringement notices issued to suppliers and subsequent prosecutions. Fonterra has now shifted its focus to "Every Farm Every Year", its best practice effluent management programme.

"Every Farm Every Year"

Fonterra's "Every Farm Every Year" programme aims to help its suppliers improve compliance with council effluent rules. Independent assessors have visited all 10 500 Fonterra-supplying farms, checking if effluent infrastructure is compliant, non-compliant or at risk of non-compliance. As a result:

- Fonterra's Sustainable Dairying Advisor (SDA) team received 2900 referrals – identified by farm assessors with compliance issues and self-referrals;
- the SDA team have completed 2300 one-on-one visits with referred farmers;
- 1360 farms have effluent improvement plans in place and of those, 720 plans have already been completed;
- 56 critical issues were corrected within 24 hours.

For the 2011/12 season Fonterra have expanded their SDA team to 13 advisors. Fonterra continues to broaden the criteria it uses to assess its suppliers for 365 day compliance. Fonterra will be focusing on ensuring its suppliers have the storage and contingency required for their system to cope in all situations.

Effluent Industry Programme

DairyNZ, supported by others in the industry, has developed a range of new initiatives through their Effluent Industry Programme. These new initiatives, which sit alongside the Farm Dairy Effluent (FDE) Code of Practice and the Agriculture Industry Training Organisation's (AgITO) effluent management module, include:

- the Institute of Professional Engineers New Zealand (IPENZ) and DairyNZ jointly developing the IPENZ Practice Note 21: FDE Pond Design and Construction, which sets a new standard for the construction of effluent ponds;

- a short course run through Massey University on FDE: System Design and Management to ensure effluent designers are trained and certified.

Regional initiatives

Individual regional councils also have a range of programmes aimed at reducing the rate of non-compliance. Examples of these programmes are outlined below.

- Regular meetings between councils, dairy companies, DairyNZ, Federated Farmers and other key stakeholders to plan monitoring, advisory and compliance activities.
- The Northland Effluent Improvement Project Group. This Group is comprised of representatives from Fonterra, DairyNZ, Farmers of New Zealand, Federated Farmers, Northland Regional Council and farmers. Specific actions undertaken to promote best practice during the last season included:
 - the promotion of AgITO effluent training courses;
 - joint feedpad field days with DairyNZ and effluent meeting and training days with key stakeholders;
 - Northland Regional Council purchasing a quantity of roll-flat hose and low-application irrigation pods for trial by farmers, which have proved very popular;
 - A3 laminated copies of permitted activity rules being provided to all farms with land application systems;
 - Dairy Farmer newsletters – three were distributed during the 2010/11 season;
 - release of the new booklet *A guide to managing farm dairy effluent in Northland* (jointly with DairyNZ);
 - planning for “targeted field days” for small groups with specific requirements.
- Since 2006, the Waikato Regional Council has been running the Integrated Catchment Management pilot project in two upper Waikato catchments, Little Waipa and Waipapa Stream. Approximately 60 percent of the farms in the two pilot catchments have a farm plan. Recent monitoring of on-farm actions shows that 50 percent of actions are undertaken with another 15 percent in progress. 22 percent of actions are outstanding and farmers have refused to implement 14 percent of actions due to cost, complexity, lack of science or lack of policy drivers. The Council is satisfied with this achievement as it shows farm plans are well tailored to on-farm goals.
- Environment Bay of Plenty has reestablished the Bay of Plenty Dairying Regional Action team, led by DairyNZ. Work is almost complete on updated Bay of Plenty Guidelines and an effluent storage calculator for the region.

- Otago Regional Council note that, with Fonterra including effluent infrastructure and systems in their inspections, there is an increased awareness associated with managing effluent. Many more questions are being asked by staff, sharemilkers and owners at the time of inspection.

Nutrient management

DairyNZ has gained funding through the Primary Growth Partnership for a number of projects that will support the wider nutrient management programme of work. Fonterra is strongly supportive and is looking to develop internal systems that will provide the driver for farmer uptake of the systems developed under the projects.

The projects include:

- a benchmarking exercise using analysis of fertiliser industry data from nutrient budgets to provide regional estimates for nitrogen conversion efficiency, nitrogen surplus and nitrogen leaching¹⁰;
- piloting the measuring and monitoring system in three catchments to test the system and identify issues;
- developing industry capability to educate and advise farmers on how they can improve nutrient use efficiency and decrease the nutrient loss risk from dairying activities.

A fourth project aims to develop an auditable measuring and monitoring system for nutrient use efficiency and nutrient loss risk that could be applied by dairy companies to their suppliers. The expected timeframe for this project is to have pilot projects in place for the 2011/2012 season. At the end of this season there will be a robust protocol and process for the collection, processing and auditing of farm specific data around nutrient management. Following further refinement it is expected that the system would be available for dairy companies to implement with their suppliers by the start of the 2012/2013 season.

¹⁰ The exercise will use Overseer®, which is an agricultural management tool that assists in examining nutrient use and movements within a farm to optimise production and environmental outcomes. Overseer® is funded by MAF, Fertiliser Research and AgResearch.

4. SUPPORTING INITIATIVES

Fresh Start for Fresh Water

Since May 2011, a number of initiatives have been announced that recognise the strategic value of fresh water to New Zealand's economy and way of life. These initiatives include:

- National Policy Statement for Freshwater Management;
- Fresh Start for Fresh Water Clean-up Fund;
- further work programmes, including resource use limits, governance, and managing the effects of land use on water.

The National Policy Statement for Freshwater Management, issued under the Resource Management Act 1991, recognises freshwater management as a nationally significant issue requiring central government direction. It sets a consistent national regulatory framework to ensure there are clear limits to govern the allocation of water and management of water quality.

The Fresh Start for Fresh Water Clean-up Fund will provide additional funding of \$15 million over two years to help communities clean up waterways that are affected by historical pollution. Funding is only available for the remediation of nationally significant freshwater bodies.

Further information on both initiatives can be found on the Ministry for the Environment's website: www.mfe.govt.nz/issues/water/freshwater/fresh-start-for-fresh-water/index.html.

Collaborative initiatives

A number of collaborative initiatives have begun around the country recognising that regional water quality issues are best dealt with by stakeholders working together. Examples include the recently launched Manawatu River action plan aimed at cleaning up the Manawatu River throughout its catchment. The plan, instigated by the Manawatu River Leaders Accord, is supported by the farming community, iwi, industry and environmental groups. All parties have made a commitment to work closely together to look for solutions to the river's water quality issues.

Further information can be found on the Horizons Regional Council website: www.horizons.govt.nz/managing-environment/resource-management/water/manawatu-river-leaders-accord/.

Land and Water Forum

The Land and Water Forum is comprised of a range of primary industry organisations, environmental and recreational NGOs, iwi and other organisations with an interest in freshwater and land management. In 2009, the Government asked the Forum to provide advice on how water should be managed in New Zealand.

The Forum released its report in September 2010. The report set out a package of high-level directions, 53 recommendations and a framework for moving water management forward.

In September 2011, the Government issued a high-level response to the Forum's recommendations, and outlined an ongoing role for the Forum in New Zealand's freshwater management reforms. The Forum has agreed to continue work on generating consensus between key stakeholders on a set of broad policy issues. Officials will remain responsible for co-ordination and management of the Government's overall reform programme, and will continue to advise Ministers on policy options for the overall reform package.

Further information about the Government's response to the Forum's recommendations, and the Forum's future role in freshwater management reforms, is available at the Ministry for the Environment website: www.mfe.govt.nz/issues/water/freshwater/fresh-start-for-fresh-water/index.html.

Stock exclusion survey

Between March and May 2011, the Ministry of Agriculture and Forestry undertook a nation-wide survey to assess stock exclusion from Accord-type waterways. This independent look at stock exclusion contributes to the growing evidence base we have available to inform our current and future decisions. Learning all we can about the degree of stock exclusion from our waterways is important for the protection and sustainable management of our natural resources including those used in farming. The full results of the survey will be available on MAF's website: www.maf.govt.nz. A summary of the results is shown in Table 3.

There are important differences in the methodology and timing used to collect the results published in this (and previous) *Snapshots* and the stock exclusion survey. Caution should be taken when comparing results.

Nationally, these results indicate that progress has been made in terms of the number of kilometres of stream protected. The survey also highlights the amount of work remaining before all streams on all dairy farms are protected, as well as the level of variability between regions.

Methodological differences

It is important to note that the stock exclusion survey uses a different methodology from the *Snapshot*. Stock exclusion data for the *Snapshot* is taken from Fonterra's annual *On-Farm Environmental and Animal Welfare Assessment* survey. The

Table 3: Summary of results from stock exclusion survey (margin of error figures in brackets)

Region	Percent of Farms with Complete Stock Exclusion	Percent of Streams with Complete Stock Exclusion	Mean Percent of Bank Length with Stock Exclusion	Mean Bank Length Still to Fence (km)
Northland	33 (±12)	35 (±10)	64 (±9)	1.4
Auckland	40 (±14)	50 (±11)	66 (±11)	0.9
Waikato	47 (±12)	57 (±10)	78 (±8)	0.6
Bay of Plenty	52 (±13)	66 (±9)	73 (±11)	0.6
Taranaki	33 (±12)	50 (±9)	78 (±7)	0.7
Hawke's Bay	57 (±17)	78 (±10)	94 (±4)	0.3
Manawatu-Whanganui	27 (±12)	44 (±9)	73 (±8)	0.8
Wellington	44 (±15)	50 (±12)	77 (±9)	0.8
Tasman	17 (±13)	34 (±9)	78 (±7)	1.3
Marlborough	8 (±13)	27 (±10)	68 (±9)	1.6
Canterbury	65 (±13)	78 (±7)	94 (±4)	0.3
Otago	46 (±14)	68 (±8)	87 (±6)	0.6
Southland	61 (±13)	78 (±7)	90 (±6)	0.7
National	42 (±4)	57 (±3)	78 (±2)	0.8

Assessment survey involves a trained assessor meeting with dairy farmers and asking them a range of questions to assess their environmental and animal welfare performance. The stock exclusion survey on the other hand involved a field technician visually assessing stock exclusion on a sample of randomly selected farms.

The stock exclusion survey was also undertaken between March and May 2011. Fonterra, on the other hand, undertakes its annual *Assessment* survey between October and April (except for winter milkers which are surveyed between June and July). The difference in timing is important since seasonal and annual variations in rainfall affect on-ground interpretations of whether a waterway is “deeper than a red-band gumboot, wider than a stride and permanently flowing”, and therefore an Accord-type waterway.

New Fonterra initiative to make stock exclusion a condition of supply

Fonterra has recently informed its suppliers that it will include stock exclusion from Accord-type waterways as a condition of supply from the start of the 2012/13 season. Suppliers will have until June 2013 to complete exclusion work. From June 2013, non-compliance will be managed through implementation of

Environmental Improvement Plans. If the supplier has not fully implemented the Plan by June 2014, the supplier will face financial consequences until exclusion is completed.

Centre of Excellence in Farm Business Management

The establishment of a new Centre of Excellence in Farm Business Management was announced in March 2011. This is a joint venture by Lincoln and Massey Universities, with the support of DairyNZ and the Government's Primary Growth Partnership. The Centre's primary focus will be on improving the business management of farming in New Zealand, including areas such as risk management, governance, financial control, people management, entrepreneurship and precision agriculture. It will combine capability from both universities and co-ordinate the supply of research, education and professional development to meet the agriculture industry's needs.

Further information can be found on the Ministry of Agriculture and Forestry's website: www.maf.govt.nz/agriculture/funding-programmes/primary-growth-partnership.aspx and DairyNZ's website: www.dairynz.co.nz/news/pageid/2145870008.

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