REGIONAL ACTION PLAN

Sustainable dairy farming in the Subtropical Dairy region

2006

Coordinated and developed by Bronwyn Ford for Dairy Australia and the Subtropical Dairy Program
EXECUTIVE SUMMARY

The Subtropical Dairy region extends from Kempsey in NSW to the Atherton Tablelands in North Queensland and west to Chinchilla on the Darling Downs. There are approximately 1000 dairy farms throughout the region with annual milk production being approximately 751 million litres.

Since the development of the 2001 Regional Action Plan significant outcomes within the region have been achieved. These include:

- Implementation of the Queensland Rural Water Use Efficiency Initiative between 2001-2006
- Implementation of an Eco-Efficiency program
- Development and implementation of the Mutdapilly Farmlets M5 program
- Development and implementation of a riparian management project
- Continuation of the effluent management advisory service by the QDPI&F
- Development and implementation of the North Queensland Advancing Grow Malanda initiative
- Development of Dairying Better N Better
- Development and roll-out of Dairying Better N Better for Tomorrow
- Implementation of the Darling Downs Managing Your Land’s Capability program
- Development and implementation of a Darling Downs Young Farmers Network
- Employment of two dairy NRM officers through industry collaboration
- Coordination and participation in regional NRM programs and initiatives
- Provision of significant support to Subtropical dairy producers to access community and Government funding schemes
- Implementation of the Targets for Change program

Key objectives included in this plan are:

1. Continuously improving the capacity and ability of farmers leading to on-farm action
2. Increasing whole of industry capacity to participate and benefit from NRM activities (including improved processors capacity to engage in NRM)
3. Coordination of NRM support between the whole dairy industry and producers
4. Improved policy coordination and awareness to address Government and non-Government requirements on producers
5. Improving the public image of the dairy industry in terms of NRM

Key actions to address these objectives include:

- Research
- Extension and training
- Access to programs
- Incentives
- Advocacy
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INTRODUCTION

THE SUBTROPICAL DAIRY REGION

The Subtropical Dairy region extends from Kempsey on the Mid-North coast of NSW to the Atherton Tablelands in North Queensland and west to Chinchilla on the Western Darling Downs. There are approximately 1000 dairy farmers throughout the region with production systems having generally intensified over the last five years with more milk being produced on fewer, more intensively managed farms. Regional milk production is approximately 751 million litres per annum.

Figure 1: Map of the Subtropical Dairy region of Australia

BACKGROUND

Dairying for Tomorrow is a national strategy which provides the natural resource management framework for the Australian dairy industry. Under this initiative and as a component to the joint project between the then Dairy Research and Development Corporation and the National Land and Water Resources, a Regional Action Plan specifically for the Subtropical Dairy region was developed in 2001. This plan was developed following significant industry consultation and identified the vision for the regional dairy industry, linkages with regional NRM plans, identification of priorities for research, development, extension and policy.

In the last five years, the Queensland, National and International dairy industry has undergone significant challenges and changes. These include:

- Overall returns to the Australian dairy industry are driven by the fortunes of the world dairy products markets. This trade in the world market is substantially influenced by three key forms of protection including export subsidies, high-tariff and non-tariff barriers as well as other farm support mechanisms. International growth for dairy products is 2% per annum, while Australia’s share of the world market has grown at a rate of 10%p.a.
Within Australia, Victorian milk production accounts for more than 66% of total national production, of which more than 70% is exported. The export market has a strong influence on the farmgate milk price in all regions of Australia.

Drought in 2002-2004 had a significant effect on milk production in those years with 4 out of 5 producers considered they had been adversely affected by drought with and 40% of producers stating that drought had significantly increased their debt exposure. This also coincided with reduced prices in 2002-2003, where substantial losses occurred and production costs increased. Source: (Dairy 2004: Situation and Outlook).

Access to water has become more difficult and expensive, resulting in more reliance on contracted sources of forage and the use of forage conservation for risk management.

Farm numbers have decreased, farm size and cow numbers per farm have increased and labour units per 100 cows have decreased. This transition has resulted in greater intensification, and more mechanisation.

The regulatory environment in which dairy farmers conduct their businesses has increased in complexity and includes all aspects of the farming operation including workplace health and safety, safe food, natural resource management, financial and business administration and industrial relations.

A number of national industry initiatives have also been instigated over the last five years to address a variety of challenges and industry changes. These initiatives include:

- Publication of 2004 and 2005 Australian Dairy industry situation and outlook reports and development of the 2006 survey.
- Development of Australian Dairy Industry Priorities for Collective Industry Action for the Farm Sector - released in November 2005
- Northern Dairy Industry Regional Strategic Plan – released in December 2005

THE SUBTROPICAL DAIRY PROGRAM

The Subtropical Dairy Program Pty Ltd (SD) was established in 1995, after superseding the Northern Dairy Group. SD is one of eight Regional Development Programs across Australia dairying areas receiving seed funding from Dairy Australia and fosters a collaborative and united approach to improving farm viability by facilitating research, extension, improving technology and empowering people in the industry. The regional structure extending from Kempsey in NSW to the Atherton Tablelands in Far North Queensland is comprised of seven Regional teams. These Regional teams were established to provide a mechanism for dairy farmers to have a strong involvement in identifying, selecting and managing research, development and extension activities in their local area and across the region.

A Technical Advisory Group provides strategic and technical advice to SD and includes specialists across a range of disciplines. The SD Management Committee is a representative based body which provides recommendations and advice to the SD Farmer Board of Management. The SD Management Committee has representatives from Queensland Dairyfarmers’ Organisation (QDO), NSW Farmers Association (Dairy
Committee), QDPI&F, NSW Department of Primary Industries, Pauls-Parmalat, Dairyfarmers Milk Supply Group, Norco and the Board of five dairy farmers from throughout the region.

**METHODOLOGY FOR REVIEW**

The 2001 Regional Action plan recommended that a review of that plan be conducted in 2004 and that the administration of the plan lies with SD with support from the other industry organisations.

The review of the Subtropical Dairy Regional Action Plan coincides with similar reviews being conducted in other dairy regions throughout Australia. Key components of this review have included:

- Discussions over the last 12 months at SD Management Committee meetings
- Discussions at Queensland Dairyfarmers’ Organisation State Council
- Review of dairy industry NRM research, development and extension programs, initiatives and investment
- Review of regional NRM arrangements and industry linkages
- Development, distribution and analysis of a industry and NRM stakeholder survey to representatives from Pauls-Parmalat, Dairyfarmers Milk Supply Group, National Foods, QDPI&F, SD Management Committee and Regional Groups, QDO, regional NRM groups and the wider farming community on current and future NRM requirements and priorities
- Draft 2006 Regional Action Plan was developed and distributed to key stakeholders and particularly those that completed the survey
- Comments incorporated in final document.

It is recommended that this plan reviewed on an annual basis to enable identification of key achievements and to enable significant gaps to be identified and addressed. A formal review should be conducted at the five-year anniversary of the endorsement by industry of this plan.
OUTCOMES ACHIEVED SINCE 2001

The following objectives were identified in the 2001 Regional Action plan and the following activities and programs have been identified as contributing to the implementation of these objectives.

OBJECTIVE 4.1: Optimise responsible NRM to improve productivity and profitability

Rural Water Use Efficiency Initiative – technical advice
Two programs have been implemented by the QDO since 2001 through the establishment of a partnership with Qld Department of Natural Resources, Mines and Water and the QDPI&F. Key results for the 2004-2006 program are currently being evaluated, however, outcomes in the first round of the program include:

- An irrigation efficiency increase of 14%, accounting for a water saving of more than 30,000 megalitres
- $3.4 (cash) spent by producers for every $1 provided through the financial incentive scheme.

Eco-efficiency on dairy farms
QDO entered into an Eco-Efficiency agreement with the Qld Environmental Protection Agency in 2001. This project undertook a number of activities to derive on-farm resource use efficiency outcomes while also delivering environmental benefits. Resource areas covered included a range of themes, for example feed conversion efficiency, soil and nutrient management and energy management.

Mutdapilly Farmlets M5: Sustainable Dairy Farm Systems for Profit
Established in 2001, this $3 million project involved the study of five very different production systems of tropical dairy farming through the use of desktop studies, physical models (farmlets) and commercial farms. These included a system based on rain grown tropical grass, fertilizer and concentrate through to more complex systems involving various systems of limited and high irrigation and cropping. The most intensive system is a full feedlot based on a concentrate, lucerne hay and maize silage. These production systems all involve large increases in cow numbers and were achieved by increases in stocking rates.

All the systems shared similar goals including a minimum of 10% return on assets and output of 600 000 L per labour unit/annum. Comprehensive monitoring of the farmlets has been undertaken, with streams of investigation including dairy productivity, water use efficiency, environmental sustainability, business management and social aspects.

An extension program has been conducted to enable the farmlets to be used as a learning platform for the dairy industry in Northern Australia.
Riparian management project
This project has been developed through a partnership agreement between Dairy Australia and the QDPI&F between 2004-2007. The project has surveyed a number of farms throughout Queensland to identify attitudes to riparian management and the current state of riparian zones. Eight to 10 farm case studies have been developed to complement the 50 on-farm surveys conducted throughout Queensland. The project will inform policy development, raise awareness of riparian management issues and support on-ground change, as well as identify further research and extension requirements.

QDPI&F Effluent on-farm advisory service
This work is conducted by the Sustainable Intensive Systems unit of the QDPI&F as part of their core business activities.

North Queensland Sustainability Initiative - “Advancing Grow Malanda”
This $9.8 million project has been recently funded over two years with support from Dairyfarmers Milk Supply Group, Dairy Australia, QDPI&F and local milk suppliers represented by the Grow Malanda group. The aim of the project is to increase milk volumes in the region by 30% to 130 million litres and lift milk protein levels by at least 0.1%. The project is firmly focused on working with milk suppliers in the region to help them achieve a target return of 10% on farm assets through the increased milk protein output. The project will also maintain and gradually increase dairy farm numbers, create more than 80 new jobs across the region and generally enhance business and technical competencies in the Atherton Tablelands. The program has nine interdependent modules that centre on the farmers and the Malanda processing plant which produces packaged milk, cheese and protein. The program’s aim is for the processor and the dairy farmers to work together to increase each other’s long term viability and profitability.

OBJECTIVE 4.2: Improve training and information programs
Dairying Better N Better
Dairying Better N Better resource tools were developed as part of a large whole of industry program between 1999-2002 with the key outputs being the publication and distribution to all farmers in the subtropical dairy region a best management practices checklist book and CR-ROM. Evaluation of this program revealed that raising of awareness of environmental issues and promotion of available tools lone did not automatically lead to their use and therefore improved on-farm practice changes. Of the 160 participants in the program, 6% changed their practices as a result of the program

Dairying Better N Better for Tomorrow
This program builds on the Dairying Better N Better resource tools developed in 2002 and is an on-farm NRM adoption process conducted in small sub-catchments with each comprising 10-13 farming enterprises. The program has been developed to make the direct links between awareness, knowledge, decisions, actions and outcomes. Key aspects of the program include utilisation of the Dairy Self Assessment Tool (DairySAT), linkages with local, catchment and regional priorities, and implementation of a three
stage workshop series and action planning and implementation. Key achievements of this program include:

- Development and implementation of the pilot project conducted by RuralScope Pty Ltd in 2003-2004 with support from Dairy Australia and SD
- Establishment of more than 15 farmer groups at Kerry, Freestone, East Gympie, Millaa Millaa, Dayboro, Woodford, Toogoolawah, Boonah, Harrisville, Beaudesert, Gold Coast Hinterland, Maleny, Nanango, Monto and Eungella
- More than $660,000 of external resources to support the implementation of these groups from organisations including the Environmental Protection Agency, Condamine Alliance, National Landcare Program, QFF Pathways to EMS, Burnett Mary Regional Group and the Burdekin Dry Tropics Board.
- In-kind contributions have also been negotiated from Government and non-Government organisations to support the implementation of workshops and provision of one-on-one advice. These organisations include: Hardi Australia, Farmsafe QLD, QDPI&F and AgForward. Total in-kind contributions from these organisations and from dairy producers is estimated to be in excess of $1.1 million.
- There has been a real improvement in farmer awareness of NRM and more than 100 on-farm action plans have been developed and are currently being implemented.

Rural Water Use Efficiency Initiative – workshops and on-farm assessments

The second phase of the Rural Water Use Initiative (2003-2006) titled “Rural Water Use for Profit” combined a package of workshops, on-farm assessments and incentives to deliver water irrigation and effluent management on-farm changes. This program saw more than $745,000 invested from the Qld Department of Natural Resources and Mines through the QDO, which leveraged more than $4.1 million in in-kind contributions from project partners including QDO, QDPI&F and Queensland dairy producers.

Cow Time Watts in your Dairy

This program is implemented by QDPI&F and is part of a Dairy Australia program. In 2006 Cow Time Shed Shake up courses focussed on energy efficiency in the dairy.

Riparian management project

This project is a collaborative arrangement between Dairy Australia and the QDPI&F. A workshop series is being developed as part of the project in 2006 which will build on the results of the on-farm surveys and case studies. An agreement has been made between the SD and QDPI&F that this workshop series, once developed, will form the riparian component to the Dairying Better N Better for Tomorrow program.

Darling Downs Managing your Land’s capability

This project has received just under $300,000 from the National Landcare Program through the Condamine Alliance for the development of a technical manual specific to dairy farmers on the Darling Downs, development of four case studies and implementation of a workshop series. An incentive component to the project will be implemented in 2006 and is likely to result in excess of $350,000 of in-kind support from
project partners including the Condamine Alliance, Pauls-Parmalat, Dairyfarmers Milk Supply Group, QDPI&F and QDO.

**Darling Downs Young Farmers network**
This project will run from January-December 2006 with a collaborative investment of more than $200,000 from the Condamine Alliance, Dairy Australia and the Subtropical Dairy program. Significant in-kind support has also been received from Pauls-Parmalat, Dairyfarmers Milk Supply Group, QDO and QDPI&F.

**Other extension activities:**
A number of workshops are conducted throughout the Subtropical Dairy region to address local priority issues. These include:
- NSW Department of Primary Industries climate workshops
- Workplace, health and safety workshops including chemical and waste management practices

**Subtropical Dairy Regional Group Projects**
Small farmer initiated projects are funded at the regional level to address local concerns. These have included projects focussing on soils workshops, land mapping, fertilizer use efficiency, minimal till, climate workshops, dairy waste recycling, vegetation management, cropping and efficient water usage, etc.

**OBJECTIVE 4.3: Improve industry planning and regional coordination on NRM**

**Employment of first dairy NRM Coordinator in Australia and subsequent employment of second NRM Officer**
In 2002, SD identified through their regional action plan that NRM issues, concerns and projects were increasing in number and difficulty. This approach was also formally endorsed by the QDO and a two-way agreement between both bodies was reached regarding jointly managing an NRM Coordinator position. The position was filled in October 2003 and a further NRM Project Officer was appointed in Mid-2005 to support the implementation of programs associated with NRM.

In 2005, a partnership agreement was established between the Commonwealth Department of Agriculture, Fisheries and Forestry and Dairy Australia through the Sustainable Industries Initiative which supported the part-time employment of an NRM Coordinator in each of the Regional Development Program areas in Australia. This led to a three-way Memorandum of Understanding to be developed and implemented between the SD, QDO and Dairy Australia. This MoU and the Sustainable Industries Initiative will be in place from July 2005-June 2008.

**Support dairy representatives on regional NRM bodies**
Up until recently, eight regional NRM bodies (CMA’s) were established in areas of dairy farming in the Subtropical Dairy Region. Most recently, two of these groups in south-east Queensland have amalgamated to form the SEQ Catchments. Associated with each of
these groups are Board members and/or staff that represent primary industries. Regular reporting mechanisms have been established between the dairy industry and these people to ensure that the industry is coordinating with NRM activities and supporting producers to participate in regional NRM activities.

Coordination of industry forums to provide comments on draft regional NRM plans
During 2004 the NRM Coordinator organised dairy industry forums in each of the regions of the Subtropical Dairy region to support producers to comment on the draft regional NRM plans during their consultation period. These plans ranged in size from 300 pages to more than 1000 and the NRM Coordinator developed a submission based on responses during these forums. All eight regional NRM bodies received a substantial submission by the dairy industry which highlighted the pro-active nature of the industry and the willingness for industry to participate in community-based events and activities.

Development of the Farm Management System framework
The QDO is a major commodity member of the Qld Farmers Federation (QFF), which over the last 12 months has developed a pathway to address on-farm environmental management through a “Farm Management Systems framework” approach. The process has been partly funded by the QFF members and the Qld State Government Rural Water Use Efficiency Initiative. Specifically to the dairy industry, the term Farm Management System (FMS) refers to Dairying Better N Better for Tomorrow and the framework will address consistency issues across industry programs. Key outcomes include:

- In April, 2004, the Minister for Natural Resources and Mines approved, in principle, a policy on the accreditation of FMS programs, with the intent to provide an alternative means for landholders to meet specific property regulatory requirements.
- The signing of a MoU between QFF and the Regional Groups Collective (collection of all of the regional bodies - CMA’s) in June 2004, to formalise a policy partnership between the two organisations
- The signing of a MoU between the QLD State Government and QFF in March 2005 establishing a set of key commitments for both Government and industry to jointly advance the development and implementation of FMS
- A bus tour series for senior State Government staff was conducted in 2005-2006 to discuss implications of Government policy on farming activities and the implementation of farm management systems. The tour included a dairy farm on the Darling Downs and a discussion on Dairying Better N Better for Tomorrow.

OBJECTIVE 4.4: Develop communication plan for the Subtropical Dairy region
Development and implementation of a NRM focussed communication plan
A communication plan was developed in 2005 to provide opportunities for formal and informal communication mechanisms. Key aspects of the plan include the utilisation of existing industry communication tools to promote activities, public media outlets, through industry and regional NRM networks and through existing industry meetings and forums.
Development and implementation of communications plans associated with each NRM project implemented

Each NRM project is required to develop and implement a communication plan, highlighting target audience, key communication tools and timing. Since 2001, more than 200 types of communication activities have been implemented regarding NRM activities and events.

OBJECTIVE 4.5: Improve public image and investigate Eco-branding

This objective has been partly achieved through the implementation of the NRM communication plan and project based communication plans.

An NRM Reference Group is being set up by Dairy Australia with regional representation, to enable the dairy industry to be in a position to proactively develop a positive national dairy NRM plan and image, as well as respond to emerging issues.

With regard to eco-branding, world commodity markets (which ultimately determine Australian and subtropical farm gate prices), do not currently reflect any propensity to pay more for environmentally credentialed produce. Some exceptions to this occur in some smaller niche markets, however, generally, low price and high quality continue to govern access to world milk markets. In consequence, the Australian dairy industry is caught between the sustainability expectations of the Australian community and the commodity price and quality demands of world markets.

OBJECTIVE 4.6: Address off site impacts and catchment scale NRM issues

Support for producers to implement on-farm actions through access to community-Government funding schemes

More than 50 producers have been sponsored by QDO and their applications successfully developed and submitted through the Commonwealth Government Envirofund program. More than $400,000 has been received for producers to implement a variety of on-farm works, requiring more than $500,000 of in-kind contributions from industry and dairy producers. Additionally, more than 40 producers have received project support for access to more than $200,000 through regional NRM group grants for on-farm action.

Implementation of a pilot program for Dairy Targets 4 Change

Targets 4 Change is a program developed by Dairy Australia to link dairy industry activity with catchment health targets. A pilot of this program was conducted in 2003 in the Bremer Catchment in south-east Queensland. The outcome associated with this pilot program indicated that due to the scattered nature of the subtropical dairy industry, Targets 4 Change, will only be appropriate in certain circumstances.
SUB-REGIONAL OVERVIEW

The following section of the Regional Action Plan will focus on the status of each of the regions within the Subtropical Dairy region. For each region, an industry overview will be followed by an overview of the NRM arrangements in that region.

FAR NORTH QUEENSLAND

This region is based on the Atherton Tablelands and is centred around the towns of Atherton, Malanda, Millaa Millaa and Ravenshoe. There are currently 97 registered dairy farms milking approximately 150 cows year round. Each farm in the region produces approximately 840,000 litres per annum, which across the region for 2004-2005 equates to approximately 97 million litres of milk, 95% of which is produced year round (this has reduced from 115 million litres produced in 2001). 85% of farms are owned and operated as family businesses and production over the last couple of years has reduced by approximately 17% due to drought (2004: Dairy Situation and outlook).

The dairy industry employs approximately 352 people directly on farm, in the processing plants and cartage, with additional people involved as vendors, and also in sales and distribution. The main milk supplier company is the Dairyfarmers Milk Supply Group at Malanda, with a small number of suppliers supplying niche markets. The dairy industry is the largest employer between Townsville and Cape York and it is estimated the dairy industry is worth approximately $45 million to the local community, which multiplies to approximately $200 million across the region. The industry also contributes to the aesthetic appeal of the Atherton Tablelands, with many tourists attracted to the region to view ecological and sustainable agriculture being implemented.

Key issues identified in the 2005 Priorities for Collective Industry Action for the Farm Sector include:

- Investment in higher quality tropical forages research, development and extension
- Development of a collective regional feedbase (purchasing, contracts etc)
- Retain and encourage new entrants in farmers, farm workers, research, development and extension and education
- Development of activities that demonstrate new technologies and business management
- Development of a dairy specific regional NRM strategy

FNQ-NRM is the regional natural resource management organisation that covers all of the dairy producing areas of the Tablelands. FNQ-NRM works closely with Landcare and Catchment Management Organisations and is also building up strong industry linkages through advisory panels and Board representation. FNQ-NRM is able to access Natural Heritage Trust and National Landcare program funding to address priorities in the region. Key funding priorities and projects in the dairy-area of the region include:

- Funding part-time Landcare Coordinators to support revegetation projects
Implementation of devolved grants to address nutrient and sediment management
- On-ground implementation to reduce the impact of major sediment sources
- Revegetation projects through the Tablelands.

The Wet Tropics Regional NRM Plan identifies the priorities, targets and management actions for the region, with priorities issues being biodiversity conservation, sustainable use of land and water and capacity building. Further information is available at www.fnqnrm.com.au

CENTRAL QUEENSLAND

This region is based around Rockhampton, with 61 producers spread between Mackay (Eungella) in the north to Bundaberg in the south and inland to Monto and Biggenden. The average size milking herd is 150 cows with production per farm averaging 710,42,375 litres or 40.25.8 million litres for the region (down from 61 million litres in 2001). All producers in this region supply the Rockhampton Pauls-Parmalat factory with milk supply managed through the Port Curtis Milk Supply Cooperative.

There are more than 250 families directly involved in the industry including 90 farming families, 50 Parmalat factory employees, 20 distributors plus others working in transport, raw milk contractoring and, packaging, , suppliers etc. It is estimated that the farm gate value of milk is approximately $19 million, with an accepted multiplier effect of three, gives a total value of dairying to the central Queensland region of approximately $57 million.

Key challenges facing the region include uncertainty over the ownership of Parmalat, unreliability associated with climatic conditions, particularly extended drought periods and lack of critical mass which effects the development of dairy specific advisory services (2004, Dairy Situation and Outlook).

There are three NRM regional groups incorporating the Central Queensland dairy industry.

1. Burdekin Dry Tropics Board incorporates the Eungella region and the five remaining dairy farming enterprises in this area. The Eungella producers have been involved in Burdekin Dry Tropics activities including holding dairy specific meetings to comment on the draft NRM plan and commenting on the regional priorities. Key priorities for this region include implementation of industry FMS programs, weed and pest management, water quality protection and enhancement and protection of biodiversity. Further information is available at www.burdekindrytropics.org.au.

2. The Fitzroy Basin Association is based in Rockhampton with satellite offices located throughout the catchment and covers the 45 producers based within the Fitzroy and adjoining catchment areas. The Central Queensland Regional Team was involved in the development and submission of comments on the draft Fitzroy Basin regional NRM plan which identified sub-catchment planning
through “neighbourhood catchments initiatives” as a key priority. Further information is available at [www.fba.org.au](http://www.fba.org.au)

3. The southern producers in Central Queensland are located in the Burnett catchment area, which is covered by the Burnett Mary Regional Body (BMRG). The BMRG are primarily based in Bundaberg, with satellite offices located in Monto, Gympie and Wondai. Along with representatives from the Wide Bay-Burnett Regional dairy group, dairy industry comments were submitted on the draft Regional NRM plan. Negotiations for collaborations in the Monto region are currently in place for the development and implementation of dairy specific programs in this part of the region and should be completed by June 2006. Further information is available at [www.burnettmarynrm.org.au](http://www.burnettmarynrm.org.au)

**WIDE BAY-BURNETT REGION**

This region includes farmers surrounding the townships of Mundubbera, Goomeri, Kingaroy, Nanango, Maleny, Gympie and Maryborough and has a population of just under 250,000 (Census, 2001). The coastal shires of the region are predicted to grow by over 40% in the next 25 years, with inland shires growing at a far slower rate (Burnett Mary Regional Group, 2005).

This region has approximately 180 dairy producers who produce approximately 750,000 litres per farm per annum with farmers supplying Dairyfarmers Milk Supply Group, Pauls-Parmalat, National Foods and some smaller milk and cheese processors. These milk producers receive approximately $50 million directly as farm income which injects more than approximately $150 million into the local and regional economy.

The regional NRM group that covers this sub-region is the Burnett Mary Regional Group (BMRG). The BMRG have developed “Country to Coast – a Healthy Sustainable Future” which was endorsed by the State and Commonwealth Governments in early 2005 and includes NRM and regional priorities for the region which incorporates the catchment areas of the Baffle, Burnett, Burrum, Kolan and Mary Rivers. The BMRG have offices based in Bundaberg, Monto, Wondai and Gympie. Two members representatives on of the BMRG Board representative primary industries in the Burnett and Mary catchments and a staff member is dedicated specifically to work with Landcare and industry groups and organisations. Further information is available at [www.burnettmary.nrm.org.au](http://www.burnettmary.nrm.org.au)

**DARLING DOWNS**

The Darling Downs region incorporates the Condamine catchment which forms the headwaters of the Murray-Darling Basin. The region has a population of approximately 162,000 people (2001 Census QRBIS, 2003) and a catchment area of 2.75 million hectares (Condamine Alliance, 2004). Toowoomba is the major provincial city of the eastern perimeter of the catchment and other towns of significance to the dairy industry including Warwick, Dalby, Pittsworth, Clifton and Chinchilla. Dairy farming occurs in 9 of the 15 Local Governments within the catchment.
This region has more than 250 registered dairy producers spread more than 500km apart between Killarney in south to Crows Nest in the North and Chinchilla in the west. The average herd size is 115 milkers producing approximately 165 million litres of milk per annum which is primarily supplied to Dairyfarmers Milk Supply Group, Pauls-Parlmalat, Norco and National Foods.

Climatically, the region averages rainfall of approximately 700-750mm per annum, with 70% of this occurring between September and March. The region is characterised by variable seasons which impacts significantly on irrigation supply, dryland cropping and general feed input prices.

The Condamine Catchment Natural Resource Management Corporation Ltd, trading as the Condamine Alliance was formed in 2002 and includes a Board of Directors made up of representatives from the Condamine Catchment Management Association, the Eastern Downs Regional Planning Advisory Committee, Toowoomba and Regional Environment Council and the Condamine Balonne Water Committee.

Priorities for investment across the catchment were independently determined through an extensive consultation process. These priorities or themes have been identified as salinity, water (quality, access, use and management), vegetation (including biodiversity and natural conservation), land use and management as well as community. For further information about the Condamine Alliance, including current and future investment priorities go to www.condaminealliance.com.au.

SOUTH EAST QUEENSLAND

This region is the fastest growing metropolitan area in Australia and supports a population of 2.5 million people or 65% of Queensland’s population. This is expected to grow to 3.5 million people by 2021 (www.seqcatchments.com.au).

There are approximately 220 dairy producers in this region producing more than 160 million litres of milk per annum. This milk is primarily processed into fresh milk, fresh products and cheese by Dairy farmers Milk Supply Group (located at Ipswich), Pauls-Parlmalat (in Nambour, Gold Coast and Brisbane), National Foods (in Brisbane) and Norco (based in Lismore and the Gold Coast). A small number of farms supply niche processing markets throughout this region.

The regional natural resource management organisation in this area is SEQ Catchments. This is a recently formed organisation after the amalgamation of the SEQ-Western Catchments group and NRM-SEQ and incorporates the catchment areas of Moreton Bay and Islands, Noosa, Maroochy/Mooloolah, Pumicestone, Pine Rivers, Redlands, Logan/Albert, Gold Coast, Bremer, Lockyer, Stanley, and the Upper, Mid and Lower Brisbane River.

SEQ Catchments works closely with local governments, urban and rural communities, community groups, Landcare groups, environmental groups, landowners and traditional
owners to develop and implement on-ground projects. Key resources and funding utilised by the SEQ Catchments group include the National Landcare Program, National Action Plan and Natural heritage Trust funding administered through their Regional Investment Strategy, Coastal Catchments Initiative, and State Investment Projects. For further information about SEQ Catchments and funding or investment opportunities go to www.seqcatchments.com.au.

FAR NORTH COAST and MID NORTH COAST (NSW)

This region covers a catchment area of approximately 40,000km² from Kempsey in the south to the Queensland border in the north and west to the Great Dividing Range. Major river catchment areas within this region include: Tweed, Brunswick, Richmond, Clarence, Bellinger, Nambucca and the Macleay. The region has a population of over 550,000 people with significant growth of over 2%p.a. throughout the coastal areas of the region (www.northern.cma.nsw.gov.au).

The Far North Coast region incorporates the townships of Murwillumbah, Casino, Lismore and Grafton and incorporates approximately 120 dairy farmers. Just under 100 million litres of milk is produced in this region per annum which is primarily processed by Pauls-Parmalat, Norco and Dairyfarmers Milk Supply Group.

The Mid North Coast region extends from Coffs Harbour in the north to Kempsey in the south and incorporates the major towns of Dorrigo and Nambucca Heads. There are approximately 105 producers in this region, producing approximately 83 million litres annually which is processed by Dairyfarmers Milk Supply Group, Norco and the Hastings River Cooperative at Wauchope.

The Northern Rivers Catchment Management Authority (NRCMA) was established as a statutory board in 2004 reporting directly to the NSW Minister for Natural Resources. The Board is comprised of an independent Chair and six community based representatives. Key priorities for the NRCMA is the development of Catchment Action Plans (CAP) and associated incentive programs to implement the CAP’s, supporting landholders to develop property vegetation plans (PVP’s) and providing capacity building opportunities on natural resource management issues, especially in native vegetation management. The NRCMA have offices at Grafton, Alstonville, Armidale, Coffs Harbour, Kempsey and Murwillumbah and further information is available at www.northern.cma.gov.au.
SUBTROPICAL DAIRY REGION PRIORITIES

Priorities for the Subtropical Dairy region have been established through stakeholder involvement and analysis of feedback. These priorities reflect a whole of industry perspective and include responses from representatives from SD, producers throughout the Subtropical Dairy Region, the peak Queensland advocate body (QDO), representatives from regional NRM groups and processor representatives.

NRM ISSUES

In priority order, the natural resource management issues to be addressed in this Regional Action Plan are:

- Effluent management
- Soil fertility
- Water use
- Soil management
- Pest and weed management
- Waste management
- Biodiversity
- Riparian management
- Energy management
- Chemical management

To address these issues the following priority actions have been identified and listed in priority order:

- Access to funding and small grants
- Locally relevant research
- Training, discussion groups, extension of resources
- Support with funding applications
- Academic research and analysis
- Coordination of resources
STRATEGIES AND ACTIONS FOR THE FUTURE

SUBTROPICAL DAIRY VISION

“A profitable, sustainable, market focussed industry that is practicing responsible resource management and offering a fulfilling lifestyle to adaptable professional people”

OBJECTIVE 1: Continuously improving the capacity and ability of farmers leading to on-farm action.

<table>
<thead>
<tr>
<th>PRIORITY ACTIONS</th>
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<tbody>
<tr>
<td>Research</td>
<td>• Sustainable soil management including soil productivity and nutrient budgeting</td>
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<tr>
<td></td>
<td>• Advantages to the implementation of on-farm NRM actions and whole farm efficiency</td>
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<td></td>
<td>• Alternative and sustainable tropical pastures and improved species</td>
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<tr>
<td></td>
<td>• Water use efficiency</td>
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<td></td>
<td>• Development of a whole-farm interactive planning tool</td>
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<tr>
<td>Extension and training</td>
<td>• Soil management including erosion, fertility and composting (including fertilizer options and management)</td>
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<tr>
<td></td>
<td>• Improving energy efficiency</td>
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<tr>
<td></td>
<td>• Effluent management</td>
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<tr>
<td></td>
<td>• Water use efficiency (irrigation management and dryland management)</td>
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<tr>
<td>Program access</td>
<td>• Dairying Better N Better for Tomorrow</td>
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<tr>
<td></td>
<td>• Rural Water Use Efficiency Initiative</td>
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<tr>
<td></td>
<td>• Support with funding applications (particularly local grants and Envirofund)</td>
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<td></td>
<td>• Pasture for profit</td>
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<tr>
<td>Incentives</td>
<td>• Support property and sub-catchment based planning</td>
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<tr>
<td></td>
<td>• On-farm capital works that have a catchment NRM benefit</td>
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<tr>
<td></td>
<td>• Soil testing</td>
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<tr>
<td></td>
<td>• Implementation of on-farm best management practices that have an NRM outcome for the catchment</td>
</tr>
<tr>
<td></td>
<td>• Effluent and on-farm waste management and recycling</td>
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</tbody>
</table>
OBJECTIVE 2: Increasing whole of industry capacity to participate and benefit from NRM activities (including improved processors capacity to engage in NRM)

PRIORITY ACTIONS

| Research | • Whole of chain efficiency (energy, water use)  
|          | • Development of an interactive whole farm planning tool to address factory, regulatory and NRM requirements  
|          | • Establish the benefits of NRM activities at the farm and processor levels  
| Extension and training | • Focus on service providers to learn the opportunities, language and technicalities associated with completing funding applications  
| Incentives | • Improve whole of chain efficiency  
|           | • Support for service providers to support producers with applications and appropriate advice

OBJECTIVE 3: Coordination of NRM support between the whole dairy industry and producers

PRIORITY ACTIONS

| Research | • Establishment of a network of service providers involved in the dairy industry  
|          | • Incorporation of sustainability outcomes into new research initiatives  
| Extension and training | • Support industry service providers to provide appropriate support to producers  
|          | • Communication of existing and new NRM initiatives to dairy industry representatives and service providers  
|          | • Incorporation of NRM sustainability outcomes into existing and new programs (where appropriate)  
| Program access | • Support industry service providers to access and negotiate funding from appropriate sources to implement priority programs  
|              | • Provide opportunities for NRM programs and productivity programs to be interlinked and build on each other  
| Incentives | • Encourage access to incentive programs that address productivity outcomes and NRM outcomes  
|         | • Provide advocacy to appropriate organisations regarding incentive consistencies
OBJECTIVE 4: Improved policy coordination and awareness to address Government and non-Government requirements on producers

Background: This objective addresses the consistent theme by producers regarding the expectations and regulations from Government and the community. These issues include apprehension associated with on-farm NRM expectations and requirements, the number of organisations (including Government and non-Government) that are involved in NRM, the number of different funding programs available with different requirements, and expectations and the constant threat of NRM reform and other initiatives (eg. Reef plan).

PRIORITY ACTIONS

| Research               | • Quantification of the catchment effect of the implementation of on-farm best management practices |
|                       | • Audit current on-farm NRM practices and assess catchment impact |
|                       | • Conduct cost-benefit analysis for all on-farm best management practices |
|                       | • Assess technical support services and the suitability and relevancy to dairy producers |
| Advocacy              | • Ensure coordination and consistency of programs across industry, Government and non-Government organisations |
|                       | • Highlight voluntary NRM programs (including Dairying Better N Better for Tomorrow) as an alternative to further NRM-related regulation |
|                       | • Highlight key industry based NRM initiatives and programs to key Government and Non-Government stakeholders |

OBJECTIVE 5: Improving the public image of the dairy industry in terms of NRM

PRIORITY ACTIONS

| Advocacy              | • Develop and implement a comprehensive communication strategy to highlight the variety of industry-based NRM programs and initiatives |
|                       | • Highlight the social and economic impact of the dairy industry at the local, sub-regional and regional levels to key industry, Government and Non-Government organisations |
|                       | • Foster whole of industry partnerships for the development and implementation of programs to enhance the pro-active image of the dairy industry |
# LIST OF ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>CMA</td>
<td>Catchment Management Authority (NSW)</td>
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<tr>
<td>DNRM&amp;W</td>
<td>Queensland Department of Natural Resources, Mines and Water</td>
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<tr>
<td>FMS</td>
<td>Farm Management Systems</td>
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<tr>
<td>NSW DPI</td>
<td>NSW Department of Primary Industries</td>
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<tr>
<td>QEPA</td>
<td>Queensland Environmental Protection Agency</td>
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<td>QFF</td>
<td>Queensland Farmers Federation</td>
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<td>QDO</td>
<td>Queensland Dairyfarmers’ Organisation Ltd</td>
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<tr>
<td>QDPI&amp;F</td>
<td>Queensland Department of Primary Industries and Fisheries</td>
</tr>
<tr>
<td>SD</td>
<td>Subtropical Dairy Program</td>
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</tbody>
</table>
REFERENCES


FOR FURTHER INFORMATION
Subtropical Dairy Program
Ph: 07 3236 2955
Fax: 07 3236 2956
Website: www.dairyinfo.biz
APPENDICES

APPENDIX 1

Capacity Building

The following definition of Capacity Building – is adapted from ‘Growing the Capital of Rural Australia – The Task of Capacity Building’ a report for the Rural Industries Research and Development Corporation, 2004 and is the definition used in Dairy Australia – BetterPrac

Capacity building relates to a range of activities by which individuals, groups and organisations improve their capacity “to act or empowerment to act independently and in the expectation of an outcome in the form of an improvement of some kind”. This suggests that the outcome of a capacity building program will be an improvement in the stock of capital for a given community.

For the purposes of this framework capacity building goes beyond human capital (the attributes of individuals) and social capital (the quality of relationships) to include physical (infrastructure), financial and natural capital. NRM programs are defined as ‘capacity building’ if they result in an improvement in the stock of capital sought by stakeholders. For example some of the improvements in the stock of capital resulting from the Western Dairy NRM program DairyCATCH are an improvement in physical capital (improved effluent management systems), financial capital (financial incentives) and social capital (enhanced relationships between farmers and NRM agencies)

Effective design and implementation of NRM programs requires an understanding of how intended capacity building activities will support the adoption of more sustainable farming practices as well an understanding of the social, bio-physical, economic, cultural and institutional contexts within which the program will be operating.

The success of NRM programs will depend on the extent to which people are able to make informed decisions in a complex environment that often involves trade offs between short term economic gains and longer term resource security. Capacity building can be at all levels, farmers, advisors (government and private), researchers and government NRM agencies. Information products and awareness raising tools are generally not capacity building, for capacity building to occur action must be taken. This assumption is supported by research indicating tenuous links between environmental attitudes and behaviour.

To support ‘action’ being taken capacity building programs can involve motivational activities such as incentives, farm open days and seminars; and exploration and trialling activities such as mentoring, peer discussion, training and education programs, participatory research and information exchange.