



SUSTAINABLE DAIRYING –  
**WATER  
ACCORD**  
A commitment to New Zealand  
by the dairy sector

**FIVE YEARS ON...**

# Sustainable Dairying: Water Accord

The Sustainable Dairying: Water Accord (the Accord) has been developed under the oversight of the Dairy Environment Leadership Group (DELG). DELG includes representatives from the dairy farming community, including farmers, dairy companies, central government, regional councils, and the Federation of Maori Authorities.

## Accountable Partners

The following Accord Partner Organisations have specific responsibilities for ensuring that the dairy sector delivers on its Accord commitments, and that robust monitoring and reporting systems are in place to measure our performance. These Partners undertake to discharge their responsibilities in good faith and to the best of their abilities.



Jim van der Poel  
Chairman



Dairy for life

John Monaghan  
Chairman



Laurie Margrain  
Chairman



Kingi Smiler  
Chairman



Graeme Milne  
Chairman



Stephen Allen  
Chairman



Malcolm Bailey  
Chairman



Richard Hickson  
General Manager

## Supporting Partners

The successful delivery of the Accord is also reliant on the generous support of the following Partner organisations:



## Friends of the Accord

The Accord process 2017/18 has also enjoyed the support of a wide group of Friends who support the Accord's strategic objectives and work collaboratively with Accountable and Supporting Partners to continually improve the dairy sector's environmental footprint. The Friends of the Accord are:

- Westland Milk Products
- Northland Regional Council
- Auckland Council
- Waikato Regional Council
- Bay of Plenty Regional Council
- Hawke's Bay Regional Council
- Gisborne District Council
- Taranaki Regional Council
- Horizons Regional Council
- Greater Wellington Regional Council
- Environment Canterbury
- West Coast Regional Council
- Marlborough District Council
- Tasman District Council
- Otago Regional Council
- Environment Southland
- The Federation of Maori Authorities
- Ministry for Primary Industries
- Ministry for the Environment

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The Dairy Companies Association of New Zealand (DCANZ) is the umbrella body of companies processing milk in New Zealand go to [www.dcanz.com](http://www.dcanz.com) for more information.

DairyNZ is the industry organisation representing New Zealand's dairy farmers, funded by farmers through a levy on milksolids. More information is available at [www.dairynz.co.nz](http://www.dairynz.co.nz).



A close-up photograph of a person's hand holding a small glass of water over a rocky shore. The sun is low on the horizon, creating a warm, golden glow. The water in the glass is clear, and a single drop is falling from the rim, creating ripples in the water below. The background shows the ocean and a rocky coastline under a clear sky.

# Welcome

This is the fifth annual progress report for  
the Sustainable Dairying: Water Accord

## Water Accord Foreword

As dairy continues to underpin New Zealand's economy, it's vital we operate responsibly and sustainably. Our farmers continue to rise to the challenge and are committed to looking after their land, waterways, and their people – all while maintaining successful dairy businesses.

As a dairy sector, we acknowledge how dairying has affected our waterways in the past. The Sustainable Dairying: Water Accord 2013-18, was the continuation of our commitment to improve the quality of waterways that pass through or near our dairy farms.

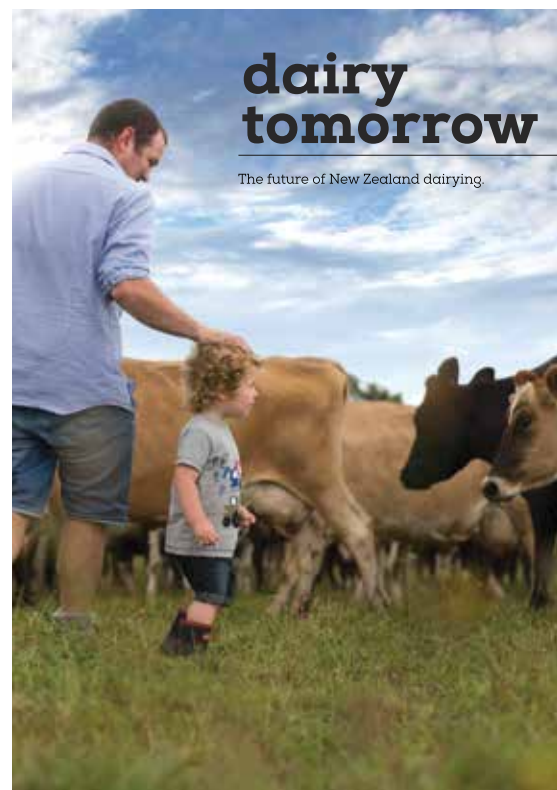
We should all be extremely proud of the over 11,000 dairy farmers who worked voluntarily to lift environmental performance and achieve great outcomes for their waterways. After five years of Water Accord activity, dairy farmers have now excluded dairy cattle from 98.3 percent of Accord waterways and ensured that 99.8 percent of stock crossing points exclude cows via bridges and culverts.

This is the fifth and final annual progress report for the pan-sector Sustainable Dairying: Water Accord, for the year 2017/18. It has involved not only our farmers, but also regional councils, dairy companies, and a multitude of stakeholders. What has been achieved, could not have been done without them. In particular, the key partners in the Accord have played a valuable role supporting the delivery of the Accord, including the collation of data, holding the process to account and supporting the communication and direction of the Accord process.

Our water quality journey is not over. As a sector, we will continue to strive towards sustainable farming practices that support the health of our waterways by challenging ourselves to continuous improvement of our Good Farming Practices through our Dairy Tomorrow Strategy. We have a vision in Dairy Tomorrow to improve lives with every drop of milk, by protecting and nurturing the environment for future generations. The underlying strategy commitments underpin everything we do as a sector.

We cannot stress enough the considerable efforts by our thousands of dairy farmers who invested their own time and money to improve their waterways, often over many years. Through robust science, we are committed to supporting our farmers on this endeavour towards more sustainable farming methods.

We would like to thank all of those who were involved in the Water Accord journey. Although the Water Accord has come to an end, the work continues.



**Jim van der Poel**  
Chairman  
DairyNZ

**Malcolm Bailey**  
Chairman  
Dairy processing companies  
association of New Zealand



# Overview of the Accord process

Launched in 2013, the Sustainable Dairying: Water Accord outlines a set of national good management practice benchmarks to lift the environmental performance of New Zealand's dairy farms.

This report is the fifth annual progress report setting out what dairy farmers have achieved during the June 2017 to May 2018 dairy season.



The Accord involves an extensive range of dairy industry participants including DairyNZ, DCANZ, most of New Zealand's dairy companies and other supporting partners. The Accord aims to deliver sustainable improvements in New Zealand's water quality outcomes by enhancing dairy farm performance through the promotion of good management practices. This is supported by an unwavering commitment to measuring and reporting on dairy sector progress in a robust and transparent way.

You can view the current version of the full Sustainable Dairying: Water Accord at [www.dairynz.co.nz/wateraccord](http://www.dairynz.co.nz/wateraccord).

## Scope of this progress report

The Accord sets out a number of commitments and targets in the following areas:

- Riparian Management
- Nutrient Management
- Effluent Management
- Water Use Management
- Dairy Farm Conversions.

Each year the Accord's accountable and supporting partners submit comprehensive data outlining their performance against the commitments and targets outlined in the Accord. This data is consolidated by DairyNZ prior to undergoing an independent audit by TELARC Limited.

For the 2017/18 season, 11,079 dairy farms are covered by the Sustainable Dairying: Water Accord process. Dairy farms supplying Fonterra, Miraka, Open Country, Synlait, Tatua, and Oceania all fall within the scope of the Accord. Farms supplying other dairy companies are not included in the Accord's measurement and reporting system.

The Dairy Environment Leadership Group (DELG) is the governance group responsible for the Accord process. For the 2017/18 season, DELG decided to audit only those targets which were not previously completed or substantially completed, and for which adequate data was available. The audited areas were: Nutrient Management, Water Use Management and Dairy Farm Conversions. This report provides a summary of these three audited areas, as well as performance against all targets.

The data collation and consolidation processes are undertaken in accordance with the following Audit Standards:

- Sustainable Dairying: Water Accord Audit Standard (DairyNZ Requirements) Version 8
- Sustainable Dairying: Water Accord Audit Standard (Dairy Company Requirements) Version 10.

The Auditor's Statement, which appears at the end of this Report, provides a detailed overview of how the independent audit was conducted.

The full auditor's report is made available on the completion of the audit and is available at [www.dairyatwork.co.nz](http://www.dairyatwork.co.nz).

## Previous audit recommendations

The audit report for the 2016/17 season made four recommendations to DELG. In summary those recommendations related to:

- including changes to the definition of a Dairy Farm as agreed by DELG in any future publication of the Accord
- assessing the continued relevance and robustness of the definition and interpretation of several Accord requirements at the review of the 2017/18 Sustainable Dairying: Water Accord
- ensuring fuller reporting of data relating to Accord outcomes (wetland fencing exclusion data, and waterway stock exclusion in the Taranaki region)
- developing approaches to both account for, and quantify, uncertainties in the reported data. This recommendation reflects the challenges associated with measuring progress in a complex and dynamic farm system environment.

## **Accord review process**

The Accord review coincided with the development of the Dairy Tomorrow Strategy, resulting in a two-phased approach to the review. The first phase was conducted in 2015 which provided improved clarity of several technical definitions and identified opportunities to identify and manage data uncertainty more effectively. As part of this review, it was considered whether the current 'dairy farm' definition should be extended to include support blocks from 1 June 2017 as originally envisaged by the Accord's founding document. Feedback from Accord partners provided strong evidence that this proposed change was not feasible due to the fact that most farmers renegotiate access rights, often on an annual basis.

The second phase of the review, which commenced in 2017, explored the future direction of the Accord process. The results of this process have provided a valuable contribution to the development of the new Dairy Tomorrow Strategy, which provides the opportunity to ensure technical definitions are clear and agreed upon at the onset. It also provides us the ability to apply our learnings from the Accord to achieve improved outcomes.

## **Fuller reporting of data**

The assessments identified that, in two instances, data relating to Accord outcomes (wetland fencing exclusion data, and waterway stock exclusion in the Taranaki region) was not fully reported, contributing to the uncertainty around each of the reported figures. Previous Progress Reports have commented on the challenges associated with measuring progress towards achieving the Accord's commitments to exclude 100% of stock from all wetlands identified by regional councils. There is still no nationally consistent definition of a "significant" wetland and council approaches towards identifying and reporting on significant wetlands have been inconsistent, hampering the ability for the Accord to report on this target.

Regarding stock exclusion in the Taranaki Region, data was not provided by all Dairy companies for either the 2015/16 or 2017/18 seasons for this region, as this information is held by the Regional Council. For the 2017/18 report, data was requested directly from the Regional Council, however, the data provided did not distinguish between farm types or between Accord and non-Accord waterways, so that it was again not possible to include this data in our reporting.

## **Managing data uncertainty**

DELG also agreed with the recommendation in last year's audit report regarding the need to develop new approaches to account for uncertainties in the reported data. DELG recognises that identifying and communicating uncertainty is a key consideration when undertaking environmental performance assessments such as the Accord audit.

During the review process, DELG identified several different types of uncertainty. The most common one related to the interpretation of terminology which created some uncertainty regarding the precise nature of the obligations that Accord partners were being asked to report against. DELG is addressing this in the short-term by providing more explicit guidance to partners on the Accord's strategic intent and the associated performance expectations. DELG has also ensured that the following sections of this Report provide full disclosure regarding the areas where data uncertainty issues have been particularly challenging during the audit of the current season. Although environmental systems are inherently complex and data uncertainties will continue to be unavoidable to some extent, DELG recognises the importance of applying robust design principles when developing new obligations or targets.





## Building on the Accord process

The Accord process has been at the forefront of sector-led environmental initiatives in New Zealand, driving on-farm and behaviour change to benefit water quality and environmental outcomes across the country. It has provided a strong platform for the dairy sector to take responsibility for acknowledging that it has an impact, and in response, to lead and showcase an extensive programme of work to improve water quality outcomes for the benefit of all New Zealanders. The Accord has also led to changes that underpin national and regional policy and environmental standards. A number of key lessons have been learnt from the audit programme and can be applied to improve future environmental programmes.

### **Those lessons relate to the challenges associated with:**

- accurately measuring performance in a dynamic, bio-physical environment
- devising performance targets and metrics that incentivise innovation and enable farmers and dairy processing companies to communicate a much richer story about the pace of environmental management transformation within the sector
- developing and maintaining a performance measurement and reporting system with the flexibility to adapt to changing strategic priorities, national policy standards and regulatory requirements.

This Year 5 audit of the 2017/18 season results will be the final report under the current framework. Accord partners are excited about charting a new path for our dairy sector measurement and reporting framework that will build on the lessons learnt over the past five years, as well as encouraging continuous environmental improvement from the sector. The Dairy Tomorrow Strategy is an opportunity to reassess the targets and goals for delivering improved environmental outcomes, and actively driving the sector towards a more sustainable future.

## Dairy Tomorrow

The new Dairy Tomorrow Strategy represents the next major step in the dairy sector's ongoing journey towards the goal of protecting and enhancing the environment for future generations. The Accord will transition to a new framework that aims to lead efforts to improve the health of our rivers and streams and protect and enhance biodiversity (Commitment 1.1, see page 9).

The new framework will be underpinned by good farming practice principles and certified Farm Environment Plans, to help farmers to prioritise their efforts at the farm-level for broader environmental outcomes. The framework will align and underpin the central government led Farm Assurance Plan reporting and the international Dairy Sustainability Framework (DSF), to provide a coordinated approach to monitoring and reporting environmental actions. Alignment with national and international initiatives provides a compelling opportunity to measure and report on the dairy sector's environmental performance in an integrated way. It will forge stronger connections across the primary industries through a shared goal of continually improving environmental stewardship outcomes.

# Summary and highlights

What we've achieved so far...



## Audited data

### Nutrient management and data collection

Data was collected from **94% farmers** and all of these dairy farms

have received nitrogen loss benchmark information.



**10,396**

nutrient budgets were processed and nitrogen information provided to farmers.

### Conversions

**100%**

of dairy farm conversions

complied with environmental standards before supply commenced in the 2017/18 season.



## Unaudited data

### Effluent management



**100% of farms**

have been assessed for effluent management practices.<sup>1</sup>

<sup>1</sup>99.7%



**A Warrant of Fitness**

has been developed to assess effluent infrastructure.

### Riparian management



**98%** of (accord) waterways have dairy cattle excluded.

(24,744km of Accord waterways).<sup>3</sup>

<sup>3</sup>98.3%



Riparian management plans developed for

**52% of**

dairy farms with waterways.



**100%**

of stock crossing points have bridges or culverts to exclude dairy cows.<sup>2</sup>

<sup>2</sup>99.8%



**177 Rural professionals**

are now Certified Nutrient Management Advisors, with a further 70 professionals going through the certification process in the 2017/18 season.

# dairy tomorrow

The future of New Zealand dairying.



## COMMITMENT 1

WE WILL PROTECT AND NURTURE THE ENVIRONMENT FOR FUTURE GENERATIONS

- Lead efforts to improve the health of our rivers and streams and protect and enhance biodiversity, beginning in 2018 with collaboration with other rural and urban land users, central and local government and communities on strategies and actions toward achieving swimmable waterways.
- Lead efforts on agriculture's contribution to meeting New Zealand's climate change goals through identifying and implementing strategies to reduce or offset greenhouse gas emissions from dairy farming.
- With communities, government and other land users, develop a blueprint for a 50-year vision of sustainable land use in New Zealand by 2025.
- By 2025, achieve all farms implementing and reporting under certified farm sustainability plans.

## OTHER COMMITMENTS



WE WILL BUILD THE WORLD'S MOST COMPETITIVE AND RESILIENT DAIRY FARMING BUSINESSES



WE WILL PRODUCE THE HIGHEST QUALITY AND MOST VALUED DAIRY NUTRITION



WE WILL BE WORLD LEADING IN ON-FARM ANIMAL CARE



WE WILL BUILD GREAT WORKPLACES FOR NEW ZEALAND'S MOST TALENTED WORKFORCE



WE WILL HELP GROW VIBRANT AND PROSPEROUS COMMUNITIES



dairy tomorrow

The future of New Zealand dairying.



# Five Years On...

In the following sections we report back on our progress on the key commitments of the Sustainable Dairying: Water Accord and what we have achieved during its four years of operation. It also reflects on key lessons learnt, and these important performance insights are being used to shape the future direction of the Accord process.

## Key to target status symbols



ACHIEVED



IN PROGRESS



NOT REPORTED

# Five years on – summary performance results

Table 1: Results audited for the 2017/18 season<sup>1</sup>





OBJECTIVE	2017/18 RESULTS	
<b>Nutrient management<sup>2</sup></b>		
Nutrient management data collected from 100% of dairy farms by 31 May 2015		Not achieved. Data collected from 94% of farms in the 2017/18 season
Nitrogen loss and Nitrogen conversion efficiency performance information reported back to 100% of these dairy farms by 30 November 2015		ACHIEVED
<b>Water use management</b>		
85% of all dairy farms to install water meters by 2020		In progress and on track <sup>3</sup>
<b>Conversions</b>		
For 2017/18 season, all new dairy farm conversions comply with environmental standards before milk supply commences		ACHIEVED

Table 2: Other results (audited in previous years but not for the 2017-18 season)

<b>Riparian management</b>		
90% of stock exclusion of the length of waterways present on dairy farms by 31 May 2014, 100% by 30 May 2017		ACHIEVED IN PRINCIPLE (98.3% as at 31st May 2018)
100% of regular stock crossing points are either bridged or culverted by 31 May 2018		ACHIEVED (99.8%)
100% stock exclusion of all wetlands identified by a regional council as at 31 May 2012 by 31 May 2014		Not possible to report on (see page 13)
50% of dairy farms with waterways will have a riparian management plan by 31 May 2016		ACHIEVED (52%, as at 31st May 2018)
All of the farms requiring a riparian management plan will have completed half of their riparian plan commitments by 31 May 2020		IN PROGRESS
Riparian guidelines completed for all regions by 31 May 2016		ACHIEVED
<b>Nutrient management</b>		
50% of Fertiliser Association of New Zealand member company nutrient management advisers are certified by 31 May 2014		ACHIEVED
<b>Effluent management</b>		
100% of farms are being assessed by 31 May 2014		ACHIEVED <sup>4</sup>
A farm dairy effluent Warrant of Fitness scheme available as tool for farmers by 31 May 2014		ACHIEVED

<sup>1</sup>refer to page 5

<sup>2</sup>for clarity and consistency percentages reported here are rounded to the nearest significant figure

<sup>3</sup>refer to page 25

<sup>4</sup>refer to page 21



# Riparian Management

The Accord expectations are:

- Dairy farms will exclude dairy cattle from significant waterways and significant wetlands.
- Riparian planting will occur where it would provide a water quality benefit.
- The crossing of waterways by dairy cows will not result in degradation of those waterways.



## Stock Exclusion and Crossings

Dairy companies have reported that during the 2017/18 season, 7,629 dairy farms had Accord waterways measuring 24,249km in total. Stock have been permanently excluded from 23,837km (or 98.3%) of these Accord waterways<sup>1</sup>. This represents a small increase in the relative proportion of Accord waterways that are now stock-excluded (from 97.5% in the 2016/17 season).

The absolute length of Accord waterways reported as having stock excluded is lower than the previous season (24,744km). This is unlikely to be an indication of lesser actual fencing length nationally but rather the consequence of improved classification of waterways across dairy farms, for example through the Farm Environment Planning processes that have been underway.

Of the over 11,000 Accord dairy farms, the number of farms receiving dispensations from permanent fencing requirements increased from 135 to 235, representing approximately three percent of all farms with Accord waterways. Farms receiving dispensations must still exclude stock from waterways with temporary fencing, usually a hot wire.

Dairy companies have identified that of the 11,079 farms that were assessed as part of the 2017/18 audit process, 6,888 dairy farms had regular stock crossing points. Dairy companies identified 36,393 regular stock crossing points in total, of which 36,328 (or 99.8%) were either bridged or culverted to exclude dairy cows. This means that the number of farms with regular stock crossing points reduced by 10.4% down from 7,421 in the previous season, with the total number of stock crossing points also reducing by 2,815. Only 65 crossing points on accord waterways were not bridged or culverted.

## Significant Wetlands

As noted in previous Progress Reports, there are significant challenges associated with measuring progress on the Accord's commitments to exclude 100% stock from all wetlands. There is still no nationally consistent definition of a "significant" wetland and council approaches towards identifying and reporting on significant wetlands have been inconsistent. Hence, we cannot report on this important measure of water quality on dairy farms to the level of precision required by the Accord's Audit Standards.

The dairy sector continues to lead and invest in a range of programmes to improve our understanding of the value of wetlands for water quality and biodiversity benefits, and encourage their development and protection. This includes research to improve performance estimates and develop guidelines for constructed wetlands, partnerships such as the Living Water Programme (Fonterra/DoC) and the new Dairy Tomorrow strategy, where the promotion of wetlands as part of healthy agricultural ecosystems is seen as an essential element in meeting our responsibilities under Commitment 1.1.

<sup>1</sup>The waterways data reported in this section does not account for the Taranaki region. Regarding stock exclusion in the Taranaki Region, data was not provided by all dairy companies for either the 2015/16 or 2017/18 seasons, as this data is held by the Taranaki Regional Council. For the 2017/18 Report, data was requested directly from the regional council. However, the data provided did not distinguish between farm types or between Accord and non-Accord waterways, so that it was again not possible to include this data in our reporting. For all waterways in the Taranaki region and all farm types, 85.7% were reported as fenced.

### TARGET

**100% exclusion of the length present on dairy farms by 31 May 2017**



ACHIEVED IN PRINCIPLE  
(98.3% as at 31 May 2018)

### TARGET

**100% of regular stock crossing points are either bridged or culverted by 31 May 2018**



ACHIEVED  
(98.8%)

### TARGET

**100% stock exclusion of all wetlands identified by a regional council as at 31 May 2012 by 31 May 2014**



Performance against target cannot be measured

## Riparian Planning

Riparian planning continues to be addressed through ongoing work by DairyNZ and industry partners. The data indicates that the current proportion of dairy farms with waterways that have riparian management plans has increased from 24% in 2016/17 to 52% this season. However, challenges remain in accurately measuring this largely unregulated activity. Riparian management plans are now being integrated into Farm Environment Plans (FEPs) which is a positive development, with over 3000 FEPs now completed nationally. The fact that riparian management plans are often part of a broader FEP compounds some of the challenges in measuring the actual number of plans. It also fails to capture any riparian planting that may be taking place without the submission of a formal Riparian Management Plan.

DairyNZ continues to actively promote effective riparian planting through its 13 regionally-tailored guides and through its sustainability and land management programmes. This includes projects to promote innovative thinking about the potential for riparian areas to contribute more to both the environment and the farming system. The award winning Riparian Planner tool, which now has over 2200 registered users across sectors, is under continuous development to ensure it remains fit for purpose in the changing regulatory environment. This includes the development of data sharing capability so that farmers will have the option in future to choose to share their Riparian Management Plans with regional councils and other organisations.

DairyNZ and industry partners are working to develop a plan to align the riparian management plan target with the sector's Dairy Tomorrow commitments, and the innovations that are happening on-the-ground in relation to the development of Farm Environment Plans (FEPs).

### TARGET

**50% of dairy farms with waterways will have a riparian management plan by 31 May 2016**



ACHIEVED

(as at 31st May 2018)

### TARGET

**All of these farms will have completed half of their riparian plan commitments by 31st May 2020**



IN PROGRESS







# Nutrient Management

The Accord expectation is:

- Dairy farmers will manage Nitrogen (N) and Phosphorous (P) loss from dairy farming systems, acknowledge the need to manage within nutrient loss limits, and pursue continuous improvement in nutrient use efficiency.

## Nutrient Management Data Collection

Every dairy company has developed programmes to collect nutrient management data from their farmer suppliers and model these using agreed protocols (Overseer Best Practice Input Standards). Data collection and verification systems for the 2017/18 season continued to improve and build on the progress made in previous years.

During the 2017/18 season, nutrient management data was collected from 94% of Accord dairy farms, with 100% of these farms receiving performance and benchmarking information. Although this result is slightly short of the Accord target to collect data from 100% of farms by 31 May 2015, it is important to acknowledge that significant progress has been made as a direct result of the continuing investments that dairy companies are making to improve nutrient management performance and auditing on-farm.

**TARGET**  
**Nutrient management data collected from 100% of dairy farms by 31 May 2015**



Not yet fully achieved – still in progress

Data collected from 94% of Accord dairy farms

## Average Nitrogen Loss by Region

Since the Accord's launch, the sector has been steadily building a comprehensive dataset on Nitrogen-loss and Nitrogen-use efficiency. The data generated through the 2017/18 audit has been included in the dataset and used to produce the regional average N leaching loss data in Table 3. The observed variance in regional N leaching loss is a function of several factors, including soil type, drainage characteristics (including rainfall and/or irrigation) and farming practices.

We have also used this data to derive a national average N loss of 43kg N/ha/yr, which is a slight increase on the 41kg N/ha/yr reported last season. However, the 2017/18 season figure was calculated using Overseer version 6.3, and the 2016/17 season was calculated using Overseer version 6.2.3, making comparison of the values inappropriate as differences may relate to the changing software. No conclusion can be drawn about whether average nitrogen loss on Accord dairy farms is increasing or decreasing over time.

**Table 3.** Regional average N leaching loss (kg N/ha/yr) and sample size across 13 regions for the 2017/18 season<sup>1</sup>

	Average N-loss (kg N/ha/yr)	Sample size (number of farms)	Five year rolling average <sup>2</sup> (kg N/ha/yr)
Northland	32	844	26
Auckland	26	259	22
Waikato	38	3910	35
Bay of Plenty	43	628	43
Gisborne/Hawke's Bay	41	80	37
Taranaki	53	1613	52
Manawatu	33	846	30
Wellington	44	164	36
Tasman	67	128	69
Nelson/Marlborough	42	53	40
Canterbury	62	1198	56
Otago	39	459	36
Southland	44	935	38

<sup>1</sup>The West Coast region had only two farms reported this season so the average N loss has not been reported to protect the anonymity of the farmer's information, and because it is a small sample size.

<sup>2</sup>The five year rolling average has been calculated using data generated from five different versions of Overseer, as the model was updated at least once per season, changing the model outputs.

## Managing Phosphorus Loss Risk

Excluding stock from waterways, ensuring crossings are bridged or culverted, implementing effective riparian management, and adopting good management effluent practices produces a number of co-benefits, particularly in relation to mitigating phosphorous (P) loss risks on-farm. Other practices that influence P loss risk include the management of tracks and races, and wintering practices.

DairyNZ continues to invest in and support several research programmes to improve environmental performance in these areas. This includes the Southern Wintering Programme, delivery of Good Management Plans through its Sustainable Milk Programme, as well as the exploration of technologies and practices to manage Phosphorus loss. For example, a P filter project in the Waituna Lagoon catchment. It also continues to provide a range of technical resources to assist farmers in understanding how phosphorus enters, cycles through, and leaves a dairy farm. In particular, the 2017/18 season saw the release of the Envirowalk tool to encourage farmers to proactively self-assess their environmental performance.

Good practices in on-farm phosphorus management are further supported through the Farm Environment Plan process, which facilitates context-specific management improvements, for example the management of Critical Source Areas (CSAs) on farm.



## Nutrient Management Adviser Certification



Nutrient management adviser certification continues to grow with a total of 177 rural professionals fully certified, with a further 70 professionals going through the certification process in the 2017/18 season. The work of the Accord's supporting partners, the Fertiliser Association, Ballance Agri-Nutrients and Ravensdown, has been instrumental in delivering this positive result.

## Nutrient Management Training

Massey University's Fertiliser and Lime Research Centre (FLRC) runs two Sustainable Nutrient Management (SNM) courses which attracted 235 participants in the 2017/18 season, with 151 registering for the Intermediate and 76 for the Advanced SNM courses respectively.



The Intermediate SNM course provides participants with a working knowledge of the assessment of nutrient requirements of a range of agricultural systems, including a consideration of best practices for environmental protection. The Advanced SNM course provides an advanced knowledge of nutrient cycling and loss pathways in New Zealand's farming systems, equipping participants with the skills to develop solutions for a range of systems.

## Farmer Extension Activities

Farmers and rural professionals also continued to access a broad range of DairyNZ extension activities during the 2017/18 season. These activities play an important role in supporting farmers to understand the rapidly changing policy context in which they are operating, and access and apply new knowledge and technologies to their farm systems. They also play a pivotal role in creating a culture of life-long learning within our sector.

# Effluent Management



The Accord expectations are:

- Dairy farms will comply with regional council effluent management rules and/or resource consent conditions.
- Effluent systems installed on dairy farms will be fit for purpose and able to achieve 365-day compliance with applicable rules.

# Effluent System Assessment and Guidance

All dairy companies have programmes in place to assess the effluent systems of their farmer suppliers on a three-yearly basis, with several companies assessing every farm every year. The programmes are designed to identify risks of non-compliance with regulatory requirements. This Accord target was achieved in May 2015 and in the 2017/18 season 99.7% of farms were again assessed.

## Accreditation of Effluent System Designers

There are now 20 companies accredited, with all regions having access to an accredited company. Interest and awareness in the accreditation programme remains high, with key stakeholders increasingly recommending accredited companies. The list of accredited companies can be found at [www.effluentaccreditation.co.nz](http://www.effluentaccreditation.co.nz).



## Professional Training Provided

A wide variety of effluent system design and management courses continued to be offered nationwide. The following table outlines the specific effluent management courses that were offered to rural and effluent service industry professionals during the 2017/18 season.

**Table 4.** Training courses offered to the effluent services industry and other rural professionals

Training	Date first offered	Attendees (cumulative number from course commencement date)
Massey Farm Dairy Effluent Systems Design and Management	2011	243
QCONZ Dairy Effluent WOF	2014	88
DairyNZ Dairy Effluent Storage Calculator	2012	236
DairyNZ Farmspread	2017	20



## On farm training

The Primary Industry Training Organisation trained a total of 439 people in farm dairy effluent courses during the 2017/2018 season. This was delivered via the New Zealand Certificate in Agriculture (Milk Harvesting – Level 3), which includes the effluent management unit standards (n = 325) and Effluent Management Planning (Level 4) (n = 114).



## Effluent Warrant of Fitness

The Dairy Effluent Warrant of Fitness (WOF) programme continues to offer dairy farmers a voluntary and independent inspection of their effluent infrastructure and management practices. The WOF programme aims to ensure effluent systems are capable of achieving regulatory compliance 365 days a year. The WOFs are conducted by accredited assessors who are fully certified as Warrant of Fitness Assessors. Every assessor has completed the Farm Dairy Effluent Warrant of Fitness Course and a subsequent field assessment. There were 74 WOFs conducted in the 2017/18 season.



Additional information on the WOF programme is available at [www.effluentwof.co.nz](http://www.effluentwof.co.nz).

## Rates of significant non-compliance

Every regional council undertakes annual monitoring of farm dairy effluent systems and management practices in relation to a range of permitted activity rules and consent conditions.

In the 2017/18 season, the average Significant Non-Compliance (SNC) on monitored farms at the national scale was 6.15%, compared with 7.44% in year one of the Accord (2013/14).

Rates of SNC continue to vary between regions as fully described in Appendix 1 of this report. Comparison between regions remains challenging due to the range of different rules and monitoring frameworks. This is particularly apparent where there have been changes in the emphasis of monitoring practices, for example an increased focus on farms that have been identified as high risk.

Over the five years of the Accord, four regions have shown clear improvements in the rates of SNC, while eight are stable or variable. Two regions show increased rates of SNC over the life of the Accord: Greater Wellington (0 to 5.4%, reflecting a switch to risk-based prioritisation of monitoring in 2017-18) and Hawkes Bay (1.0 to 5.1%). Together this represents a total of 10 farms in the 2017/18 season.

**Table 5.** Trends on dairy effluent SNC over the five Accord years across regions

Region	5 year trend <sup>1</sup>	Comments
Northland	Variable	Incidence of SNC has varied but averaged around 19% over the five Accord years, (21.6% in 2017/18).
Auckland	Improving	Incidence of SNC dropped from 18% in the 2013/14 season to 4.5% in 2017/18.
Bay of Plenty	Improving	Incidence of SNC improved overall from 13% in year one of the Accord, although there was an increase from 1.4% in 2016/17 to 5.2% in 2017/18.
Waikato	Variable	With some variability, incidence of SNC has remained around 9% on average over the five years.
Hawke's Bay	Worsening	Incidence of SNC has increased over the life of the Accord from 1.0% to approximately 5.1% in 2017/18.
Taranaki	Stable	Incidence of SNC remains approximately 1% on average.
Horizons	Variable	Incidence of SNC has decreased from 5.0% in 2016/17 to 3.3% in 2017/18, but has remained between 1-5% over the five Accord years.
Greater Wellington	Worsening	Incidence of SNC increased from 0% in 2013/14 to 5.4% in 2017/18 (3.0 in 2016/17).
Tasman	Stable	Incidence of SNC has remained stable overall but decreased from 3% in 2016/17 to 0% for the 2017/18 season.
Marlborough	Variable	Although Marlborough is rated as variable due to the low rate of SNC reported for the 2013/14 year (2%), it is notable that there has been significant improvement from years 2, 3 and 4 of the Accord and SNC dropped from 11% in 2016/17 to 0% in the 2017/18 season.
West Coast	Variable	Incidence of SNC has varied around an average of 3.2% over the five Accord years, increasing from 0.3% to 5.2% over the last two seasons.
Canterbury	Improving	Incidence of SNC has decreased from 8.8% in 2013/14 and 2.5% in 2016/17 to 1.6% in the 2017/18 season.
Otago	Stable	Incidence of SNC has remained stable, with a slight increase from 2.7% to 2.8% between 2016/17 and 2017/18.
Southland	Improving	Incidence of SNC has decreased from 6% in 2013/14 to 1.8% in 2017/18 (4.1% in 2016/17).

<sup>1</sup>Definition of trends: 'Improving' more than 3% shift in SNC; 'Stable' no more than 3% shift in SNC; 'Worsening' more than 3% shift and trend in same direction, 'Variable' shifts of greater than 3% each year (up and down).

# Water use management

The Accord expectations are:

- Dairy sheds will use no more water for wash down and milk cooling than that necessary to produce hygienic and safe milk.
- Irrigation systems will be designed and operated to minimise the amount of water needed to meet production objectives.



## Water metering on dairy farms

Dairy companies reported that water meters were installed on an additional 202 farms during the 2017/18 season, taking the total number of farms with meters to 5980 (or 54%). However, the on-farm auditing process indicated that of the 78 farms audited, 60 had water metres (77%), compared with a reported 50 (64%).

## Water Use Research

As reported previously, the dairy sector commissioned research to measure water use on over 100 dairy farms in the Waikato, Manawatu and Canterbury regions. The study involved measuring the volume of water used for stock drinking water, dairy shed use and irrigation water use. From this, regional patterns of water use were calculated and modelled to predict water use on irrigated and non-irrigated farms.

The results of this study have now been presented in the following thesis and journal articles:

*Water use on pastoral dairy farms in New Zealand: An analysis of measurements, predictions, and water footprinting.* Higham, C., Doctor of Philosophy. Institute of Agriculture and Environment, Massey University, Palmerston North, New Zealand.

*Water use on non-irrigated pasture-based dairy farms: Combining detailed monitoring and modelling to set benchmarks.* (Journal of Dairy Science, 100:828-840).

*Temporal and spatial water use on irrigated and non-irrigated pasture-based dairy farms.* (Journal of Dairy Science, 100: 6772-6784).

## Training, certification, and accreditation

As noted earlier in this Report, IrrigationNZ is one of the Accord's Support Partners. It coordinates training and development activities within the irrigation service sector. More information is available at [www.irrigationaccreditation.co.nz](http://www.irrigationaccreditation.co.nz).



IrrigationNZ plays a lead role in the delivery of two Accord commitments:

- promoting Irrigation Good Management Practice (Commitment 4.4).
- developing and promoting capacity building and a good practice assurance programme that builds excellence in the design, installation, commissioning of irrigation infrastructure, and the operation of irrigation systems.

During the 2017/18 season, IrrigationNZ worked to achieve these commitments by:

- monitoring and reporting the number of companies with accreditation for irrigation system design. There are now seven companies accredited for irrigation design, which make up approximately 90% of the service industry
- delivering the following National Certificate Programmes:
  - the National Certificate in Irrigation Design: 32 certified designers have now graduated from this programme and there are 12 practicing evaluators.
  - the New Zealand Certificate in Irrigation Management has produced 18 Evaluators since the start of the programme.

### TARGET

**85% of all dairy farms to install water meters by 2020**



In progress and on track

- Irrigation System operator training to over 800 people each year from Kati Kati (Bay of Plenty/BOP) to Riversdale (Southland) through one-day Irrigation Manager Training (IMT) and half-day topic specific workshops.
- coordinating the annual calibration of irrigation systems and a five-yearly audit by a certified evaluator. With the completion of the three-year Summer Student Study, the performance of over 250 irrigation systems has now been evaluated on over 200 farms, across three Canterbury zones (Ashburton, Selwyn and South Canterbury).
- developing online resources to enable irrigators to easily determine and benchmark their system performance. IrrigationNZ's Bucket Test App has now proven to be the benchmark for irrigation system calibration testing across New Zealand. To date, there are over 1,000 registered users and more than 5,500 tests reports have been produced.

## DairyNZ Extension Activities

DairyNZ continues to support and promote smart water use as part of its regional extension programme, and provides technical information on water use management and water use efficiency on the DairyNZ website.

Where needed, DairyNZ provides input into regional planning processes by providing explanation of research data generated through the Accord. The support also includes providing water use figures to farmers for consenting purposes.









# Conversions

The Accord expectations are:

- New dairy farms establish and operate using good practice at the outset to minimise potential negative consequences on water values and interests.
- New dairy conversions will comply with all relevant regional plan rules and/or hold necessary resource consents.

As reported previously, dairy companies have introduced programmes that outline a range of requirements that should be met before milk supply commences. In most instances, this involves a trained company assessor visiting farms and working with the farmer to ascertain whether requirements, which focus on the adoption of environmental good management practices for effluent, waterways, nutrient management and other relevant regulatory conditions, have been met. During the 2017/18 season 22 farms were converted to dairy, and all of these farms complied with environmental standards before the commencement of milk supply.

Despite the low number of dairy conversions in the 2017/18 season, DairyNZ’s Guide to Responsible Dairy Conversions was downloaded 97 times. In addition, the DairyNZ website pages within the Responsible Conversions section had 1,930 unique visitors during this period.

**TARGET**

**For 2017/18 season  
all new dairy farm  
conversions comply  
with environmental  
standards before milk  
supply commences**



ACHIEVED

# Appendix 1: Effluent significant non-compliance data supplied by Regional Councils and Unitary Authorities for the 2017-18 season

Region	Total farms in region	No. of farms monitored	Description of monitoring programme	Significant Non-Compliance Number of farms and %	Main reasons for significant non-compliance
<b>Northland</b>	898	898	<ul style="list-style-type: none"> <li>All farms monitored every year. In 2017/18 year, we had 668 consented farms and 230 non-consented farms.</li> <li>Monitoring was undertaken non-notified.</li> <li>Three compliance grades used: full compliance, non-compliant or significant non-compliance.</li> <li>In 2017/18, all farms were monitored between mid-August and 30 November 2017.</li> </ul>	194 farms were SNC (21.6%)	<ul style="list-style-type: none"> <li>Management issues (broken pipes, overflowing sumps, over-application of effluent via irrigators).</li> <li>Discharge of untreated effluent from entry/exit races/feed pads.</li> </ul>
<b>Auckland</b>	291	66	<ul style="list-style-type: none"> <li>Risk based prioritisation.</li> </ul>	3 farms (4.5%)	<ul style="list-style-type: none"> <li>Silage leachate</li> </ul>
<b>Bay of Plenty</b>	669	271	<ul style="list-style-type: none"> <li>The Bay of Plenty Regional Council operates a risk-based compliance framework. In relation to dairy farms, there is a three-step rating system.</li> <li>For dairy farms with good infrastructure and a good compliance history, a 'Low Risk' rating is allocated, and these farms are inspected once every three years. Farms that have infrastructural issues, and/or have a history of poor compliance, are rated 'High Risk' and are inspected on an annual basis. The remainder are rated 'Moderate Risk' and are inspected every two years. Risk ratings can be altered, depending on the findings of the compliance inspection.</li> <li>This variable risk rating system means that on average, around 40-60% of all farms are inspected each year.</li> <li>We send out a letter to all dairy consent holders, not just those due for an inspection, around August each year. The letter reminds farmers of their responsibility for managing their effluent disposal systems.</li> <li>We generally commence our inspections around September/October, at which time staff turn up onto properties unannounced. We train our staff to make every effort to contact someone on-farm when they first arrive at the property (particularly with the <i>Mycoplasma Bovis/M.Bovis</i> issue) however the compliance inspection is undertaken with or without anyone from the farm present.</li> </ul>	14 farms (5.2%)	<p>The main reasons for non-compliance in the 2017/2018 period were:</p> <ul style="list-style-type: none"> <li>Poor pond management (i.e. full or overflowing ponds).</li> <li>Effluent irrigation causing excessive ponding and/or runoff to waterways.</li> <li>Discharge of effluent through stormwater diversion systems.</li> </ul>



Region	Total farms in region	No. of farms monitored	Description of monitoring programme	Significant Non-Compliance Number of farms and %	Main reasons for significant non-compliance
Waikato	~ 4300	1,091	<ul style="list-style-type: none"> <li>• During the 2017/18 season, priority for monitoring was given to farms within the Plan Change 1 area for Healthy Rivers/ Wai Ora (HRWO), as we wanted to ensure we had all the data from these farms to assist with the implementation planning of HRWO. Monitoring was completed in blocks throughout this area. Farms with new and approved infrastructure were assessed by a telephone conversation ('desk top assessment') and only had a farm visit if we were unsure of anything.</li> <li>• Farms with abatement notices or previous significant non-compliance (SNC) were revisited as resources allowed.</li> <li>• All farms with current discharge consents were visited.</li> <li>• All visits are announced except for farms with previous SNC, or where there was an abatement notice in place.</li> </ul>	101 (9.3%)	<ul style="list-style-type: none"> <li>• Insufficient infrastructure with storage.</li> <li>• Lack of storage leads to having to irrigate in conditions that are often unsuitable and often results in ponding and or discharges to waterways.</li> <li>• Issues also with pump and irrigator maintenance which contribute to unauthorised discharges.</li> <li>• Lack of staff training is also a big issue.</li> <li>• Key points in summary: <ul style="list-style-type: none"> <li>- Lack of storage- often sump only.</li> <li>- Poor irrigator maintenance causing over-irrigation/ ponding.</li> <li>- Poor irrigator management causing ponding.</li> <li>- Feed pad lacking adequate effluent management.</li> <li>- Storm water diversion being poorly managed.</li> <li>- Expired discharge consents - still discharging.</li> <li>- Ponds over flowing- poor management.</li> <li>- Lack of staff understanding of the infrastructure and rules-training.</li> <li>- Pumps used to pump ponds directly onto paddocks through an open pipe.</li> <li>- Sometimes there is an accident- but no effort made to lower the risk to the environment by attempting to clean up.</li> </ul> </li> </ul>

<b>Hawke's Bay</b>	79	79	<ul style="list-style-type: none"> <li>Discharge of FDE requires a resource consent. Site inspections to all farms to assess compliance with consent conditions.</li> </ul>	4 farms (5.1%)	<ul style="list-style-type: none"> <li>The significant non-compliance relates to an incident on 12 October 2017 when the cut-off switch on the travelling irrigator was deliberately over-ridden, resulting in a discharge of effluent to surface water. The significant non-compliance and noncompliance relates to consent conditions 1, 3, 13, 14 and 22. There is a small effluent pond that has not had the permeability verified. Records confirming compliance with consent conditions have not been provided to the council.</li> <li>The non-compliance relates to condition 15. Surface ponding of effluent was found on inspection of recently irrigated areas.</li> <li>A follow-up visit was carried out on 7 May 2018. The significant non-compliance relates to the ponding and runoff that was occurring during that visit. The irrigator was stationary and not of a serviceable standard, due in part to a lack of maintenance.</li> </ul>
<b>Taranaki</b>	1,710	1,710	<ul style="list-style-type: none"> <li>Annual Monitoring for Consents to Land, Land/Water and Water. All farm dairy units are inspected annually and all annual inspection are unannounced.</li> <li>All farm dairy units that discharge treated farm dairy effluent to water are sampled bi-annually (any discharge of untreated FDE to water is prohibited).</li> <li>All non-compliance have follow-up inspections.</li> </ul>	26 farms (1.5%)	<ul style="list-style-type: none"> <li>Failed lab results for discharge to water, i.e. suspended solids and ammonia breached consent conditions.</li> </ul>
<b>Horizons</b>	918	397	<ul style="list-style-type: none"> <li>Failed lab results for discharge to water, i.e. suspended solids and ammonia breached consent conditions.</li> </ul>	13 farms (3.3%)	<ul style="list-style-type: none"> <li>Significant pond overflows, storage not installed and significant ponding at the irrigator.</li> </ul>
<b>Greater Wellington</b>	160	112	<ul style="list-style-type: none"> <li>This year we prioritised farms based on risk. Risk was determined by compliance history and on-farm infrastructure (storage etc.).</li> </ul>	6 farms (5.4%)	<ul style="list-style-type: none"> <li>Pond overflow, ponding and system short comings.</li> </ul>

Region	Total farms in region	No. of farms monitored	Description of monitoring programme	Significant Non-Compliance Number of farms and %	Main reasons for significant non-compliance
<b>Tasman</b>	134	96	<ul style="list-style-type: none"> <li>Tasman Council endeavours to monitor every farm at least once per season. However, as Tasman has just one officer responsible for all inspections, investigations and enforcement actions relating to farm dairy effluent, this sometimes is not achievable. Investigations and enforcement action take priority over routine monitoring. Should it become apparent that not all farms will be able to be inspected before the season's end due to investigation/enforcement work, those farms with a history of NC/SNC, have current Abatement Notices, or vulnerable systems, are prioritised.</li> <li>Every month during the main dairy season (September to April) a random sample of farms are taken from council's dairy database. A phone call will be made to the farmer the night prior to the inspection. This is done due to the wording of the regional Rules to which farm dairy effluent collection/disposal are assessed against, which requires the farm operator to answer a number of questions. If the farmer is not available, they are usually interviewed over the phone; or the inspection will be postponed and this process followed at a later date.</li> <li>Farms with a history of SNC, or if first inspection is graded NC or SNC, more than one inspection will take place. These follow-up inspections are strictly unannounced.</li> </ul>	0 farms (0%)	<ul style="list-style-type: none"> <li>N/A.</li> </ul>
<b>Marlborough</b>	52	52	<ul style="list-style-type: none"> <li>All farms are monitored annually. Monitoring consists of conducting a site visit to each farm and assessing any records that are required to be provided.</li> </ul>	0 farms (0%)	<ul style="list-style-type: none"> <li>N/A.</li> </ul>
<b>West Coast</b>	391	293 (75% of all farms)	<ul style="list-style-type: none"> <li>Target for all consented discharge farms to be monitored every year.</li> <li>Permitted Activity farms monitored at least every second year depending on compliance history.</li> <li>Targets not met in 2017/2018 due to staff shortages.</li> </ul>	10 farms (5.2%)	<ul style="list-style-type: none"> <li>Effluent escaping from the exit race to drain.</li> <li>Effluent in stormwater drain.</li> <li>Sampling results non-compliant ammonia exceeded limits.</li> <li>Sampling results non-compliant plus herd numbers had been increased.</li> <li>Small leakage of effluent to the stormwater.</li> <li>Issues with exit race and paddock stormwater.</li> <li>Ponds overflowing discharging to waterway.</li> <li>Still some issues on site - stock crossings and stormwater.</li> <li>Significant amount of effluent has been discharged through the stormwater diversion.</li> <li>Discharge consent expired.</li> </ul>



Region	Total farms in region	No. of farms monitored	Description of monitoring programme	Significant Non-Compliance Number of farms and %	Main reasons for significant non-compliance
Canterbury	1,333	615	<ul style="list-style-type: none"> <li>Targeted monitoring using risk-based approach. Risk takes a number of factors into consideration, including sensitive area, farm/ herd size and previous compliance history. In addition, some monitoring of farms not visited for several seasons is also undertaken as is follow up to pollution hotline calls.</li> </ul>	10 farms (1.6%)	<ul style="list-style-type: none"> <li>Ponding, overflowing from effluent pond.</li> <li>Effluent about to overflow into waterway or onto land to waterway.</li> <li>Stock in waterways – disturbance of bed/pugging.</li> <li>Effluent ponding.</li> <li>Discharge of dairy shed wash water to water.</li> <li>Overflow of effluent onto land.</li> <li>Ponding, full effluent pond, unlined effluent pond.</li> </ul>
Otago	471	176	<p>Risk based monitoring programme based on:</p> <ul style="list-style-type: none"> <li>whether the property is in a degraded catchment</li> <li>whether the property has adopted best infrastructure management for their location: <ul style="list-style-type: none"> <li>Effluent storage (rainfall for area, number of cows).</li> <li>Effluent irrigation methods.</li> <li>Failsafe methods.</li> </ul> </li> <li>whether there are drainage risks on the property: <ul style="list-style-type: none"> <li>Tiles, mole drains.</li> <li>Riparian planting.</li> <li>Appropriate setbacks.</li> <li>Waterways on property.</li> <li>Races on property.</li> </ul> </li> <li>Past inspection history.</li> </ul>	5 farms (2.8%)	<ul style="list-style-type: none"> <li>Irrigation onto saturated soils resulting in ponding and/or runoff to water – Prohibited Activity.</li> </ul>
Southland	899	922 <sup>1</sup>	<ul style="list-style-type: none"> <li>Monitoring plan is to inspect every farm at least once per season.</li> </ul>	17 farms (1.8%) <sup>2</sup>	<ul style="list-style-type: none"> <li>Over application of effluent resulting in discharges of dairy shed effluent to water and surface ponding of effluent.</li> <li>System overflows.</li> </ul>
<b>TOTALS</b>	<b>12,295</b>	<b>6,656<sup>2</sup></b>		<b>403 (6.1%)<sup>2</sup></b>	

<sup>1</sup>Inspections completed – higher than the number of dairy farms due to some farms being inspected more than once.

<sup>2</sup>Calculated using the total farms in the region for Southland, not the total number of inspections, as the number of inspections was higher than the number of farms in the region.



# Auditor's statement

Telarc Ltd carried out an independent audit of the Sustainable Dairying: Water Accord (SDWA) data collected for the 2017/18 season. The assessment was performed in accordance with applicable Telarc Ltd. standard operational procedures.

Telarc Ltd was engaged to perform a review of the systems and practices used for data collection by the Accord partners, a check of the reliability of a sample of farm-level information (through on the ground verification of reported information), and to review a draft of the DairyNZ/Dairy Companies Association of New Zealand (DCANZ) annual report to the Dairy Environment Leaders Group (DELG) on progress against Accord commitments.

The review differed from those conducted in previous years. DELG endorsed a joint DCANZ/DairyNZ recommendation that the 2017/18 audit process should proceed, but only in relation to three performance areas. Those target areas were identified as:

- Installation of water meters;
- Capture and reporting back of nutrient information to farmers; and
- Number of new conversions that comply with all environmental requirements at the time supply commences.

Although the TELARC assessment team were only to assess the data for the three identified areas, the expectation from DELG was that the individual dairy companies would continue reporting on the full range of Accord reporting obligations, with the DairyNZ team consolidating this data and reporting progress in the 2017/18 season Progress Report.

The assessments were performed during the period January 2019 to April 2019. The scope of the assessment was focused on data from the current season 2017/18 only, and the review was performed against expectations and commitments defined in the following standards:

- The 2015 version of the Sustainable Dairying: Water Accord.
- Sustainable Dairying: Water Accord Audit standard (DairyNZ requirements) v8.
- Sustainable Dairying: Water Accord Audit standard (Dairy Company requirements) v10.

The assessment also reviewed the reporting of Sustainable Dairying: Water Accord information as detailed in the provided documents:

- water accord progress report\_5 years on\_DNZ40\_011\_Proof 1 17-7-19.pdf
- Water Accord (DNZ Reporting\_All\_Companies\_2017\_18)04042019 (003).xlsx
- Refer also to Note 1.

DairyNZ has collated and published benchmarked Accord data from all participating dairy companies. For the reduced audit scope for the 2017/18 season the Telarc assessment found that one target area was still in progress, two targets were met, and one target was not achieved.

As in previous years, DairyNZ used a structured approach to collect and consolidate dairy company data for around 10,500 farms. At the Dairy Companies, processes are becoming more robust for the collection, management and verification of the supplied data. It was observed that at the farm level, a number of factors (e.g. on farm changes since the last verification of data, accuracy of recording, interpretation of definitions etc.) will mean reported figures related to Accord targets will never be 100% accurate at any specific point in time. (E.g. the percentage of farms with water meters); these factors will also apply to those figures that were not part of the auditable scope of this assessment.



The following observations are made with respect to the Accord outcomes that were assessed for the 2017/18 season:

OBJECTIVE	RESULTS
Nutrient Management data collected from 100% of dairy farms by 31 May 2015. <i>Data was collected from 94% of farms for the 2017/18 season</i>	NOT ACHIEVED
Nitrogen Loss and Nitrogen conversion efficiency performance reported back to 100% of dairy farms by 30 November 2015. <i>Data from 10394 of 10396 farms that were processed was reported back. (99.98%).</i>	ACHIEVED
85% of all dairy farms to install water meters by 2020: <i>Data collected from 5980 farms indicated a water meter was installed) (54%)</i>	IN PROGRESS
From 31 May 2013, ensure that new dairy farm conversions comply with SDWA Requirements before milk collection commences: <i>100% of 22 farms met requirements before supply in the 2017/18 season</i>	ACHIEVED

Reports have been provided to DairyNZ and the Dairy Companies that identify improvement opportunities and also performance against the respective audit standards. The findings from these individual reports have been consolidated in an overarching report.

Note 1: Statements in the “Water Accord progress report 5 years on” progress report not assessed by Telarc Ltd. include; data outside the auditable scope, Overseer® input/output data, financial data, case studies, supporting partner data, and regional council and unitary authority data (e.g. Effluent Non-Compliance and riparian management plan development data).



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