



## STAFF REPORT

**TO:** Environment & Planning Subcommittee

**FROM:** Kathryn Bunting, Compliance Officer

**REFERENCE:** C653

**SUBJECT:** **FARM DAIRIES - PERMITTED ACTIVITIES -2004/2005 – REPORT EP05/08/14** – Report prepared for the 24 August 2005 hearing.

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### 1. INTRODUCTION

The purpose of this report is twofold. Firstly it is to present the interim results of compliance for the 2004/2005 dairy season with respect to Permitted Activity Rule 36.1.3 of the Tasman Resource Management Plan (TRMP) – Discharge of Dairy Effluent to Land (Appendix 1). These interim results come from a comprehensive survey of all farm dairies in Golden Bay, Upper Motueka Catchments, and Moutere/Waimea areas in terms of their collection, containment, and disposal of effluent from the farm dairy, and general farm management practices. Those farms located in and around the Murchison area and south to Maruia will be visited during the 2005/2006 season. Results from the latter survey will be combined with those presented in this report to provide a full and comprehensive account of compliance with the permitted activity rules. The full report will be presented to Council and ultimately available to the public as a technical report.

The second purpose of this interim report is to present a ‘snap-shot’ 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 how far away the district, as a whole, is to meeting the various Accord targets and also highlight any issues or regions within Tasman where more work will be necessary to meet these targets.

#### 1.1 Background

Dairy farming is a significant primary industry in Tasman District. It is a major contributor to the regional economy, provides both primary and secondary employment, and helps maintain the district’s network of regional towns.

The district has 160 farm dairies between Puponga, at the base of Farewell Spit to Maruia, located approximately 50 kilometers south of Murchison. The largest concentration of farms is in Golden Bay, particularly within the Takaka Valley and Bainham/Rockville areas.

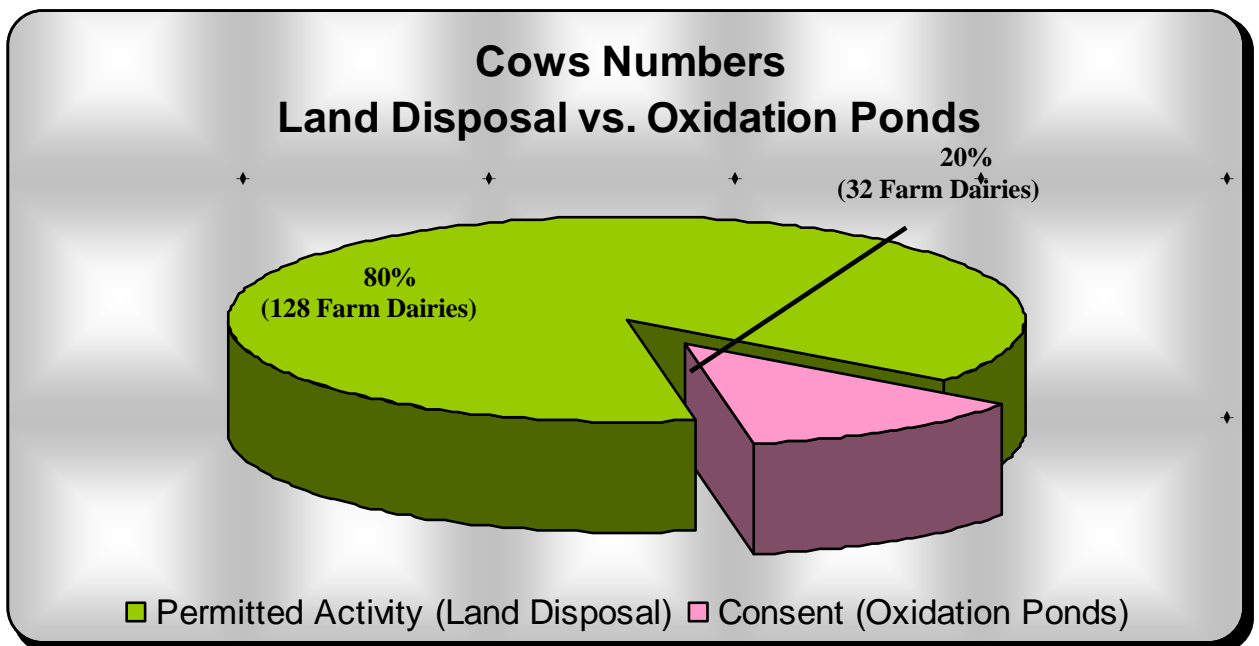
Most farm dairies in Tasman are seasonal milk suppliers, with the herd calving in the spring and milking through to the next autumn. Approximately 5% of farms have winter milk contracts to supply all-year round consumer and market needs.

During the 2003/2004 season there were in the order of 55 000 dairy cows milked in Tasman (Statistics New Zealand. 2003). This two to three hour, generally twice daily concentration of animals in yards and milking areas produces considerable volumes of effluent that requires disposal. While the effluent left on the yard and milking area is a small proportion of the total waste farm stock produce each day, farm dairy discharges can have significant adverse environmental effects on ecosystems within water-ways. These effects include:

- Increased nutrient loadings and thus increasing algal growth that can escalate into algal blooms;
- A rise in ammonia concentrations, which can be toxic to fish species;
- Microbial contamination of waterways rendering them unsuitable for drinking and contact recreation use;
- The reduction of water quality and the smothering of benthic (bottom-dwelling) organisms caused by additional suspended solid loads;
- Inputs of pathogenic bacteria (such as Campylobacter), which pose a significant threat to human and animal health; and
- Loss of amenity values through discolouration of water and odour.

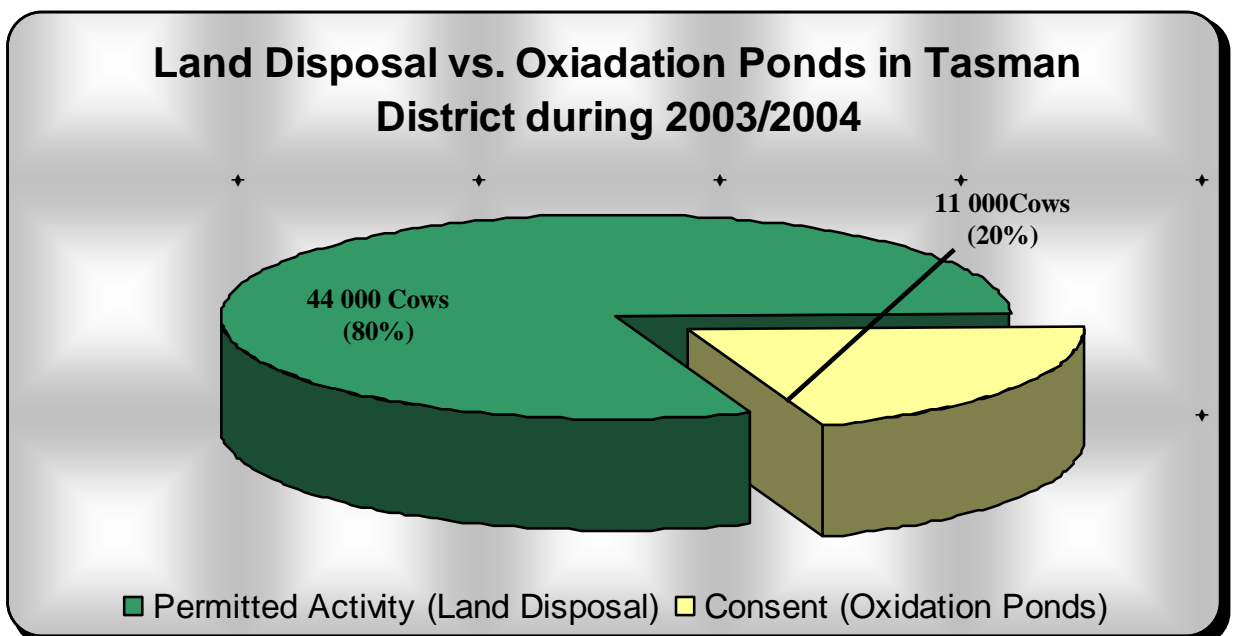
In Tasman District, farm dairy effluent is disposed of as either a land based application and is regarded as a Permitted Activity (i.e. no resource consent from Tasman District Council (TDC) is required), provided that conditions to minimise potential adverse effects on water quality are met (Rule 36.1.3 of the TRMP), or treated effluent is discharged to water. In the later case a resource consent from TDC is required, as there is more potential for adverse effects on water quality.

Figure 1 illustrates the current percentage of farm dairies in Tasman District that use land disposal as a means of disposing of effluent from the farm dairy, against the percentage of farm dairies that have resource consent to discharge treated effluent from oxidation ponds to water. From this graph it is apparent that land disposal is the most common method, making up 80% (128 farms) of all farm dairies in Tasman District, with the remaining 32 farm dairies (20%) operating under resource consent.



**Figure 1: Number of Farms in Tasman District using Land Disposal or Oxidation Ponds for the Disposal of Effluent from the Farm Dairy.**

Figure 2 shows the total number of dairy cows associated with both land disposal and oxidation ponds options. When using the 2003/2004 dairy cow population figures presented above, it can be seen in Figure 2 that effluent from approximately 44 000 cows (80% of the population) is disposed to land and effluent from 11 000 cows (20% of the population) is treated through oxidation pond systems before being discharged to water.



**Figure 2: Number of Dairy Cows in Tasman District Associated with Land Disposal Systems or Oxidation Ponds**

A typical farm dairy creates 50 litres of washdown (washwater and effluent) per cow per day (Valderholm. DH. 1984, Environment Waikato. 1993, ARWB, 1989). With approximately 55 000 cows being milked in Tasman District during the 2003/2004 season, this equates to approximately 2750m<sup>3</sup> (2 750 000 litres) of washwater that needs to be disposed of in Tasman District every day of the milking season. Using the above figures, approximately 2220m<sup>3</sup> (2 220 000 litres) of washwater is discharged to land each day and approximately 550m<sup>3</sup> (550 000 litres) of washwater enters oxidation pond systems for further treatment and discharge.

## 1.2 Method

A 2004/2005 list of supplier postal addresses was provided by Fonterra. Each farm was then located on the Council's GIS database from which a map consisting of an aerial photograph of each farm dairy and surrounding land and water-ways was produced. This map was later used during the farm inspections, when it was annotated to show the effluent disposal area, and any stream crossings. There were a large number of farms that were not able to be located using the above method, as the postal addresses either related to post boxes or the farm owner resided outside Tasman District. In such cases each farm property was located on the ground by locating the supplier number at the farm gate. Once the farms had been found, a location map like that described above was produced.

In order to manage the project, all farms were divided into three 'sub-regions', these being Golden Bay, Central, and Murchison. These sub-regions were then split into zones that either related to an area or had a common environmental feature such as a river.

Approximately two weeks prior to the first inspection being undertaken, all farm owners were notified by letter that the survey was going to be undertaken. A copy of the Permitted Activity Rules for the disposal of dairy effluent to land (Rule 36.1.3) was also included with this letter. All farm owners were then contacted by telephone closer to the time of the survey to make an appointment to meet onsite.

A survey form (Appendix 2) was developed and each farm was assessed against this form to ensure that a common standard was achieved. An element of each farm dairy inspection was to photograph (as a way of documenting) the washdown system, sump, effluent area, stream crossings, bridges, fencing, and any potential non-compliance. Also photographed were fully compliant farm dairies, both old and new systems and examples of different measures that have been implemented to prevent run-off of effluent from races or yards into water to provide future educational tools.

Once each farm inspection had been completed the information from the survey forms was entered into an Excel spreadsheet from which results were analysed and presented in this report. This information will be transferred into a purpose built database at a later date. Notwithstanding the type of database decided on, its end purpose will be to capture information including photographs of compliance of every farm dairy in Tasman District in order to monitor ongoing compliance and environmental issues.

It should be noted that during this survey, serious non-compliances resulting in a significant adverse environmental effect were dealt with immediately through normal enforcement procedures. Any minor environmental issues were noted and will be dealt with once the survey of all farms has been completed so that common issues can be identified and dealt with in a universal way.

### 1.3 Structure of Report

A general description of typical farm size, herd numbers and stocking rates for each of the Golden Bay and Central sub-regions is presented in Part Two of this report.

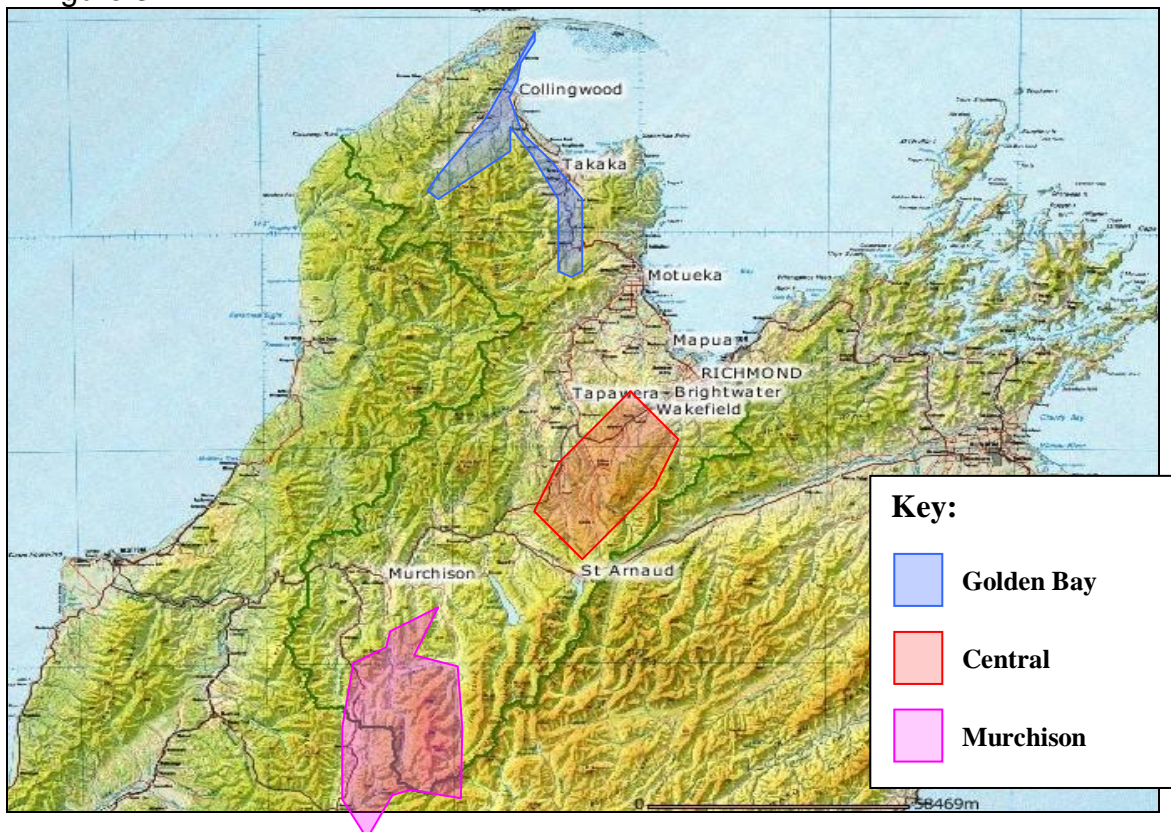
Part three presents a breakdown of compliance with respect to the permitted activity rules as set out in Rule 36.1.3 of the TRMP.

A snap-shot of where Tasman District lies and how far away the district as a whole is to meeting the five national performance targets as set out in the Clean Streams Accord is presented in Part Four. Also identified are regions within Tasman where more work will be necessary to meet these targets.

Part five concludes the report with an overall summary of compliance in the Central and Golden Bay sub-regions. Recommendations from the findings of this interim report are put forward in Part six.

## 2. DESCRIPTION OF THE FARM DAIRY INDUSTRY IN TASMAN

In Tasman District, farm dairies are concentrated in three main areas, referred to as sub-regions for the purpose of this report. These sub-regions are Golden Bay, Central, and Murchison. The location and spatial area of each sub-region is shown in Figure 3.

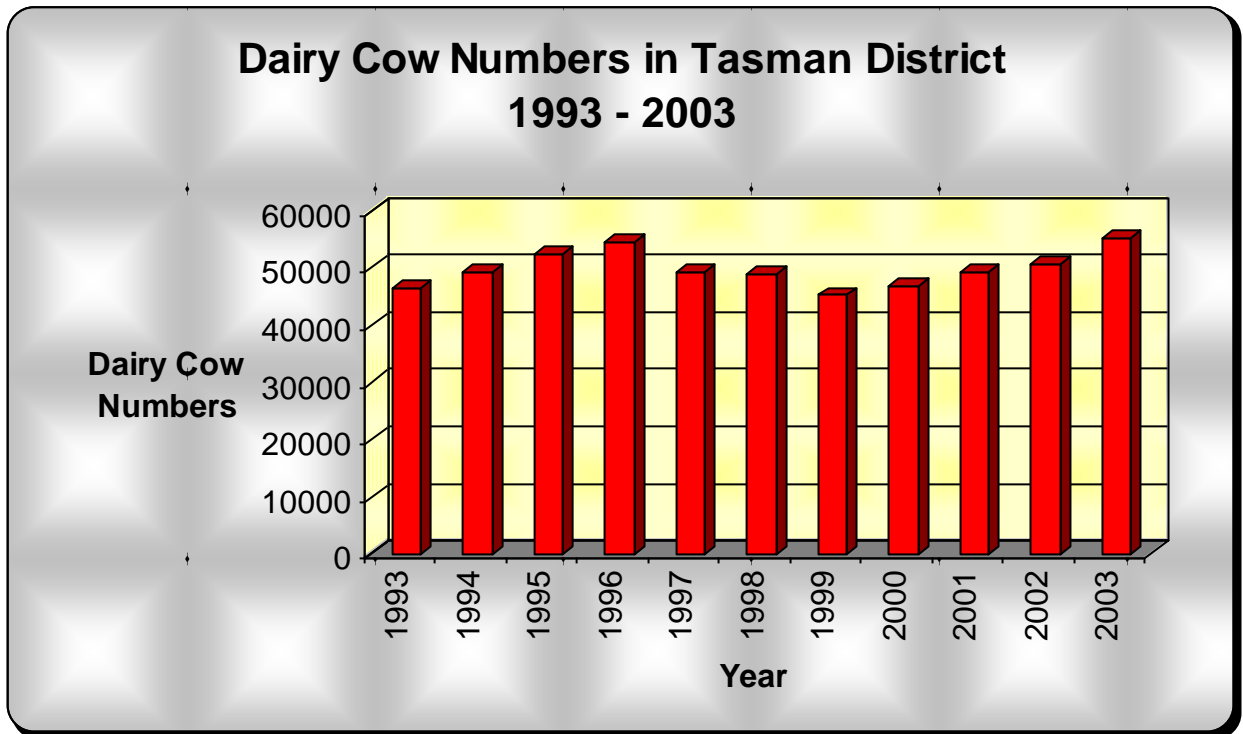


**Figure 3: Map of Tasman District with the three sub-regions overlaid.**

Of the 160 farm dairies (both permitted activities and consented discharges) operating in Tasman District during the 2004/2005 season, 96 (60%) are located in Golden Bay, and the remaining 64 farms are evenly divided between the Central (19%) and Murchison (21%) sub-regions.

**2.1 The Changing face of Dairy Farming in Tasman District**

Dairy farming has a long history in Tasman and remains one of the strongest and most dominant industries in the district.



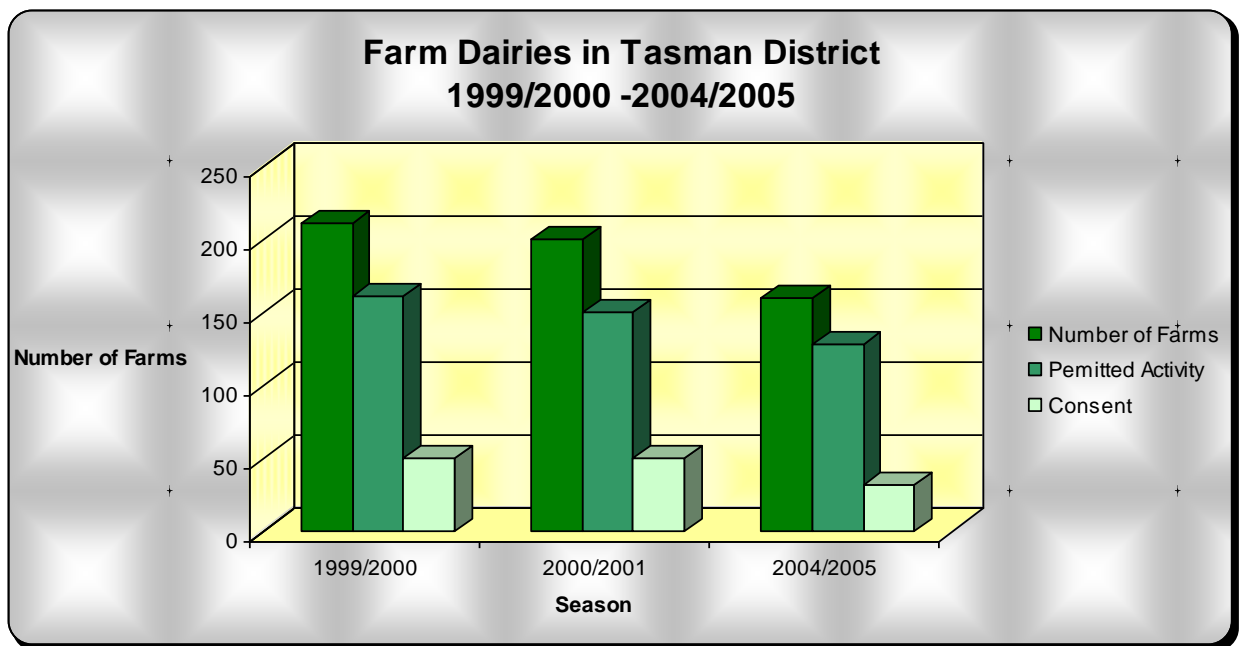
**Figure 4: Number of Dairy Cows Milked Tasman District 1993 – 2003. Source: Statistics New Zealand (2003)**

Figure 4 presents the changing dairy cow population in Tasman District for the ten year period from 1993 to 2003, from which it can be seen that the total population has varied from approximately 45 000 to 55 000 head. From this graph it can also be seen that after the mid 1990s when the population peaked at approximately 54 000 it decreased significantly during the next three years to 1999 to reach a low of 45 000. However, the Tasman herd has since recovered to be similar in number that that milked in the mid 1990s.

Farm numbers from three seasons (1999/2000, 2000/2001, and 2004/2005) are presented in Figure 5. It is interesting to note that although Tasman’s dairy herd was increasing during all three seasons displayed, the number of farms actually decreased from 210 in 1999/2000 to 160 in 2004/2005. This trend mirrors the national trend of increasing herd numbers but an overall decrease in farm numbers, a trend that indicates that the dairy farm industry is clearly growing and becoming more intensive. Between 1994 and 2004, the nation dairy cow herd increased by 34%, while the area of land directly used for dairy farming increase by only 12% (Statistics

New Zealand, 2003). This pattern, at both a national and district scale suggests a trend towards amalgamation of farms and expansions by individual farms.

At a local level many of the small farms in and around the Moutere/Motueka and Brightwater/Wakefield areas have ceased supply in the last five years. The farms concerned have either been bought and incorporated into a neighbouring farm, been converted into orchards, sub-divided into lifestyle blocks, or converted to sheep and/or beef cattle units.



**Figure 5: Changing Farm Numbers in Tasman District 1999/2000 – 2004/2005 (Adapted from Irvine, 2000 and Goldschmidt, 2001)**

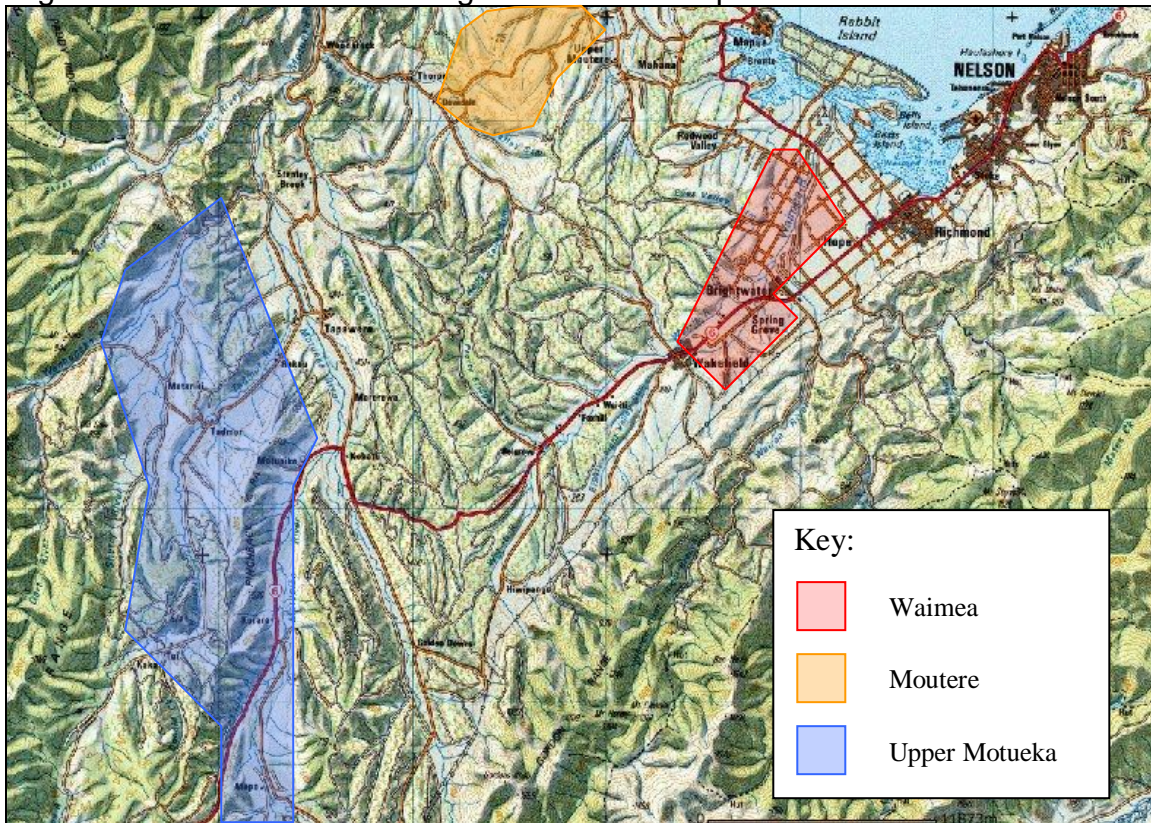
Figure 5 also shows that the number of farm dairies that hold resource consents to discharge treated effluent to water decreased from 50 to 32, and those farms that operate under permitted activity status decreased from 160 to 128 during the same period.

Tasman District has an average stocking rate of 1.7 cows per hectare (Statistics New Zealand, 2003). This stocking rate is marginally less than the national average of 2.0 cows/hectare. However within Tasman District there are areas of intensive dairy farming that have stocking rates in excess of this national average. These trends are presented below.

## 2.2 Central Sub-region

The 'Central sub-region' is made up of three zones that are quite separate from each other in the fact that they are located in isolated valleys or river flats. For the purpose of this report the zones are regarded as belonging to one group as they all lie within the central region of Tasman District. These zones are the Waimea Plains, Upper Motueka Catchment, and Moutere. Combined, these three dairy zones have a total land area of 3650 hectares with 3955 cows milked during the 2004/2005 season.

Figure 6 shows the location and spatial area of all three zones within the Central sub-region referred to in the following section of this report.



**Figure 6: Central sub-region with Waimea, Moutere, and Upper Motueka zones overlaid**

Figure 7 illustrates the number of dairy cows milked during the 2004/2005 season in each of the three zones of the Central sub-region, while Figure 8 shows the average stocking rates of each zone. It is clear from Figure 7 that the Upper Motueka zone with its 17 farm dairies has the greatest population at approximately 5 500 head, with Waimea (ten farms) and Moutere (three farms) having 2 200 and 550 head respectively.

Although the Upper Motueka zone has more than twice the number of dairy cows than that farmed in Waimea, the stocking rate, as shown in Figure 8 is just over half the average stocking rate of the Waimea farms, a rate of 1.6 cows/hectare in Upper Motueka compared with 3.1 cows/hectare in Waimea. This comparatively lower stocking rate is directly related to the large land areas contained within each farm. This is particularly so in the Korere, Matariki, and Wangapeka areas.

Moutere also has a relatively low stocking rate at 1.0 cows/hectare, but in contrast with Upper Motueka this is not a reflection of large land areas involved in each farm, but rather the small number of cows milked on each farm.



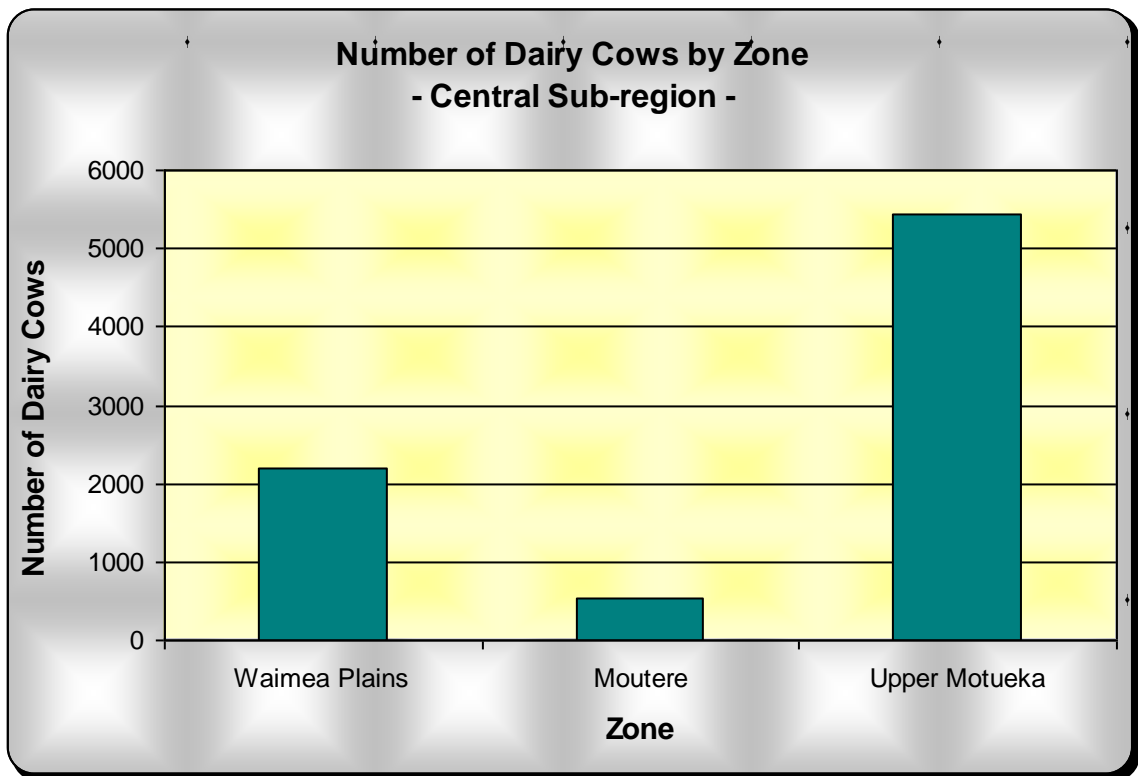


Figure 7: Dairy Cow Numbers for the 2004/2005 season in the Waimea, Moutere, and Upper Motueka, Zones of the Central Sub-region.

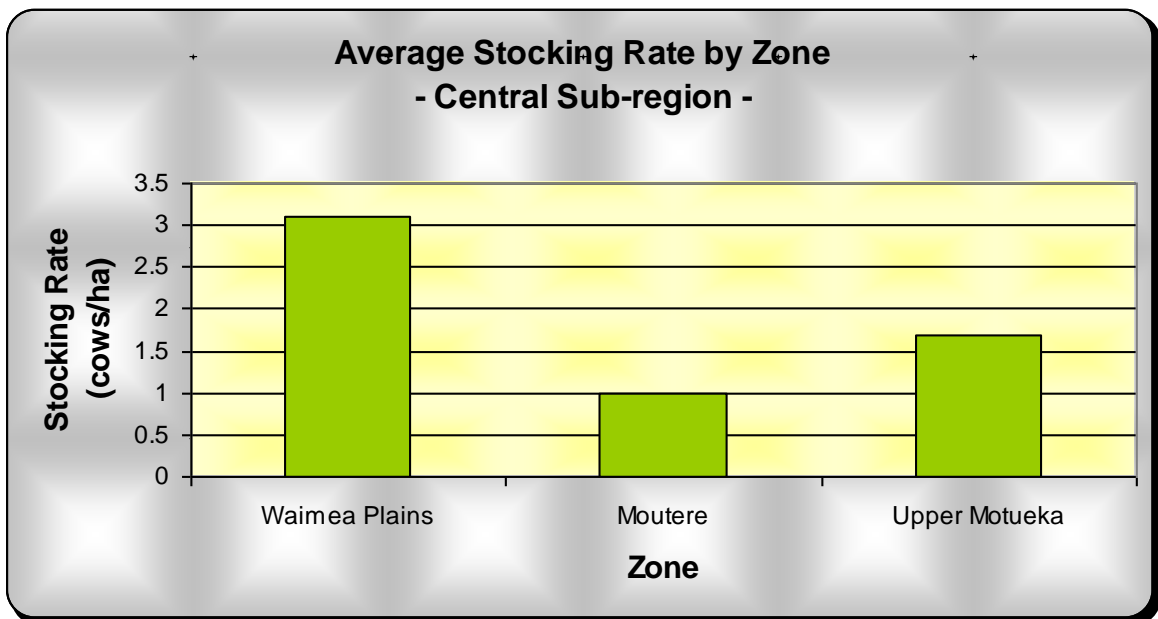
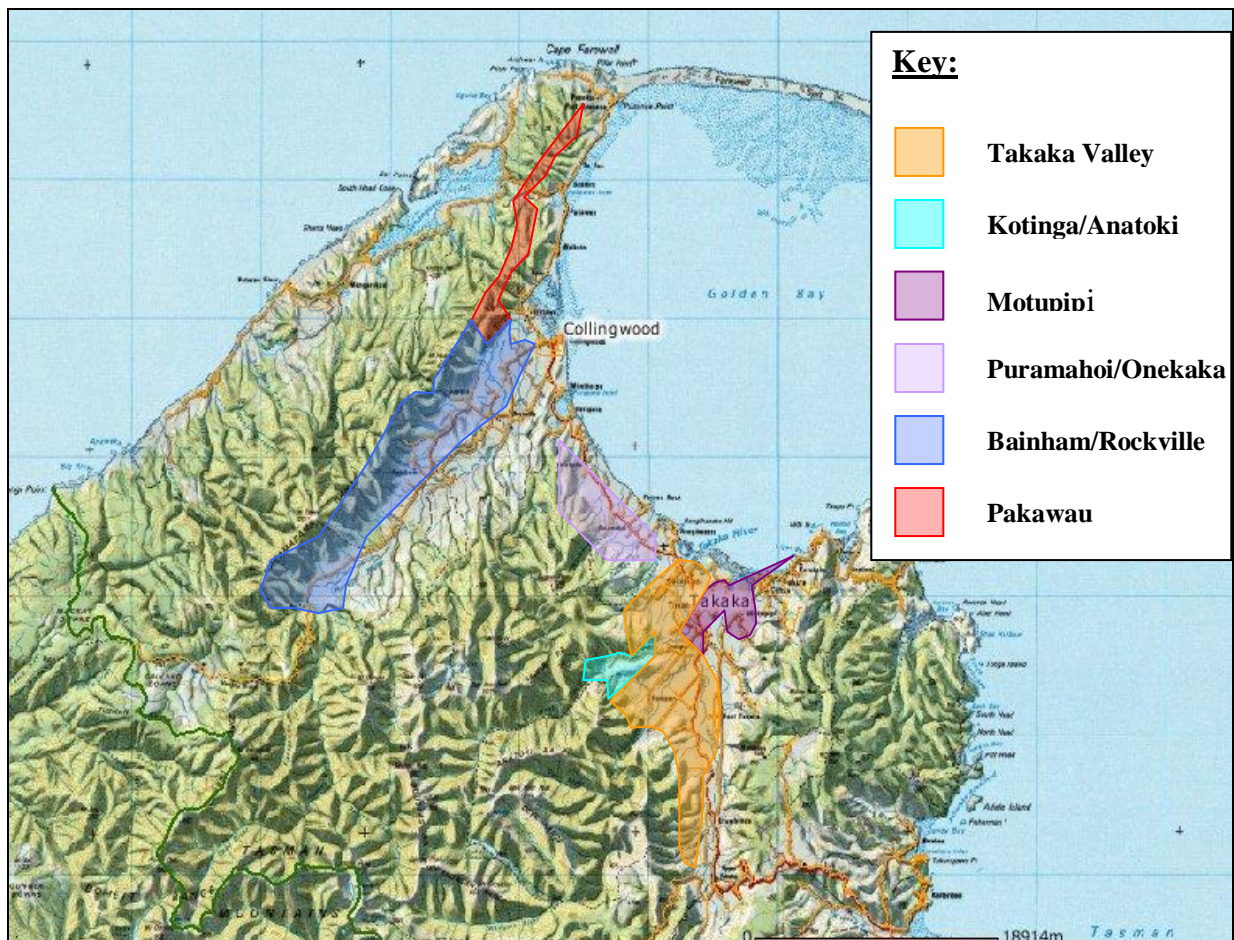


Figure 8: Average Stocking Rates for the 2004/2005 season in the Waimea, Moutere, and Upper Motueka, Zones of the Central Sub-region.

### 2.3 Golden Bay Sub-region

The Golden Bay sub-region is made up of six zones. These are Bainham/Rockville, Pakawau, Puramahoi/Onekaka, Motupipi, Kotinga/Anatoki, and Takaka Valley. The location and spatial area of each zone is illustrated in Figure 9.

Of the 128 dairy farms that operate under permitted activity status in the Tasman region, 73 (57%) are in Golden Bay and are concentrated in the Takaka and Anatoki Valleys, and Bainham/Rockville zones. The remaining farms in the Bay are located in small pockets along the narrow coastal margin between the Takaka River Mouth to Puponga. Approximately 13 400 hectares of land is farmed in Golden Bay with approximately 21 900 dairy cows milked during the past season. This equates to an average stocking rate for the Golden Bay sub-region of approximately 1.9 cows per hectare.



**Figure 9: Golden Bay sub-region with zones overlaid**

Figure 10 shows the number of dairy cows milked in each zone of the Golden Bay sub-region during the 2004/2005 season. From this graph it is evident that the greatest populations of dairy cows can be found in the Bainham/Rockville and Takaka Valley zones with each zone having in the order of 5 850 and 6 200 dairy cows respectively. The other four zones have comparatively smaller populations ranging between 1 300 in Pakawau to 2 600 in Kotinga/Anatoki.

The average stocking rate for each of the six zones with the Golden Bay sub-region is graphically illustrated in Figure 11, where the rate ranges from 1.6 cows/hectare in Takaka Valley to 2.7 cows/hectare in Motupipi. From Figures 10 and 11 it is clear that although Motupipi and Kotinga/Anatoki have smaller overall populations, they do have the highest stocking rates at 2.7 and 2.6 cows/hectare respectively.

Also apparent from Figure 11 when considered together with information presented in Figure 10 is that the Bainham/Rockville zone is the most intensely farmed zone in both the Golden Bay and Central sub-regions. Here, approximately 5 900 dairy cows were milked during the 2004/2005 season and were stocked at an average rate of 2.5 cows/hectare.

The low relative stocking rate to population in the Takaka Valley zone is a reflection of the relatively small herds farmed in this compared to the farms in the Bainham /Rockville zone.

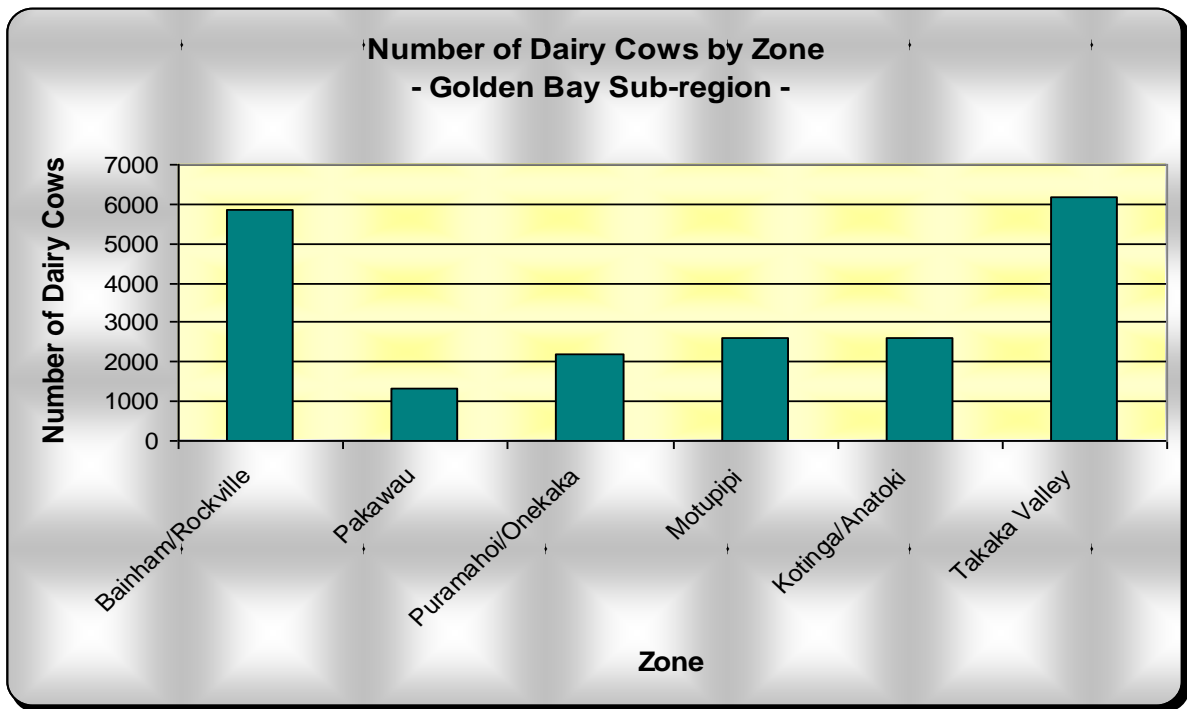
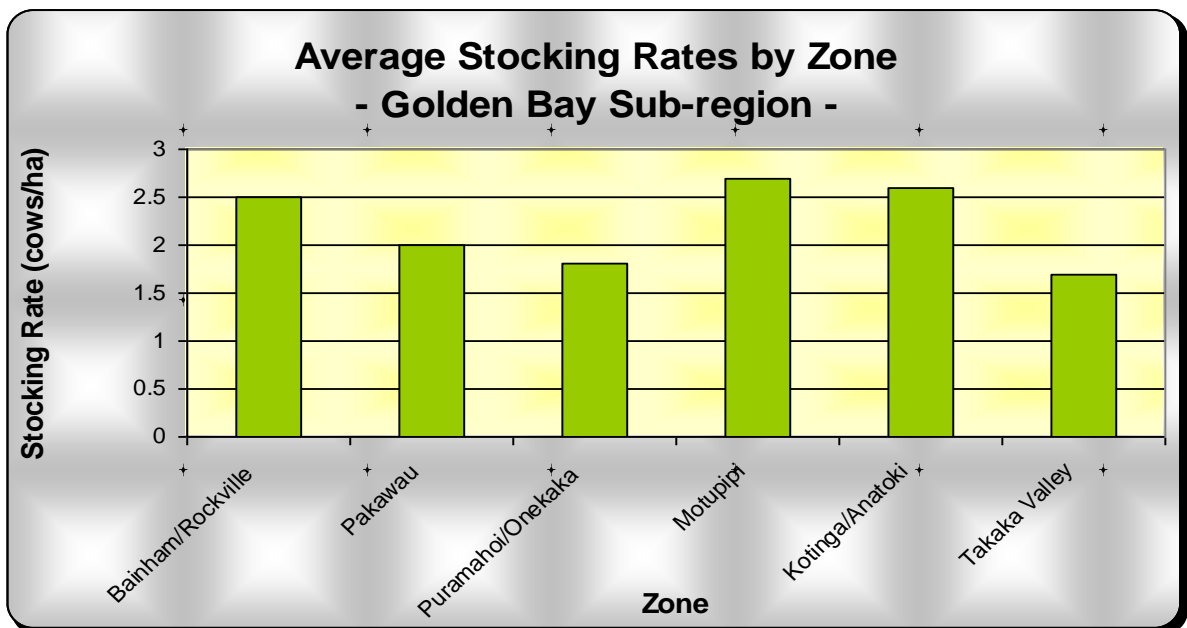


Figure 10: Number of Dairy Cows milked in each zone in the Golden Bay Sub-region during the 2004/2005 season.



**Figure 11: Average stocking rate (cows/hectare) in each survey zone in the Golden Bay Sub-region during the 2004/2005 season.**

### 3. COMPLIANCE

There are 28 farms in the Central sub-region and 73 farms in Golden Bay, (combined total of 101 farm dairies) that operate under permitted activity status, all of which were inspected for this report. This section discusses the level of compliance found with Rule 36.1.3 of the TRMP once the initial inspections of each of the 101 farms had been completed.

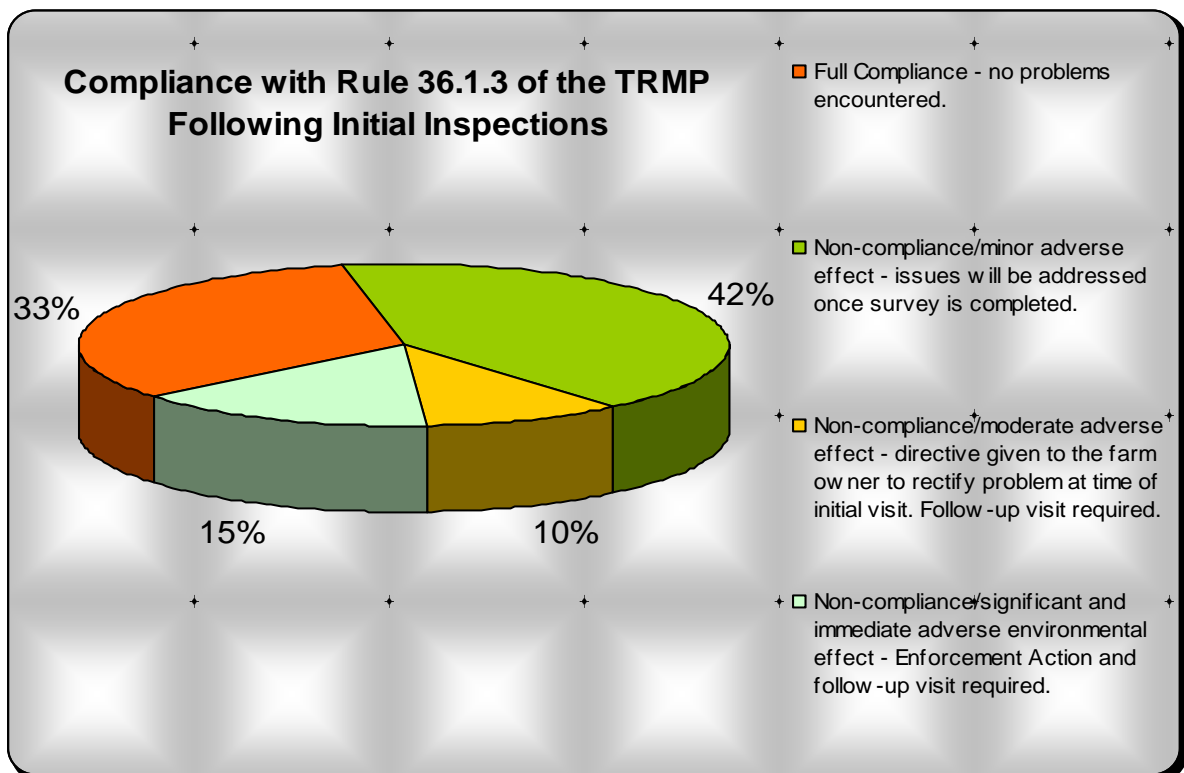
A number of issues of non-compliance arose from these initial inspections that required the farms concerned to be revisited to inspect any remedial actions that were required. Levels of compliance once these follow-up visits were completed are presented below in Section 3.2 of this report.

#### 3.1 Compliance with Rule 36.1.3 of the TRMP After Initial Farm Inspections

Table 1 displays the initial level of compliance once all farm dairies had been inspected, these data are graphical illustrated in Figure 12. Table 1 and Figure 12 shows that 33 farms fully complied with Rule 36.1.3 of the TRMP, this equates to approximately 33% full compliance, and 42 farms (approximately 42%) presented non-compliance that was regarded as having a minor adverse effect. Such non-compliance related to all these farms not having an adequate contingency plan in place to avoid discharges to water in the event of system failure (Rule 36.1.3(c)).

**Table 1: Level of compliance with Rule 36.1.3 after initial compliance round**

<b>LEVEL OF COMPLIANCE</b>	<b>NUMBER OF FARMS</b>	<b>% OF FARMS</b>
Full Compliance - no problems encountered.	33	33
Non-compliance/minor adverse effect - issues will be addressed once survey is completed.	42	42
Non-compliance/moderate adverse effect - directive given to the farm owner to rectify problem at time of initial visit. Follow-up visit required.	10	10
Non-compliance/significant and immediate adverse environmental effect - Enforcement Action and follow-up visit required.	15	15
<b>TOTAL</b>	<b>101</b>	<b>100%</b>



**Figure 12: Compliance of all 101 farm dairies operating under permitted activity status in the Golden Bay and Central sub-regions with respect to Rule 36.1.3 of the TRMP following initial inspections.**

Non-compliance resulting in a moderate adverse effect was found on 10 farm dairies (approximately 10%) during the initial compliance visits. Some farms did present non-compliance with more than one section of Rule 36.1.3. Incidences of non-compliance included:

- A discharge less than 50 meters from a dwelling on a neighbouring property (Rule 36.1.3(d(iv))).
- A discharge less than 20 meters from a surface water body (Rule 36.1.3(d(i))).
- The discharge of effluent onto land that had no vegetative cover (Rule 36.1.3(g)).
- The application of nitrogen (from both effluent and fertilizers combined) at a rate greater than 200kg/ha/yr (Rule 36.1.3(f(i))).
- A probability of effluent entering water due to the aging and deteriorating effluent holding facilities (Rule 36.1.3(e)) and un-bunded raceways directing stormwater that can entrain effluent from the raceway into a waterbody.

In all of the above incidences the issues of non-compliance were able to be immediately addressed at the time of the farm inspection. The matters of non-compliance were brought to the attention of the farm owners who were each given direction of how to rectify the problem. The farm owner was then given the opportunity to come up with an option (with a timeframe) on how best they could meet

these directions. A follow-up inspection was undertaken at a later date to check that these issues had been remedied.

With respect to those farms that had their discharge too close to a waterway or a neighbouring dwelling it was a simple matter of realigning the run of the irrigator. All farms that presented these two issues of non-compliance have been revisited have received follow-up inspections and have fully complied since.

Those farms that were discharging effluent onto bare soil were informed that this was not acceptable, explained the reasons why. The farm owners were directed to relocate the irrigator to a vegetated area of land before the next milking and not to discharge onto the bare land concerned until such a time that the grass cover had become fully established. In each case these directions were immediately acted on and the irrigators have not been placed on bare land since.

With respect to the farms where more than 200kg/ha/yr of nitrogen is being applied to land, each farm owner has a representative from their respective fertiliser supplier visiting their farm during the 2005/2006 season to complete a nutrient budget for their farms. This should address and rectify the problem of non-compliance with respect to Rule 36.1.3(f(i)).

In all but one case where farms presented a situation where there was the potential for a discharge of effluent to water as a result of either stormwater being directed across raceways that were adjacent to waterways, or aging and deteriorating effluent holding facilities that could result in effluent overtopping the holding ponds/sump and thus entering water found a means to immediately rectify the problem and undertook this action. In the case where no remedial action was undertaken, enforcement action was taken by Council with the work that was required to be completed formalised in an abatement notice.

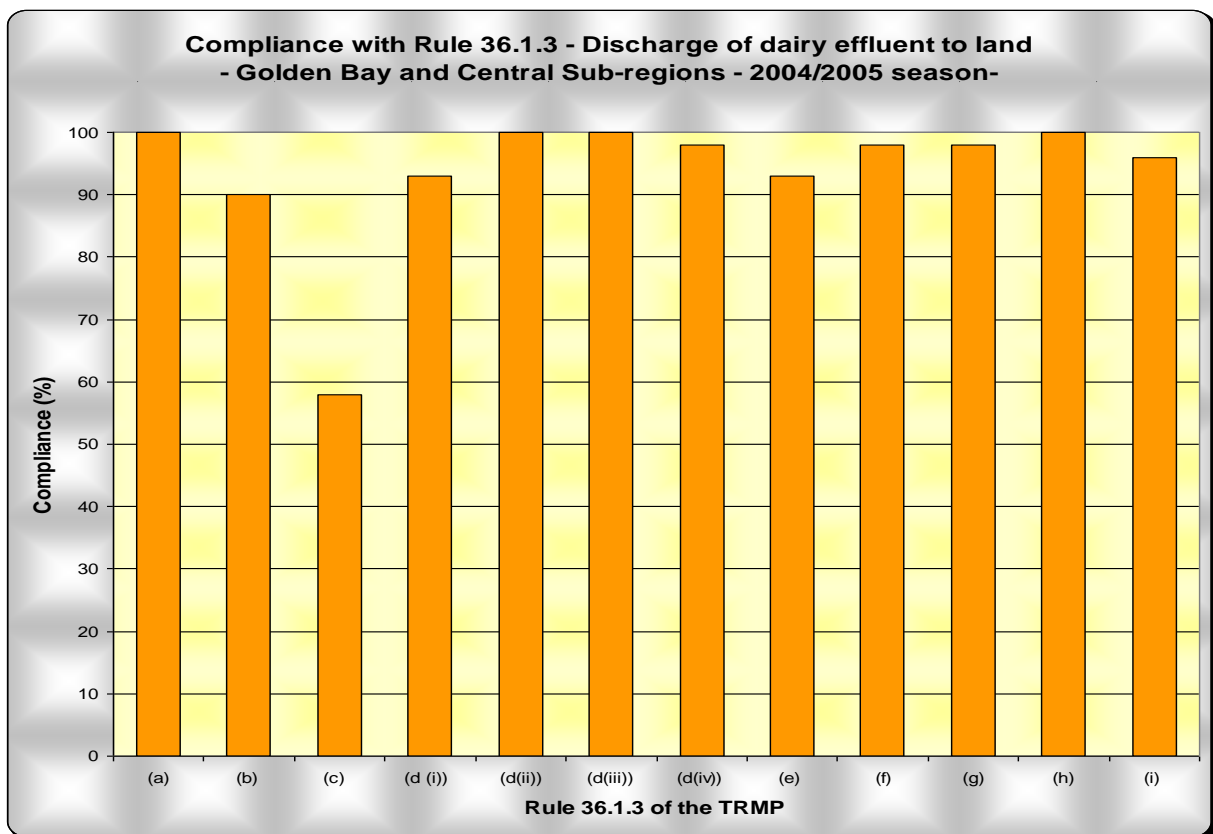
Non-compliance resulting in a significant and immediate adverse effect was found on 15 farm dairies (approximately 15%) during the initial compliance visits. Incidences of non-compliance included:

- The direct discharge of effluent from the farm dairy to water (Section 15.1a of the RMA 1991).
- The discharge of effluent to land in circumstances where that discharge enters water (Section 15.1b of the RMA 1991). Such incidences included:
  - Severe ponding and runoff resulting from broken down irrigators or no irrigator installed to spread the effluent. The consequence of this non-compliance was the potential contamination of groundwater and runoff into water-ways.
  - No containment facilities for washwater from the farm dairy with the resulting effluent being flooded onto land adjacent to the farm dairy or into unlined excavated holes, thus resulting in the potential contamination of groundwater.

- Overflow pipes/drains from the collection and holding sump directed to a stream or a farm ditch that leads to a water-way.

In all cases an abatement notice was served that sought to cease the offending discharge, rectify the problem, and to full comply with Rule 36.1.3 of the TRMP. Two infringement fines were also issued together with an abatement notice where there was a direct and deliberate discharge of effluent to water. Half of the farm owners who received abatement notices have met the requirements as set out in their respective notices. The remaining farms are required to have the work completed by either 31<sup>st</sup> August or 30<sup>th</sup> September 2005. These remaining farms are all well underway within their remedial works.

Initial levels of compliance once all 101 farms in the Golden Bay and Central sub-regions is broken-down into compliance with respect to each section of Rule 36.1.3 of the TRMP. This compliance is shown graphically in Figure 13. Each section of Rule 36.1.3 forms the X axis with the percent of compliance of all farms inspected presented on the Y axis.



- (a) There is no discharge in the Waimea Plains Aquifer Protection Area.
- (b) There is no discharge or run-off of effluent into any water or riverbed.
- (c) Contingency measures are in place to avoid discharges to water in the event of system failure.
- (d) There must be no discharge of effluent within:
  - (i) 20 metres of any surface water body, or the coastal marine area;

- (ii) 20 metres of any bore for domestic water supply;
  - (iii) 10 metres of any adjoining property;
  - (iv) 50 metres of any dwelling on an adjoining property.
- (e) Any effluent storage facilities are sealed so as to prevent any contamination of water by seepage.
- (f) The application of effluent is:
- (i) at a rate of not more than 200 kilograms of nitrogen per hectare per year by itself or in combination with any other applied fertiliser; or
- (g) Discharge of effluent is only onto land with a vegetative cover over 90 percent of the ground surface or immediately prior to sowing a crop.
- (h) The discharge does not create an offensive or objectionable odour discernible beyond the property boundary.
- (i) The application of effluent is not at a rate which results in ponding on the land surface for longer than one hour.

**Figure 13: Compliance of all 101 farm dairies that operate under permitted activity status in the Golden Bay and Central sub-regions following the initial farm inspections with respect to all nine sections of Rule 36.1.3 of the TRMP.**

Compliance with respect to each section as found during the first round of farm visits is discussed in turn below.

**(a) There is no discharge in the Waimea Plains Aquifer Protection Area.**

**Full compliance** – there are no farm dairies located in the Waimea Plains Aquifer Protection Area.

**(b) There is no discharge or run-off of effluent into any water or riverbed.**

**90% Compliance (91 Farms)**

Ten farm dairies initially presented a situation where effluent may enter water. All incidences have been rectified either by an informal directive given at the time of the farm visit or by an Abatement Notice.

**(c) Contingency measures are in place to avoid discharges to water in the event of system failure.**

**58% Compliance (58 farms)**

Overall compliance with Section C is particularly poor with approximately one in every three farms not having an adequate contingency plan. In order to fully comply with Section C there must either be an alternative means of disposing the washwater onto the irrigable area, or provision for storage in the event of system failure.



Typical measures employed in Tasman District are:

- Utilising old oxidation ponds (all discharge pipes removed) for storage.
- Having any overflow from the sump directed to a fully sealed emergency holding pond.
- Using a slurry tank to empty the sump and discharge to land.
- Keeping spare parts and spare pumps onsite.
- Immediately ceasing wash-down in order to minimise waste-water entering the collection sump.
- Contracting a commercial septic tanker cleaning company to empty the sump and disposing the effluent off-site.
- Allowing the effluent to back-wash up into the milking pit from the sump, this typically provides containment of one milkings worth of effluent.

Farm dairies within the Golden Bay sub-region also have the services of a local contractor, Mr. W. Langford, who has three 7000 litre slurry tankers available for hire. In addition to this service the Rural Farm Service Centre in Takaka also has a number of emergency petrol powered pumps available to be used in time of pump failure. Most farm owners in Golden Bay were aware of these services.

Those farms located on the Waimea Plains rely heavily upon the fact that they are in close proximity to Richmond and can have their systems serviced, and the pump and other machinery replaced within the same working day.

The farm owners of the 42 farms that did not have an adequate contingency plan in place were explained the reasons for contingency plans and the possible adverse effects that these plans aim to mitigate. Different contingency options were discussed onsite during the inspection (such as those present above) and the farm owners were asked how they could employ a suitable back-up plan in order to comply with Section C.

The absence of appropriate contingency measures is of great concern, particularly when many farms have less one days storage for effluent produced in the farm dairy, with most farms not having adequate storage for effluent produced from one milking.

The potential problems associated with insufficient storage on these farms is further enhanced by the fact that there are often no mechanisms in place to divert stormwater away from the collection sump. As a result the systems are quickly inundated by the extra water and overflow with stormwater. Any effluent that may remain in the sump or on the yard flows onto land adjacent to the sump, this potentially presenting a situation where effluent can run-off into water.

**(d) There must be no discharge of effluent within:**

**(i) 20 metres of any surface water body, or the coastal marine area;  
86% Compliance (94 Farms)**

In total, three farms were found to have set up their respective disposal system (travelling irrigator) at a distance less than 20 metres from a waterbody. In all three cases the rule and reasons for the rule were explained, and ongoing compliance checks on the position of the irrigators with respect to water-ways occurred throughout the 2004/2005 season. All three farms have fully complied with Section d(i) since the initial inspection.

**(ii) 20 metres of any bore for domestic water supply;**

**100% Compliance (101 Farms)** – there were no incidences where the land disposal area was within 20 metres of a domestic bore.

**(iii) 10 metres of any adjoining property;**

**100% Compliance (101 Farms)** - there were no incidences where the land disposal area was within 10 metres of an adjoining property.

**(iv) 50 metres of any dwelling on an adjoining property.**

**98% Compliance (99 Farms)**

Two farms were found to have set up their respective disposal system (traveling irrigator) at a distance less than 50 metres from a dwelling on an adjoining property. In both cases the rule and reasons for the rule was explained to the farm owner and ongoing compliance checks on the position of their irrigator with respect to the neighbouring dwelling occurred throughout the 2004/2005 season. Both farms have fully complied with Section d(iv) since the initial farm inspection.

**(e) Any effluent storage facilities are sealed so as to prevent any contamination of water by seepage.**

**93% Compliance (94 Farms)**

Five farms, four of which were located in the Golden Bay sub-region, the other in Central were found to have to have sub-standard storage facilities that were not adequately sealed to prevent contamination of water by seepage.

Two of the storage facilities were old oxidation pond systems that have never been lined. A further two facilities consisted of excavated holes, that have also never been lined. The final storage facility was a very small sump that had a hole in the exterior wall allowing stored effluent to seep out and subsequently enter water.

Abatement notices were severed on four of the five non-complying systems. These notices required the immediate cease of any further discharge to water and that the storage facilities be sealed so as to prevent any contamination of water by seepage. The fifth farm was undertaking maintenance on the farm dairy, including cleaning out the storage ponds at the time of the farm inspection. The farm owner was directed as what they needed to achieve, and lining of the ponds with compacted clay was added to the maintenance list. This work was completed the following week. The four farms that received abatement notices are all well underway with these works and have until 31<sup>st</sup> August or 30<sup>th</sup> September 2005 to complete the sealing of their respective systems.

**(f) The application of effluent is:**

- (i) at a rate of not more than 200 kilograms of nitrogen per hectare per year by itself or in combination with any other applied fertiliser;**

Elevated groundwater nutrients levels, particularly nitrate can be caused by excessive application rates of effluent and washwater onto the land or seepage from effluent storage systems. Elevated nitrate levels in potable groundwater can give rise to human health risks, and have been linked to the blood disorder in bottle fed babies known as Blue Baby Syndrome.

**98% Compliance (99 Farms)**

Two farms have been applying effluent to land at a rate of more than 200 kilograms of nitrogen per hectare per year when considered in combination with other applied fertiliser.

Both farms have a representative from their respective fertiliser supplier visiting their farm during the 2005/2006 season to complete a nutrient budget. This should address and rectify the problem. Both farms are fortunate in that they have expansive areas of flat land with good drainage over which they can expand their effluent disposal area, thus decreasing the nitrogen loading rate. Both farm owners are actively seeking options to expand their respective disposal areas.

- (g) Discharge of effluent is only onto land with a vegetative cover over 90 percent of the ground surface or immediately prior to sowing a crop.**

**98% Compliance (99 Farms)**

Two farms were found to be discharging effluent onto bare soil. In both cases the farm owner was informed that this was not acceptable, explained the reasons why. At the time of the farm inspection, they were directed to relocate the irrigator to a vegetated area of land before the next milking and not to discharge onto the bare land concerned until such a time that the grass cover had become fully established. In each case these directions were immediately acted on and the irrigators have not been placed on bare land since.

- (h) The discharge does not create an offensive or objectionable odour discernible beyond the property boundary.**

Effluent holding ponds and other storage systems typically produce large volumes of gaseous methane and trace levels of other malodorous gases which freely escape to the atmosphere, hence unpleasant odours can be a nuisance from effluent storage facilities. Adverse effects of spray irrigating effluent and washwater that has been stored for a period of time typically include odour.

#### **100% Compliance (101 Farms)**

This compliance survey found no incidences where an offensive or objectionable odour discernible beyond the property boundary. Furthermore, no entries have been made to the Complaints Database in the last three years that relate to such odour issues.

- (i) The application of effluent is not at a rate which results in ponding on the land surface for longer than one hour.**

Farm dairy washwater and dairy sludge must be spread in a manner and in places which ensure that run-off into waterways does not occur at any time. In doing so the management of the land application of farm dairy effluent must ensure the rate of application does not exceed the soil's infiltration capacity. This will depend on a number of factors including soil water status, slope, pasture cover, type of spreading device, weather conditions at the time, and incidence of pugging by stock. Consequences of excessive application rates include anaerobic soil conditions, hydraulic overloading or soil saturation that can result in contaminants from the effluent leaching into groundwater, pasture damage, and breakdown of soil structure.

#### **96% Compliance (97 Farms)**

Four farms were found to have a moderate to significant degree of ponding up to three hours after last discharge to land had occurred. In all cases it was found that the traveling irrigator was not operating at its maximum speed and therefore was not able to spread the effluent over a wide enough area to prevent ponding. All farm owners increased the speed of their irrigator and have since been compliant with Section i.

### **3.2 Compliance with Rule 36.1.3 of the TRMP after Follow-up Farm Inspections**

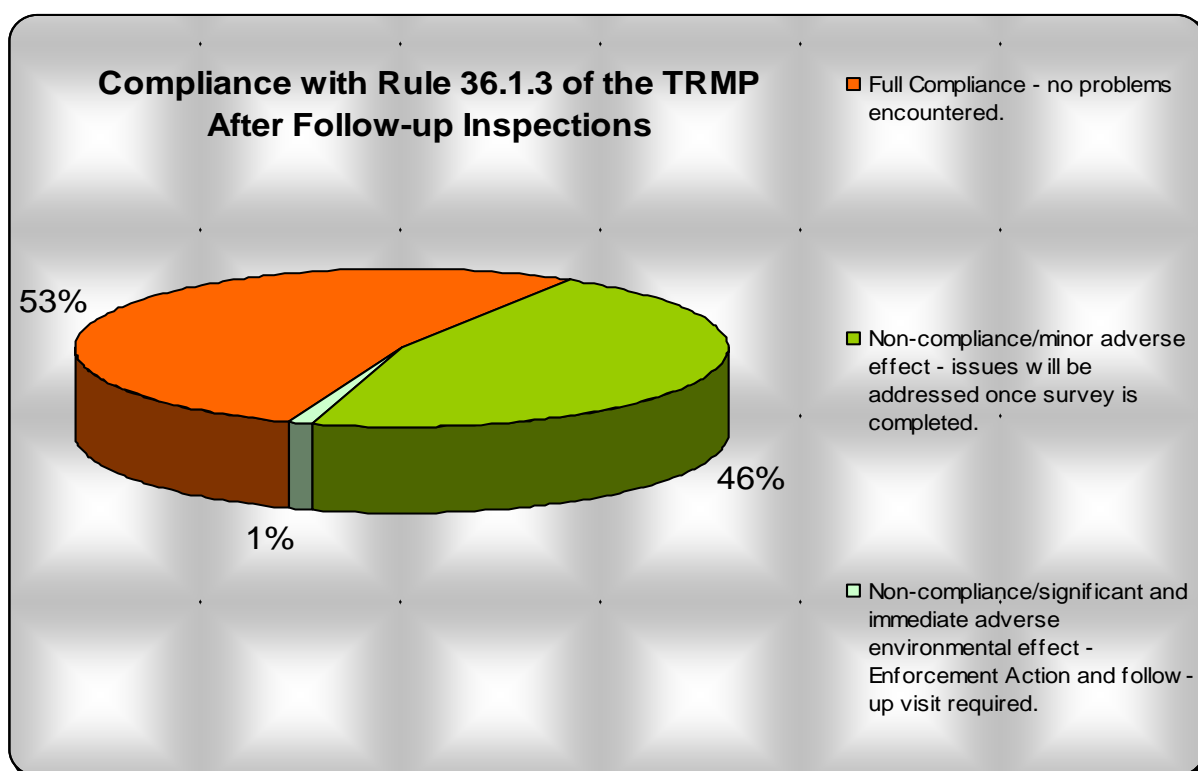
Following the initial compliance visit, 25 farms required a follow-up visit to check compliance with those rules that were not met on the initial visit. These follow-up visits were to ensure that mitigation works had been undertaken following any direction given onsite, and actions required by an abatement notice had been completed, and to document the action(s) taken to rectify the problem(s) of non-compliance.

Table 2 displays the level of compliance following these follow-up visits. These data are graphically illustrated in Figure 14. From Table 2 and Figure 14 it can be seen that full compliance increased by 20% to be 53%. Furthermore those farms that presented non-compliance with a minor adverse effect increased from 42% to 46% of

all farms inspected. This increase in minor non-compliance is a result of some of the farms that received direction to mitigate issues of non-compliance still have the matter of an adequate contingency plan as a remaining issue.

**Table 2: Level of compliance with Rule 36.1.3 of the TRMP after follow-up inspection had been completed**

LEVEL OF COMPLIANCE	NUMBER OF FARMS	% OF FARMS
Full Compliance - no problems encountered.	54	53
Non-compliance/minor adverse effect - issues will be addressed once survey is completed.	46	46
Non-compliance/moderate adverse effect - directive given to the farm owner to rectify problem at time of initial visit. Follow-up visit required.	0	0
Non-compliance/significant and immediate adverse environmental effect - Enforcement Action and follow-up visit required.	1	1
<b>TOTAL</b>	<b>101</b>	<b>100%</b>



**Figure 14: Compliance of all 101 farm dairies operating under permitted activity status in the Golden Bay and Central sub-regions with respect to Rule 36.1.3 of the TRMP after follow-up inspections had been completed.**

No directives for moderate non-compliance was given during the follow-up visits, instead if the work had not been completed as required from the initial visit (as was the case for one farm) the required works and a date by which these works were to be completed by were formalised in an abatement notice. This enforcement action represents just 1% of non-compliance.

Those farms that have a deadline of 31<sup>st</sup> August or 30<sup>th</sup> September 2005 to complete the works as set out in their respective abatement notices have not been included in that latter statistic as they are all well underway with the work, and once complete will be fully compliant with all the rules as set out in rule 36.1.3 of the TRMP, including having adequate contingency plans in place, and are therefore regarded as being fully compliant. Regular contact is being made with the farm owners concerned to keep up-to-date with their progress and any problems that may arise.

## **4. CLEAN STREAMS ACCORD**

### **4.1 Background**

The Dairying and Clean Streams Accord [the Accord] was signed by the Minister of Agriculture, the Minister for the Environment, the Chairman of Fonterra Co-operative Group and the Chairman of the Regional Affairs Committee of Local Government New Zealand (on behalf of Regional Councils) in May 2003. The Accord reflects an agreement between these parties to improve the environmental performance of dairying and it establishes a goal of achieving “clean healthy water in dairying areas”.

A Regional Action Plan (RAP) has been developed by Tasman District Council and Fonterra with input from Federated Farmers. The purpose of the RAP is to detail regional commitments toward achieving the goal of the Accord and meeting the national performance targets, while taking into account circumstances specific to Tasman District.

The Accord covers all rivers, streams, creeks, springs, drains, ponds, wetlands, swamps, and estuaries that permanently hold water and flow through or board a property used as a farm dairy. In Tasman District many drains are modified streams (i.e. streams that have been excavated or straightened). These waterways are to be considered as streams for the purposes of the Accord provided they are deeper than a red band (300mm) and wider than a stride (1m) and permanently flowing.

### **4.2 Accord Targets**

Five priorities for action are identified in the Accord to reduce the impact of dairying on streams, rivers, lakes and wetlands. Each of the five priorities is discussed in detail below together with statistics and information on compliance gathered during the farm inspections. The statistics presented below relate only to the 101 farm dairies that operate under permitted activity status in the Golden Bay and Central sub-regions.

#### **4.2.1 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 3 shows the total number of farms together with the number of farms in each zone that has either 0%, 1-25%, 26-49%, 50-74%, 75-89%, or  $\geq 90\%$  of their streams fenced. Presented alongside these six categories for fencing rates is the average percent of streams fenced in each zone. Also presented at the bottom of Table 3 are the total of all farms surveyed with respect to all six fencing rates and also the total average of all streams fenced in Tasman District

The data presented in Table 3 shows that all farm dairies in the Central sub-region presently meet the 2007 target of 50% of all streams fenced. It is very encouraging to see that the average for each zone in Central is relatively high, ranging from 80 to 92% of all streams being fenced.

The percentage of fenced streams in Golden Bay is somewhat less than then in Central, with three zones (Takaka Valley, Motupipi, and Rockville/Bainham) having six, three, and five farms respectively with less than 50% of their streams fenced. Of particular concern is the average of all farms in Motupipi being just 58% and Takaka Valley just 66% of all streams fenced. These statistics indicate that these three zones in particular will require extra work by the RAP signatories (Fonterra and TDC) to assist the farms concerned to meet the Accord targets.

Overall 81% of streams in Tasman District (as represented by the 101 farms operating under permitted activity status in the Golden Bay and Central sub-regions) are presently fenced, thus indicating that Tasman District already meets the 2007 target but still needs to increase the total number of fenced stream by a further 9% to meet the 2012 target of 90% of all streams fenced.

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

**Table 3: Fenced Streams in Golden Bay and Central Sub-regions**

	Zone	Total Farms	Percent of Streams Fenced						Average
			0%	1-25%	26-49%	50-74%	75-89%	≥90%	
Central	Waimea	10	-	-	-	1	1	8	92%
	Upper Motueka	17	-	-	-	2	5	10	88%
	Moutere	2	-	-	-	-	1	1	80%
Golden Bay	Bainham/Rockville	21	2	1	1	3	1	12	79%
	Pakawau	5	-	-	-	1	-	4	86%
	Puramahoi/Onekaka	5	-	-	-	1	-	4	84%
	Motupipi	7	2	-	1	1	-	3	58%
	Kotinga/Anatoki	9	-	-	-	-	2	7	96%
	Takaka Valley	25	5	-	1	3	2	14	66%
<b>TOTAL</b>		<b>101</b>	<b>9</b>	<b>1</b>	<b>3</b>	<b>12</b>	<b>12</b>	<b>63</b>	<b>81%</b>

**Figure 4: Stock Crossings in Golden Bay and Central Sub-regions**

	Zone	Total Number of Bridged Crossings	Total Number of Un-bridged Crossings	Total Number of Crossings (Bridged and Un-bridged)	Percent of Streams Bridged
Central	Waimea	0	0	0	100%
	Upper Motueka	7	18	25	72%
	Moutere	1	4	5	80%
Golden Bay	Bainham/Rockville	9	9	18	50%
	Pakawau	3	1	4	25%
	Puramahoi/Onekaka	4	12	16	75%
	Motupipi	5	1	6	16%
	Kotinga/Anatoki	6	5	11	45%
	Takaka Valley	15	11	26	42%
<b>TOTAL</b>		<b>50</b>	<b>61</b>	<b>111</b>	<b>55%</b>



#### 4.2.2 Stock Crossings

A stock crossing is defined under the Accord as a stream that is “deeper than a ‘Red Band’ (ankle depth) and ‘wider than a stride’, and permanently flowing” and a ‘regular’ crossing is defined as “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.**

Dairy cows are 50 times more likely to defecate during a stream crossing than elsewhere on the farm race (Davis-Colley *et. al.* 2004), hence stock crossings are a significant potential source of stream contamination.

The total number of crossings in each zone (both bridged and un-bridged), together with the total number of crossings that have been bridged and those that still remain un-bridged in Tasman District is presented in Table 4. The total number of bridged crossings is also presented at the bottom of Table 4 as a percentage of all crossings, together with the total number of stock crossings in Tasman in each category of Table 4. Also shown is the total average of all bridged/culverted crossings.

The data presented in Table 4 shows that there are 111 crossings on the 101 farms surveyed, of these 45% are bridged or have culverts. Upper Motueka, Takaka Valley, and Bainham/Rockville zones have the greatest number of crossings, and hence also have the largest number of crossings that remain un-bridged (18, 11, and 9 respectively). Motupipi and Pakawau have the smallest percent of all crossings bridged at 16% and 25% respectively. With exception of Puramahio/Onekaka, all zones in the Golden Bay sub-region have less than 50% of all crossings bridged, and hence will require extra attention from the RAP signatories to assist the farm owners concerned in order for them to meet the 2007 Accord target.

It is import to note that most of the crossings that remain un-bridged require a culvert to satisfy the Accord target, not a bridge as such.

#### 4.2.3 Management of Farm Dairy Effluent

**Accord Target:**

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

This interim report that shown that at present 53% of those farm dairies surveyed in the Central and Golden Bay sub-regions fully comply with the Permitted Activity Rule for dairy effluent disposal to land (Rule 36.1.3 of the TRMP). Of the 47% of farms that did not comply, 99% of this non-compliance relates to Section C of Rule 36.1.3 that requires a contingency plan be in place to avoid discharges to water in the event of system failure. This high level of non-compliance highlights a major issue that needs to be addressed.

From this trend of non-compliance in both the Central and Golden Bay sub-regions, it is assumed that the remaining farm dairies that operate under permitted activity status in an around the Murchison area will also show similar trends of non-compliance. In any case, these results will be presented once the final farm inspections have been completed. Notwithstanding this, one recommendation of this report will be for the RAP signatories to develop a strategy to ensure full compliance with respect to Section C of Rule 36.1.3 and also implement the strategy once in place.

The 32 farm dairies that have a resource consent that authorises the discharge of treated effluent to water will be visited during the 2005/2006. Compliance monitoring of the all 32 consents with respect to their various conditions will be undertaken together with a similar farm survey to that presented in this report. Compliance of these farms with respect to both the consent conditions and the Accord performance targets will be presented in a later report.

#### **4.2.4 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 the 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.

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

Outputs include: losses through product leaving the farm, transfer of nutrient to unproductive parts of the farm (for example, laneways and troughs), supplement sold from the farm, atmospheric losses (volatilisation), leaching/run-off immobilisation/absorption which is when nutrients are converted by 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.

The number of farm owners in the Central and Golden Bay sub-zones that have had nutrient budget drawn up for their farm is presented in Table 5 where it can be seen that only 15 of the 101 farms inspected (15%) have a nutrient budget. The remaining 86 farms rely on annual soil tests undertaken by their respective fertiliser company to determine any nutrient excesses and deficiencies within the soils.

**Table 5: Number of farm dairies with a nutrient budget in the Golden Bay and Central Sub-regions**

	Zone	Total Number of Farms	Number of farms with a Nutrient Budget	Percent of Farms with a Nutrient Budget
<b>Central</b>	<b>Waimea</b>	10	1	10%
	<b>Upper Motueka</b>	17	4	24%
	<b>Moutere</b>	2	0	0%
<b>Golden Bay</b>	<b>Bainham/Rockville</b>	21	2	10%
	<b>Pakawau</b>	5	0	0%
	<b>Puramahoi/Onkaka</b>	5	2	40%
	<b>Motupipi</b>	7	1	14%
	<b>Kotinga/Anatoki</b>	9	2	22%
	<b>Takaka Valley</b>	25	3	12%
	<b>TOTAL</b>	<b>101</b>	<b>15</b>	<b>15%</b>

Of all the zones, Upper Motueka has the greatest number of farms with a nutrient budget, with four farms in total, all of which are in the Tadmores area. Although the Takaka Valley and Bainham /Rockville zones are the two largest zones in terms of farm numbers, each zone only has 3 (14%) and 2 (10%) of farms respectively with nutrient budgets.

The fertiliser companies that have undertaken the nutrient budgets in the Central and Golden Bay sub-regions have all used a product called Overseer, a model developed by AgResearch Limited.

It is clear from the data presented in Table 5 that Tasman District has a long way to go to meet the Accord Target of 100% of all farm dairies having a nutrient budget of some kind by 2007. A recommendation of this report will be for the RAP signatories to develop a strategy to ensure that all farms have a nutrient budget of some sort by 2007 in order to meet this Accord target.

#### **4.2.5 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 wetland(s) 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. CONCLUSION

It will be recalled that the purpose of this report was to present the interim result of compliance from the 2004/2005 dairy season with respect to Rule 36.1.3 of the TRMP and to present a 'snap-shot of where Tasman District lies with respect to the five national performance targets as set out in the Clean Streams Accord. Summarised below are the major findings of this report.

A combined total of 101 farm dairies (28 farms in Central and 78 farms in Golden Bay) were inspected with respect to compliance with Rule 36.1.3 of the TRMP and also the five national performance target of the Clean Streams Accord.

The levels of compliance in relation to Rule 36.1.3 once initial inspections had been completed were:

- 33% - Full Compliance
- 42% - Non-Compliance/minor adverse effect
- 10% - Non-Compliance/moderate adverse effect – directive given to farm owner to rectify the problem at the time of initial visit. Follow-up visit required.
- 15% - Non-Compliance/significant and immediate adverse effect – Enforcement action and follow-up visit required.

Issues of non-compliance that result in either a directive given or enforcement action being taken by Council related to set-back rules, the discharge of effluent onto bare land, seepage from holding sumps to water, the direct discharge (from the farm dairy and also from overflow pipes leading from the sump) of effluent to water.

Following the initial compliance visit, 25 farms required a follow-up visit to check compliance with those rules that were not meet on the initial visit. These follow-up visits were to ensure that mitigation works had been undertaken following any direction given onsite, and actions required by an abatement notice had been completed, and to document the action(s) taken to rectify the problem(s) of non-compliance.

The levels of compliance in relation to Rule 36.1.3 once the follow-up inspections had been completed were:

- 53% - Full Compliance
- 46% - Non-Compliance/minor adverse effect
- 0% - Non-Compliance/moderate adverse effect – directive given to farm owner to rectify the problem at the time of initial visit. Follow-up visit required.
- 1% - Non-Compliance/significant and immediate adverse effect – Enforcement action and follow-up visit required.

When level of compliance (once the follow-up inspection had been completed) is broken down into compliance with respect to each Section of Rule 36.1.3, 99% of the non-compliance related to Section C – (contingency measures in place to avoid discharges to water in the event of system failure). This high level of non-compliance highlights a major issue that needs to be addressed.

### **Accord targets**

Tasman District appears to be will placed with respect to most of the performance targets of the Clean Streams Accord. In particular 81% of streams in Tasman as represented by those farm survey for this report are presently fenced, thus satisfying the 2007 target of 50% of streams fenced and goes a long way towards satisfying the 2012 target of 90% streams fenced. However, the Takaka Valley, Motupipi, and Rockville/Bainham zones all have a number of farms that have less than 50% of streams fenced and will require extra work by the RA P signatories to assist the farms concerned to meet the Accord targets.

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

Of the 111 stock crossings identified in this survey, 45% presently have bridges or culverts. With the exception of Puramahoi/Onekaka all zones within the Golden Bay sub-region have less than 50% of stock crossings bridged/culverted and will have to be made a focus area where extra attention from the RAP signatories will be needed to assist the farm owners concerned to meet the Accord targets.

With respect to the Accord target that aims to have all farm dairies complaint with their respective resource consent conditions and permitted activity rules this report has highlighted that 46% of all farm dairies surveyed do not fully with Rule 36.1.3 of the TRMP, as they do not have an adequate contingency plan in place to avoid discharges to water in the event of system failure. This concerning trend of non-compliance needs to be addressed by the RAP signatories.

Another concerning trend that has become apparent from this survey is that only 15% of farms surveyed have a nutrient budget, the majority of farms rely on annual soil test to determine any nutrient excesses and deficiencies in the soil. This result highlights that much work needs to be done by the RAP signatories in order to meet the 2007 target of all farms managing their nutrient inputs and outputs.

Until an inventory of wetlands is completed by Council compliance with respect to the exclusion dairy cows from regionally significant wetland cannot be assessed.

## **6. RECOMMENDATIONS**

From the findings of this report it is recommended that

- the report be received.
- the RAP signatories (TDC and Fonterra) develop and implement a strategy to ensure that all farms have a nutrient budget of some sort by 2007 in order to meet this Accord target.

- the RAP signatories (TDC and Fonterra) develop and implement a strategy to ensure all farms (particularly those in the Golden Bay sub-region who have the poorest bridging rate) have 50% of their regular crossings bridged/culverted by 2007, and 90% by 2012.
- Compliance in conjunction with the RAP signatories develop a strategy to classify all unbridged crossings in the district based on their environmental effects with the aim of prioritising bridging.
- the RAP signatories (TDC and Fonterra) develop and implement a strategy to ensure full compliance with Section C of the TRMP.
- ongoing and regular (2 yearly) inspections of all farm dairies be undertaken to ensure compliance with the permitted activity rules, resource consent conditions, and to keep track of Tasman's progress towards meeting the various performance targets as asset out in the Clean Streams Accord

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Kathryn Bunting  
**Compliance Officer**

**TASMAN RESOURCE MANAGEMENT PLAN**  
**36.1.3 Discharge of Dairy or Piggery Effluent**

The discharge of:

1. Dairy shed effluent; or
2. Up to 5 cubic metres per day of effluent from housed animals or birds; or
3. Up to 5 cubic metres per day of effluent from animal or bird processing activities;

onto land is a permitted activity that may be undertaken without a resource consent if it complies with the following conditions:

- (a) There is no discharge in the Waimea Plains Aquifer Protection Area.
- (b) There is no discharge or run-off of effluent into any water or riverbed.
- (c) Contingency measures are in place to avoid discharges to water in the event of system failure.
- (d) There must be no discharge of effluent within:
  - (i) 20 metres of any surface water body, or the coastal marine area;
  - (ii) 20 metres of any bore for domestic water supply;
  - (iii) 10 metres of any adjoining property;
  - (iv) 50 metres of any dwelling on an adjoining property.
- (e) Any effluent storage facilities are sealed so as to prevent any contamination of water by seepage.
- (f) The application of effluent is:
  - (i) at a rate of not more than 200 kilograms of nitrogen per hectare per year by itself or in combination with any other applied fertiliser; or
  - (ii) at a rate not resulting in an elevation of groundwater nitrogen concentration.
- (g) Discharge of effluent is only onto land with a vegetative cover over 90 percent of the ground surface or immediately prior to sowing a crop.
- (h) The discharge does not create an offensive or objectionable odour discernible beyond the property boundary.
- (i) The application of effluent is not at a rate which results in ponding on the land surface for longer than one hour.
- (j) The discharger must provide such information as may be requested by the Council to show how the conditions of this rule are being met.

Date of inspection

**FARM DAIRY INSPECTION 2004/2005  
(PERMITTED ACTIVITIES)**

**PROPERTY DETAILS**

Farm Name

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Supply Number

Valuation Number

Easting

Zone

Northing

Herd numbers

Friesians/Jersey/Mix

Farm Address

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Postal Address

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Farm Owner

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Phone:

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Share-milker

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Phone:

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**MANAGEMENT OF EFFLUENT FROM FARM DAIRY**

**Description of effluent collection**

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**Description of stormwater controls**

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**Sump size (m<sup>3</sup>)**

**Number of storage days provided by sump**

**Contingency measures in place in case of system failure**

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**Method of effluent application**

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**Total discharge area (ha)**

**Frequency of discharge**

**Volume of discharge/application**

**Area of discharge/application**

**Application depth(mm)**

**Soil type**

**Quantity of artificial fertiliser used (kg/ha/yr)**

**Source of water**

Total area that is pasture irrigated (ha)

Name of nutrient budget model/ programme

Number of un-bridged stream crossings

Percentage of fenced water ways

**PERMITTED ACTIVITY RULES**

YES		NO		COMPLIANT	NON-COMPLIANT
<input type="checkbox"/>	<input type="checkbox"/>		Is the discharge in the Waimea Plains aquifer Protection Area	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		Does the discharge result in run-off into any water way or river bed	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		Are there contingency measures in place to avoid discharge into water in the event of system failure	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		Is the discharge more than 20 meters from a surface waterbody or the coastal marine area	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		Is the discharge more than 20 meters from any bore for domestic water supply	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		Is the discharge more than 10 meters from any adjoining property	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		Is the discharge more than 50 meters from any dwelling on an adjoining property	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		Are the effluent storage facilities sealed	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		Is the nitrogen loading rate less than 200kgN/ha/yr when considering with any other applied fertiliser	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		Does the discharge area have more than 90% vegetative cover	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		Does the discharge create an offence or objectionable odour beyond the property boundary	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		Does the discharge resulting in ponding for more than one hour	<input type="checkbox"/>	<input type="checkbox"/>

**Compliance  
issues**

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**YES      NO**

<b>Follow-up Inspection Required</b>		
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**Notes**

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**Enforcement  
Action**

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