



**MARLBOROUGH
DISTRICT COUNCIL**

Dairyshed Effluent and Stream Crossing Survey 2016/2017

**Technical Report No: 17-004
July 2017**



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DISTRICT COUNCIL**

Dairy Shed Effluent and Stream Crossing Survey 2016/2017

June 2017

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1. Executive Summary

Marlborough District Council (Council) has monitored dairy farms in Marlborough since 1994. The dairy sector in Marlborough is relatively small, consisting of 54 farms with a combined herd size of approximately 16,500 cows. Council has been working alongside the dairy industry to improve environmental performance in Marlborough for some time.

During the 2016/17 milking season, the dairy effluent systems on all 54 dairy farms in Marlborough were inspected by Council to check compliance with the plan rules or resource consents. Council also inspected the sites where cows continue to walk through waterways on some farms, to monitor the progress made toward eliminating the use of these waterways by dairy herds.

This report summarises the findings of the 2016/2017 Marlborough Dairy shed Effluent Survey. The purpose of the Dairy shed Effluent Survey is:

- To prevent contamination of groundwater and waterways and the degradation of soil by promoting best practice dairy effluent management
- To gain information on the level of dairy shed effluent compliance in Marlborough
- To ensure compliance with plan rules or resource consent conditions regarding dairy effluent
- To work with farmers who are non-compliant and to provide information about the management of dairy effluent systems working to best practice.

Contents

1. Executive Summary	i
2. Introduction	1
2.1. Dairy Effluent Management Nationally	1
2.2. Dairy Effluent Management in Marlborough 2016/2017	2
2.3. Proposed Marlborough Environmental Plan	2
2.4. Washdown Collection, Containment and Application Systems	3
2.4.1. MSRMP	3
2.4.2. PMEP	3
2.4.3. Effluent Storage	3
2.4.4. Application to land.....	4
2.4.5. PMEP	5
2.5. Summary of Compliance Ratings 2013/14 – 2016/17	6
2.5.1. MSRMP Compliance Ratings	6
2.5.2. PMEP Compliance Ratings.....	7
2.5.3. Dairy Effluent issues to note from the 2016/2017 dairy survey	8
2.5.4. Progress seen during the 2016/17 dairy survey	8
2.6. Stream Crossings 2016/2017	8
2.6.1. PMEP	9
3. Conclusion	10
4. Appendix A – Example MSRMP Report	11
5. Appendix B – Compliance Approach	13
6. Appendix C – Example PMEPE Report	15
7. Appendix D – Stream Crossing	17

2. Introduction

This report summarises the findings of the 2016/17 Dairy shed Effluent and Stream Crossing Survey. Council inspects the dairy farms to check compliance with plan rules for dairy effluent or relevant resource consents. In the Marlborough Sounds Resource Management Plan (MSRMP) area 40 dairy farms were checked against the permitted activity plan rules and in the Wairau/Awatere Resource Management Plan (WARMP) area 14 farms were checked against the conditions of their respective resource consent for dairy effluent discharge. This season a second compliance report was completed for each farm which assessed the compliance against the Proposed Marlborough Environment Plan (PMEP) rules for dairy shed effluent.

When carrying out the dairy shed effluent inspections, Council also checks any relating components to the dairying activity which may not be specifically included in the dairy effluent disposal rules and resource consents which may have potential to result in environmental effects. This can include, for example, raceway entrances to dairy sheds, silage pits and ofal pits.

The Stream Crossing Survey was started in 2002 to identify the places where dairy cows walk through waterways on farms, these are required to be eliminated from use. The identified sites where dairy cows continue to walk through waterways on the farms are monitored for progress made towards excluding stock through culverts, bridges or alternative access routes. There has been a large reduction in the number of waterways used for dairy cow crossings since 2002 but total exclusion has not yet been met.

2.1. Dairy Effluent Management Nationally

A national criteria for categorising dairy effluent compliance for reporting purposes was created in 2007. All regional councils should be using these criteria to ensure national consistency of compliance grades for dairy effluent systems.

Dairy files are audited every two years to provide independent feedback to each Council on its dairy effluent compliance assessment. The Marlborough District Council continues to annually inspect all dairy farms using the dairy effluent compliance assessment criteria set out below.

The three categories that may be assigned are:

1. Compliance (C)
2. Non-compliance (NC)
3. Significant non-compliance (SNC)

For a system to be assessed as compliant, the compliance officer did not observe any issues of non-compliance at the time of the inspection.

The criteria for assessing a non-compliant classification is that a breach of consent condition or permitted activity rule has occurred but corrective or remedial actions can be undertaken to become compliant.

The criteria for assigning a significantly non-compliant classification are described as follows:

- Unauthorised discharges that may enter water (ground or surface water);
- Unauthorised discharges that have entered water (ground or surface water);
- System inadequacies;
- Multiple non-compliances on site with cumulative effects and
- Breach of an abatement notice.

2.2. Dairy Effluent Management in Marlborough 2016/2017

The 2016/17 Dairy Effluent Survey has continued to use the 'traffic light system' to indicate compliance status against plan rules and resource consent conditions. The categories are **green** which indicates compliance; **yellow** which indicates technical non-compliance; **orange** which indicates environmental non-compliance, where corrective or remedial action(s) is required and a time frame for completion has been set, and **red** indicates significant non-compliance, where a persistent or significant breach has occurred causing adverse environmental effects.

If a farmer received a technical or non-compliance rating, tasks labelled as 'Action Required' were provided in the compliance report. These are designed to assist farmers by highlighting what parts of their dairy effluent system can be modified or better managed in order to achieve a compliance rating when re-inspected.

Council has received positive feedback from farmers regarding the use of the traffic light system to indicate the compliance rating. The system is easier to understand than using letters to indicate compliance as this has previously been misunderstood.

Appendix A shows an example of a Compliance Report that a farmer received.

In 2014/15 Council introduced non-notified site visits for dairy effluent inspections, this has been continued through the 2016/17 season. This 'cold calling' method was adopted so that Marlborough District Council was in line with other regional councils throughout New Zealand. On arrival to the farm, the compliance officer attempts to find a staff member to alert them to being on the property and to discuss the effluent system. This type of inspection has continued to be well received with only some farm owners wanting clarification on the health and safety requirements when on site.

For this survey, Council has continued with the strategy previously put in place to try to increase compliance rates. Firstly, those dairy farms with little or no storage, older less reliable systems and those previously non-compliant were visited first to allow for upgrades or changes to be made throughout the season.

Appendix B outlines a Compliance Officer's approach on each farm visit.

2.3. Proposed Marlborough Environmental Plan

On 9 June 2016, Marlborough District Council notified the Proposed Marlborough Environment Plan (PMEP). The PMEP will replace existing planning documents and will combine the documents into one. The documents which will be replaced are the Marlborough Regional Policy Statement, the Marlborough Sounds Resource Management Plan and the Wairau/Awatere Resource Management Plan. The PMEP contains some rules which are effective upon notification (including rules relating to water, air, soil and for the protection of significant indigenous vegetation, habitats of indigenous fauna or historic heritage). Within the PMEP the discharge of dairy farm effluent into or onto land is a permitted activity within the Rural Environment Zone and the Coastal Environment Zone. The discharge of dairy farm effluent into or onto land is required to meet the permitted activity standards specific to the zone that the farm is located within.

This season a compliance report for the PMEP plan rules for dairy shed effluent was completed for each farm. The rules which do not have immediate legal effect did not affect the farm compliance status. The PMEP Compliance report was completed in order to provide the farmers with an indication of future compliance for the effluent system as it currently operates.

Appendix C provides an example PMEP Compliance Report.

2.4. Washdown Collection, Containment and Application Systems

Most dairy farms in Marlborough have effluent collection systems which consist of a solid separator such as a stone trap, weeping wall or mechanical separator; and a sump and/or a storage facility. Dairy herd sizes vary in Marlborough from as small as 50 cows through to 1200 cows therefore the size and complexity of the effluent systems vary accordingly.

2.4.1. MSRMP

The MSRMP specifies that these systems cannot be within 20 metres of a surface water body or the boundary of a neighbouring property. Marlborough has six farms which have their collection and containment systems too close to a surface water body. These farmers are required to upgrade their collection system to be more than 20 metres from a surface water body. One farm has been granted resource consent to allow the system to remain in the current state in order to plan and facilitate an upgrade. As this farm has been granted resource consent, the effluent systems is compliant until their resource consent expires.

This season one farm diverted the dairy effluent to a suitable neighbouring system and one farm is installing a new system located 20m from a waterway, this new system will be operational for next season.

The three farmers with systems too close to waterways which do not have resource consent to retain these systems in the current locations have been rated as significantly non-compliant. Enforcement action may be required if progress is not made to comply.

2.4.2. PMEP

The PMEP requires from 9 June 2019, that the storage system must be sealed with an impermeable material certified by a recognised professional. The storage system also must not be located within 20m of a river, lake, Significant Wetland, drainage channel or drainage channel network; 20m of the boundary of any adjacent land in different ownership; or within a Flood Hazard Area.

There are currently a total of 18 farms that have storage systems that are lined with an impermeable material. The remaining 36 farms will need to upgrade their current systems or install new systems by 9 June 2019 in order to comply with the PMEP requirements.

There are a total of seven farms that have dairy effluent systems located within the PMEP Flood Hazard Area. From 9 June 2019 these farms will require resource consent to assess the environmental effects and legalise the location of their systems being within the Flood Hazard Area.

2.4.3. Effluent Storage

The importance of having a reliable contingency plan for use during adverse climatic conditions or system failure, as required by the MSRMP, has been regularly discussed with dairy farmers during inspections and through post inspection correspondence. It is a recurring issue between surveys that the effluent storage is often compromised due to ponds being full, solids build-up and/or vegetation not being removed. Effluent storage needs to be of suitable size and well managed to ensure that it can act as a reliable contingency to avoid spreading effluent to land when soils are saturated. When spread to land in suitable soil conditions dairy effluent can be a valuable asset.



Effluent pond is full with vegetation and solids build-up



Effluent pond has plenty of free-board available

The MSRMP rules do not outline how much storage is required or the standard of the storage system. There are many variables to be considered when calculating how much effluent storage is needed including herd size, rainfall and wash-down methods, however the pond calculator method is widely used as a tool to measure this.

The PMEPP specifies from 9 June 2019, that each dairy farm must have an on-site storage system with a minimum of 3 months storage or, if less than 3 months, the storage capacity must be certified by a recognised professional as being sufficient to allow for discharges to be deferred in order to avoid ponding or anaerobic soil conditions.

There are now a total of 16 farms that have storage systems that are lined with an impermeable material. The size of the storage system installed is required to be certified by a recognised professional to ensure it is a suitable size for the farm operation.

During this season two farms have upgraded or sought alternative effluent storage systems in order to provide a reliable storage system operating at best practice. This means that two farms that were previously rated as non-compliant and significantly non-compliant (for pond location and lack of storage) have become compliant and have systems which meet practice guidelines. One farm which had obtained resource consent for the location of the effluent pond has installed a new effluent system in a suitable location and will now meet the permitted activity standards and the best practice guidelines.

2.4.4. Application to land

Dairy shed effluent provides fertiliser savings and improved pasture production for dairy farmers when efficiently applied to land as it contains nitrogen (N), phosphorus (P) and potassium (K). Dairy effluent also contains high levels of organic matter, which can improve soil condition. Any potentially negative environmental effects are limited when dairy shed effluent is efficiently applied. The appropriateness of the land and the suitability as required by the relevant plan rule, resource consent conditions and advised through best practice guidelines must be considered in the application. Throughout the 54 farms inspected, farmers use a range of effluent application methods including K-line pods, irrigation lines, travelling irrigators and effluent carts.



The most common types of effluent disposal in Marlborough from left to right; k-line pods, travelling irrigator and spreader truck

The permitted activity rules and resource consent conditions for individual dairy effluent discharges are designed to ensure that environmental effects are less than minor, as required by the Resource Management Act 1991. In order to effectively discharge effluent to land, some simple methods that farmers need to have, include;

- a large enough disposal area for their dairy operation (a recommendation of 5ha/100cows minimum has been made for Marlborough);
- low application rates; and
- suitable storage to prevent discharge during adverse weather and soil conditions.

The application of dairy shed effluent to land requires careful management; some systems are more labour intensive than others and some are more efficient.

When dairy effluent is over-applied and allowed to cause ponding in paddocks, the soil water holding capacity is exceeded beyond field capacity and a moist nutrient rich environment is created which may allow faecal bacteria to grow. Pasture production can be hindered as the root zone can no longer utilise the effluent. Soil saturation may result in dairy effluent moving below the root zone where it can potentially reach and contaminate groundwater and eventually impact of surface waterbody water quality.

Non-compliance with dairy effluent plan rules and consent conditions can cause significant adverse environmental effects and must be dealt with appropriately and subject to the severity of non-compliance.

The incidence of ponding has significantly reduced from previous surveys. This is an indication of better education and improved management practices for applying effluent to land in an efficient manner.

2.4.5. PMEP

The PMEP expands on the MSRMP permitted activity standards and contains some new permitted activity standards for the discharge of dairy effluent into or onto land.

The PMEP outlined that the discharge must not occur within 50m of bore, unless the bore intercepts the confined layer of Riverlands FMU or the confined layer of the Wairau Aquifer FMU. There are eight farms that have bores located within their effluent disposal area. These farms will have the option to either maintain a 50m buffer zone from the bore, or to apply for resource consent which will assess the environmental effects and determine what measures need to be put in place for the discharge to continue.

A high rate discharge system must not be used to discharge onto land with an average slope of 7° or greater, and the slope must not exceed 11.3° (1:5) at any point. High rate discharge systems, such as travelling irrigators, work best on land that is flat and free of any slopes. The slope restriction is intended to mitigate the environmental effects of ponding and saturated soils, which are often the result of high rate discharge systems failing on slopes.

The discharge must not result in anaerobic soil conditions and the discharge must not occur into or onto a Soil Sensitive Area. Some soil types may be at risk of contamination depending on what activities occur on them. There are three soil types within Marlborough that have been identified as being high risk: free draining, impeded and loess. The free-draining soils are considered high risk because they are located over an underlying shallow, unconfined aquifer and therefore discharges onto these soils could result in groundwater contamination. Impeded soils are considered high risk because of the potential for movement of liquid waste across the soil surface, which can convey waste from land to surface water. Loess soils are considered high risk because of their potential for erosion.

There are four farms that have disposal areas located within a Soil Sensitive Area. The farms that discharge to a Soil Sensitive Area are required to apply for resource consent in order for the environmental effects to be assessed and any monitoring requirements to be put in place.

2.5. Summary of Compliance Ratings 2013/14 – 2016/17

2.5.1. MSRMP Compliance Ratings

Compliance Rating	2013/2014 Percentage	2014/2015 Percentage	2014/2015 Follow up Percentage	2015/2016 Percentage	2015/2016 Follow up Percentage	2016/2017 Percentage	2016/2017 Follow up Percentage
Full Compliance	80%	70%	77%	73%	91%	85%	91%
Technical Non-compliance	N/A	N/A	N/A	2%	0%	2%	2%
Non-Compliance	18%	16%	9%	7%	0%	2%	0%
Significant Non-Compliance	2%	14 %	To be determined	18%	9%	11%	7%

The table above shows the compliance ratings for the 2016/17 dairy effluent season compared with the three previous survey results.

The total non-compliance at the initial inspection was 15%, however it is positive to note that this has reduced to only 9% after follow up site inspections or information was provided to Council to demonstrate compliance.

Technical and non-compliance ratings are generally a result of issues that can be quickly remediated by the farmer, this is reflected in the follow up inspection for non-compliance being at 0% (n.b. for national auditing purposes both categories are reported together as 'non-compliance' category).

It is interesting to note that all farms operating under resource consent were compliant following the first inspection. The 15% of non-compliant or significantly non-compliant farms are all operating under the MSRMP permitted activity standards. This has changed from the previous survey where 20% of non-compliant and significantly non-compliant farms were operating under resource consent, and 80% of non-compliant and significantly non-compliant farms were operating under the MSRMP.

The non-compliance issues can also be analysed between areas. In the Linkwater area, all farms were compliant at the initial inspection while the Opouri Valley had the highest rate of non-compliance.

Most Marlborough dairy farmers that have issues causing a non-compliance rating for their effluent system are proactive in making the required changes to become compliant as soon as possible.

Council is actively addressing the significant non-compliance through follow up visits and correspondence with the dairy farmers particularly during the dry season when time allows for farm maintenance.

2.5.2. PMEP Compliance Ratings

Eight of the PMEP permitted activity standards came into immediate legal effect upon the notification of the plan on 9 June 2016. The table below shows the compliance rating for the permitted activity standards that had immediate legal effect.

Compliance Rating	2016/2017 Percentage	2016/2017 Follow up Percentage
Full Compliance	91%	95%
Technical Non-Compliance	0	0
Non-Compliance	9%	5%
Significant Non-Compliance	0	0

The total non-compliance rating at the initial inspection was 9% and this reduced further to 5% after follow up site inspections. Non-compliance was a result of discharge occurring within a soil sensitive area, discharge occurring within 20m of a waterway and discharge occurring when the soil moisture exceeded field capacity.

There are a total of four farms that have discharge fields located within a Soil Sensitive Area, however only three farms were discharging within the Soil Sensitive Area at the time of the inspection. There are eight farms that have bores located within the discharge field. There was no discharge occurring within 50m of the bores at the time of the inspections. These farms will be required to maintain a 50m buffer zone from the bore, or apply for resource consent to continue discharging within 50m of a bore. Resource consent will allow for the environmental effects to be assessed and any relevant monitoring requirements to be put in place.

A further five permitted activity standards within the PMEP will have legal effect on **9 June 2019**.

All 54 farms will need to provide certification from a recognised professional to demonstrate that there is an on-site storage system with a minimum of 3 months storage or, the storage capacity is sufficient to allow for discharges to be deferred.

Thirty-six farms have storage systems that are not sealed with an impermeable material. These farms will need to make the necessary upgrades to their existing system or install a new system that is sealed with an impermeable material certified by a recognised professional, in order to meet this requirement.

A total of six farms have storage systems located within 20m of a river, lake, Significant Wetland, drainage channel or drainage channel network. There are seven farms that have effluent storage systems located within a Flood Hazard Area. These farms will be required to apply for resource consent in order to legalise the location of the storage system.

2.5.3. Dairy Effluent issues to note from the 2016/2017 dairy survey

- Insufficient 'freeboard' remaining in effluent storage systems.
- Those dairy effluent systems rated as non-compliant (orange) was as a result of ponding occurring at the time of the inspection.
- Ongoing issues that were highlighted to many farmers in the 2015/16 survey have continued to occur in this survey. The systems that have been previously rated as non-compliant (orange) and have not made any changes to the effluent system and/or management have been rated significant non-compliant to reflect this.
- The application of effluent within 20m of the nearest waterway continued to be an issue.
- Enforcement action undertaken as a result of significant non-compliance includes one infringement notice. The farm that received the infringement notice undertook necessary changes to become compliant.

There are very few dairy farms in Marlborough that have dairy shed effluent systems that meet current industry best practice standards. While some have proactively invested in upgrades over time, many dairy farmers are reluctant to voluntarily make changes to their current effluent collection, containment and application systems. It also appears that some dairy farms have had very little change to the dairy shed effluent system since the survey began in 1994 while environmental standards and best practice have continued to move forward. Many farmers had been postponing effluent system upgrades until the PMEP was notified in order to ensure any upgrades will meet the permitted activity standards for dairy farm effluent. Now that the PMEP has been notified, it is envisioned that the new permitted activity rules will drive those farms that have not yet upgraded their dairy effluent system to do so.

2.5.4. Progress seen during the 2016/17 dairy survey

- One farmer has installed an above ground effluent collection and storage tank to become compliant and operate at best practice.
- One farmer has diverted dairy effluent to a neighbouring sealed and suitable storage system.
- Several farmers have indicated that they are currently working towards making changes and upgrades to their systems in order to comply with the new dairy effluent rules and have engaged Fonterra's Sustainable Dairying Advisor for direction.

Council and the dairy industry are continually working with dairy farmers in Marlborough to progress dairy shed effluent infrastructure and management of the system to best practice standards. This is to achieve environmental standards that reduce risk of farm pollutants adversely affecting waterways and coastal areas in Marlborough. A dairy working group meets approximately two times per year to discuss regional issues and improvements.

2.6. Stream Crossings 2016/2017

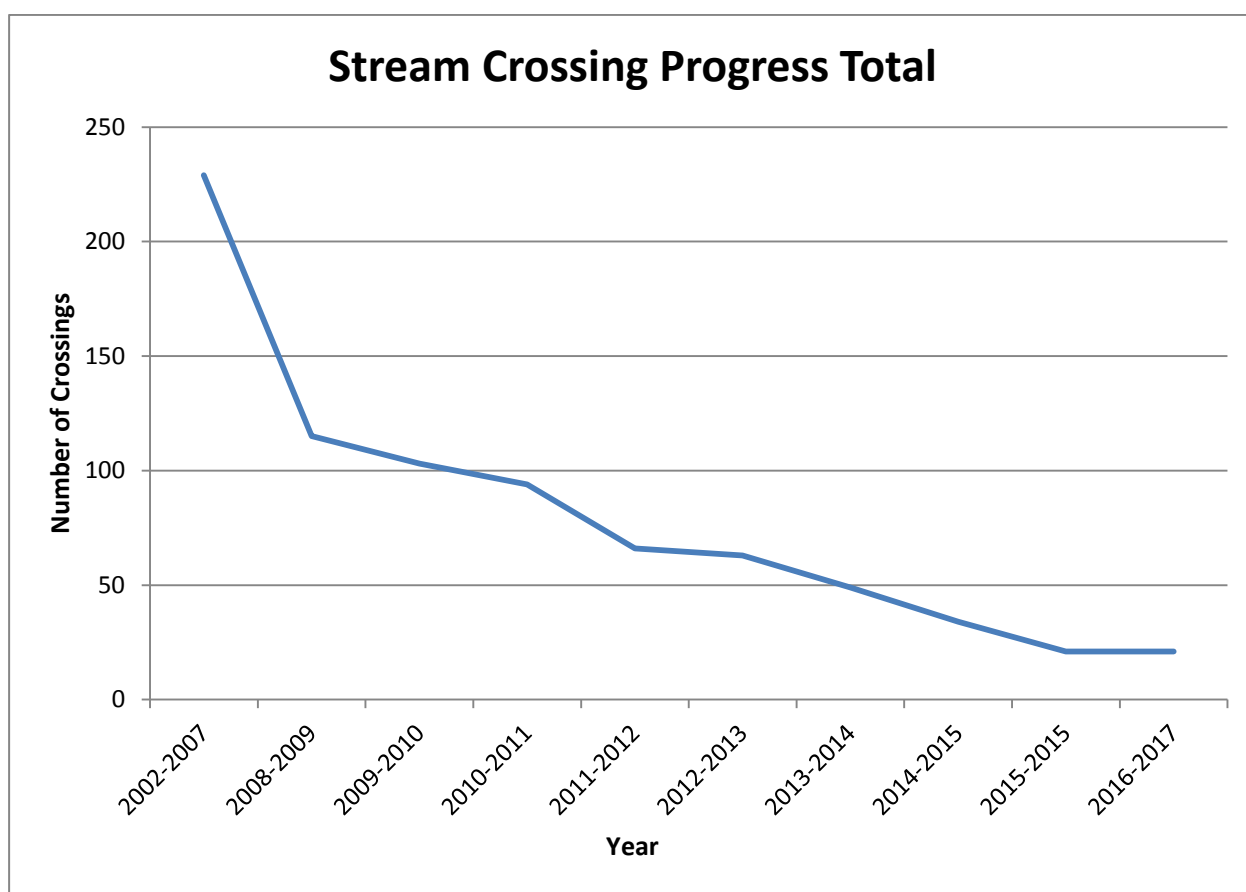
A stream crossing survey is completed in conjunction with annual dairy effluent survey. The purpose of the stream crossing survey is to improve water quality in Marlborough's waterways and to achieve this Council required the elimination of all places where cows walk through waterways. The stream crossing survey was first established in 2002 which identified crossing locations on all operating dairy farms in Marlborough.

During the effluent inspection, any remaining known stream crossings are checked to see if they are still in use. Crossings are eliminated through the installation of bridges and culverts or by altering access routes and raceways. The findings of the original stream crossing survey and the progress that the

farmers have made to install culverts or bridges, is included in **Appendix D**. The total number of stream crossings has significantly reduced in the Marlborough Region since 2002 from 229 to 21 in 2017. It was initially envisioned that all stream crossings would have been eliminated and fencing completed by the end of December 2013. Council has proactively helped farmers to eliminate stream crossings by offering free resource consents for the installation of culverts and bridges until December 2013 which aligned with the prospective date for total elimination and requirements of the ‘Clean Streams Accord’.

The dairy industry actively works on initiatives to remove stock crossings through waterways. Both DairyNZ and Fonterra promote elimination of stream crossings and provide assistance as to how this can be achieved as part of the ‘Sustainable Dairying: Water Accord’.

Unfortunately there has been no improvement in eliminating the remaining stream crossings since last season. The remaining 21 stream crossings are on eight farms (one of which has 10 crossings not eliminated), all remaining stream crossings were initially rated low-priority. The remaining stream crossings have been highlighted to the farmers concerned and plans for elimination have been put in place to be followed up.



2.6.1. PMEP

The PMEP contains new rules in regards to livestock entering onto, or passing across, the bed of a river. The rules state that the entering onto or passing across the bed of a river of stock must not involve intensively farmed livestock if there is water flowing in the river. The definition of intensively farmed livestock includes dairy cattle. Therefore all of the remaining stream crossings must not be used when there is water flowing in the river.

Appendix D Shows the stream crossing sites in Marlborough from the first survey until the 2015/16 dairy season.

3. Conclusion

In 2016/17 Council undertook site inspections at all 54 dairy farms in Marlborough. The purpose of the inspections was to check compliance with the permitted activity standards of the MSRMP or the dairy effluent discharge resource consents. This year a report showing the compliance with the PMEP dairy effluent rules was also completed.

Overall improvement in the compliance rating is noted; in 2015/2016 the compliance after the first inspection was 73% this has improved to 85% compliance after the first inspection for the 2016/2017 year. The 'follow-up' full compliance for 2016/2017 was 91% which is the same 'follow-up' compliance rate as in 2015/2016.

This survey has highlighted the number of farms which have remained non-compliant between seasons or have been rated non-compliant for the same issue. All "non-compliance" rated farms have been remediated as required however some farms rated "significant non-compliance" have not yet completed work required to become compliant. The ongoing "significant non-compliance" will likely require infrastructural investment in order to become compliant.

Farms which were rated as "non-compliant" (orange) lacked a reliable contingency plan due to the effluent storage being full and one farm had ponding occurring, both issues required immediate remediation. Issues causing "significant non-compliance" (red) included spreading of effluent within 20m of a waterway and collection/containment systems located within 20m of a waterway.

There are eight rules within the PMEP that had immediate legal effect upon notification on 9 June 2016. The PMEP compliance rating after the first inspection was 91%, this improved to 95% after follow up inspections were completed. There are a further five rules within the PMEP that will have legal effect from 9 June 2019.

The remaining stream crossings are slowly being eliminated by those farmers which still walk stock through waterways. All remaining stream crossings are 'low priority' however the goal was to have these eliminated by December 2013. All farmers with remaining operating stream crossings have timeframes in place to eliminate these crossing sites.

Progress to improve effluent collection and containment systems is continuing to occur slowly, with one farm completing a full upgrade of their effluent systems this season. It is envisioned that this will increase in momentum now that the PMEP rules for the discharge of dairy farm effluent were notified 9 June 2016.

Council continues to monitor dairy effluent operations to current plan standards or conditions of consent as applicable, with a focus on resolving breaches through a graduated response process.

4. Appendix A – Example MSRMP Report

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2016/2017 Compliance Report - Dairy Effluent Disposal



Farm Name:	I C Cows
Inspection Date:	7 October 2016
Herd #:	310
Disposal area:	11
Method of irrigation:	Travelling Irrigator

Dairy Plan Rules Assessment Rule 36.1.7.3

a) The discharge shall not be within 20m of a surface waterbody or an unconfined aquifer or drainage channel;

Compliant

The discharge as well away from any waterway in the property.

b) There shall be no run-off of contaminants into surface water resulting from discharge of the contaminant onto or into land;

Compliant

There was no sign of run off of contaminants into any waterway.

c) The total nitrogen loading on the area to be used for discharging shall not exceed 200kg/ha/yr

Non-compliant

The property has a disposal area of 11 ha this is less than the recommended minimum size for the herd size on this property. There were no signs of overloading at the time of the inspection however the application area should be increased to at least 5 ha per 100 cows. Use of a nutrient plan would also assist with demonstrating compliance with this rule.

d) When discharging effluent a buffer of a minimum 10m in width is to be maintained between the area of discharge and any property boundary;

Compliant

The discharge was well away from the property boundary.

e) The washwater collection, containment and application system shall not be within 20m of the boundary of any neighbouring property without that person's prior written consent, a copy of which shall be forwarded to Marlborough District Council.

Compliant

The washwater system is well away from the property boundary.

f) The wash water collection and containment system shall not be within 20m of any surface waterbody: Compliant

The washwater system is well away from the nearest waterbody.

g) The wash water collection, containment and application system shall not be within 20m of any area identified by Tangata Whenua as being of special value or any filed archeological site: Compliant

This has previously been discussed with the farmer there are no known special interest sites on the property.

h) There shall be no spray drift beyond the boundary of the land which the effluent is discharged: Compliant

No spray drift noted on site.

i) No objectionable odours shall be able to be detected at or beyond the property boundary of the land to which the effluent is discharged Compliant

No objectionable odour noted.

j) There shall be contingency measures in place to ensure that there is no contravention of the above conditions in the event of system failure or adverse climatic conditions Compliant

The sump was 1/2 full no issues noted with storage of effluent. Pond available as a back up contingency.

Stream Crossings

Stream Crossing Survey:

2

Current Situation:

0

Overall Comment:

Effluent storage was well maintained. Effluent discharge to land had occurred morning of inspection. No issues noted, effluent discharge being managed well following wet conditions.

Action required to be undertaken:

Increase effluent disposal area to at least 5 ha per 100 cows.

For more information contact:
Environmental Protection Group
Marlborough District Council

Phone: 03 520 7400
Email: monitoring@marlborough.govt.nz
Website: www.marlborough.govt.nz



5. Appendix B – Compliance Approach

A Compliance approach on each farm visit:

Pre inspection letters were sent to all farmers in August 2016 to advise farmers that the survey was about to commence and to highlight areas of particular concern that Council will be looking at. The letter informed Dairy Farmers that Council will continue to practice cold calling as per the national dairy auditing guidelines, and advised the farmer to contact Council if they had any concerns.

The letter also informed Dairy Farmers that Council had adopted the national dairy auditing guideline which recommends cold calling instead of booking appointments. If the farmer was concerned about this, they could contact Council. A programme of two days a week in the field is used, leaving three days for preparation of inspection and completing file notes and follow up compliance reports and post inspection letters.

- Equipment consists of camera and GPS, Council vehicle with the water sampling kit, paper work with site inspection form for general notes, report card form (listing permitted activities or resource consent conditions), post inspection letter and stream crossing forms in case any remaining sites where cows walk through waterways have been eliminated.
- Review previous year's inspection results to check history and compliance rating in previous seasons.
- During the site visit stone traps, sumps and effluent ponds are inspected and photographed. All solid and liquid waste from the washwater collection and containment systems must be contained within the system or are being irrigated in accordance with the plan rules or resource consent. Walk over the most recently irrigated part of the disposal field.
- If stream crossings have not been recorded as eliminated, these are checked for progress.
- Following inspections, farmer's inspection sheets, report cards, post inspection letters and stream crossing updates are completed.
- All farmers receive a post inspection letter and their report card indicating the compliance rating of their farm.

Please note: In terms of the national standards the compliance rating is only from the washwater collection and containment system. If there is a discharge from other sources (i.e. Cow crossing on roads, silage pit leachate) then these must be assessed and controlled but in terms of recording compliance for dairy effluent audit they do not affect the rating of the farm.

Detected Non-Compliance during Inspection

If any non-compliance is detected, investigation and follow up action is taken as required.

If the non-compliance issue can be fixed, the farmer is asked to fix it straight away, for example, if there was overloading of effluent to the disposal field the farmer needs to turn off the discharge or move the effluent dispersal equipment.

If the farmer requires time to resolve the non-compliance issue, a follow up inspection may be required.

Any significant non-compliance is actively addressed with the dairy farmer, if this is not possible then further enforcement action can be undertaken.

Note: that compliance is rated from only what was noted on the site inspection, Council can only say that the farm complied or did not comply at the time and date that the inspection was undertaken. Council staff also rely on information the farmer provides.



Compliant



Non- Compliant

6. Appendix C – Example PMEP Report

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2016/17 PMEP Compliance Report- Dairy Effluent Disposal



Farm Name:	I C Cows
Inspection date:	7 October 2016
Herd #:	310
Disposal Area:	11
Method of Irrigation:	Travelling irrigator

Dairy Effluent Plan Rules Assessment Rule 3.3.28

3.3.28.1 The discharge must not occur on a soil sensitive area

Compliant

This property does not have a soil sensitive overlay mapped on it.

3.3.28.2 The discharge must not occur within:

a) 50m of a bore unless the bore intercepts the confined layer of Riverlands FMU or the confined layer of the Wairau Aquifer FMU.

b) 20m of a river, lake, wetland, drainage channel, drainage channel network

Compliant

There are two mapped wells on this property. One is nearby the disposal area and should be considered when setting up the travelling irrigator. The travelling irrigator was located well away from the nearest waterway at the time of the inspection.

3.3.28.3 A high rate discharge system must not be used to discharge onto land with an average slope of 7 degrees or greater and the slope must not exceed 11.3 degrees at any point

Compliant

The disposal area is mapped as being no more than 10 degrees slope therefore the average should not reach 7 degrees. The travelling irrigator is suitable at this property.

3.3.28.4 The discharge must not occur when the soil moisture exceeds field capacity

Compliant

The application to land did not appear to have occurred when the soil was at field capacity, use of a moisture meter may assist with demonstrating compliance with this rule. This should be closely monitored during wet weather.

3.3.28.5 Ponding must not be detectable beyond 24hrs after the discharge.

Compliant

No ponding was noted at the time of the inspection.

3.3.28.6 The discharge must not result in anaerobic soil conditions

Compliant

Anaerobic soils were not noted at the time of the inspection. Anaerobic soils are permanently or seasonally saturated by water that causes reduced plant growth, plant death, adventitious root growth, colour changes in soil, growth of black slime, algae, rotten egg odour, crudity of soil surface. This was not evident during the inspection.

3.3.28.7 The total cumulative nitrogen (N) loading from all discharges on the areal extent of land to be used for the discharge must not exceed 200kg N/ha/yr (excluding N from direct animal inputs).

Compliant

This property has a disposal area of 11ha for a herd of 310. This is not meeting the recommended minimum disposal size of 5ha per 100cows. This should be increased. If you cannot increase the disposal area you should have a nutrient plan completed to show that you are in compliance with this rule.

3.3.28.8 For a new dairy farm established after 9 June 2016, there must be an on-site storage system with minimum 3 months storage or, must be certified by a recognised professional as being sufficient to allow for discharges to be deferred so that data dares 3.3.28.4-3.3.28.6 are not breached. The certification must be provided to Council prior to effluent entering the storage system.

N/A

See 3.3.28.11

3.3.28.9 For a new dairy farm established after 9 June 2016 the storage system must be sealed with an impermeable material certified by a recognised professional.

N/A

See 3.3.28.11

3.3.28.10 For a new dairy farm established after 9 June 2016, the storage system must not be located within:

- a) 20m of a river, lake, significant wetland, drainage channel or drainage channel network;
- b) 20m of boundary of adjacent property.
- c) a flood hazard area

N/A

See 3.3.28.11

3.3.28.11 From 9 June 2019 Standards 3.3.28.8-3.3.28.10 apply to a dairy farm existing at 9 June 2015 and a new dairy farm established after 9 June 2016.

Compliant

This property has a concrete sump and an unlined pond. The effluent storage will need to be checked with the calculator to ensure it is of suitable size. If the pond is used, it will need to be lined.

For more information contact:
Environmental Protection Group
Marlborough District Council

Phone: 03 520 7400
Email: monitoring@marlborough.govt.nz
Website: www.marlborough.govt.nz



7. Appendix D – Stream Crossing

The table below shows the stream crossing sites in Marlborough from the first survey to the 2016/2017 dairy season. On the initial survey Council categorised the crossings into high and low priorities. The crossings sites were prioritised by frequency of use, number of cows, size and type of waterway and whether the waterway was permanent or ephemeral.

Stream Crossings in Marlborough

Stream Crossings (SC) at First Stream Crossings Survey 2002 to 2007				
	Number of Farms with SC	Number of High Priority SC	Number of Low Priority SC	Total Crossings
Rai Valley	27	43	69	112
Pelorus	12	12	25	37
Tuamarina	9	15	29	44
Linkwater	7	12	5	17
Havelock	7	9	5	14
Wider Marlborough	9	2	3	5
Total	71	93	136	229
Stream Crossings (SC) at 2013/14 Dairy Season				
	Farms with SC	High Priority SC	Low Priority SC	Total
Rai Valley	6	1	20	21
Pelorus	2	0	3	3
Tuamarina	4	0	11	11
Linkwater	3	1	2	3
Havelock	1	0	2	2
Wider Marlborough	2	2	7	9
Total	18	4	45	49
Stream Crossings (SC) at 2014/15 Dairy Season				
	Farms with SC	High Priority SC	Low Priority SC	Total
Rai Valley	5	1	16	17
Pelorus	1	0	2	2
Tuamarina	4	0	11	11
Linkwater	0	0	0	0
Havelock	1	0	1	1
Wider Marlborough	2	1	2	3
Total	18	2	32	34

Stream Crossings (SC) at 2015/16 Dairy Season				
	Farms with SC	High Priority SC	Low Priority SC	Total
Rai Valley	3	0	13	13
Pelorus	1	0	2	2
Tuamarina	2	0	3	3
Linkwater	0	0	0	0
Havelock	1	0	1	1
Wider Marlborough	1	0	2	2
Total	8	0	21	21
Stream Crossings (SC) at 2016/17 Dairy Season				
	Farms with SC	High Priority SC	Low Priority SC	Total
Rai Valley	3	0	13	13
Pelorus	1	0	2	2
Tuamarina	2	0	3	3
Linkwater	0	0	0	0
Havelock	1	0	1	1
Wider Marlborough	1	0	2	2
Total	8	0	21	21