



## STAFF REPORT

**TO:** Environment & Planning Committee

**FROM:** Kat Bunting, Compliance Officer

**REFERENCE:** C653

**SUBJECT:** **ANNUAL DAIRY EFFLUENT DISCHARGE COMPLIANCE MONITORING REPORT EP07/08/01** - Report prepared for 1 August 2007 Meeting

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### EXECUTIVE SUMMARY

This report presents the compliance results from the 2006/7 farm dairy survey, in particular compliance with respect to Resource Consent conditions for the discharge of treated dairy effluent to water, and the discharge of dairy effluent to land as a Permitted Activity under the Tasman Resource Management Plan (TRMP). Also presented are Tasman's current statistics with respect to the national targets of the Clean Stream Accord.

In the 2006/7 season a total of 150 dairy sheds had active discharges in the Tasman District. Of those 130 farm dairies operated as Permitted Activities and the remaining 20 held Resource Consents to discharge treated effluent to water.

All farm dairies were inspected for compliance against the 10 conditions that comprise Rule 36.1.3 of the TRMP or their respective consent conditions. The results of this initial survey were:

- 80% - Full Compliance.
- 16% - Non-Compliance/minor adverse effect.
- 3% - Non-Compliance/moderate adverse effect.
- 1% - Non-Compliance/significant and immediate adverse effect.

Due to the high level of compliance found this season, very little formal enforcement action was required to be taken by Council's Compliance Section in order to gain compliance. Following the small amount of enforcement action that was taken the compliance results at the end of the season were:

- 86% - Full Compliance.
- 13% - Non-Compliance/minor adverse effect.
- 1% - Non-Compliance/moderate adverse effect.
- 0% - Non Compliance/significant and immediate adverse effect.

The 2006/7 season has proven to be a very positive one with respect to compliance. This is largely the result of the commitment of all farm owners and their staff to complete the works that were identified on their farm during the 2005/6 survey in order to fully comply. When these results are compared to that of the previous season, full compliance has increased from 57% to 86% and non-compliance across all grades has decreased from 42% to 14%. Of the non-compliance still remaining at the end of this season, 95% relates

to a failure to meet the requirement to provide a contingency plan, or having a nitrogen loading rate greater than 200kg/ha/yr. All farms with this form of non-compliance have a deadline of the start of next season to have their contingency plans in place or provide sufficient land area in which to apply effluent including a nutrient budget completed to show that it is appropriately sized. Compliance inspections of each of the 20 farms concerned will be completed early in the 2007/2008 season.

Tasman District currently has 143 farms that supply Fonterra and are therefore subject to the national targets of the Clean Streams Accord. The 2006/7 season saw a large step forward by most farms in meeting the Accord targets. At the end of the season, Tasman Accord statistics were:

- 90% of streams have stock excluded from them.
- 100% of estuaries and lake have stock excluded from them.
- 88% of regular crossings have bridges or culverts
- 93% of farms have a nutrient budget.
- 85% of farms fully comply with their consent conditions or regional rules.

Heading into the new dairy season Tasman District has a very good rate of compliance with respect to farm dairy effluent management, and is very close to meeting all of the set targets. Unlike last season there are no issues of non-compliance that stand out as being common issues of concern. Future compliance monitoring will focus on maintaining this high rate of compliance, seeking further improvements where necessary and progressing towards the five national targets of the Clean Stream Accord.

## **1. INTRODUCTION**

### **1.1 Purpose**

The purpose of this report is two fold. Firstly it is to present results of compliance for the 2006/7 dairy season with respect to compliance of those farm dairies that hold Resource Consent to discharge treated dairy effluent to water, and also compliance with respect to those farms that operate under the Permitted Activity Rule 36.1.3 of the Tasman Resource Management Plan (TRMP) – Discharge of Dairy Effluent to Land. Secondly this report presents an up-date of where Tasman District lies with respect to the five national targets as set out in the Clean Streams Accord (the Accord). This data will indicate the progress that Tasman farmers have made since the initial survey undertaken during the 2005/6 season and show how far away the district, as a whole, is to meeting the various Accord targets.

The results presented in this report come from a comprehensive survey of all 150 farm dairies in Tasman District that operated during the 2006/7 season. The survey specifically looked at the collection, containment, and disposal of effluent from the farm dairy and general farm management practices.

No sampling of waterways or soils was undertaken as part of this study, only the point of discharge from the pond systems (as required by the conditions of consent) was sampled, and this report does not assess effects of water quality, amenity, or aquatic ecology.

## **1.2 Structure of Report**

The remainder of this report is split into three main sections. The first, Section 2, will discuss how the annual farm dairy survey is conducted including the survey process itself and enforcement procedures initiated by Council's Compliance section.

Section 3 provides a discussion with respect to compliance with Rule 36.1.3 of the TRMP, Resource Consent Conditions, and Section 15(1) of the RMA 1991. Common issues of non-compliance identified from the 2005/6 season's survey are discussed in Part 3.1. Initial results from this season's survey, prior to any enforcement action being initiated together with a comparison of the initial survey results between the 2005/6 and 2006/7 seasons are presented in Part 3.2. Current compliance rates are presented in Part 3.3 together with a comparison of end of season compliance rates for the 2005/6 and 2006/7 seasons.

Section 4 provides a discussion on Tasman District's progress towards meeting the five national targets of the Clean Streams Accord, making comparisons between present statistics for bridging, fencing, compliance, and nutrient management and statistics from last season's baseline study.

An accurate record of costs involved in the monitoring of each farm dairy that operates in Tasman District has been kept during the 2006/2007 season. These costs are discussed in Section 5.

Section 6 provides an overall summary of compliance for this season and a summary of Tasman District's statistics relating to the Clean Streams Accord.

A discussion of 'where to from here' is presented in Section 7 where specific goals and targeted outcomes will be outlined for the upcoming 2007/8 season. The report concludes with some recommendations in Section 8.

## **2. THE FARM DAIRY SURVEY**

### **2.1 The Survey Process**

The survey process was identical to that of the 2005/6 survey. It is not intended to detail that survey method in this report and the reader is referred to staff report EP06/05/18 for the methodology including the three 'sub-regions' specified in the report.

### **2.2 Enforcement Procedures**

The following three methods of enforcement action were employed by Council's Compliance Section to address matters of non-compliance arising from farm inspections. These responses were scaled on the significance of the actual or potential adverse effect(s) found. The methods were:

- The issuing of 'Farm Management Plans' (FMPs).
- Directives under Abatement Notices issued pursuant to Section 332 of the Resource Management Act.
- Infringement Fines issued under Section 343 of the Resource Management Act.

FMPs are a written directive in the form of a Memorandum of Understanding between the farmer and Compliance where minor non-compliance was found and the actual or potential effect on the environment was also no more than minor. It was made clear to each farmer who received a FMP that Council's Compliance Section will formalise any works that failed to be completed by the due dates in a formal Abatement Notice.

As a result of the positive and proactive approach taken by all farmers to the FMP process no additional enforcement action was necessary, all farmers being more than willing to work with Council in order to comply with conditions. To help facilitate this process Compliance made regular contact with the farmers concerned in order to keep up-to-date on their progress, provide feedback and offer assistance if and when required.

On the farms where inspections revealed moderate to severe levels of non-compliance or more than minor adverse effect on the receiving environment FMPs were still entered into however the process was formalised through an Abatement Notice prescribed under Section 332 of the Resource Management Act. This procedure recognised the level of non compliance that existed on site and/or the actual or potential adverse effect that existed as a result. By issuing a notice subject farms were bound to a clear and enforceable timeframe in which to undertake remedial work. An Abatement Notice was also used when non-compliance had been previously recorded and non compliance still existed in one form or another.

Finally, in circumstances where the non-compliance resulted in a significant and immediate adverse effect and/or was the result of continuing non-compliance noted from previous inspections an Infringement Fine (an instant fine of \$750) accompanied the Abatement Notice.

### 3. COMPLIANCE

For the purpose of this report, all farms once assessed were placed into one of four categories that described their level of compliance. These categories are:

- **Full Compliance:** All Resource Consent conditions or all sections of Rule 36.1.3 of the TRMP were complied with.
- **Minor Non-compliance:** technical non-compliance with respect to Resource Consent conditions or Rule 36.1.3 of the TRMP, not resulting in any immediate adverse effect on the environment.
- **Moderate Non-compliance:** more than one technical non-compliance, and/or non-compliance with respect to Resource Consent conditions or Rule 36.1.3 of the TRMP resulting in medium to long-term adverse effects on the environment.
- **Major Non-compliance:** non-compliance that resulted in a significant and immediate adverse effect on the environment, for example, unauthorised direct discharge of effluent to water.

These compliance terms will be referred to throughout the remainder of this report.

### **3.1 An up-date on Issues of compliance Identified Last Season**

#### **3.1.1 Permitted Activities**

Three common issues of non-compliance with respect to Rule 36.1.3 of the TRMP were established from last season's farm survey. Firstly, Section C of Rule 36.1.3 of the TRMP requires that contingency measures be in place to avoid discharges to water in the event of system failure. In order to fully comply with Section C there must either be an alternative means of disposing the wash-water and effluent onto the irrigable area, and/or provision for storage in the event of system failure. The main finding of the 2005/6 farm survey was that compliance with Section C was particularly poor with approximately one in every three farms not having an adequate contingency plan. This lack of a plan contributed to 95% of reported non-compliance in Tasman District last season, and highlighted a major issue required to be addressed during this seasons compliance monitoring programme. In order to achieve better compliance with the rule the Compliance section undertook an education programme during the 2005/6 season where they worked one on one with each farm owner who did not have a plan in place. Each farmer was made aware that a plan needed to be in place at the time of farm inspection the following season (2006/7).

Secondly, Section F of Rule 36.1.3 of the TRMP requires that the nitrogen loading rate be less than 200kgN/ha/yr when considering effluent application by itself or in combination with any other applied fertiliser. The farm owners concerned were required to have a Nutrient Budget completed for their farm to determine an appropriately sized effluent disposal area in order to meet the 200kgN/ha/yr rule. The nutrient budgets were to be completed and made available for inspection during this season's survey.

Finally, Section B of Rule 36.1.3 of the TRMP requires that there be no discharge or run-off to any water or riverbed. Inspections had revealed overflow drains/pipes from milking pits and effluent collection sumps being directed to a stream or farm ditch on a number of farms. These unauthorised discharges were required to be remedied by the end of the 2005/6 season.

#### **3.1.2 Resource Consent Conditions**

With respect to those farms that hold a Discharge Permit that authorises the discharge of treated effluent to water, three common issues of non compliance were identified during the 2005/2006 season, and were addressed during the milking season or winter period that followed.

Firstly, many of the district's oxidation pond systems were undersized with respect to herd numbers. All but two farm owners in this situation modified their effluent system to be of appropriate size during last season. The remaining two presently face enforcement action in the form of an Abatement Notice and have until the start of the 2007/8 season to rectify the situation.

Secondly, all discharge permits have a condition of consent that requires that the pond system be maintained so that it *"operates efficiently and effectively at all times"*.

This is to include regular desludging of the anaerobic pond, with some permits having a requirement to undertake desludging each year. Last season's compliance round established that regular desludging to remove surface crusting and the bottom sludge layer from the anaerobic pond is not common practice, even though it is a condition of consent. All farms identified with this particular non-compliance had desludged their ponds before the start of the 2006/7 milk season and have desludging organised for the 2007 winter.

Finally, all discharge permits have a condition of consent that requires that all clean stormwater generated from the farm dairy yard and/or roof areas be diverted away from the pond system when these areas are not in use. Last season's survey found that 52% of consent holders did not have a stormwater diversion system. Today, each farm concerned has had a system installed and commissioned.

## **3.2 2006/7 Survey Results and Enforcement.**

### **3.2.1 Initial results**

Compliance with respect to an individual's consent conditions, Rule 36.1.3 of the TRMP and Section 15(1)(b) of the RMA 1991 as assessed from the initial farm inspection is presented in Figure 1. At the first inspection 80% (119) of all farm dairies fully complied with Section 15(1)(b) of the RMA 1991, all sections Rule 36.1.3 of the TRMP or consent conditions. This was attributed to works completed by farmers as a result of enforcement procedures taken last season in response to non compliance.

16% (25) of farms presented non-compliance which caused a minor adverse effect on the environment. Such non-compliance included:

- The final treated effluent exceeded the quality parameters (BOD<sub>5</sub> and TSS) by less than 20% of the respective consent limit.
- Not having an adequate contingency plan in place to avoid discharges to water.
- Having a nitrogen loading rate greater than 200kgN/ha/yr.

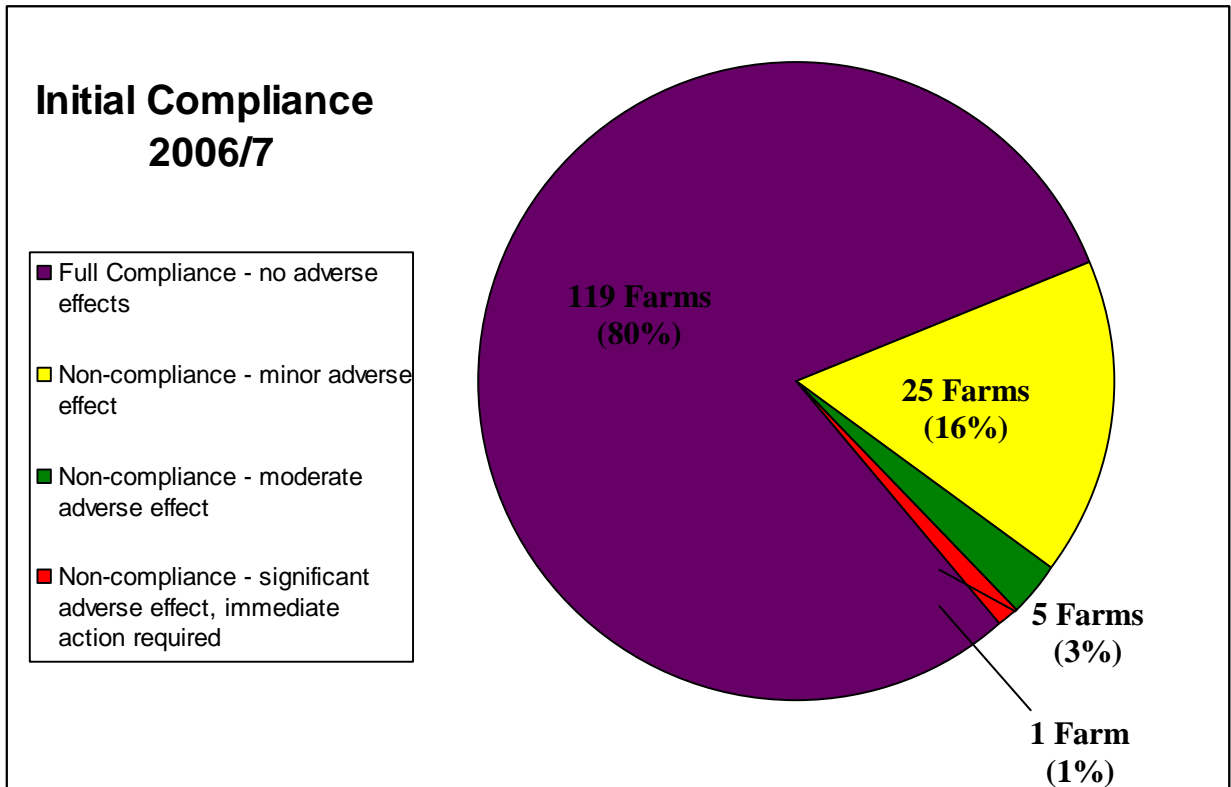
3% (5) of the farm dairies initially presented non-compliance which resulted in a moderate adverse effect on the environment. Such non-compliance included:

- The final treated effluent exceeding the quality parameters (BOD<sub>5</sub> and TSS) by between 21% and 100% of the respective consent limit.
- Failure to provide an appropriately sized oxidation pond system to adequately treat effluent from the present herd numbers.
- Not complying with the requirement(s) of an abatement notice.

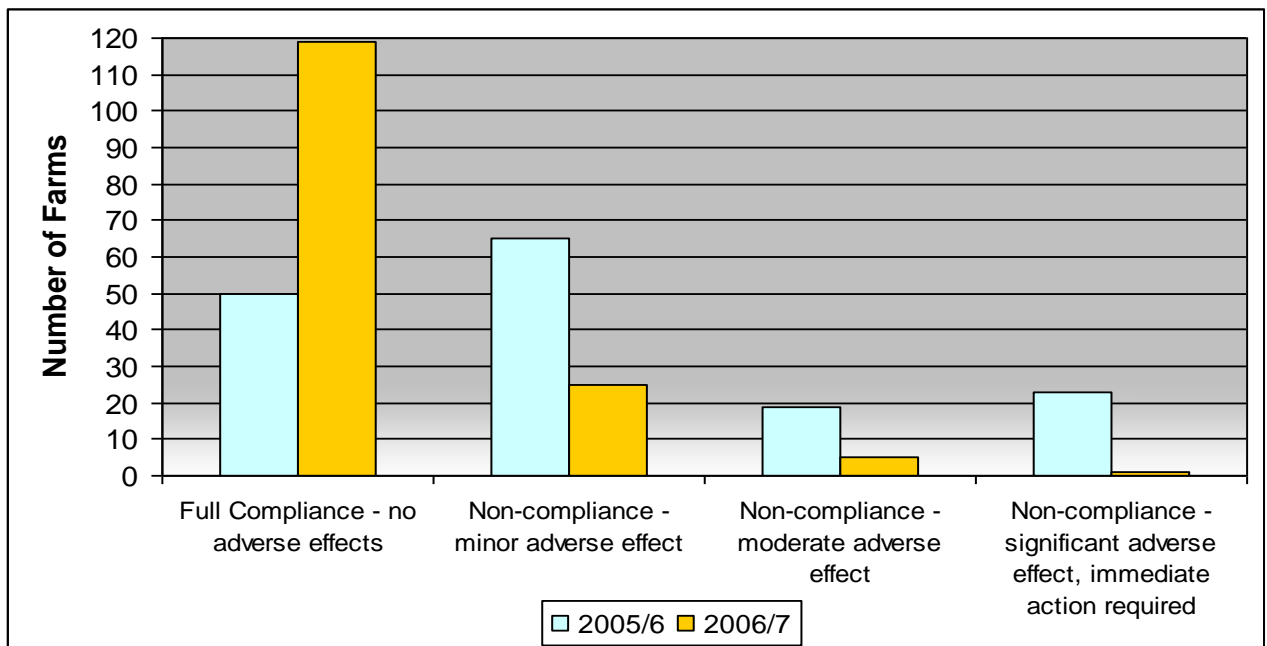
1% one farm initially presented non-compliance that resulted in a significant and immediate adverse effect on the environment. This non-compliance involved the direct discharge of raw effluent from the farm dairy to water.

When compared to the initial results of the 2005/6 season this season's initial compliance rates reveal a vast improvement. This is largely the result of the commitment of all farm owners and their staff to complete the works that were identified on their farm during the 2005/6 survey. Figure 2 shows a comparison of the initial compliance rates of the 2005/6 and this survey. From Figure 2 it can be

seen that full compliance has more than doubled, and minor non-compliance decreased from 65 to 25 farms. Moderate non-compliance decreased from 19 to five farms, and serious non-compliance decreased from 23 to one farm.



**Figure 1:** Compliance with respect to Rule 36.1.3 of the TRMP, resource consent conditions, and Section 15(1) of the RMA 1991 once an initial assessment of all farm dairies had been completed and prior to any enforcement action.



**Figure 2:** Comparison of compliance with respect to Rule 36.1.3 of the TRMP, resource consent conditions, and Section 15(1) of the RMA 1991 once an initial assessment of all farm dairies had been completed and prior to any enforcement action for the 2005/6 and 2006/7 seasons.

### **3.2.2 Enforcement Action**

Three modes of enforcement action were employed to address the non-compliance that arose from the initial farm inspections. These responses were largely determined on the level of non-compliance detected and the resulting adverse effect from the activity as a result of that non-compliance.

#### **Farm Management Plans (FMPs)**

Twenty FMPs were issued during the 2006/7 season. FMPs were issued in circumstances where the environmental effects were minor. Common issues that these FMPs addressed were:

- To install an appropriate contingency plan.
- To complete a nutrient budget to determine an appropriately sized effluent disposal area in order to comply with the 200kgN/ha/yr rule.

#### **Abatement Notices**

A total of four Abatement Notices were issued following the initial compliance inspections. Notices were issued in circumstances where the environmental effects were moderate or significant, or where past non compliance was again evident. Common issues that Abatement Notices addressed were:

- Discharge onto land in circumstances that resulted in severe ponding and in a way where it may have entered water, while also creating an objectionable odour beyond the property boundary.
- No contingency plan, severe ponding, and exceeding the maximum nitrogen rate by more than 200%.
- Having the washdown from the milking pit directed to a farm drain, an overflow mechanism from the collection sump directed to the same drain, and no contingency plan.

Today three of the four notices have been formally cancelled under section 325(A) of the RMA as the required works have been completed. The fourth has a deadline to complete required works by the start of the 2007/8 season.

#### **Infringement Fines**

Three infringement fines were issued during the course of this survey. Two of these fines were issued to one farm, with one fine for failing to comply with an Abatement Notice issued the previous season, and a second for the indirect discharge of effluent to water. The third fine issued this season was the result of run-off from sludge removed from a holding pond entering a water-way and causing a significant effect downstream in the water way concerned.

#### **Enforcement Orders**

At the start of this season an Interim Enforcement Order served last season was made a Final Enforcement Order by the Courts. This will remain in place until the Court is satisfied that the farm owner concerned can and will operate the farm dairy in accordance with the provisions of the RMA 1991, and TRMP.



## **Prosecution**

One prosecution before the Environment Court was initiated during the year. This was the result of the direct and continuous discharge of effluent to a waterway which had a significant adverse effect on the downstream environment. The farm owner concerned pleaded guilty to this offence and was subsequently fined \$13,500 with additional court costs. This was the first prosecution of a dairy farmer for any offence within the Tasman District

### **3.2.3 Compliance Today**

Compliance with respect to the RMA, Rule 36.1.3 of the TRMP, and Resource Consent conditions subsequent to all enforcement action being taken over the season is shown in Figure 3. This data relates to the level of compliance once all follow-up inspections post Abatement Notices and Farm Management Plans had been completed, and reflects the level of compliance that currently exists heading into the new season. From Figure 3 it can be seen that of the 150 farm dairies that operate in Tasman District, 128 farms (86%) now fully comply with Section 15(1)(b) of the RMA, and all sections of Rule 36.1.3 or resource consent conditions.

Non-compliance which may cause a minor adverse effect on the environment still exists at 20 farm dairies (13%). Such non-compliance relates entirely to the farm dairies concerned not having an adequate contingency plan to avoid potential discharges to water in the event of system failure (Rule 36.1.3(c)), or having a nitrogen loading rate greater than 200kgN/ha/yr (Rule 36.1.3 (f)). All 20 farms have a deadline of the start of next season to have their contingency plans in place or have the land area to which effluent is applied increased including nutrient budgets completed to show that it is appropriately sized. Compliance inspections of each of the 20 farms will be completed early in the 2007/8 season.

Two farm dairies (1%) still present non-compliance that may result in a moderate adverse effect on the environment. This non-compliance relates to the potential direct discharge of effluent from the farm dairy (sump or yard and/or milking pit) directly to water or onto land in circumstances where it may enter water. One farm has been served with an Abatement Notice and Infringement Fine and industry representatives are working closely with the farmer to remedy the problems. The other farm has a long history of non-compliance and offending both in Tasman District and in another region and continues to do so. This non-compliance is presently being dealt with through the Environment Court under the direction of an Enforcement Order. Frequent monitoring of this farm continues and compliance levels reported to the Courts.

At the end of the season no farms in Tasman District present non-compliance that has a significant and immediate adverse effect on the environment.

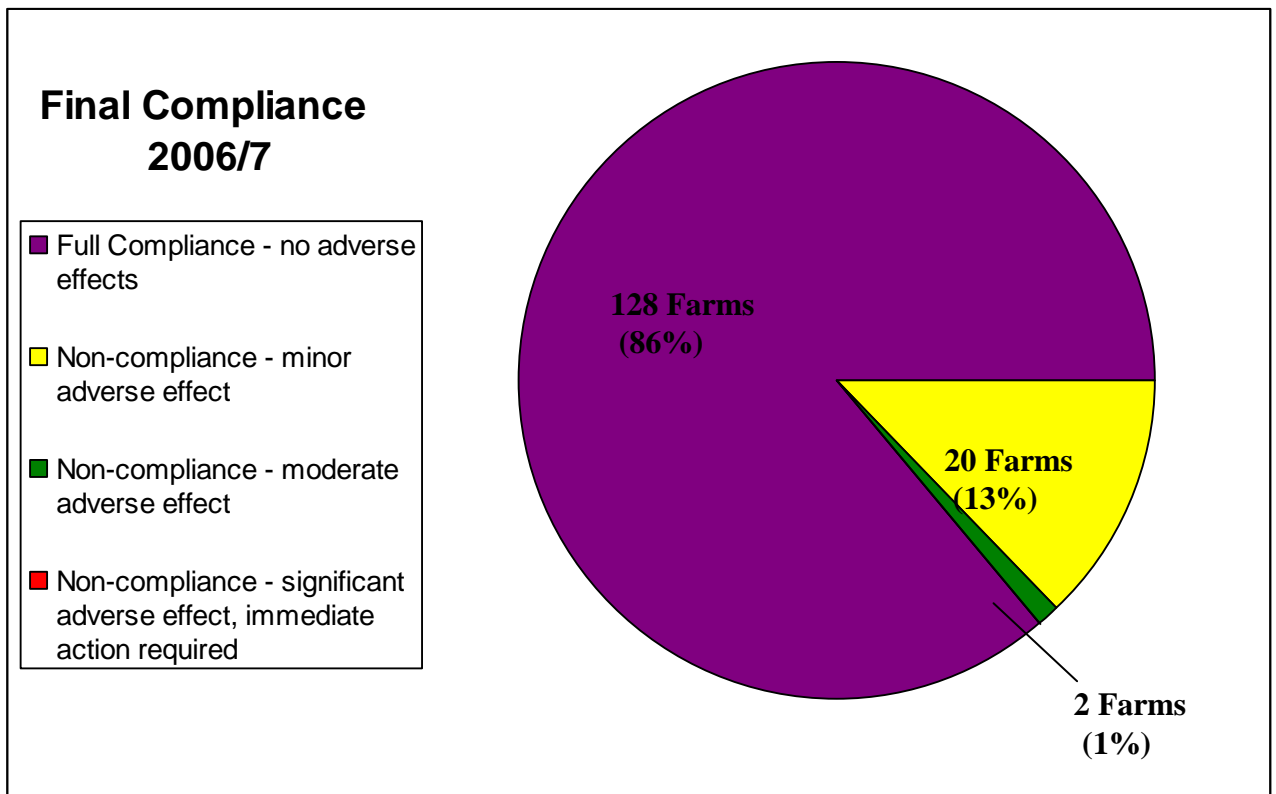


Figure 3: Current compliance statistics with respect to Rule 36.1.3 of the TRMP, resource consent conditions, and Section 15(1) of the RMA 1991.

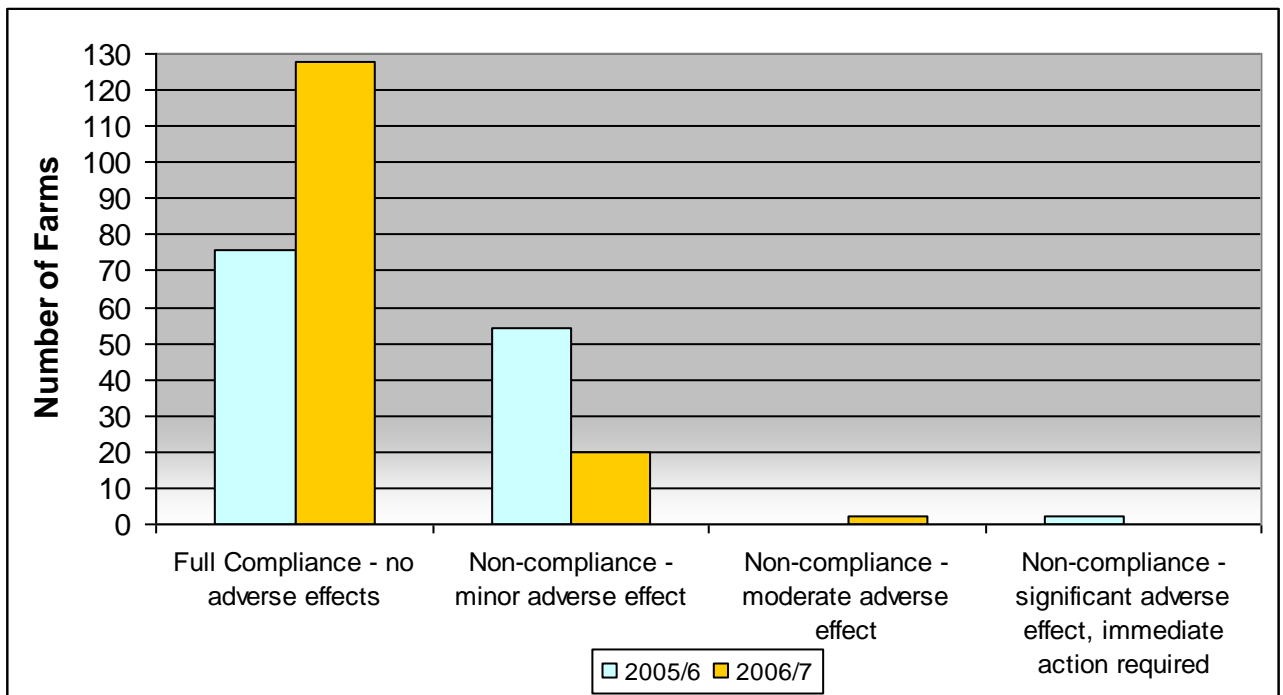


Figure 4: Comparison of compliance with respect to Rule 36.1.3 of the TRMP, resource consent conditions, and Section 15(1) of the RMA 1991 following any enforcement action for the 2005/6 and 2006/7 seasons.

Figure 4 shows a comparison of the final compliance rates of the 2005/6 and this survey and shows a large improvement between the two seasons. Again, this can be largely attributed to the willingness and commitment of Tasman dairy farmers to comply with the rules. From Figure 4 it can be seen that the number of fully compliant farms in Tasman has increased by 40% from 78 to 128 farms. Those farms that still present minor non-compliance decreased from 54 to 20, and unlike last season Tasman District no longer has any farms that present significant non-compliance.

#### 4. CLEAN STREAMS ACCORD NATIONAL TARGETS

There are five separate elements to the Accord. In broad terms these are:

- that dairy cattle be excluded from larger streams
- that regular dairy crossings be bridged or culverted
- that all dairy farmers comply with resource consent or permitted activity standards,
- that all dairy farmers carry out nutrient budgeting,
- and that all regionally significant wetlands on dairy farms be fenced out.

Each of the five priorities is discussed in detail below. The statistics presented below relate only to the 143 farm dairies in Tasman that supply Fonterra. The remaining seven farms supply Westland Milk Products and are therefore not subject to the Accord targets.

##### 4.1 Preventing Stock Access to Waterways

###### **Accord Target:**

**Dairy cattle are excluded from 50% of streams and rivers by 2007, 90% by 2012.  
Dairy cattle are excluded from 100% of estuaries and lakes by 2007.**

In most cases, fencing is the only practical method of excluding stock access to waterbodies. However, there may be circumstances where fencing is not required due to natural barriers, such as dense vegetation and steep river and stream banks.

Table 1 compares the 2005/6 season and this season with respect to the total number of Fonterra supply farms together with the number of farms in each zone that has either <50%, 50-89%, or  $\geq$  90% of their streams fenced or some other form of stock exclusion. Presented alongside these three categories for stock exclusion rates is the average percent of streams with stock exclusion in each zone. Also presented at the bottom of Table 1 is the total number of all farms surveyed each season with respect to all three exclusion rates and the total average of all streams with stock exclusion in Tasman District.

When comparing fencing rates from the 2006/7 season to that of the previous season it is clear that a considerable effort was made within the last 12 months to exclude stock from Tasman's waterways, this is particularly so for the Maruia, Matakita, and Bainham/Rockville zones, which were identified last season as areas that lagged well behind the District's average fencing rate and required extra attention from the Accord signatories (Fonterra and TDC) to assist farm owners to meet the Accord targets. Farmers have been made aware of Councils 'River and Stream Management Fund'

which is able to assist farmers with fencing materials. Many have, or are considering applying for funding.

Table 1 shows that the total number of farms with less than 50% of waterways with stock exclusion has decreased from eleven to five, the total number of farms with 50% - 89% exclusion dropped from 50 to 29, and the total number of farms with >90% increased from 88 to 110. The average '**rate of stock exclusion**' for Tasman District has increased from 76 to 90% within the last 12 months. Tasman District as a whole meets both Accord targets, but there are still small areas within the district (Maruia, Murchison Town, Bainham/Rockville, and Motupipi) where work from the Accord signatories will be needed in the immediate future to help farmers meet the Accord targets as individuals.

All estuaries and lakes have 100% stock exclusion and meet the 2007 target.

## 4.2 Stock Crossings

A 'regular stock crossing' is defined under the Accord as a stream that is "deeper than a 'Red Band' (300mm) and 'wider than a stride' (1m), and permanently flowing"... "where stock regularly (more than twice a week) cross a watercourse".

### **Accord Target:**

**50% of regular crossing points have bridges or culverts by 2007, 90% by 2012.**

During the 2005/6 farm survey a total of 244 stock crossings, were identified as being subject to the Accord definition in Tasman District. Of the 244 crossings, 188 (77%) were bridged or culverted and 56 (23%) remained as un-bridged crossings in regular use. Table 2 compares the total number of farms and un-bridged crossings in each zone in Tasman District for both survey periods. The total number of un-bridged crossings present in the 2005/6 and 2006/7 seasons is also presented at the bottom of Table 2. The data displayed in Table 2 clearly shows that farmers have made considerable progress in eliminating the total number of stock crossing on their farms and shows that a further 26 frequently used stock crossings have been eliminated during the 2006/7 season. Ten crossings have been eliminated by the construction of new raceways and twelve culverts and four bridges have been installed. Of the 244 crossings identified during the 2005/6 baseline survey, 214 (88%) are now bridged/culverted or have been retired. Tasman District as a whole meets the 2007 target of 50% of all regular crossing bridged, and is very close to meeting the 2012 target of regular 90% of crossings points having bridges.

It is important to note that most of the crossings that remain un-bridged require a culvert to satisfy the Accord target, not a bridge as such. When Part IV of the TRMP is released it is anticipated that it will be easier for landowners to install culverts under Permitted Activity Rules than it is at present.

**Table 1: Comparison of the 2005/6 and 2006/7 seasons with respect to the percent of streams on Fonterra supply farms in Tasman District that have stock excluded from them**

Sub-Region	Zone	Total No. Fonterra farms		No. farms with <50% streams fenced		No. farms with ≥50% - 89% streams fenced		No. farms with ≥90% streams fenced		Average % of streams fenced	
		2005/2006	2006/2007	2005/2006	2006/2007	2005/2006	2006/2007	2005/2006	2006/2007	2005/2006	2006/2007
Central	Waimea	9	7	0	0	2	1	7	6	92%	92%
	Upper Motueka	17	18	0	0	6	5	11	13	88%	91%
	Moutere	3	2	0	0	1	0	2	2	80%	100%
Golden Bay	Bainham/Rockville	29	29	3	2	10	8	16	19	70%	82%
	Pakawau	7	6	1	0	2	1	4	5	79%	89%
	Puramahoi/Onekaka	13	13	0	0	5	3	8	10	75%	92%
	Motupipi	11	11	2	1	4	2	5	8	75%	85%
	Kotinga/Anatoki	9	9	0	0	3	1	6	8	95%	97%
	Takaka Valley	23	23	2	0	5	1	16	22	76%	98%
Murchison	Owen	3	3	0	0	2	1	1	2	70%	83%
	Matiri Valley	4	4	0	0	1	1	3	3	95%	95%
	Murchison Town	6	5	1	1	2	1	4	4	71%	81%
	Mangles/Tutaki	6	6	0	0	2	3	4	3	85%	90%
	Matakitaki	6	5	1	0	4	1	1	4	68%	95%
	Maruia	2	2	1	1	1	0	0	1	25%	75%
	<b>TOTAL</b>	<b>148</b>	<b>143</b>	<b>11</b>	<b>5</b>	<b>50</b>	<b>29</b>	<b>88</b>	<b>110</b>	<b>76%</b>	<b>90%</b>

**Table 2: Comparison of the 2005/6 and 2006/7 seasons with respect to the number of un-bridged regular stream crossings in Tasman District**

Sub-Region	Zone	Total No. Fonterra farms		No. of unbridged stream crossings	
		2005/2006	2006/2007	2005/2006	2006/2007
Central	Waimea	9	7	1	0
	Upper Motueka	17	18	7	4
	Moutere	3	2	1	0
Golden Bay	Bainham/Rockville	29	29	9	5
	Pakawau	7	6	3	2
	Puramahoi/Onkaka	13	13	7	5
	Motupipi	11	11	3	0
	Kotinga/Anatoki	9	9	6	3
	Takaka Valley	23	23	8	5
Murchison	Owen	3	3	4	3
	Matiri Valley	4	4	1	0
	Murchison Town	6	5	0	0
	Mangles/Tutaki	6	6	0	0
	Matakitaki	6	5	3	0
	Maruia	2	2	3	3
	<b>TOTAL</b>	<b>148</b>	<b>143</b>	<b>56</b>	<b>30</b>

### 4.3 Nutrient Management

#### Accord Target:

**100% of dairy farms to have in place systems to manage nutrient inputs and outputs by 2007.**

A nutrient budget is an annual snapshot of a farm which takes into account the total nutrient inputs and outputs. The information is then used to address any deficiencies or excesses of nutrients in the soil structure. The fertiliser companies that have undertaken the nutrient budgets have all used a product called Overseer, a model developed by AgResearch Limited.

Inputs include: fertiliser, effluent added, atmospheric/clover N, nutrients from irrigation, slow release supply from soil and supplemental feed brought onto the farm.

Outputs include: losses through product leaving the farm, transfer of nutrients to unproductive parts of the farm (for example, laneways and troughs), supplement sold from the farm, atmospheric losses (volatilisation), leaching/run-off, and immobilisation/absorption (where nutrients are converted within the soil to less available forms).

As a result of a nutrient plan, farmers are able to modify their fertiliser plan to promote optimal grass growth and reduce the amount of nutrients lost through leaching to ground and surface waters.

Table 3 compares the total number of Fonterra supply farms in each zone and Tasman District as a whole that had a nutrient budget for the farm during the 2005/6 and 2006/7 seasons. These figures are also expressed as a percentage of farms within each zone and for the district.

Table 3 shows that during the 2005/6 season only 19.6% of Fonterra supply farms in Tasman had a nutrient budget (the remaining 80.4% of farms relied on annual soil tests undertaken by their respective fertiliser supplier to determine any nutrient excesses and deficiencies within their soils). This season has seen a marked improvement with 93% of all farms having a budget by the end of the 2006/7 season. This result reflects the work undertaken by the various fertiliser companies who have completed budgets for each of their clients. The remaining eleven farms that do not have a budget are smaller farms that do not regularly apply fertilisers to the land, and hence did not receive this service.

**Table 4: Comparison of the 2005/6 and 2006/7 seasons with respect to the number of Fonterra supply farms in Tasman District that have a nutrient budget**

		Total No. Fonterra farms		No. and % of Fonterra farms with nutrient budgets	
Sub-Region	Zone	2005/2006	2006/2007	2005/2006	2006/2007
Central	Waimea	9	7	1 (11%)	5 (71%)
	Upper Motueka	17	18	4 (24%)	16 (89%)
	Moutere	3	2	0 (0%)	2 (100%)
Golden Bay	Bainham/Rockville	29	29	3 (10%)	28 (97%)
	Pakawau	7	6	0 (0%)	5 (83%)
	Puramahoi/Onekaka	13	13	5 (38%)	13 (100%)
	Motupipi	11	11	3 (26%)	11 (100%)
	Kotinga/Anatoki	9	9	9 (33%)	8 (89%)
	Takaka Valley	23	23	3 (13%)	23 (100%)
	Owen	3	3	1 (33%)	3 (100%)
Murchison	Matiri Valley	4	4	0 (0%)	4 (100%)
	Murchison Town	6	5	0 (0%)	4 (80%)
	Mangles/Tutaki	6	6	0 (0%)	6 (100%)
	Matakitaki	6	5	0 (0%)	2(40%)
	Maruia	2	2	0 (0%)	2 (100%)
	<b>TOTAL</b>	<b>148</b>	<b>143</b>	<b>29 (19.6%)</b>	<b>132 (93%)</b>

### 4.3 Management of Farm Dairy Effluent

**Accord Target:**

**100% of farm dairy effluent discharges to comply with resource consents and regional plans immediately.**

Compliance with respect to Resource Consents and the Tasman Resource Management Plan is discussed in full in Section 3 of this report. Presented below in Table 4 is the number of fully compliant Fonterra supply farms (both Permitted Activities and those with Discharge Permits) in each zone for the 2005/6 and 2006/7 seasons. These figures are also expressed as a percent of all farms in each zone and Tasman District as a whole that were fully compliant at the end of each season. The data presented in Table 4 shows that of the 148 farms that supplied Fonterra during the 2005/6 season, 88 (59%) fully complied with either the Permitted Activity Rules or all of their Resource Consent conditions. This rate of compliance has significantly increased to 121 (85%) of all farms being fully compliant at the end of

this season. This increase in compliance can be contributed to farmers implementing contingency plans (the most common non-compliance identified last season), and those farms operating oxidation pond systems, having them correctly sized with stormwater diversion systems installed.

**Table 4: Comparison of the 2005/6 and 2006/7 seasons with respect to the number of fully complaint Fonterra supply farms in Tasman District.**

Sub-Region	Zone	Total No. Fonterra Farms		No. and % of fully compliant Fonterra farms	
		2005/2006	2006/2007	2005/2006	2006/2007
Central	Waimea	9	7	5 (55%)	6 (86%)
	Upper Motueka	17	18	10 (59%)	16 (89%)
	Moutere	3	2	1 (33%)	2 (100%)
Golden Bay	Bainham/Rockville	29	29	18 (62%)	23 (79%)
	Pakawau	7	6	10 (59%)	6 (100%)
	Puramahoi/Onekaka	13	13	7 (54%)	11 (85%)
	Motupipi	11	11	8 (73%)	10 (91%)
	Kotinga/Anatoki	9	9	7 (78%)	7 (78%)
	Takaka Valley	23	23	11 (48%)	17 (74%)
Murchison	Owen	3	3	3 (100%)	3 (100%)
	Matiri Valley	4	4	1 (25%)	3 (75%)
	Murchison Town	6	5	4 (66%)	5 (100%)
	Mangles/Tutaki	6	6	3 (50%)	5 (83%)
	Matakitaki	6	5	5 (83%)	4 (80%)
	Maruia	2	2	1 (50%)	2 (100%)
	<b>TOTAL</b>	<b>148</b>	<b>143</b>	<b>88 (59%)</b>	<b>121 (85%)</b>

Table 5 provides a further breakdown of compliance rates and compares these compliance rates between the two seasons monitored. Table 5 shows that compliance has improved across the board with not only full compliance increasing, but non-compliance of each degree has decreased.

**Table 5: Comparison of the 2005/6 and 2006/7 seasons with respect to the rate of compliance on Fonterra supply farms in Tasman District.**

% of Fonterra suppliers inspected		Compliance Grade							
		% of Fonterra farms complying fully with consent or permitted activity requirements		% of Fonterra farms with technical non-compliances resulting in a minor adverse effect.		% of Fonterra farms with non-compliances resulting in a moderate adverse effect		% of Fonterra farms with serious non-compliance resulting in a significant and immediate adverse effect	
2005/2006	2006/2007	2005/2006	2006/2007	2005/2006	2006/2007	2005/2006	2006/2007	2005/2006	2006/2007
148 (100%)	143 (100%)	88 (59%)	121 (85%)	43 (29%)	20 (14%)	11 (7%)	2 (1%)	6 (4%)	0 (0%)



Table 6 shows the formal enforcement action taken by Council for the 2005/6 and 2006/7 seasons in order to gain compliance dropped significantly between the two seasons. A total of 17 Abatement Notices were issued during the 2005/6 season, compared to just four this season. The number of infringement fines and court action was similar for each season but continues to make up a very small proportion of enforcement action undertaken in Tasman.

**Table 6: Comparison of the 2005/6 and 2006/7 seasons with respect to enforcement action imitated in Tasman District**

No. of Abatement Notices Issued		No. of Infringement Fines Issued		No. of Prosecutions and/or Court Orders Initiated	
2005/2006	2006/2007	2005/2006	2006/2007	2005/2006	2006/2007
17	4	4	3	1	1

#### 4.4 Wetlands

**Accord Target:**

**50% of regionally significant wetlands to be fenced to prevent stock access by 2009, 90% by 2012.**

The Accord acknowledges that over 90% of lowland wetlands in Tasman District have been drained and that natural water regimes of wetlands need to be protected.

The Council is in the process of further developing the inventory of wetlands from which staff will determine the level of significance (at a regional level) of the wetlands on or adjacent to dairy farms. Until this work is completed the level of compliance with respect to each of the Accord targets cannot be accessed.

#### 5. COSTS

Presently there are no means to recover the costs incurred by Compliance in the monitoring of farm dairies with respect to the Permitted Activity Rules. Typical costs involved in the monitoring of each farm dairy including site visits and administration fall to Council.

##### 5.1 Permitted Activities (non recoverable)

A costs analysis was undertaken at the completion of the 2006/2007 season for the purpose of ascertaining the costs involved in compliance monitoring of those farms operating under permitted activity status. During the 2006/2007 season the average cost of monitoring a fully complaint farm dairy was \$140. These costs are non recoverable and do not take into account the time spent travelling to the properties which would likely double this cost. Table 7 presents a break-down of costs.

**Table 7: Typical costs incurred by a fully compliant farm dairy (non recoverable) and excluding any travelling time.**

<b>DETAILS</b>	<b>HOURS (\$80/hr)</b>	<b>COSTS</b>
Administration (mail out advising farmers of farm inspections)	0.25	\$20
Farm Inspection	0.5	\$40
Administration (filing of correspondence)	0.5	\$40
Miscellaneous (advice given/phone calls/information posted/etc)	0.5	\$40
<b>TOTAL</b>	<b>1.75</b>	<b>\$140</b>

These costs increase further when a farm has issues of non-compliance with an average 1.5 man hours additionally spent on re-inspection. This increase equates to around \$260 for those farms requiring work.

With 130 dairy farms operating as permitted activities and with mixed levels of compliance the non-recoverable cost of operating this program is approximately \$21,320. These total costs are presented in Table 8.

**Table 8: Approximate total non recoverable costs of this survey**

	<b>Number of Farms</b>	<b>Staff Hours</b>	<b>Cost per farm</b>	<b>Total Costs</b>
<b>Fully Compliant</b>	104	182	\$140	\$14560
<b>Non-Compliant</b>	26	84.5	\$260	\$6760
<b>TOTAL</b>	<b>130</b>	<b>266.5</b>	<b>-</b>	<b>\$21320</b>

(NB: statistics of compliance taken from initial survey results)

## 5.2 Resource Consents (recoverable cost)

The annual monitoring fee placed on all farm dairy Discharge Permits is \$300. This fee is set to cover monitoring and associated costs including sample analysis of the final discharge.

A costs analysis was undertaken at the completion of the 2006/2007 season for the purpose of ascertaining the costs involved in compliance monitoring of those farms operating under resource consent. This analysis included comparison of costs between monitoring the older (and now generally expiring consents) against the new generation of discharge consents replacing them. During the 2006/2007 any additional cost incurred in monitoring these consents was recovered under section 36 of the RMA. Table 9 presents a break-down of costs involved in compliance monitoring of farm dairies with the older style Discharge Permits.

**Table 9: Typical costs of monitoring an older consent fully compliant farm dairy**

<b>DETAILS</b>	<b>HOURS (\$80/hr)</b>	<b>COSTS</b>
Administration (mail out advising farmers or farm inspections)	0.25	\$20
Farm Inspection including obtaining samples	1.0	\$80
Sample analysis (BOD <sub>5</sub> and TSS)	N/A	\$80
Administration (summary report to consent holder)	0.5	\$40
Administration (filing of correspondence)	0.5	\$40
Miscellaneous (advice given/phone calls/information posted/etc)	0.5	\$40
	<b>TOTAL</b>	<b>\$300</b>

Presently there is one 'new generation' discharge consent. These new permits have a standard condition of consent that requires a five sample running median each season which carries a laboratory cost of \$485 alone.

**Table 10: Costs of monitoring a new generation fully compliant farm dairy**

<b>DETAILS</b>	<b>HOURS (\$80/hr)</b>	<b>COSTS</b>
Administration (mail out advising farmers or farm inspections)	0.25	\$20
Farm Inspection including obtaining 5 sample running median	3.5	\$280
Sample analysis (BOD <sub>5</sub> and TSS)	N/A	\$485
Administration (summary report to consent holder)	0.5	\$40
Administration (filing of sample results, correspondence, and updating database)	0.5	\$40
Miscellaneous (advice given/phone calls/information posted/etc)	0.5	\$40
	<b>TOTAL</b>	<b>\$905</b>

These new consents are due to replace all existing consents as and when they expire. Three consents are due for renewal early next year with the remaining 11 over the next three years,

As the fees and charges have been set for the year, council is required to use Section 36 (3) to recover outstanding monitoring in the interim however it will be necessary for Council to review the annual plan in the upcoming year to reflect these cost changes. Again these costs do not account for the time spent travelling as per standard council policy.

## 6. CONCLUSION

It will be recalled that the purpose of this report was two fold. Firstly it was to present results of compliance for the 2006/6 dairy season with respect to Section 15(1)(b) of the RMA 1991, Resource Consent conditions, and the Permitted Activity Rule 36.1.3 of the Tasman Resource Management Plan (TRMP) – Discharge of Dairy Effluent to Land. Secondly this report presented an up-date of where Tasman District lies with respect to the five national targets as set out in the Clean Streams Accord (the Accord).

Summarised below are the major findings of this report.

A total of 150 dairy sheds had active discharges in the Tasman District during the 2006/7 season. Of these, 130 farm dairies operated as Permitted Activities and the remaining 20 held Resource Consents to discharge treated effluent to water.

All farm dairies were inspected for compliance against the 10 conditions that comprise Rule 36.1.3 of the TRMP or their respective consent conditions. The results of this initial survey were:

- 80% - Full Compliance.
- 16% - Non-Compliance/minor adverse effect.
- 3% - Non-Compliance/moderate adverse effect.
- 1% - Non-Compliance/significant and immediate adverse effect.

Due to the high level of compliance found this season, very little formal enforcement action was required to be taken by Council's Compliance Section in order to gain compliance. Following the small amount of enforcement action that was taken the compliance results at the end of the season were:

- 86% - Full Compliance.
- 13% - Non-Compliance/minor adverse effect.
- 1% - Non-Compliance/moderate adverse effect.
- 0% - Non Compliance/significant and immediate adverse effect.

Tasman District currently has 143 farms that supply Fonterra and are therefore subject to the national targets of the Clean Streams Accord. The 2006/7 season saw a large step forward by most farms in meeting the Accord targets. At the end of the season, Tasman Accord statistics were:

- 90% of streams have stock excluded from them.
- 100% of estuaries and lake have stock excluded from them.
- 88% of regular crossings have bridges or culverts
- 93% of farms have a nutrient budget.

- 85% of farms compliance with their consent conditions or regional rules.

Heading into the new dairy season Tasman District has a very good rate of compliance with respect to farm dairy effluent management, and is very close to meeting all of the Accord targets. Unlike last season there are no issues of non-compliance that stand out as being common issues of concern. Future compliance monitoring will focus on maintaining this high rate of compliance while seeking further improvements on overall compliance and progression on meeting the five national targets of the Clean Stream Accord.

## **7. WHERE TO FROM HERE?**

The 2006/2007 season has proven to be a very positive one with respect to compliance. Much has been achieved by all farm dairy owners and operators and Tasman District now has its best compliance rate on record. Presently there are 20 farms that have until the start of the 2007/2008 season to complete their required works in order to be fully compliant. A compliance inspection of all 20 farms will be conducted early in the new season.

With respect to oxidation pond systems Council's Compliance Section will continue to work with farmers during the 2007/2008 season to ensure that all pond work effectively and the ponds are desludged during the season. Samples will continue to be taken of the final discharge from these pond systems as required by the conditions of consent to monitor on-going performance of these systems.

Future compliance monitoring will focus on maintaining this high rate of compliance while seeking further improvements on overall compliance and progression on meeting the five national targets of the Clean Stream Accord.

Given the level of compliance and the high cost of running the programme, the monitoring will be spread over two years starting this season with approximately 50% of those farms operating under the permitted activity rule being visited each year. All those operating under consent will still be visited annually as per their consent conditions.

## **8. RECOMMENDATIONS**

From the findings of this report it is recommended that

- The report be received.
- The annual monitoring fee placed on all farm dairy Discharge Permits be reviewed in light of the increased cost of monitoring involved with the new consents.

Kat Bunting  
**Compliance Officer**