

# THE DAIRYING AND CLEAN STREAMS ACCORD: SNAPSHOT OF PROGRESS 2011/2012



**Dairy for life**



Ministry for the  
**Environment**  
*Manatū Mo Te Taiao*



**Local Government New Zealand**  
*te pātahi matakokiri*

**Ministry for Primary Industries**  
Manatū Ahu Matua



## EXECUTIVE SUMMARY

- The Dairying and Clean Streams Accord has been 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.
  - The Accord was agreed in May 2003 and ran for a 10-year period ending on 31 December 2012.
  - The 2012 Accord target for dairy cattle to be excluded from Accord-type waterways is 90 percent. This target has not been fully achieved, with 87 percent of Fonterra farms with Accord-type waterways having excluded stock. This assessment is based on a non-audited verbal assessment of stock exclusion<sup>1</sup>. The Supply Fonterra programme will include verification of stock exclusion.
  - The 2012 Accord target of 90 percent of regular stock crossing points to have bridges or culverts in place has been achieved. Less than 1 percent of these crossings still require bridges or culverts.
  - Nationally, the average level of significant non-compliance with regional council dairy effluent rules and consent conditions decreased from 11 percent in 2010/11 to 10 percent in 2011/12. Decreases in significant non-compliance occurred in Horizons (14 percent in 2010/11 to 7 percent in 2011/12), Marlborough (23 percent to 3 percent) and Southland (18 percent to 12 percent). Northland and Bay of Plenty had the highest levels of significant non-compliance (27 percent and 16 percent respectively). Continually improving effluent compliance is a major challenge for the Accord Partners.
  - Nationally, the level of full compliance with regional council dairy effluent rules and consent conditions in 2011/12 increased to 73 percent compared to the Accord target of 100 percent full compliance. This is an improvement on the 2010/11 result of 69 percent. Across the regions, full compliance varied between 38 percent and 95 percent. From 2010/11 to 2011/12 there have been improvements in effluent compliance in a number of regions including: Auckland (58 percent to 73 percent), Waikato (66 percent to 72 percent), Hawke's Bay (65 percent to 80 percent), Horizons (81 percent to 91 percent), Marlborough (48 percent to 70 percent) and Canterbury (65 percent to 70 percent).
  - The 2007 Accord target of 100 percent of dairy farms with a nutrient management plan is yet to be achieved. Ninety-nine percent of farmers now have a nutrient budget in place with 56 percent having a nutrient management plan compared to 46 percent in 2010/11.
  - 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 fencing 90 percent of regionally significant wetlands bordering dairy farms.
- <sup>1</sup> The 2011 Stock Exclusion Survey, which relies on visual assessment of stock exclusion, found significantly lower levels of full exclusion than the *Snapshot*.



# 1. INTRODUCTION

The Dairying and Clean Streams Accord is an agreement between the Ministry for Primary Industries (formerly the Ministry of Agriculture and Forestry), the Ministry for the Environment, Fonterra 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 was to contribute toward clean, healthy freshwater resources including streams, rivers, lakes, groundwater, and wetlands in dairying areas. It was 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 set out five targets for dairy farmers:

- dairy cattle to be excluded from 50 percent of Accord-type<sup>2</sup> streams, rivers and lakes by 2007, rising to 90 percent by 2012;
- fifty percent of regular crossing points to have bridges or culverts by 2007, and 90 percent by 2012;
- all dairy farm effluent discharges to comply with resource consents and regional plans immediately;
- all dairy farms to have in place systems to manage nutrient inputs and outputs by 2007; and
- 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 2011/12*. 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; and

- 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 five seasons and across regions.

This Accord expired at the end of 2012. The Accord has provided a framework that has raised the profile of environmental performance within the dairy industry and the wider New Zealand public and has been a critical driver for many regional and sector-led initiatives.

With the conclusion of the Accord, all dairy companies, with support from a range of agencies and organisations, are finalising the *Sustainable Dairying: Water Accord*. It seeks a further step up in the management of risks to waterways from dairying, and includes other dairy companies and partners. It is based on the common desire to ensure that dairying plays its part in identifying, protecting and enhancing (ecological benefits and) the benefits and experiences New Zealanders enjoy in freshwater, from fishing and swimming through to food gathering.

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

**Table 1: Progress towards Accord targets (2007/08 to 2011/12)**

Accord target	2007/08	2008/09	2009/10	2010/11	2011/12
Dairy cattle are excluded from streams, rivers and lakes (2012 TARGET: cattle excluded from 90 percent of Accord-type waterways) <sup>A</sup>	78%	80%	85%	84%	87%
Regular race crossing points have bridges or culverts (2012 TARGET: 90 percent of regular crossing points bridged or culverted) <sup>B</sup>	98%	98%	99%	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%	73%
All farms have a system in place to manage nutrient inputs and outputs (2007 target)	Farms with a nutrient budget <sup>C</sup>	98%	99%	99%	99%
	Farms with a nutrient management plan <sup>D</sup>			10%	46%

**Notes**

- A Based on farms with Accord-type waterways – deeper than a red band gumboot (ankle deep), wider than a stride (1 metre) and permanently flowing.
- B A regular crossing is defined as having more than two stock crossings (each consisting of there and back) a week averaged over a year.
- C These figures represent the percentage of dairy farms with a nutrient budget, which is a critical step in the development of a nutrient management plan.
- D These figures are provided by the Fertiliser Association of New Zealand (formerly FertResearch).
- E Data as at 31 May 2012.

## 2. PROGRESS AGAINST THE TARGETS

### Overall progress

The 2011/12 season produced similar results to the previous three seasons in achieving the 2012 target of bridging and culverting 90 percent of regular crossing points and almost meeting the 2012 target of 90 percent dairy exclusion from Accord-type waterways. The percentage of dairy farmers with a nutrient management plan has increased although there is significant room for improvement. This is an area of significant investment by the dairy sector.

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 Table 1 and Figure 1.

### Stock access to waterways

The *On-Farm Environmental and Animal Welfare Assessment 2011/12* results confirm that 67 percent (5981 farms) of Fonterra's suppliers (excluding the Taranaki region) have waterways that meet the Accord definition<sup>3</sup>.

Nationally, the proportion of farms with stock excluded from Accord-type waterways is 87 percent, similar to the 84 percent of 2010/11. The number of farms with stock excluded from Accord-type waterways has increased from 5012 farms in 2010/11 to 5187

in 2011/12. Regional progress towards total exclusion of Accord-type waterways from stock access is highlighted in Figure 2. These figures are based on a non-audited verbal assessment of stock exclusion<sup>4</sup>. This is different to the more robust, audited process under the Supply Fonterra initiative outlined in section 3 that will form the basis of future reporting.

### Waterway crossings

The *On-Farm Environmental and Animal Welfare Assessment 2011/12* recorded 14 632 Accord-type crossings. Of these, 115 crossings (0.8 percent) still require a bridge or a culvert. This is the same result as 2010/11. The 2012 Accord target of 90 percent of regular crossing points to have bridges or culverts has been exceeded in all regions.

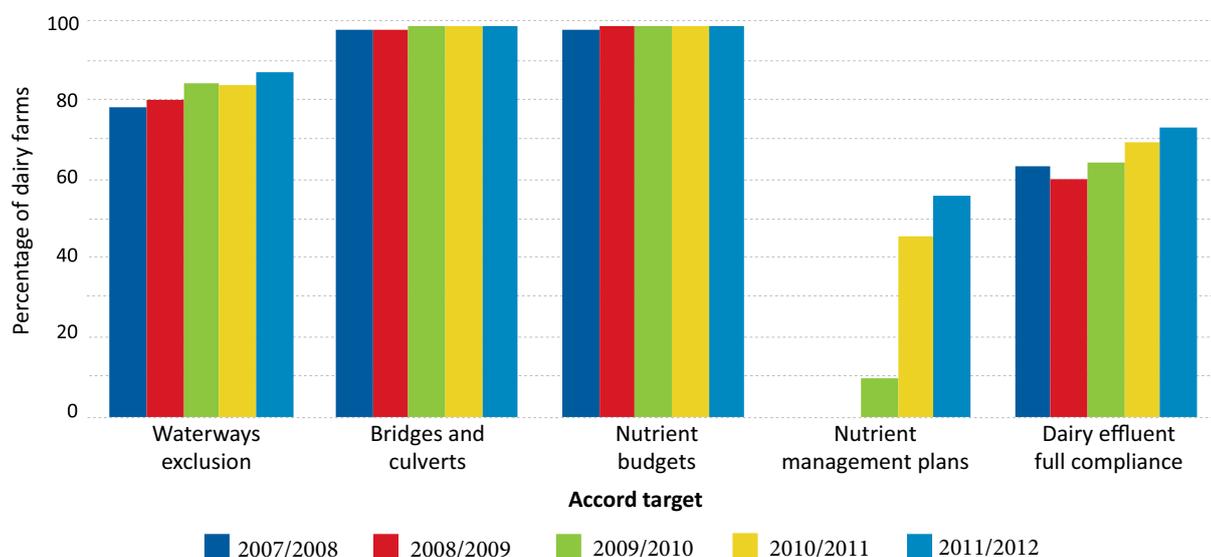
### Compliance with regional plan and resource consent requirements

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.

<sup>3</sup> Taranaki suppliers are excluded because information relating to waterways is provided directly by the Taranaki Regional Council through its farm riparian planning programme.

<sup>4</sup> The 2011 Stock Exclusion Survey, which relied on visual assessment of stock exclusion, found significantly lower levels of full exclusion than the *Snapshot*.

Figure 1: Progress towards meeting the Accord targets (2007/08–2011/12)<sup>1</sup>



Note

<sup>1</sup> 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); and

- 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 were 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.

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, use of aerial surveys, and the requirement to include feed pads and stock underpasses. Individual results may reflect these differences and the different conditions of rules and resource consents that are in place.

While councils have different consenting regimes, the same criteria are used to classify dairy farm effluent compliance. These classifications are:

- **FULL COMPLIANCE:** Those conditions of the rule or resource consent that were monitored were being fully complied with;
- **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 not been complied with; and
- **MINOR 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.

Councils meet annually to audit inspection records ensuring that compliance criteria are applied consistently and to identify and

share monitoring best practice. Four annual compliance audits have been undertaken. Overall, the recent audit showed there was a high degree of consistency between how councils report non-compliance, with significant improvement shown from the 2008/09 survey. Accordingly, the audit frequency has been reduced to two yearly.

### Full compliance

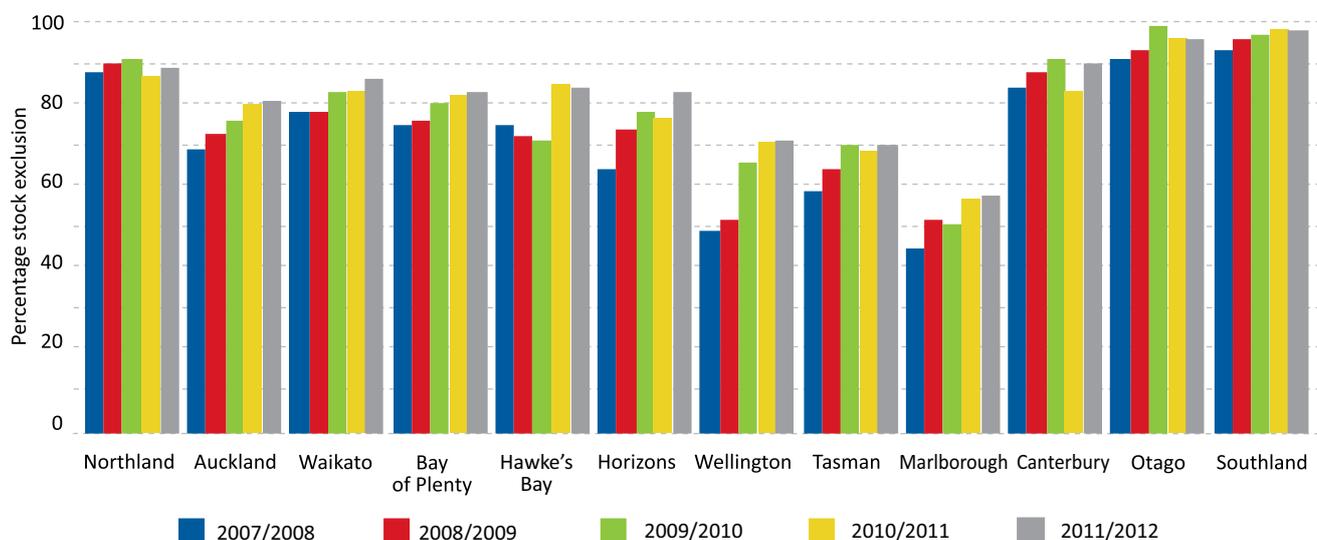
The data shows that full compliance has increased from 69 percent in 2010/11 to 73 percent in 2011/12 compared to the Accord target of 100 percent full compliance. Across the country, full compliance varied between 38 percent and 95 percent.

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

Full compliance from the 2010/11 season was maintained or improved for 2011/12 in 10 regions. There have been significant improvements in:

- Auckland (58 percent to 73 percent);
- Waikato (66 percent to 72 percent);
- Hawke's Bay (65 percent to 80 percent);
- Horizons (81 percent to 91 percent); and
- Marlborough (48 percent to 70 percent).

**Figure 2: Percentage of farms with total stock exclusion from Accord-type waterways (2007/08–2011/12) <sup>1, 2, 3</sup>**



**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.
- 3 Based on self-reported data.

## 2. PROGRESS AGAINST THE TARGETS *continued*

A high level of full compliance (93 to 95 percent) continues to be maintained in Taranaki, Wellington, Tasman and Otago. The lowest levels of full compliance, 38 percent and 45 percent, occurred in Northland and Southland respectively.

Progress towards meeting this Accord target in 2011/12, as in previous years, has proved to be a significant challenge. Further progress in this area will largely depend on Fonterra, councils and industry organisations such as DairyNZ, continuing to work with poorly performing farmers and the wider farming community to improve compliance levels and nutrient management. More details on further initiatives in this area are outlined in sections 3 and 4.

### Significant non-compliance

Nationally, the level of significant non-compliance has dropped to 10 percent from a high of 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 continue to be poor effluent disposal methods onto land, lack of storage capacity, inadequate infrastructure to cater for increasing stock numbers, and runoff from feed/standoff pads.

Across the country, significant non-compliance varied between 1 percent and 27 percent. Comparing results between 2010/11 and 2011/12, there have been notable improvements in Horizons (14 percent to 7 percent) and Marlborough (23 percent to 3 percent) regions. A low level of significant non-compliance (1 to 5 percent) occurred in Auckland, Taranaki, Hawke's Bay, Wellington, Marlborough, Tasman and Otago. The highest levels of significant non-compliance, ranging from 12 percent to 27 percent, occurred in Northland, Waikato, Bay of Plenty and Southland.

The Accord partners acknowledge that full compliance is a regulatory requirement. Although there have been improvements, this level of dairy effluent non-compliance remains a major focus of collaborative efforts and investment, particularly in regions with continuing high non-compliance.

### Infringement and abatement notices

The average number of farms issued infringement notices<sup>5</sup> increased by 18 percent from 2010/11. The main regional changes in the number of farms issued infringement notices were a decrease in Northland (146 down to 84) and increases in the Waikato (from 21 to 52) and in Southland (63 up to 88).

<sup>5</sup> 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.

Nationally, the average number of farms issued abatement notices has reduced by 14 percent with notable decreases in Horizons (47 down to 10) and Southland (42 down to 8). The average number of prosecutions initiated nationally in the 2011/12 season has remained similar to 2010/11 with notable changes in Otago (5 up to 10) and Southland (14 down to 3).

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; and
- whether partial or full cost recovery was possible.

### Nutrient management

Fonterra suppliers have been required to have nutrient budgets since 2007. Nutrient budgets are a critical step in the development of a nutrient management plan. Fonterra's *On-farm Environmental and Animal Welfare Assessment Report 2011/12* indicated that almost all farms (99 percent) have nutrient budgets.

Data supplied by the Fertiliser Association of New Zealand shows that up until the end of May 2012, 56 percent of dairy farms had a nutrient management plan, representing 5879 dairy farms.

### Regionally significant wetlands

A critical step in meeting this target is the definition and identification of regionally significant wetlands. To date, ten regional councils<sup>6</sup> have completed the identification work. 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 fenced*<sup>7</sup> 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*.

<sup>6</sup> Northland, Auckland, Bay of Plenty, Waikato, Taranaki, Hawke's Bay, Horizons, Wellington, Otago and Southland.

<sup>7</sup> Hawke's Bay has no wetlands on or bordering dairy farms.

**Table 2: Regional dairy effluent compliance rates between 2007/08 and 2011/12**

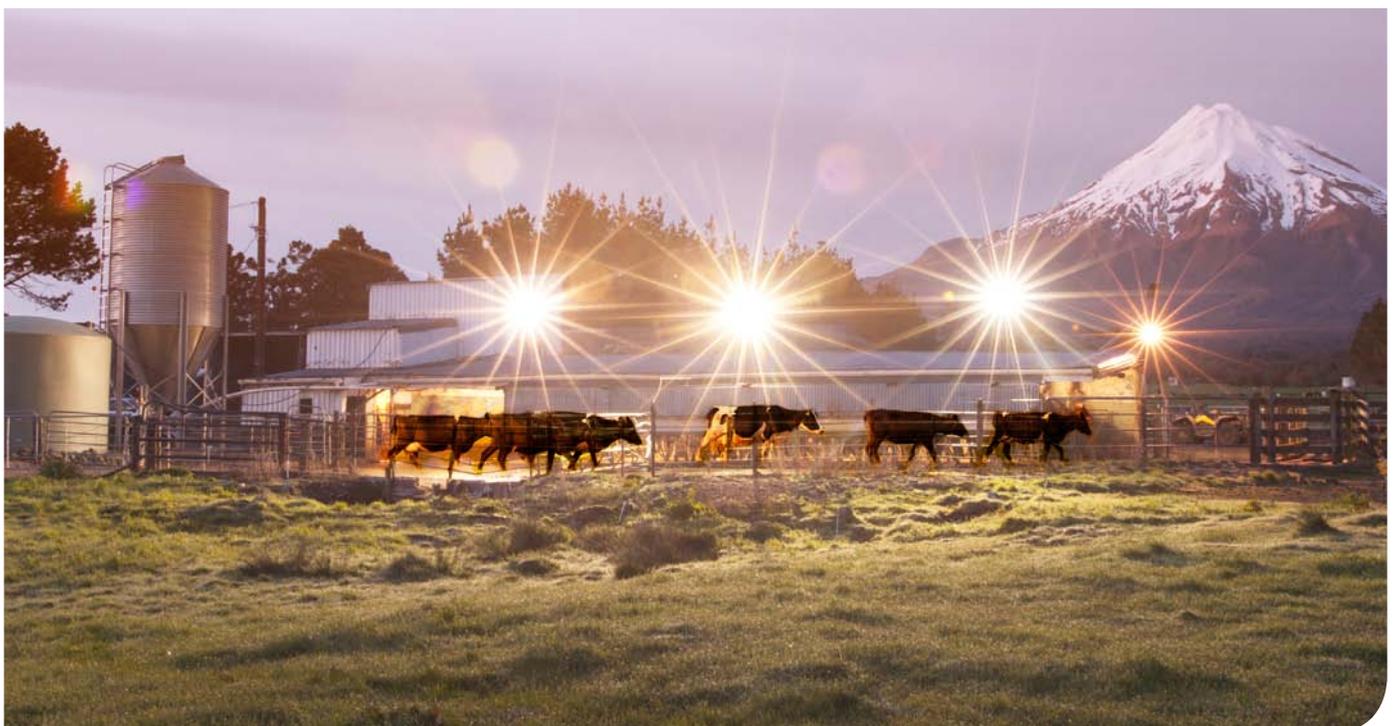
Regional Council	% Full compliance					% Significant non-compliance					Total farms (Fonterra) <sup>B</sup>	Farms assessed <sup>C,D</sup>
	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2011/2012	2011/2012
Northland	43	39	43	40	38	26	27	24	24	27	937	969
Auckland	73	45	62	58	73	7	23	6	3	5	309	286
Waikato	48	41	52	66	72	10	20	27	12	12	3 708	1004
Bay of Plenty	76	73	79	71	67	9	9	10	14	16	635	300
Taranaki	96	96	96	95	93	0	1	1	1	1	1 682	1 715
Hawke's Bay	74	83	62	65	80	11	5	4	4	3	84	79
Horizons	78	77	81	81	91	22	14	15	14	7	831	899
Wellington	53	72	89	92	95	28	4	1	2	4	176	174
Tasman	93	89	73	92	94	2	5	8	2	2	133	133
Marlborough	75	88	57	48	70	0	2	5	23	3	60	61
Canterbury	46	43	59	65	70	20	19	8	10	9	857	997
Otago	83	75	95	91	94	8	5	2	2	4	364	409
Southland	65	69	39	42	45	13	13	13	18	12	801	724
Weighted average <sup>A</sup>	64	60	65	69	73	12	15	16	11	10	10 577	7 730

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.

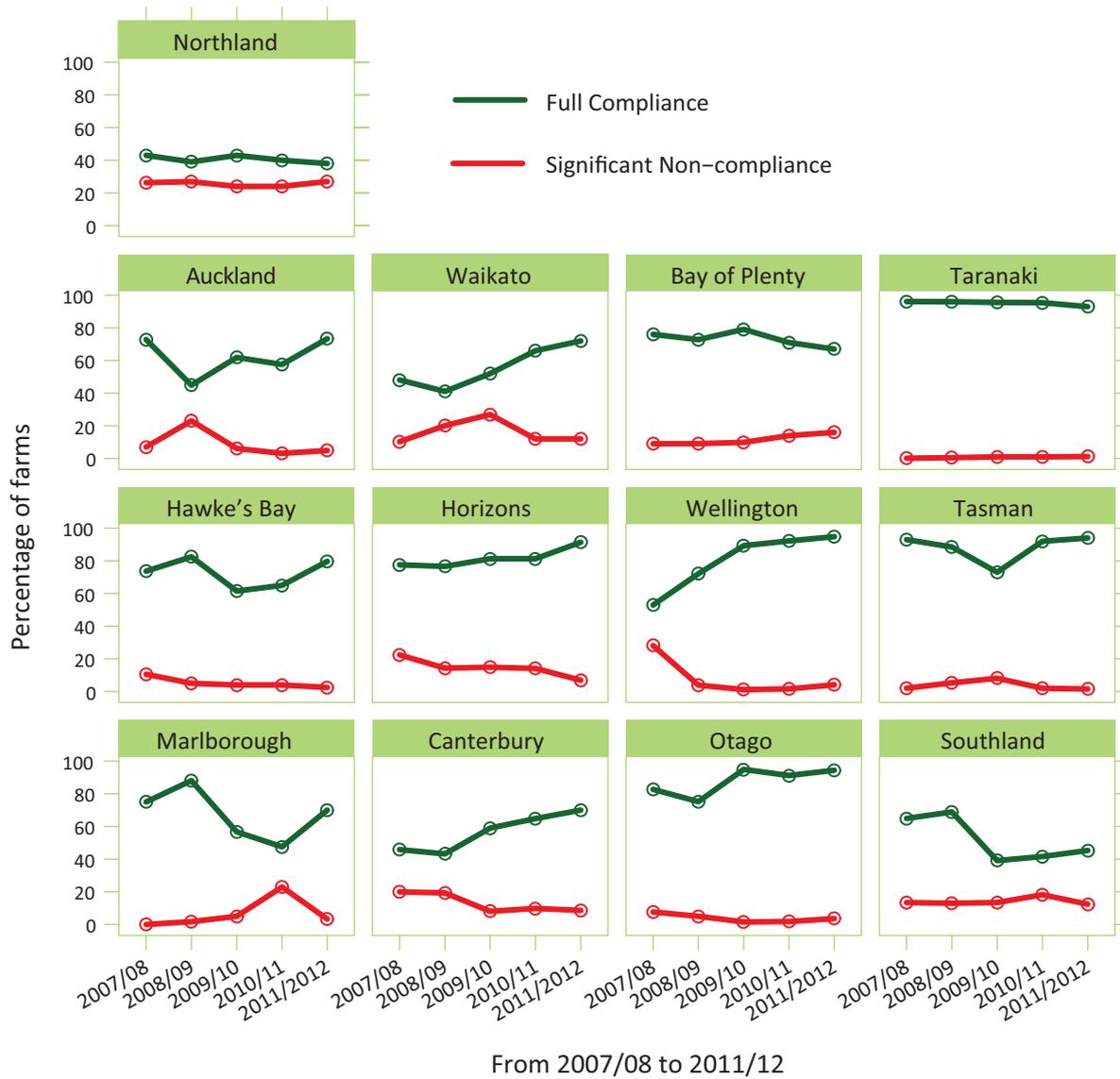
C Farms assessed by regional councils to monitor dairy effluent management compliance.

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.



## 2. PROGRESS AGAINST THE TARGETS *continued*

Figure 3: Dairy farm effluent discharge compliance with resource consent and regional plan requirements from 2007/08 to 2011/12



## 3. AREAS OF FOCUS

This section outlines key initiatives that will help to improve performance relative to the areas addressed by the Accord targets.

### Regional initiatives

Over the life of the Accord, regional councils have been actively engaged in ensuring dairy farmers understand their obligations and, together with sector and industry organisations, have undertaken initiatives aimed at improving the environmental performance of the dairy industry. Some of these are outlined in Table 3.

**Table 3: Key regional initiatives**

Issue	Initiatives
Improving effluent compliance	<ul style="list-style-type: none"> <li>• Comprehensive compliance monitoring systems.</li> <li>• One-on-one farm visits and specific advisory services.</li> <li>• Producing publications with industry covering topics including:               <ul style="list-style-type: none"> <li>– regional guides on managing farm dairy effluent, storage and disposal of effluent and effluent ponds;</li> <li>– staff training;</li> <li>– regular newsletters;</li> <li>– permitted activity rules; and</li> <li>– advertising campaigns promoting good dairy effluent practice.</li> </ul> </li> <li>• Collaborative approaches between councils, dairy companies, DairyNZ, Federated Farmers and other key stakeholders to plan monitoring and advisory activities.</li> <li>• Promotion of AgITO effluent training courses.</li> <li>• Field days and workshops – both generic and for small groups with specific requirements.</li> <li>• Initiating and supporting research projects.</li> <li>• Development of effluent storage calculators.</li> <li>• Real-time monitoring of effluent irrigators, pond level indicators etcetera.</li> <li>• Purchase of infrastructure for loan to farmers, for example, irrigation pods and lay-flat hose.</li> </ul>
Nutrient management	<ul style="list-style-type: none"> <li>• Initiating and supporting research into linkages between nutrient loss and farm profitability.</li> <li>• Advising on nutrient and farm planning.</li> </ul>
Riparian management	<ul style="list-style-type: none"> <li>• Developing guidance on riparian management.</li> <li>• Funding support for riparian plans and infrastructure – fences and plants.</li> <li>• Support and initiation of catchment care programmes.</li> </ul>

### Protection of waterways

Councils continue to work with landowners to protect and restore waterways. In addition, Fonterra has established Supply Fonterra which includes a range of on-farm initiatives that will help the industry grow and maintain a sustainable milk supply. One of these initiatives includes a Waterway Management Programme.

#### Supply Fonterra: Waterway Management Programme

This programme has been developed to assist farmers in meeting expectations of the exclusion of stock from streams, rivers, lakes and wetlands, along with the reduction of farm run-off into waterways. The programme aims to help farmers achieve Fonterra's minimum standards and support to achieve this is provided by their team of Sustainable Dairying Advisors.

Fonterra requires all suppliers to meet the following standards:

- stock must be excluded from all waterways that permanently contain water, are wider than one metre and deeper than 30cm at any point;
- farm races must include bridges or culverts where stock regularly cross any waterway; and
- sediment and/or effluent shall not be discharged into any waterway where it is likely to result in a significant adverse effect on the environment (examples include discharges from dairy tracks, sacrifice paddocks and winter forage blocks).

Stock exclusion results will be verified as part of the Waterway Management Programme.

Where these standards are not met, Fonterra's Sustainable Dairying Advisors will work with farmers to develop an Environmental Improvement Plan that sets out the actions required to meet the standard, and an implementation timeline.

### 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. Supply Fonterra includes an Effluent Management Programme.

#### Supply Fonterra: Effluent Management Programme

Fonterra assesses suppliers' effluent systems as part of the annual Farm Dairy and Environmental Assessment. Farms at risk of non-compliance or causing an environmental impact are referred to a Sustainable Dairying Advisor as part of the Supply Fonterra Effluent Management Programme. Through this programme, advice and

## 3. AREAS OF FOCUS *continued*

support for farmers is available including, developing a tailored plan to improve their effluent management system over a specific timeframe.

Fonterra requires that farmers must have systems in place that manage all effluent sources in a manner that complies with the relevant regional council resource consent or permitted activity rules, 365 days a year.

In the event that the minimum standard is not met, farmers must:

- work with a Sustainable Dairying Advisor to create an Environmental Improvement Plan that sets out the actions required to achieve the minimum standard (as specified by the farmer's regional council) and the timeframe within which this is to be achieved; and
- implement the actions in that Environmental Improvement Plan within specified timeframes.

In the first two full seasons of Fonterra's Effluent Management Programme, Fonterra has facilitated 2500 outcomes on-farm. This measures farmers who have upgraded their effluent infrastructure to a standard that, if managed well, can be compliant all year.

### Nutrient management

Nutrient management is a critical component of farm productivity and influences farm environmental performance.

#### Supply Fonterra: Nitrogen Management Programme

The Supply Fonterra Nitrogen Management Programme is being implemented to provide farmers reliable information about their farm's nitrogen conversion efficiency and modelled nitrogen loss on an annual basis. The programme will also give farmers a better understanding of the way nitrogen cycles through the farming system and the practices that will lead to more efficient use and reduced losses of nitrogen to water. Efficient nitrogen use can make farming more profitable while decreasing the impact dairying has on surface and groundwater quality.

Fonterra has a minimum standard in place that farmers must, from the 2012/13 season, supply information required to calculate nitrogen loss and conversion efficiency.

The Nitrogen Management Programme will include support processes to give farmers advice and support to reduce nitrogen losses or increase efficiency as required.

#### OVERSEER® upgrade released

The nutrient management modelling tool OVERSEER® continues to be the main tool for developing a nutrient budget and the basis of a more comprehensive system of nutrient management. OVERSEER® is used extensively by the fertiliser industry, regional councils, rural professionals and Fonterra.

The Ministry for Primary Industries, the Fertiliser Association of New Zealand, and AgResearch, as the owners of the model, continue to invest in improving the value and efficacy of OVERSEER®. This continued development is illustrated by the recent release of Version 6 of OVERSEER®.

Key features of Version 6 are:

- better representation of farm systems through:
  - integration of pasture, crop and horticultural models into a single model so that all block types are available for an individual farm;
  - monthly input of key activities to make the model more closely representative of the farm; and
  - better handling of feed supplements.
- a new software platform including:
  - a new web browser-based interface giving a new look and feel to the model;
  - the choice of accessing OVERSEER® from a secure web server via the internet or using a standalone version on a home computer; and
  - an embedded help system with each input screen.
- updated science including effects of drainage and soil type on nitrogen leaching.

## 4. SUPPORTING AND FUTURE INITIATIVES

### Land and Water Forum

The Land and Water Forum (the Forum) published its third and final report in November 2012 on how freshwater management in New Zealand can be improved.

The Forum's key recommendations identify how water can be better allocated for high-value use, focus on what councils and communities need to actively manage water quality, and call for clearer accountabilities for resource managers and users. The Forum is also recommending integrated decision-making in catchments, continuous improvement of management practices and clearer rights to take and use water within set limits.

The report and other information can be found on the Forum's website: [www.landandwater.org.nz](http://www.landandwater.org.nz)

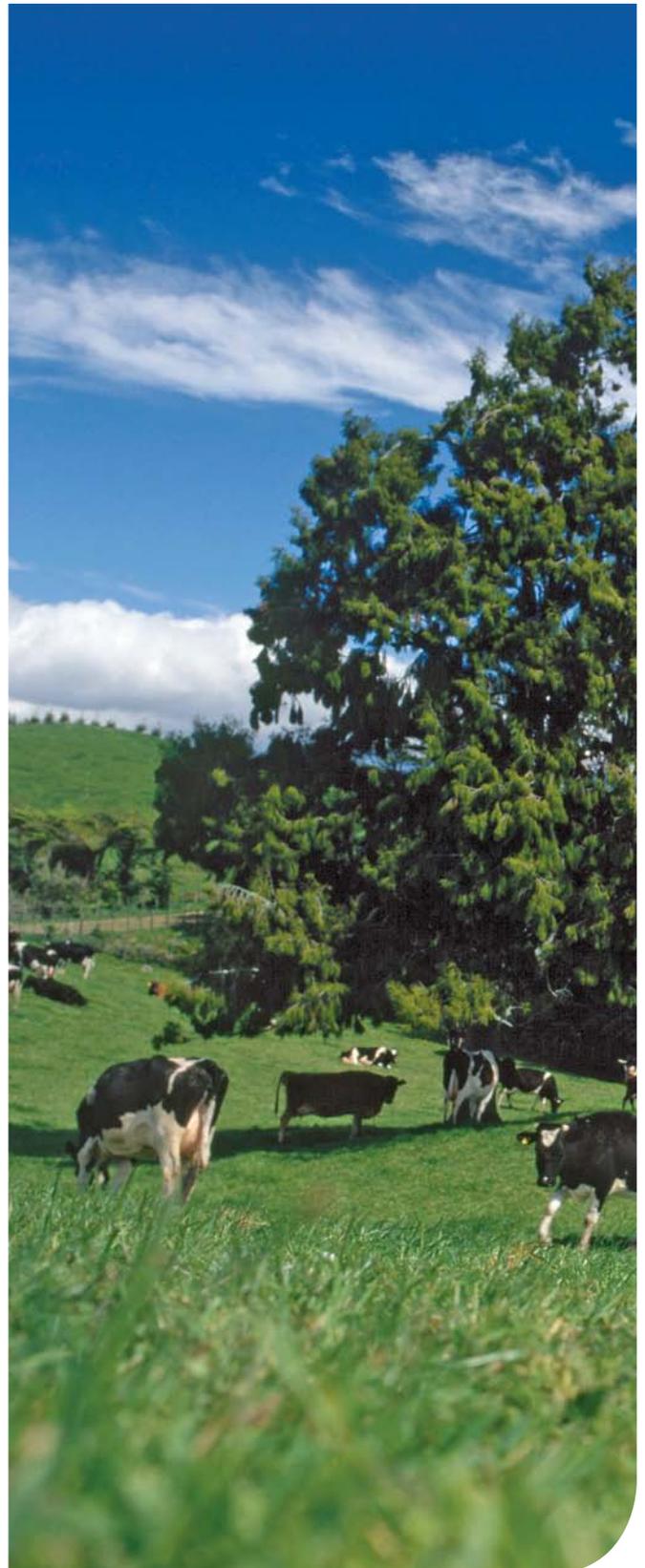
The Government has signalled its intention to progress reform of New Zealand's freshwater management regime in 2013.

### Sustainable Dairying: Water Accord

The New Zealand dairy sector is continuing its commitment to improve performance and reduce dairy farming impact on the environment with a new *Sustainable Dairying: Water Accord*, which will become effective in 2013. Every New Zealand dairy company, industry-good body DairyNZ and the Dairy Companies Association of New Zealand will commit to and be accountable for actions under the new accord.

Key features of the *Sustainable Dairying: Water Accord* will be:

- continued focus on stock exclusion with broader and tighter requirements;
- riparian planting to be considered on every farm, delivered where it can assist managing water quality, and results monitored and reported;
- nutrient management information supplied to farmers to drive improvements in performance and lower loss to surface groundwater;
- greater focus on water use management and efficiency;
- clear expectations for new dairy conversions to meet all key Accord requirements at day one of production; and
- delivery programmes and increased resourcing from the dairy industry so it can meet its commitments.



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