FARM DAIRY EFFLUENT MONITORING

Highlights 2001-2002

- During the year 543 non-consented farms were visually inspected. There were 367 systems not inspected, due to good performance in the past.
- For both the consented and non-consented farm dairy effluent systems, there were **144** instances of **significant non-compliance** identified during the season that required follow up action. Fifty-five of those were inspected, with the remaining number still to be visited (as at the end of the 2001/02 season).
- During the year 216 resource consents were issued, bringing the total number of farm dairy effluent consents to 460.

Annual Plan Performance Targets

The 2001/02 Annual Plan contains the following performance targets.

To monitor compliance with farm dairy effluent (FDE) discharge standards, by:

- **Inspecting all farm dairy effluent treatment and discharge systems that received adequate to poor grades (grades 3,4 or 5) and half of those that received good grades (grades 1 and 2) for their last inspection. Record inspection details and report these to the farmers responsible and the Council.**
- **Testing effluent and receiving water quality for systems with resource consents to discharge directly to streams.**
- **Follow up on all systems with poor grades or non-complying, requiring maintenance or upgrades when needed.**

Background

As at 2001/02 there were approximately 1400 farm dairy effluent treatment systems in the region. These are by far the most numerous point source discharges to surface waters and land in Northland.

Dairyshed treatment pond effluent has the potential to have significant impacts on receiving waters, particularly in areas of numerous discharges or low river flows. Potential adverse effects include:

- Increased nutrient loadings promoting nuisance algal growths.
- High ammonia levels that are toxic to fish.
- Microbial contamination of waterways rendering them unsuitable for drinking and contact recreation use.
- Suspended solids resulting in the reduction of water clarity and smothering of aquatic life.

The majority of farm dairy effluent discharges are concentrated in the Whangarei and Kaipara Districts. Areas particularly under pressure include the Ruawai flats and flood plains of the Northern Wairoa River catchment, including the Hikurangi swamp and Kaihu, Mangakahia and Wairua/Mangere River tributaries. The floodplains and coastal flats associated with the lower Awanui River and the Waipu/Pohuenui River system are subject to intensive dairy farming, as is the Kaikohe/Ohaeawai area and Bay of Islands catchment.

While pond systems considerably reduce the levels of contaminants discharged to water compared with untreated effluent, significant contaminants are still present. Even well maintained pond or long ditch treatment systems can have major adverse impacts on the water quality of streams, particularly where there is a cumulative effect of several discharges.

Treatment systems that irrigate effluent to pasture can return the nutrients to the soil rather than waterways. In areas where this method of treatment is practicable, it is the preferred treatment system by the Northland Regional Council as it is less likely to affect water quality than discharging treated wastes to surface water.

Prior to 1995, resource consents were only required for farm dairy effluent discharges located in the Bay of Islands. However, in 1995 the Council released section I of its Proposed Regional Water and Soil Plan for Northland. This includes regional rules that cover agricultural discharges, including those from animal effluent treatment and disposal systems. The intent of these rules is to promote the discharge of animal effluent to land, where practicable, rather than to water and thereby reduce the impact of animal effluent discharges on surface water quality.

Monitoring Programme

The Council is progressively requiring farmers to obtain resource consents for animal effluent treatment and disposal systems that discharge to water. Under these rules, discharges to land are permitted subject to compliance with various conditions. Discharges to water either directly or indirectly require resource consent.

Each season non-consented effluent treatment systems are visually inspected and given a grade 1-5 as per the following designation:

Designation:	1	=	Good
	2	=	Adequate
	3	=	Marginal - Minor or potential problems only
	4	=	Unsatisfactory - Needs work
	5	=	Grossly unsatisfactory - needs urgent or major work

Those that received adequate to poor grades (3, 4 or 5) are requested to remedy those problems identified, and are automatically inspected again during the next season. Half those systems that received good grades (1 or 2) for their inspection are visited in the next season.

Farmers are requested to apply for consent where the visual inspection shows the system discharges to water. The resource consents that are currently being granted for FDE discharges to water fall into the following two categories;

Type I – FDE discharges into (surface) water that are considered to be the Best Practicable Option (BPO) compared with land disposal.

Type II – FDE discharges that may not be the BPO compared with land disposal. These tend to be discharges to sensitive water bodies and/or where the adequacy of the FDE treatment system is questionable.

A visual inspection is made of all Type I FDE systems while discharge and receiving water quality sampling and testing is also carried out in relation to Type II discharges. The results of this sampling and testing will be reviewed in 2003 and 2004 and an assessment will be made based on these results as to whether or not the Type II discharges are the BPO compared with land disposal. This is consistent with the NRC Regional Policy Statement and Revised Proposed Regional Water and Soil Plan requirements regarding FDE discharges.

Results for the Year

During the 2001/02 year, 543 non-consented farms were visually inspected. The resulting grading for those inspections is shown in figure 8.1.

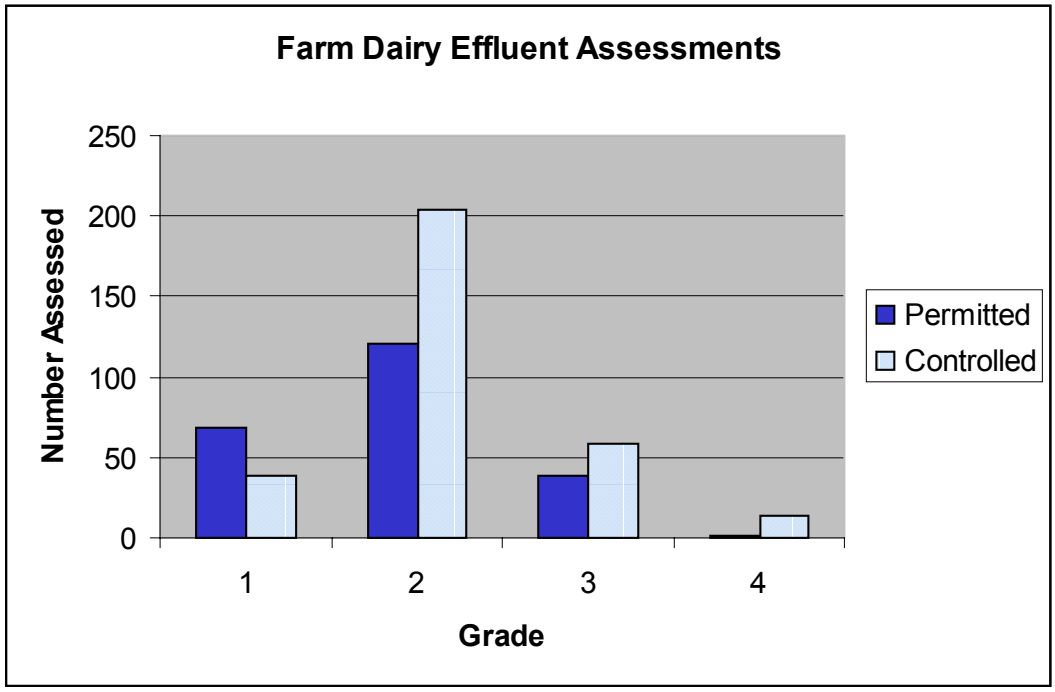

Figure 8.1: Visual assessment results for dairy farm effluent systems during 2001/02

Those systems discharging to water are deemed to be a controlled activity and requested to apply for resource consent; those systems discharging to land are permitted subject to certain conditions. There were 367 systems not inspected during the year, due to good performance in the past.

For both the consented and non-consented farm dairy effluent systems, there were **144** instances of **significant non-compliance** identified during the season that required follow up action. Fifty-five of those were inspected, with the remaining number still to be visited (as at the end of the 2001/02 season).

During the year 216 resource consents were issued, bringing the total number of farm dairy effluent consents to 460.

In future Annual Environmental Monitoring reports, numbers of compliance, non-compliance and significant non-compliance will be more easily reported on due to improved reporting functions from the new monitoring database.