



# Primary Sector Water Partnership

Annual Report 2008-2009

# CONTENTS

Executive summary	3
1 Introduction	4
2 Our promises	4
2.1 PSWP targets	4
2.2 Sector specific targets	5
2.3 Sector commitments	7
3 Work plan next 12 months	7
4 Main lessons learnt.	9
5 The future	10
Appendices	11
Appendix 1: Progress against individual sector targets	11



## Executive summary

The Primary Sector Water Partnership (PSWP) is a group of major primary sector organisations who are committed to ensuring the sustainable use of freshwater resources in the primary sector. In June 2008, the PSWP released a discussion document entitled, 'Primary Sector Water Partnership Leadership Document.' The document is a collective action plan that builds on the individual environmental management programmes of the various partners. This first annual report provides an overview of PSWP activities, achievements and key lessons learnt for the period 1 July 2008 to 30 June 2009. It also sets out the Partnerships proposed programme for the 2009 -2010 year.

During the 2008-2009 year the Partnership has actively engaged with all regional councils resulting in an improved awareness of each other's activities and a strengthening of links between the sectors and councils. On an on-going basis the PSWP plan to meet with regional councils that have indicated a desire to engage in dialogue at least once a year and with those councils where there is other activity on an as required basis. The PSWP will meet with community groups in specific catchments as required, MAF and MfE at least annually, and other groups as required.

In association with the regional councils, the PSWP have identified catchments in Auckland (Hoteo), Waikato (Upper Karapiro), Hawke's Bay (Ngaururo), Horizons (Upper Manawatu), Canterbury (Canterbury Plains), and Southland (Bal-four). The PSWP is to partner with the council's in support of collaborative programmes within these catchments.

Over the first 12 months of PSWP activity a number of key lessons have become evident. These key lessons fall under six headings including; collaborative problem solving, shared extension programmes, on-ground partnerships, monitoring and adaptive management, on farm decisions – catchment outcomes, and partnerships are about people.

Over the next 12 months, the PSWP hopes to build on these lessons learnt, working to strengthen collaboration between sectors and partnerships with regional councils and other stakeholders. Through its efforts the PSWP hopes to make a significant contribution towards an improvement in the management of New Zealand's water resources.

## 1 Introduction

The Primary Sector Water Partnership (PSWP) is a group of major primary sector organisations who are committed to ensuring the sustainable use of freshwater resources in the primary sector. The PSWP was established under the umbrella of the central government initiated Sustainable Water Programme of Action (SWPoA). In June 2008, the PSWP released a discussion document entitled, 'Primary Sector Water Partnership Leadership Document.' The document is a collective action plan that builds on the individual environmental management programmes of the various partners. The PSWP is committed to a work programme, which includes engagement with regional and central government and other stakeholders that will deliver on the targets as set out within the Leadership Document.

This first annual report provides an overview of PSWP activities, achievements and key lessons learnt for the period 1 July 2008 to 30 June 2009. It also sets out the Partnerships proposed programme for the 2009 -2010 year.

## 2 Our promises

Our goals are:

- Maintain and or enhance water quality from primary production land, with demonstrable and accelerated progress on the resolution of water quality issues from agricultural land within five years.
- Demonstrate improvements in water use efficiency by the primary sector within five years.

### 2.1 PSWP targets

Our targets for action are:

#### **Leadership**

- *Engage with regional councils individually and collectively to ensure collective responses to water management.*
- *Complete national and regional 'at risk' water body prioritisation by November 2008 with a complete plan of action by 2010.*
- *Commence at least ten new catchment based community initiatives each year from 2008 to 2013 that address local water quality issues originating from productive land use.*

During the 2008-2009 year the Partnership has actively engaged with all regional councils, with members meeting with each council at least once and in most cases two to three times during the year. These meetings have resulted in an improved awareness of each other's activities and a strengthening of links between the sectors and councils. As a result of these meetings the PSWP is to partner with the council's in support of six collaborative catchment based programmes, each focusing on an 'at risk' water body. These programmes are summarised in section 3 of this report.

An offshoot of the discussions with regional councils has been the acceptance by the PSWP that its original target of ten new catchment based initiatives per year is unrealistic given the resources required to implement and follow through with these programmes to a successful conclusion. The PSWP believes that rather than having a set number of catchments, it is better to assess potential catchment initiatives, and commit to those where the Partnership can best add value.

#### **Nutrient Management.**

- *80% of nutrients applied to land, managed through quality assured nutrient budgets and nutrient management plans by 2013.*
- *By 2016, 1.7 million ha of intensively farmed land<sup>1</sup> will have implemented nutrient management plans.*

<sup>1</sup> Land with dairy, arable and horticultural operations



Good progress has been made towards the achievement of the nutrient management targets. It is estimated that 38% of the nutrients applied to land nationally are managed through quality assured nutrient budgets and 5% through nutrient management plans.

The fertiliser industry has committed \$500 000 per year for 5 years (2008 – 2012) to the ongoing development and upgrading of Overseer Nutrient Budget Model. This matches an equivalent amount from Ministry of Agriculture and Forestry (MAF). The industry has also continued to develop and implement training programmes for nutrient management advisors and set up systems to ensure quality standards are maintained. The Nitrogen Managers for Environmental Accountability programme for horticulture and arable enterprises has been completed and incorporated into Overseer. Nineteen of the twenty-two M&WNZ Monitor Farms had nutrient budgets as at December 2008. Ninety-eight percent of all Fonterra dairy farms now have a nutrient budget. Now the emphasis is on increasing the rate of uptake of nutrient management plans on these farms.

### **Water Efficiency.**

- *80% of extracted water used by the sectors will be under self management approach to meet benchmarks of water efficiency by 2016.*

Irrigation efficiency initiatives have been actively pursued through a number of cross sector collaborative projects. The concept of irrigation system audit has been actively promoted through seminars and conferences and the Irrigation NZ newsletter. A number of irrigation management presentations and courses have been held, with discussions on the benefits of soil moisture monitoring, efficient water use and irrigation. In addition, considerable background work has been undertaken to develop a cross sector irrigation efficiency initiative which is due to commence during the 2009-2010 year, subject to funding.

### **Sediment and Microbial Management.**

- *By 2010 all forestry land, and by 2016 1.7 million ha of intensively farmed land will have implemented a management programme to minimise microbial and sediment deposition in waterways*

In the sediment and microbial reduction area the main initiatives have been through the forestry sector around the development of a national environmental standard for forestry and the release and promotion of an environmental code of practice (ECOP). Over 50% of forestry contractors and greater than 60% of harvest contractors now have a copy of the ECOP.

### **Capability building, research and extension**

- *Capability building. Develop the required capability to achieve the sector specific targets by 2011.*
- *Research and extension increase alignment of sector and public research investment to deliver the knowledge required to achieve the desired outcomes in priority water body catchments.*

Work on these areas of project activity are scheduled to begin in the 2009/2010 year.

## **2.2 Sector specific targets**

Achieving the targets outlined above requires action from each of the partners. Key sector achievements for the 2008-2009 year are summarised below. More detail on progress against the specific sector targets is provided in Appendix 1.

### **DairyNZ and Fonterra**

- ✓ Good progress has been made towards the achievement of all of the Dairy and Clean Streams Accord targets except the target relating to dairy shed effluent compliance. The industry acknowledges that progress to date in this area is unacceptable.
- ✓ The dairy industry is working closely with the fertiliser industry to develop an agreed process for on-farm nutrient management planning.
- ✓ Primary sector partners (including DairyNZ ) are investing in a project to develop benchmarks for irrigation water use efficiency in Canterbury and promote irrigation WUE (2009/2010). There is potential for this to be rolled out nationally at a later stage.
- ✓ The dairy industry has been active in commissioning research that progressively delivers by 2016 tools, technologies and management practices. Initiatives include; measuring farm scale impacts, quantifying the value associated with the environmental, economic, social and cultural impact, delivery of farmer-friendly mitigation tools and technologies, and developing effective mitigation strategies to ensure on-farm change.

### **Foundation for Arable Research**

- ✓ New horticultural and arable modules developed under the Nitrogen Managers for Environmental Accountability (NMEA) project have been fully incorporated into the nutrient budget model, Overseer. Information on NMEA and Overseer has been circulated to farmers.
- ✓ Use of the wheat calculator and the principles behind it increased dramatically in 2008.
- ✓ A large number of Amaize N CD's have been distributed to growers and industry prior to the last maize season and feedback from users has been positive. Uptake is expected to reach 5% for 2009.
- ✓ A booklet (FAR Focus) "Non-inversion agronomy. guidelines for successful reduced tillage" has been distributed to all arable farmers.

### **Horticulture NZ**

- ✓ The results from the SFF sponsored Nutrient Managers Environmental Accountability project (NMEA) has now been fully incorporated into Overseer as Arable and Horticulture modules and can be run from the web based version.
- ✓ The initial work to establish the model has been completed for between 20 and 30 crops. The crops nutrient work has been completed represents the significant proportion of horticultural production. Further work is needed to validate model results and to embed the model in NZGAP.



- ✓ There is now high level recognition of an input model for nutrients in most of the approximately 110 horticultural crops. Development is more sophisticated in some crop models; for example the Potato calculator that has been commercialised in NZ and is being developed internationally.
- ✓ Post completion of the NMEA project a new project has been commenced to develop and extend Overseer Hort. A Massey course on the NMEA tool has been programmed for October 2009 for trainers. Following the trainer course 6-8 months of intensive regional workshops are planned.

### ***Meat and Wool NZ***

- ✓ Nineteen out of the twenty-two M&WNZ Monitor Farms had nutrient budgets as at December 2008. M&WNZ is working with the fertiliser companies to encourage all M&WNZ monitor farms to use Overseer and develop formal nutrient budgets and formal Nutrient Management Plans for their farms.
- ✓ As at 30 June 2009 there had been more than 700 requests from farmers for copies of the full Land & Environment Plan (LEP) tool kit. The full LEP tool kit (levels 1, 2 & 3) along with background information and resources are available on the M&WNZ website [www.meatandwoolnz.com](http://www.meatandwoolnz.com).
- ✓ In conjunction with FMRA and its members, M&WNZ has initiated collection of detailed Overseer analysis from M&WNZ Survey Farms. The data is provided to the MAF Farm Monitoring Programme. In 2008, M&WNZ collected over 100 Nutrient Budgets from Survey Farms and is on track to collect a further 100 by December 2009.

### ***NZ Farm Forestry Association and NZ Forest Owners Association***

- ✓ Over a period of three years, the NZ Forest Owners Association with input from its members developed the "NZFOA Environmental Code of Practice." The Code is a key environmental management reference tool for forest managers. A field guide containing the best environmental practices has also been developed for operational practitioners.
- ✓ In 2008, the NZFOA undertook a survey of members to ascertain the uptake of the Code. Of the 491 forestry contractors surveyed, 48% had a copy of the Code. Amongst the different forestry contractor groups, the rate of compliance with the Code was 90% or greater.
- ✓ In association with the Ministry for the Environment, a stakeholder group was formed in March 2009 to commence the development of a National Environmental Standard (NES) for forestry. Good progress has been made.

### ***Fertiliser Manufacture's Research Association (FMRA)***

- ✓ One million dollars per year for 5 years (2008 – 2012) has been committed to the ongoing development and upgrading of Overseer Nutrient Budget Model.
- ✓ A nitrification inhibitor component and aspects of wetlands and riparian margins have been incorporated into Overseer.
- ✓ A comprehensive Overseer Training Programme has been developed for fertiliser industry staff. This programme will form the basis of company accreditation of staff.
- ✓ An independent audit of on-farm delivery of nutrient budgets by Ballance Agri-Nutrients Ltd, Ravensdown Fertiliser Cooperative Ltd and Summit Quinphos NZ Ltd has been completed.

### ***Irrigation NZ***

- ✓ The Irrigation NZ, Irrigation System Design Code of Practice, has formed the basis of a NZQA accredited qualification at Level 3. The approved training provider accepted the first intake of trainees in 2009.
- ✓ The opportunity for irrigation system audit has been actively promoted through seminars and conferences and INZ newsletter. As at 30 June 2009, 17 had undertaken training of the NZQA accredited audit courses.
- ✓ A system for irrigation scheme self management has been developed and results have been presented to public meetings in the case study areas.

### ***Federated Farmers***

- ✓ Federated Farmers has undertaken the PSWP administrative functions, acting as the contracting authority, coordinating finances, and organised meetings in support of the Chair's role.
- ✓ As a PSWP partner, the Federation has had an active involvement in encouraging regional councils to identify priority catchments and their critical issues and participation in catchment programmes.
- ✓ The use of tools and mitigation practices that can be used by farmers to improve freshwater management on the farm have been actively promoted.
- ✓ Federated Farmers has been active in council policy and plan development processes through the "100 submissions in 100 days" campaign, to ensure the views of farmers on freshwater management are well represented.

## **2.3 Sector commitments**

During the 2008/2009 year, the sector partners between them committed approximately \$67,000 to the operation of the Partnership. Commitments to water and nutrient work totalled over \$2 million dollars. The extent of this commitment is reflected in the progress made towards the achievement of the sector targets.



### 3 Work plan next 12 months

The Primary Sector Water Partnership has planned work activity in a number of areas over the next 12 months. For the purposes of this document they have been grouped under two headings – Communication and Policy, and Monitoring Research and Extension Activities.

#### ***Communication and policy***

The PSWP will remain active in communication with regional councils, Government, community groups, farmers, NGO's and interest groups. More specifically the PSWP plan to meet with regional councils that have indicated a desire to engage in ongoing dialogue at least once a year and with those councils where there is other activity on an as required basis. The PSWP will meet with community groups in specific catchments as required, MAF and MfE at least annually, and other groups as required. The PSWP will utilise the communication networks of the sector partners to outline progress on specific issues to individual farmers, growers and land managers.

The PSWP will not directly engage in policy work but will rely on sector partners to contribute policy development in this area. The PSWP will endorse the policy work of the individual sector groups on a case by case basis.

The relationship between the PSWP and the Land and Water Forum is not yet clear but the PSWP plan to be active in communication with the Forum. The PSWP believes that through the experience gained from its focus on collaborative approaches and practical on-ground initiatives, it can add a valuable contribution to Forum discussions.

#### ***Monitoring, research and extension activities***

The PSWP has engaged with regional councils to develop a number of catchment based programmes. The activities in these programmes include awareness, monitoring, research, reporting and extension. In association with the regional councils, the PSWP have identified catchments in Auckland (Hoteo), Waikato (Upper Karapiro), Hawke's Bay (Ngaururo), Horizons (Upper Manawatu), Canterbury (Canterbury Plains), and Southland (Balfour). Community responsibility for implementing these programmes will be encouraged.

### **Auckland region** – *Hoteo catchment*

The Hoteo is the Auckland region's largest river with a catchment of 405 km<sup>2</sup>. This river drains into the Kaipara Harbour which is thought to be the largest estuary in the southern hemisphere. It is recognised as an area of international importance for coastal birds, has a high diversity of marine organisms, and contains ecologically significant marine communities that provide a wide variety of functions and services. Recently the ecosystems of the harbour, and in particular the sea grass beds, have been identified as being highly significant in supporting the snapper populations, both within the harbour and the open coast. Specifically, significant issues have been identified around sediment and phosphorus. The PSWP will partner with the Auckland Regional Council, Rodney District council, Ministry of Fisheries and a number of local groups in a programme, with an initial focus on sediment reduction.

### **Waikato region** – *Upper Karapiro catchment*

The Upper Karapiro Catchment has an increasing amount of diffuse nutrient discharges and is starting to reach community limits for water colour and clarity in the hydrolake catchments. Recent land use change and intensification pressure is concerning for Council with expected increases in nitrate leaching. To compound the issue water ages in stream in the hydro lakes catchment are somewhere between 5-60 years through catchment and thus it will get worse before it gets better. This also means that current land use intensification trends have not been seen in water quality yet. A number of initiatives are underway supported by a range of sector groups but a more complete catchment approach is required. A number of sectors already have extensive involvement with the Upper Waikato programme, and the PSWP will provide further support to the initiative.

### **Hawke's Bay region** – *Lower Ngaruroro*

The Ngaruroro is the main source of recharge for the Heretaunga Plains aquifer, which sustains the horticulture and agriculture of the Heretaunga plains, as well as the industry and a domestic water supply for the most densely populated area of the region. It is a regionally significant river (including recreational and cultural values). It is strategically important for the region's economy. There is a high level of public interest in this river. PSWP will work with Hawkes Bay Regional Council and local landowners in a collaborative programme to develop a self management system for Ngaruroro.

### **Horizon's region** – *Upper Manawatu catchment*

The Upper Manawatu Catchment is important to Horizons Regional Council in terms of the water quality and water quantity issues. Work is underway and is needed on a range of initiatives in this area to reduce hill country erosion and reduce sediment (and phosphorus) input into water ways. The level of irrigation in the catchment has reached full allocation. The water quality regularly exceeds standards for nutrients and sediment. This catchment is a priority for the proposed rule in the One Plan in relation to nutrient management from non point sources. The PSWP will partner with Horizons Regional Council in a programme with a focus on working with landowners to increase the uptake of best management practices within the catchment.

### **Canterbury region** – *Canterbury Plains*

The Canterbury Plains is the largest expanse of agricultural land in Canterbury with considerable potential for intensification. It has a requirement for both water quantity and quality management. The Canterbury Plains aquifers feed lowland streams which have been identified as a key ecosystem for protection and restoration. They are also the source of drinking water for towns and cities, and individual domestic bores. Proposed activity is around understanding of and management of the resource, and understanding and management of nitrate flows /and losses to the aquifer. The PSWP will enter into a collaborative arrangement with Environment Canterbury to address some of the key issues.

### ***Southland region – Balfour catchment***

The Balfour groundwater zone is part of the Waimea catchment and is an area of approx 2,000 hectares with a groundwater quality issue. Nitrate concentrations at some sites within the zone are approximately twice the maximum acceptable value contained in the NZ Drinking Water Standard. Environment Southland has completed detailed investigations into the zone but community engagement has been limited to two public meetings at this stage. The PSWP is to partner with Environment Southland and local landowners in a collaborative programme to understand the hotspot issues and develop solutions. The source of nitrate is not clear and the area and variability across the affected area has not been determined.

### ***Primary Growth Partnership Water Programme***

Work towards the obtainment of better soils data, greater capability development, and the development of self-management systems for improved water and nutrient management, will form the basis of an application to the new MAF Primary Growth Partnership (PGP). Much of the work envisaged needs to be undertaken over a relatively long (at least 5 years) timeframe to account for seasonal variability and to ensure that new methodology will deliver a change in water quality and water availability. Within the overall work programme there will be a range of short and long term activities.

## **4 Main lessons learnt**

The main lessons learnt over the past 12 months fall under six headings.

### ***Collaborative problem solving***

- The PSWP strongly believes that there are significant benefits to be gained from greater collaboration between the sectors and between the sectors and regional council's. The Partnership also believes that there is considerable scope in most regions for collaborative initiatives to address some of the key water quality and quantity issues facing the regions. However, there has to be a strong will and desire from all parties involved for these initiatives to work. The PSWP believes that one of the key constraints to greater collaboration is a shortage of suitably skilled people who are able to guide the process through all its stages.

### ***Shared extension programmes***

- Most of the sectors and councils have extension programmes focusing on different aspects of environmental management. The PSWP believes that there are benefits in joint delivery of these programmes both from a cost effectiveness and programme efficiency point of view. It also allows for the better use of the limited funds that are available for extension purposes. The PSWP sees opportunities in all regions for input into a review of the way extension programmes are delivered and the coordination of these programmes where appropriate.

### ***On-ground partnerships***

- With all programmes there is a need for action on the ground. Landowners respond to initiatives where they can see progress being made. On-ground partnerships provide the opportunity for the sectors, councils and landowners to identify the key issues and develop and implement practical on-farm solutions. Effective on-ground partnerships require the sharing of ideas, collaborative planning of the way forward, and on-farm implementation.

### ***Monitoring and adaptive management***

- The PSWP believes that the monitoring of progress is a vital component of effective programme delivery. Monitoring provides the opportunity to not only demonstrate that progress is being made but also to use information collected as a vehicle for learning and adaptive management. Learning and adaptive management requires the engagement of all stakeholders and the setting in place of processes to work through issues as problems arise. Programmes which adopt this approach are generally more effective than those that don't.

### ***On farm decisions – catchment outcomes***

- The PSWP recognises the benefits of catchment based approaches to the management of water quality and water quantity issues. The Partnership also recognises that there is no 'best' approach to catchment management and that the approach adopted for a particular situation must fairly reflect the issue/s under consideration, and community aspirations. At the catchment level the focus must be on achieving agreed catchment outcomes. The key to the achievement of these outcomes is the relating of them back to what they mean on-farm. The PSWP believes that there must be strong linkages between the catchment outcomes and the on-farm decision makers, the landowners.

### ***Partnerships are about people***

- Perhaps the most important lesson learnt is that people matter. The PSWP needs to manage expectations carefully. This is particularly true around regional council expectations of what the Partnership can deliver. When working with councils the sectors need to recognise the political, cultural and legislative environment that councils are working within. In the same way councils need to recognise the constraints that the sectors work under. The first key to building strong partnerships between the sectors and regional council's is having the right people involved. It's about building relationships. The second key is, having the right process. Sometimes this will mean doing things in a different way to how they have been done in the past.

## **5 The future**

Over the next 12 months, the PSWP hopes to build on these lessons learnt, working to strengthen collaboration between sectors and partnerships with regional councils and other stakeholders. The Partnership also plans to expand its work programme into areas that are at the 'cutting edge' of developments in the management of water and nutrients. Through its efforts the PSWP hopes to make a significant contribution towards an improvement in the management of New Zealand's water resources.

## Appendices

### Appendix 1: Progress against individual sector targets

This annex outlines the targets, and actions that individual sectors and organisations have committed to in order to achieve the collective targets as set out within the Leadership document. It also sets out the achievements for the 2008-2009 year.

#### DairyNZ and Fonterra

The dairy industry is committed to sound environmental management. The industry is actively working with researchers and farmers to develop and implement effective solutions to the environmental issues faced by the industry. The industry has also been active in promoting and developing collaborative arrangements with regional councils. For example, in Southland DairyNZ and Fonterra have been working in a collaborative process with Environment Southland to improve dairy shed effluent compliance. The programme includes a mix of policy, research, technology and extension initiatives. The industry plans to extend these types of initiatives to other regions in coming seasons. A number of the initiatives that the dairy industry is involved with involve other PSWP partners. These include initiatives aimed at improved water use efficiency and the adoption of nutrient management planning as standard practice on dairy farms.

COMMITMENTS	2008-2009 ACHIEVEMENTS
<p><i>Full adoption of the Dairying and Clean Streams Accord</i></p> <ul style="list-style-type: none"> <li>– <i>Dairy cattle excluded from 50% of streams, rivers and lakes by 2007; 90% by 2012.</i></li> <li>– <i>Half of regular crossing points to have bridges or culverts by 2007; 90% by 2012</i></li> <li>– <i>All farm dairy effluent discharges to comply with resource consents and regional plans.</i></li> <li>– <i>All dairy farms to have systems in place to manage their nutrient inputs and outputs by 2007.</i></li> <li>– <i>Half of regionally significant wetlands on farms to be fenced by 2005; 90% by 2007</i></li> </ul>	<p>Nationally, stock are now excluded from nearly 80 percent of waterways on farms with Accord type waterways. The target for stock exclusion has been exceeded in 11 of the 13 regions where the Accord applies.</p> <p>The 2012 crossing point target has already been exceeded in all regions except Tasman and Marlborough. The percentages of crossings with bridges or culverts for these two regions are 89 percent and 88 percent respectively.</p> <p>The level of full compliance with regional council dairy effluent rules and conditions varies widely between regions. Overall, the level of full compliance was 70 percent. The overall level of significant non-compliance recorded in 2007/08 was 11 percent. The current level of non-compliance is unacceptable. Fonterra has recently introduced new measures to assist poorly performing farmers. DairyNZ is supporting this programme by funding development of design standards for effluent systems and an associated Code of Practice.</p> <p>Nearly 99 percent of Fonterra dairy farms now have a nutrient budget, the first step towards the adoption of comprehensive nutrient management practices on farm. The next step is to increase the adoption and active use by farmers of full nutrient management plans.</p> <p>Progress against the wetland target is not included because only five of the thirteen regional or unitary councils covered by the Accord have identified regionally significant wetlands. While the significant wetlands have not been identified in the other regions, Fonterra is continuing to communicate to affected suppliers that all stock should be excluded from all wetlands that are likely to be deemed significant.</p> <p>Full details of the latest Accord Report can be found at <a href="http://www.maf.govt.nz/mafnet/rural-nz/sustainable-resource-use/resource-management/dairy-clean-stream/execsum-07-08.htm">www.maf.govt.nz/mafnet/rural-nz/sustainable-resource-use/resource-management/dairy-clean-stream/execsum-07-08.htm</a>.</p>

COMMITMENTS	2008-2009 ACHIEVEMENTS
<p><i>Nutrient management – provide programmes to have 50% of dairy farms implementing a nutrient management plan by 2012 and 100% by 2016</i></p>	<p>DairyNZ, Fonterra and the Fertiliser Industry is working on this together. The focus is on:</p> <ul style="list-style-type: none"> <li>• Establishing an agreed format of a Nutrient Management Plan between dairy companies, DairyNZ and the fertiliser companies (2009).</li> <li>• Testing the approach in Karapiro in partnership with Environment Waikato (700 farms) (2009).</li> <li>• Establishing a database to aid development of regional and sub-regional benchmarks at catchment and larger scales (2010).</li> </ul> <p>Using benchmark data to inform discussions on targets for efficient nutrient use in prioritised regions and best practice dairy catchments (2011).</p>
<p><i>Set benchmarks and targets for increasing resource use efficiency by 2010</i></p>	<p>Primary sector partners are investing in a project to develop benchmarks for irrigation water use efficiency in Canterbury and promote irrigation WUE (2009/2010). There is potential for this to be rolled out nationally at a later stage.</p> <p>DairyNZ is leading a project, with support from Environment Waikato and Dairy Companies, to promote water use efficiency on non-irrigated farms in the Waikato (2009/2010). There is potential for this to be rolled out nationally at a later stage.</p>
<p><i>Demonstrate by 2016 a significant reduction (30% as an interim stretch target) in nutrient losses at catchment scale in areas where water quality is identified as being at risk.</i></p>	<p>DairyNZ or Fonterra has participated in all of the PSWP meetings with regional councils to identify priorities for the PSWP to work in over the next few years. The dairy industry will contribute to achieving targets set with relevant regional councils in the at risk catchments that the PSWP work programme for 2009/10 focuses on.</p>
<p><i>Commission research that progressively delivers by 2016 tools, technologies and management practices capable of delivering:</i></p> <ul style="list-style-type: none"> <li>– <i>Off farm losses – 50% less nitrogen, 50-80% less phosphorus, microbial levels at contact recreational standard</i></li> <li>– <i>Efficiency use gains, 40% increase in water use efficiency by development of improved pasture and forage species.</i></li> <li>– <i>Irrigation use efficiency. In partnership with Irrigation NZ, development of tools and encouragement of uptake so that 80% of water in dairy industry will be under self management to meet industry good practice benchmarks.</i></li> </ul>	<p>DairyNZ and Fonterra are investment partners with others (FRST; Meat &amp; Wool) in the Pastoral 21 research programme (led by AgResearch Ltd) to contribute to these targets:</p> <p>P21 Environment – There are six work streams covering:</p> <ol style="list-style-type: none"> <li>1) Benchmarking of the current impact of pastoral farming at an industry level;</li> <li>2) Measuring impacts at a farm scale;</li> <li>3) Quantifying the value associated with the environmental, economic, social and cultural impacts;</li> <li>4) Delivery of farmer-friendly mitigation tools and technologies relevant to reducing N, P &amp; faecal bacteria loads to waterways;</li> <li>5) Integrating these mitigation tools into farm systems; and</li> <li>6) Developing effective mitigation strategies to ensure on-farm change.</li> </ol> <p>P21 Feed -</p> <p>The Canterbury Water irrigation Project will include research and will contribute to this target.</p>

## Arable

The arable sector is actively working with farmers, researchers and regulators to ensure farmers have the skills and knowledge to manage water and nutrients using the current best management practices. FAR's involvement in the PSWP cross sector initiatives is part of the commitment to ensuring farmers have the knowledge and skills to make a difference on their farms and in their catchments. The targets set in some instances are very ambitious and reflect the need for technical information to be distributed by competent and committed sector personnel. In other cases, particularly where the base information is lacking, the targets are less ambitious. Nevertheless, as new knowledge comes to hand it is envisaged that this will result in significant on-ground changes. FAR are extremely pleased with the progress made towards the achievement of all of its targets in year one.

COMMITMENTS	2008-2009 ACHIEVEMENTS
<p><i>Nitrogen Managers for Environmental Accountability (NMEA) completed by January 2009.</i></p> <ul style="list-style-type: none"> <li>– <i>By end 2009 arable industry recognition of nutrient budgeting for high risk activities.</i></li> <li>– <i>NMEA developed into Overseer by February 2009</i></li> </ul>	<p>NMEA was completed in early 2009 following workshops with farmers and regional councillors. NMEA has now (May 2009) been fully incorporated into Overseer as Arable and Horticulture modules and can be run from the web based version. Information on NMEA and Overseer has been circulated to farmers and some testing has occurred with farmers.</p>
<p><i>Increased use of FAR crop management guidelines.</i></p> <ul style="list-style-type: none"> <li>– <i>Increase use of wheat calculator or principles of the wheat calculator from 60 -80% by 2010.</i></li> <li>– <i>Expand principles of wheat calculator to barley and achieve 15% uptake by 2015.</i></li> <li>– <i>Release the new maize calculator for widespread use in 2008 and 5% uptake in 2009</i></li> </ul>	<p>Use of the wheat calculator increased dramatically in 2008. It is not possible to accurately project current usage without an expensive survey.</p> <p>Efforts have been made to commence a project to produce a cereal calculator to replace the wheat calculator and cover barley. Discussion have been held with Plant &amp; Food and Crop but progress is delayed largely due to the unavailability of capable modelling staff.</p> <p>A large number of Amaize N CD's have been distributed to growers and industry prior to last maize season and feedback from users has been positive. Uptake is expected to reach 5% for 2009.</p>
<p><i>Clear guidelines provided to growers on how and when to use reduced or no-tillage techniques by 2012.</i></p>	<p>A booklet (FAR Focus) "Non-inversion agronomy guidelines for successful reduced tillage" has been distributed to all arable farmers. A new project "Grass to crop" is investigating methods to get from grass to crop using reduced tillage.</p>
<p><i>Improve irrigation efficiency and plant water use efficiency by:</i></p> <ul style="list-style-type: none"> <li>– <i>Extension of irrigation use efficiency with 80% new irrigators on arable farms tested prior to commissioning in 2010 and 15% of existing irrigators tested prior to 2010.</i></li> <li>– <i>Soil moisture monitoring and best management practices for irrigation management used on 15% of irrigated area by 2010.</i></li> <li>– <i>Irrigation use efficiency – In partnership with Irrigation NZ development of tools, encouragement of uptake so 80% of water used in arable industry will be under self management.</i></li> </ul>	<p>The opportunity for irrigation system audit has been actively promoted through seminars and conferences and INZ newsletter.</p> <p>Irrigation management presentations and courses have been held which discuss soil moisture monitoring and to encourage efficient water use and irrigation. A project to develop a whole farm irrigation model has developed the prototype software. This has been critiqued by a number of farmers and needs further development prior to wider distribution and prior to incorporation into a wider tool with Irrigation NZ.</p>
<p><i>Continue to promote the uptake of GROWSAFE.</i></p>	<p>Growsafe is promoted at FAR events as a suitable tool for managing Agrichemicals. In addition, FAR funded a project on the influence of shelter systems on spray drift and nozzles on canopy penetration.</p>

## **Horticulture New Zealand**

This preamble generally comments on work that is part of the Horticulture NZ targets programme. It also recognises other work that has been commenced and progressed to improve water management in the horticulture industry.

Nitrogen management work has progressed significantly this year. Further work is required to ensure the tool reflects practice in all horticultural situations. Horticulture NZ is committed to completing this work and facilitating technology transfer to growers. Issues exist due to the cost and time required to validate the tool across a range of regions and crops, the timeframes for the policy development programmes of regional government and the resources other than time and cost involved with providing extension and technology transfer onto the farm.

RMA advocacy at the regional level has continued promotion of GROWSAFE™ tools and training for all rural and other users of agrichemicals; particularly in Canterbury, Auckland and Horizons regions. The focus of advocacy has been on encouraging the responsible, sustainable and safe use of agrichemicals. Advocacy has resulted in plan recognitions of these GAP's. Modules for NZGAP are being built to incorporate new tools and codes of practice into NZGAP for management of nutrients and sediment from production activities. This includes continued work to develop a soil management tool for the Horowhenua growing region; a modified tool for the growing region of Ohakune (in progress) and continued refinement of soil management approaches developed through the existing Franklin Sustainability project; for the Pukekohe and Pukekawa growing regions.

A collaborative partnership has been established with the ARC rural compliance team to develop and refine methods that promote sustainable growing practices in the Auckland half of Pukekohe growing region. A project partnering with other sectors and Hawke's Bay Regional Council to look at water use efficiency and allocation in The Ngaruroro River catchment is proceeding. Embryonic work on use of water user groups in Pukekohe lowland streams looking at allocative efficiency in conjunction with ARC is underway, but has raised complex resource management issues that are being worked through. An irrigation efficiency project is underway in partnership with Environment Waikato, Aqualinc and the Community Irrigation Fund (MAF) to investigate horticultural patterns of water use and irrigation management in the Waikato Region.

COMMITMENTS	2008-2009 ACHIEVEMENTS
<i>Achieve the objectives of the MAF SFF / Horticulture &amp; Arable Industries / Regional Government Project: Nitrogen Managers for Environmental Accountability (NMEA) by January 2009.</i>	NMEA was completed in early 2009 following workshops with farmers and regional councillors. NMEA has now (May 2009) been fully incorporated into Overseer as Arable and Horticulture modules and can be run from the web based version. Information on NMEA and Overseer has been circulated to farmers and three workshops have occurred with farmers.
<i>By end-2009 Hort Industry product group recognition of nutrient budgeting for all high risk activities; i.e. leaching from certain crops on different soil types.</i>	There is now high level recognition of an input model for nutrients in most of the approximately 110 horticultural crops. Development is more sophisticated in some crop models; for example the Potato calculator that has been commercialised in NZ and is being developed internationally.
<i>February 2009 - NMEA developed 'Overseer (Hort)', based on HortResearch's SPASMO and Crop &amp; Food's Soil and Plant Growth Models (ex LUCI), completed and rolled out.</i>	The initial work to establish the model has been completed for between 20 and 30 crops. The crops nutrient work has been completed represents the significant proportion of horticultural production. Further work is needed to validate model results and to embed the model in NZGAP.
<i>2009 onwards – advocate with regional councils for the voluntary uptake of 'Overseer (Hort)' by growers to be recognised in land and water plans, through permitted activity rules for fertiliser application via nutrient budgeting.</i>	Work has commenced with Horizons Regional Council, Environment Canterbury and Environment Waikato (through RMA advocacy).
<i>March 2009 - Commence 6 months extension work with Overseer (Hort).</i>	Post completion of the NMEA project a new project has been commenced to develop and extend Overseer Hort. A Massey course on the NMEA tool has been programmed for October 2009 for trainers. Following the trainer course 6-8 months of intensive regional workshops are planned.
<i>Late 2009 – 'Overseer (Hort)' incorporated into New Zealand GAP</i>	In Progress (see preamble above).

## Meat and Wool

Meat & Wool New Zealand recognises the growing importance of appropriate water and nutrient management. M&WZN, along with other primary sector organisations, is active at the national level in policy affecting the water management framework and are also committed to educating and encouraging our sheep and beef farmers to adopt good agricultural practice in relation to water and nutrient management. M&WZN's participation in the PSWP is part of this commitment to doing actual on-the-ground work that makes a difference to farmers and the environment, whilst maintaining economic viability. In setting targets under the PSWP, M&WZN have recognised that in some instances the sector is starting from a variable base and that it will take some time to build momentum in this area of activity. The targets set reflect a low baseline, however as more technical information on improved farming technologies becomes available and awareness increases it is expected that uptake rates will accelerate.

RELEVANT TARGET	ACTION
<p><i>To work with the fertiliser industry to encourage the uptake of nutrient budgeting through the use of Overseer by sheep and beef farmers - all M&amp;WZN Monitor Farms to be operating Overseer based nutrient budgets by the end of the 07/08 year.</i></p>	<p>19 out of the 22 M&amp;WZN Monitor Farms had nutrient budgets as at December 2008, and the remaining 3 were pending.</p> <p>M&amp;WZN surveys monitor farms annually to assess progress and encourage the uptake of Overseer and formal nutrient budgets whenever fertiliser is applied.</p> <p>M&amp;WZN is working with the FMRA and fertiliser companies to encourage all M&amp;WZN monitor farms to use Overseer and develop formal nutrient budgets and formal Nutrient Management Plans for their farms.</p>
<p><i>For sheep and beef farmers to be given an opportunity to obtain a copy of Level 1, Level 2 &amp; Level 3 Land Environmental Plans in the 07/08 year. Goal to achieve 3000 requests from farmers for these during the 07/08 year.</i></p>	<p>As at 30 June there had been more than 700 requests for copies of the full LEP tool kit. M&amp;WZN still have some way to go to meet the target, however the focus has been on ensuring the quality of the resource is of a high standard which will help ensure meaningful outcomes and active engagement with sheep and beef farmers.</p> <p>Prototypes of the Level 1 and 2 LEP toolkit were distributed to sheep and beef farmers over 2007-08 prior to the launch of the final toolkit. The finalised LEP tool kit was launched in December 2008 via the following:</p> <ul style="list-style-type: none"> <li>Sent to all monitor farmers and their agribusiness facilitators</li> <li>Promotional article in the Countrywide magazine with farmer advocates</li> <li>Full LEP tool kit (levels 1, 2 &amp; 3) along with background information and resources available on the M&amp;WZN website <a href="http://www.meatandwoolnz.com">www.meatandwoolnz.com</a></li> <li>LEP tool kit promotion by M&amp;WZN Region Managers</li> </ul> <p>M&amp;WZN contractually requires each monitor farm to develop a formal LEP at whatever level acceptable to both M&amp;WZN &amp; their local regional council.</p>
<p><i>To work with the Fertiliser Industry to increase the uptake and use of the "Fertiliser Code of Practice".</i></p>	<p>Use of the "Fertiliser Code of Practice" (FCoP) has now been built into the nutrient budgeting process. The uptake of nutrient budgeting is being encouraged by M&amp;WZN in several ways. Copies of the FCoP were distributed in the prototype LEP tool kits and copies are available on request from M&amp;WZN. Nutrient budgeting is required when developing a LEP Level 2 or better using the M&amp;WZN toolkit. This is also audited and the Overseer result recorded as part of the Asure Quality checklist. M&amp;WZN monitor farms are required to have formal nutrient budgets and management plans in place.</p> <p>In conjunction with FMRA and its members, M&amp;WZN has initiated collection of detailed Overseer analysis from M&amp;WZN Survey Farms. The data is provided to the MAF Farm Monitoring Programme. In 2008, M&amp;WZN collected over 100 Nutrient Budgets from Survey Farms.</p>

## **NZ Forest Owners Association & NZ Farm Forestry Association**

The NZFOA and the NZFFA recognise the importance of sound environmental management. The forestry industry has been active over many years developing improved methods of environmental management and was a trend setter with the release of its first Environmental Code of Practice back in 1990. The industry has continued to develop and improve on the Code resulting in the release of the new Code in 2007. The forestry industry has been active in ensuring that all members not only have a copy of the Code but are active in implementing the industry best practices that are contained within. The NZFOA and the NZFFA are pleased with the progress made towards the achievement of the targets as set out within the PSWP Leadership document.

COMMITMENTS	2008-2009 ACHIEVEMENTS
<p><i>NZ Forest Owners Association members will, within one year (December 2008), ensure that all forestry contractors operating on members' land have a field copy of the relevant Best Environmental Management Practices section of NZFOA Environmental Code of Practice (Part 1, 2007), and be cognoscente of the Compulsory Rules defined therein.</i></p>	<p>Over a period of three years the NZ Forest Owners Association, with input from its members, developed the "NZFOA Environmental Code of Practice", which replaced the NZ Forestry Code of Practice (1990 and revised in 1993). The Code is a key environmental management reference tool for forest managers. A field guide containing the BEPs has been designed for operational practitioners.</p> <p>In 2008, the NZFOA undertook a survey of members to ascertain the uptake of the Code. The survey differentiated contractors into five groups. Forestry (planting, silviculture), harvesting, roading and earthworks, agrichemical and fertiliser, and others (security, mensuration). Respondents were asked to confirm if contractors had a copy of the ECoP, or a copy of the appropriate BEP's, or a copy of appropriate company rules and guidelines. The results are presented in the table 2 on page 17.</p>
<p><i>NZ Forest Owners Association members will, within two years (December 2009), ensure that all forestry contractors operating on members' land are in compliance with all the compulsory rules defined in Part 1 of the NZFOA Environmental Code of Practice (2007).</i></p>	<p>Compliance monitoring as proposed for 2009/10 holds huge challenges and potential risks for NZFOA as a voluntary organisation</p> <p>The current lack of profitability means that most NZFOA members are not in a position to pay for independent 3rd party auditors.</p> <p>A model may be to partner with regional councils to prepare a standard audit methodology to address effects of activities undertaken as Permitted Activities. The hourly audit charges plus travel and correspondence processing charges imposed by some councils would need to be reviewed.</p>
<p><i>Forest Owners will support Universities, research consortiums and CRIs to undertake field trials of risks, costs &amp; benefits of incorporating environmental impact mitigation methods and techniques into common agricultural systems.</i></p>	<p>NZFOA members maintain a watching brief on the Massey University Biochar initiative</p> <ul style="list-style-type: none"> <li>• Refer: <a href="http://WWW.Biochar.co.nz">WWW.Biochar.co.nz</a></li> </ul>
<p><i>Forest Owners will assist MfE to develop, within two years (December 2009), a National Environmental Standard (NES) under the RMA for a defined list of plantation forestry activities relating to protection and maintenance of water quality. The NES will aim to establish Permitted Activities conditions designed to protect water quality</i></p>	<p>Engaged with Minister of Environment March 2009</p> <p>Stakeholder group convened June 2009, involving 3 forestry companies, NZ Institute of Forestry, Iwi, Fish &amp; Game, 3 Regional Councils, MAF &amp; MfE</p> <ul style="list-style-type: none"> <li>• Draft NES text now in preparation</li> <li>• Meetings with Southern &amp; Eastern Wood Councils (Balclutha &amp; Gisborne) to advise Executive of progress</li> </ul>

**Table 2: NZFOA survey – Environmental Code of Practice**

	Number of Contractors	Copy of ECoP Part 1	Copy of appropriate BEP's	Copy of Appropriate Company Rules	Compliance
Forestry Contractors	117	53%	36%	42%	98%
Harvesting Contractors	223	61%	35%	28%	99%
Roading & Earthworks Contractors	73	42%	33%	34%	93%
Agrichemical & Fertiliser Contractors	29	34%	34%	41%	90%
Other Contractors	55	2%	5%	67%	78%

*NOTE: The percentages add to greater than 100% (more than the compliance figure) as many forest owners supplied the ECoP and appropriate company rules.*

Forestry, harvesting, roading and earthworks, and agrichemical and fertiliser contractors have compliance rates of 90% or greater.

The group "Other contractors" have very low rates for copies of the ECoP or relevant BEP's as this group includes security personnel and contractors that could be expected to have very little environmental impact.

### **Fertiliser Manufacturers Research Association**

The fertiliser industry association (Fert Research) has two member companies – Ballance Agri-Nutrients Ltd and Ravensdown Fertiliser Co-Operative Ltd. These companies are co-operatives and between them supply some 95% of all fertiliser used in New Zealand. The companies each employ about 60 field representatives who are required to complete a comprehensive nutrient management training programme and whose function is to provide nutrient management advice and fertiliser recommendations to farmer shareholders. Staff use a range of tools to fulfil these obligations including the Overseer Nutrient Budgets Model.

Outputs from this model include farm level nutrient budgets and nutrient management plans. These outputs are used to increase the efficiency of nutrient use thereby assisting farmers in achieving sustainable economic and water quality outcomes.

The fertiliser industry has made good progress in meeting its targets as well as contributing significantly to meeting longer term high level primary sector targets.

COMMITMENTS	2008-2009 ACHIEVEMENTS
<p><i>Contribute to the on-going development, upgrading and implementation of the Overseer Nutrient Budget Model including:</i></p> <ul style="list-style-type: none"> <li>– <i>Incorporation of a nitrification inhibitor component by Dec 2008.</i></li> <li>– <i>Incorporation of wetlands and riparian margins by December 2008.</i></li> <li>– <i>Review Overseer in light of the recently announced climate change policy.</i></li> <li>– <i>Incorporate priority components into the next version of Overseer for release by December 2008.</i></li> </ul>	<p>Committed \$500 000 per year for 5 years (2008 – 2012) to the ongoing development and upgrading of Overseer Nutrient Budget Model. This matches an equivalent amount from Ministry of Agriculture and Forestry (MAF) resulting in an investment of \$5,000,000 over the next 5 years.</p> <p>A Governance Agreement has been signed between Fert Research, MAF and AgResearch. The three organizations are now equal joint owners of Overseer. A Strategic Plan, Four-year Work Programme and Annual Work Plan have been developed.</p> <p>A nitrification inhibitor component has been incorporated into Overseer. Aspects of wetlands and riparian margins have been incorporated into Overseer. Additional work is required (e.g. on drainage) and is part of the ongoing Overseer Work Programme.</p>
<p><i>Develop and implement an accreditation scheme for nutrient management advisors by July 2008.</i></p>	<p>A comprehensive Overseer Training Programme has been developed for fertiliser industry staff. This programme will form the basis of company accreditation of staff.</p> <p>An independent external audit of internal company procedures and protocols has been completed.</p>
<p><i>Implement an independent external audit process of internal company procedures for auditing nutrient budgets by December 2007.</i></p> <p><i>Implement a comprehensive audit process for nutrient budgets by July 2008.</i></p>	<p>An independent audit of on-farm delivery of nutrient budgets by Balance Agri-Nutrients Ltd, Ravensdown Fertiliser Cooperative Ltd and Summit Quinphos NZ Ltd has been completed.</p>
<p><i>Review, update and promote the Code of Practice for Nutrient Management This will include:</i></p> <ul style="list-style-type: none"> <li>– <i>Linking the Code to Overseer by December 2008.</i></li> <li>– <i>Customising the Code template according to member company requirements by July 2008.</i></li> </ul>	<p>The review of the Code of Practice for Nutrient Management (With Emphasis on Fertiliser Use) has been completed and incorporated into company systems. Templates in the Code have been customized by fertiliser companies.</p>

## Irrigation NZ

Irrigation NZ (INZ) is pro-actively working with industry, researchers, regulators and the irrigation trade, to ensure irrigators have the required skills and knowledge to implement current best management practices, and therefore efficiently manage the available water resource. INZ's involvement in the PSWP cross sector initiatives is part of a commitment to ensure all irrigators have the knowledge and skills to make a difference on their farms and within their catchments. The irrigation efficiency targets are very ambitious and will take a concerted effort to achieve with the limited current resources. Despite this, INZ are extremely pleased with the progress made to date and will continue to strive to meet these targets.

COMMITMENTS	2008-2009 ACHIEVEMENTS
<p><i>INZ – Design Code of Practice</i></p> <ul style="list-style-type: none"> <li>– <i>User guide to the design code aimed at accelerated adoption within the industry, irrigators, regional councils and irrigation suppliers, November 2008.</i></li> <li>– <i>Launch the Design Code of Practice nationally over the period September to November 2007.</i></li> <li>– <i>Development of NZQA accredited training for designer certification, mid-2008.</i></li> <li>– <i>Implement an industry audit process for assessing the Code of Practice, uptake by 2010.</i></li> <li>– <i>Review the Design Code of Practice by 2010.</i></li> </ul>	<p>The Code has formed the basis of a NZQA accredited qualification at Level 3. The approved training provider accepted the first intake of trainees in 2009. There is strong demand for the course. The review as planned in 2010 is premature and the review date will now be 2011. A Code of Practice for irrigation system installers is almost complete and material for managers and operators is being developed.</p>
<p><i>INZ Evaluation Code of Practice.</i></p> <ul style="list-style-type: none"> <li>– <i>Undertake an education programme to encourage evaluation of existing systems to meet KPI's, January to November 2008.</i></li> <li>– <i>Establish and maintain a register that records number of accredited evaluators and evaluations completed, March 2008.</i></li> <li>– <i>Review the Evaluation Code of Practice by 2010.</i></li> </ul>	<p>The opportunity for irrigation system audit has been actively promoted through seminars and conferences and INZ newsletter. As at 30 June, 17 had undertaken training of the NZQA accredited audit courses.</p>
<p><i>Irrigation Scheme Self Management Systems.</i></p> <ul style="list-style-type: none"> <li>– <i>Complete the study of self management systems for irrigation schemes that reflects requirements of regulators, schemes and members, environmental NGOs, iwi and community.</i></li> <li>– <i>Publish and promulgate findings over period July to November 2008.</i></li> <li>– <i>Industry plan in place to roll out Self Management Systems completed by 2010 (subject to results).</i></li> </ul>	<p>Project completed as planned in July 2008 and is available on MfE and INZ web sites. Results have been presented to public meetings in case study areas and plans prepared for extension to other entities in Otago and Canterbury, in association with Environment Canterbury.</p>
<p><i>Irrigation Efficiency<sup>2</sup></i></p> <ul style="list-style-type: none"> <li>– <i>Develop a methodology to estimate the irrigation demand of a range of soils and enterprises, based on irrigation system performance and real-time climate data, to derive industry BMP's (end 2009).</i></li> <li>– <i>Trial the methodology to identify compliance with industry BMP's and outliers in a selected irrigation region, based on measurement of actual irrigation water use.</i></li> <li>– <i>Implement facilitation and improvement services to assist poorly performing systems to comply with best practice norms.</i></li> <li>– <i>Work with dairy, arable and horticulture to realise the goal of having 80% of all irrigation water use under self management to meet industry good practice guidelines</i></li> </ul>	<p>A project to achieve the irrigation efficiency targets is currently being finalised with other industry partners. Funding will then be sorted accordingly. The project will include benchmarking of current performance, development and collation of existing tools to optimise irrigator performance, and an implementation and monitoring plan.</p>

<sup>2</sup> This will require support from industries, availability of metering of water use data, and support from industry extension specialists – as specified in the Leadership document.

### **Federated Farmers of New Zealand (Inc)**

As a representative of a broad range of farming interests, Federated Farmers has made a dedicated contribution to the administration of PSWP. Over the last year Federated Farmers has advocated the importance of the PSWP in achieving freshwater quality objectives and targets at both a local and national scale.

Federated Farmers has engaged in many positive national campaigns and regional initiatives. These include “Water: let’s bank it” which has been pivotal in promoting a seemingly simple concept - store water when it’s plentiful to irrigate productive land when it is not. Projects such as the Opuha Dam in South Canterbury, which Federated Farmers has had an active role, form the basis of this campaign. Federated Farmers is focused on seeing further community and regional water storage schemes get off the ground.

COMMITMENTS	PROGRESS
<i>Identification of priority water bodies/catchments</i>	Federated Farmers has played an active role in encouraging regional councils to identify priority waterbodies and their critical issues. This has involved negotiating between the sectors and regions. Federated Farmers has constructively engaged in meetings with local authorities that have explained the role that the PSWP could play in managing and mitigating impacts on freshwater. This has lead to further discussions with local government and other key stakeholders.
<i>Promoting tools and mitigation practices to members to address priority areas and specific issues</i>	Federated Farmers hosts information on its website about tools and mitigation practices that can be utilised by farmers to improve freshwater management. Policy advisors are also at hand to support members when they require further information or assistance on these issues.  Federated Farmers will commit to reviewing how it can best continue to support the uptake of good management practices on farms.
<i>10 in 10 Campaign</i>	Federated Farmers has actively promoted the adoption of certain management practices through the production of a “10 in 10” fact sheet. Federated Farmers developed this resource to inform its members of the potential to reduce the loss of nutrients that could detrimentally affect water quality.
<i>Acknowledge other industry or sector, agreed targets and agreements</i>	Federated Farmers has been actively involved in the PSWP catchment programmes. In particular in the Hotoe, Upper Waikato, Rotorua Lakes, Lower Ngaruroro, Upper Manawatu, Canterbury Plains and Balfour programmes. This involvement has provided other Partners with the necessary support to ensure that the catchments programmes are a success.  Federated Farmers has built on the relationships that it has as a Partnership between the primary sector and regional councils to further PSWP objectives.
<i>Maintain dialogue with councils to update priority areas and mitigation</i>	Federated Farmers local policy analysts have been actively engaged in council processes by preparing submissions on Long Term Council Community Plans, Annual Plans and relevant plan changes to ensure that the views of farmers are well represented in these processes.  With its “100 submissions in 100 days” campaign, Federated Farmers had particular regard for those opportunities to address issues regarding freshwater management and quality.



