

3.0 Overview of Biodiversity Legislation and Government Policy Relevant to Cotton Production

3.1 Introduction

Many statutes and government policies relating to aspects of biodiversity conservation have implications for farming operations. The most relevant legislation and policies are detailed here.

3.2 Commonwealth Government

3.2.1 Legislation and regulations

Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act 1999)* came into effect in July 2000, and replaced six Commonwealth statutes including the *Environment Protection (Impact of Proposals) Act 1974*, *Endangered Species Protection Act 1992*, *National Parks and Wildlife Conservation Act 1975*, *World Heritage Properties Conservation Act 1983*, *Whale Protection Act 1980*, and *Wildlife Protection (Regulation of Exports and Imports) Act 1982* (Environment Australia 2002b). This Act is the Commonwealth mechanism for national biodiversity conservation and environment protection. It provides for rigorous assessment and approval processes for actions that are likely to have a significant impact on a matter of national significance. In regards to cotton growing, this is most likely to apply to the potential impacts of cotton growing on flora and fauna species or ecological communities that have been listed as threatened under the Act. Threatened species and threatened ecological communities are discussed in Chapter 4.

The *EPBC Act 1999* provides for the identification of key threatening processes. A number of threatening processes have been listed so far, with the most relevant for cotton growing being Land Clearance (all listed processes relevant to cotton growing are detailed in Section 4.15). Nominations of other threatening processes can be made by anyone and are assessed by the Threatened Species Scientific Committee (TSSC). The recommendations of the TSSC are then subject to a final decision by the Minister for Environment and Heritage.

The *EPBC Act 1999* also provides for the protection of critical habitat, the preparation of plans such as recovery plans for certain species and threat abatement plans, as well as the issuing of conservation orders.

3.2.2 Policies and strategies

Australian National Strategy for Ecologically Sustainable Development

The Australian National Strategy for Ecologically Sustainable Development (COAG 1992) was agreed to by all State governments, and now acts as an over-riding principle in policy development. The main aims of the Strategy are summarised in the following extract (COAG 1992).

The Goal is development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.

The Core Objectives are:

- *To enhance individual and community well being and welfare by following a path of economic development that safeguards the welfare of future generations.*
- *To provide for equity within and between generations.*
- *To protect biological diversity and maintain essential ecological processes and life-support systems.*

The objectives of this Strategy serve as guiding principles for Federal, State and Local Government policies.

National Strategy for the Conservation of Australia's Biological Diversity

Australia ratified the *Convention on Biological Diversity* (Anon. 1992a) in 1993, an international agreement that (ANZECC 1996):

...has as its primary aims the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising from the use of genetic resources.

This led to the development of *The National Strategy for the Conservation of Australia's Biological Diversity* (ANZECC 1996). This Strategy accepts the core objectives and guiding principles of the *National Strategy for Ecologically Sustainable Development*, and states that the overall goal 'is to protect biological diversity and maintain ecological processes and systems'.

The Strategy outlines principles and actions for implementation. The 35 objectives in the Strategy are outlined in Appendix 2. Several objectives particularly relevant to cotton growers are listed below (ANZECC 1996):

- 2.1 *Develop and implement nationally integrated policies for the ecologically sustainable use of biological resources.*
- 2.2 *Achieve the conservation of biological diversity through the adoption of ecologically sustainable agricultural and pastoral management practices...*
- 2.5 *Manage water resources in accordance with biological diversity conservation objectives and to satisfy economic, social and community needs...*
- 3.2 *Ensure effective measures are in place to retain and manage native vegetation, including controls on clearing...*
- 7.4 *Ensure that the costs of biological diversity protection are equitably shared, such that they reflect contributions to degradation and benefits from protection or use.*

This Strategy was reviewed in 2001 (ANZECC 2001). The Review recognised the progress made in identifying threatening processes, improved management of biodiversity and in the implementation of sustainable forest management practices. However, it also listed several areas where the Strategy has not been achieving its objectives (e.g. knowledge of Australia's

biodiversity and threats is incomplete), and where the original targets set were difficult to measure, making accountability difficult.

Intergovernmental Agreement on the Environment (IGAE)

The *Intergovernmental Agreement on the Environment* (Anon. 1992b) is an agreement between the Federal, State and Territory Governments and the Australian Local Government Association, that aims to facilitate a cooperative national approach to the management of environmental issues. Under the Agreement, all levels of government recognise and agree to abide by the principles of ecologically sustainable development. The Agreement includes nine Schedules regarding specific areas of interest including Schedule 6 (Biological Diversity) and Schedule 9 (Nature Conservation). In these Schedules, governments commit to various principles regarding biodiversity and nature conservation management.

Wetlands Policy of the Commonwealth Government of Australia

The *Wetlands Policy of the Commonwealth Government of Australia* (Biodiversity Group 1997) aims to build wetland conservation into the daily business of the Commonwealth Government, and ensure wetlands are managed in accordance with the principles of ecologically sustainable development. The Policy outlines why wetlands are important, and lists the major threats to the long term degradation and loss of wetlands, that is changes to water flow patterns and water quality, pollution and invasive plant and animal species. Guiding principles for management are outlined, and six strategies for the conservation, repair and wise use of wetlands are outlined in detail.

National Research Priorities

Four national research priorities and their associated priority goals were announced by the Prime Minister on 5 December, 2002 (DEST 2003):

1. an environmentally sustainable Australia;
2. promoting and maintaining good health;
3. frontier technologies for building and transforming Australian industries; and
4. safeguarding Australia.

The priority goal of an environmentally sustainable Australia has the potential to influence funding decisions relevant to cotton production, and has as its priority goals for research the areas of water utilisation, transforming resource-based industries, overcoming land degradation, developing cleaner more efficient fuels and energy sources, and managing biodiversity and deep earth resources (DEST 2003).

Biodiversity Conservation Research: Australia's priorities

The report on *Biodiversity Conservation Research: Australia's Priorities* (ANZECC and BDAC 2001), identified 15 key areas of biodiversity research. Within each area, recommendations were made about research needs and gaps. The 15 key areas were:

1. identifying Australia's ecosystems and ecological communities;

2. identifying Australia's species;
3. monitoring changes in Australia's biodiversity;
4. developing biodiversity data and information systems;
5. identifying ecosystem processes;
6. determining the value of biodiversity conservation;
7. developing incentives to conserve biodiversity;
8. identifying threats to biodiversity conservation;
9. determining the conservation status of biodiversity;
10. identifying a system of conservation reserves;
11. assessing preventable risks to biodiversity conservation;
12. predicting effects on biodiversity conservation;
13. managing for biodiversity conservation;
14. developing ecologically sustainable industry practices; and
15. developing education materials and decision support systems.

National Principles and Guidelines for Rangeland Management

Irrigation has allowed cotton to be grown in parts of NSW and Queensland that fall within what is known as Australia's rangelands. The *National Principles and Guidelines for Rangeland Management* (ANZECC and ARMCANZ 1999) were developed in response to the degradation of a significant area of rangeland. Once again, the principles of Ecologically Sustainable Development underlie the objectives and actions outlined in the report. The report provides a 25 year vision for Australia's rangelands (ANZECC and ARMCANZ 1999):

The Australian community is committed to achieving ecologically sustainable rangeland management, supporting diverse social, cultural and economic activities.

The goals which must be met to attain the vision are: (1) conservation and management of the natural environment, (2) sustainable economic activity, and (3) recognition and support for social, aesthetic, cultural and heritage values, diversity and development.

A number of actions relevant to cotton growers are recommended, such as the sustainable use of groundwater resources, development of an adequate system of conservation reserves, and off-reserve (i.e. both freehold and leasehold land) management being consistent with the sustainable use and management actions recommended in the report.

3.3 New South Wales Government

3.3.1 Legislation and regulations

Threatened Species Conservation Act 1995

The objects of the *Threatened Species Conservation Act 1995 (TSC Act 1995)* are:

- (a) *to conserve biological diversity and promote ecologically sustainable development, and*
- (b) *to prevent the extinction and promote the recovery of threatened species, populations and ecological communities, and*
- (c) *to protect the critical habitat of those threatened species, populations and ecological communities that are endangered, and*
- (d) *to eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities, and*
- (e) *to ensure that the impact of any action affecting threatened species, populations and ecological communities is properly assessed, and*
- (f) *to encourage the conservation of threatened species, populations and ecological communities by the adoption of measures involving co-operative management.*

The *TSC Act 1995* applies to all plants and animals native to NSW, with the exception of fish and marine plants (covered by the *Fisheries Management Act 1994*). Under this Act, threatened species, populations and ecological communities may be listed, along with key threatening processes; critical habitat may be declared, recovery plans prepared and implemented, threat abatement plans prepared to manage key threatening processes, and licence applications processed regarding listed species. The Act also provides for the preparation of a State biodiversity strategy. Chapter 4 provides details of species, communities and processes listed under the Act.

Fisheries Management Act 1994

Part 7A of this Act concerns threatened species conservation and provides for the listing of threatened species, populations and ecological communities of fish and marine plants, and critical habitat areas and key threatening processes, as provided for other flora and fauna in the *TSC Act 1995*. Many riverine listings (Sections 4.7 and 4.15) potentially affect cotton growers as they apply to species and processes occurring in cotton growing areas.

Environmental Planning and Assessment Act 1979

Under this Act, any development proposal that is likely to significantly affect listed threatened species, populations or ecological communities requires the preparation of a species impact statement. The Act outlines the factors that must be taken into account in determining if a significant effect is likely. Examples of relevant factors include whether the life cycle of a species will be disrupted such that a viable local population will be at risk of extinction, whether critical habitat will be affected, or whether a threatened species, population or community is adequately protected in conservation reserves in the region. The Act also provides for the Director-General of National Parks and Wildlife to maintain a

register of critical habitat. Planning authorities must have regard to this register when assessing development applications.

The preparation of State Planning Policies and Regional and Local Environmental Plans is covered by this Act, as is the assessment of the environmental impacts of any development application.

Native Vegetation Conservation Act 1997

This Act outlines a planning process for native vegetation management in NSW. Under the Act, Regional Vegetation Management Plans (RVMPs) can be prepared to provide direction on future remnant vegetation management, particularly in regard to how applications to clear vegetation in certain areas should be handled. RVMPs potentially have significant implications for cotton farming operations as, once gazetted, they override the provisions of the *TSC Act 1995* and the *NVC Act 1997*. Table 3.1 details the status of RVMPs in cotton growing areas in NSW.

Table 3.1. The status of Regional Vegetation Management Plans in NSW

Plan	Cotton growing shires involved	Plan status
Mid Lachlan RVMP	Lachlan (south of Lachlan River), Bland, Weddin	Completed
North Lachlan-Bogan Draft RVMP	Bogan, Lachlan (north of Lachlan River)	In preparation, exhibition period completed
Draft Moree RVMP	Moree Plains	In preparation, exhibition period completed
Draft Walgett RVMP	Walgett	In preparation, exhibition period completed
Draft Brewarrina RVMP	Brewarrina	In preparation, exhibition period completed

Water Management Act 2000

The *Water Management Act 2000* brought together water management in NSW under a single Act for the first time (NSW Government 2000):

The objects of this Act are to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations and, in particular:

- (a) *to apply the principles of ecologically sustainable development; and*
- (b) *to protect, enhance and restore water sources, their associated ecosystems, ecological processes and biological diversity and their water quality; and*
- (c) *to recognise and foster the significant social and economic benefits to the State that result from the sustainable and efficient use of water, including:*
 - (i) *benefits to the environment*
 - (f) *to integrate the management of water sources with the management of other aspects of the environment, including the land, its soil, its native vegetation and its native fauna.*

Under this Act, water will be provided specifically for environmental needs, approvals will be required for activities that impact upon water, water management plans developed by water management committees (formally constituted under the Act) will become legal

documents directing how water resources are to be allocated and protected, and licence provisions will be changed (DLWC 2001).

3.3.2 Policies and strategies

NSW Biodiversity Strategy

The *NSW Biodiversity Strategy* (NSW NPWS 1999) proposes a framework for coordinating government and community efforts to conserve biodiversity, and is guided by the *National Strategy for the Conservation of Australia's Biological Diversity* (ANZECC 1996). The NSW Strategy outlines many objectives relating to community consultation, the conservation and protection of biodiversity, threatening processes and their management, natural resource management, and improving knowledge, and for each objective, priority actions are listed (143 in total). Some objectives with particular relevance to cotton growing include (NSW NPWS 1999):

- 3.2 *Minimise the modification of natural ecosystems, habitat loss and fragmentation.*
- 4.2 *Implement ecologically sustainable agricultural management practices.*
- 4.7 *Effectively manage water resources to conserve biodiversity and meet environmental, economic, social and community needs.*

NSW State of the Environment 2000

The *NSW State of the Environment 2000* report (EPANSW 2000a) and the accompanying *Biodiversity Backgrounder* (EPANSW 2000b) report on the current condition of biodiversity in NSW, and reinforce the State government's commitment to achieving biodiversity objectives. The *Biodiversity Backgrounder* summarises information on the major threats to biodiversity in each bioregion, with cropping being cited as a threat in the bioregions in which cotton is grown.

NSW State Groundwater Dependent Ecosystems Policy

The *NSW State Groundwater Dependent Ecosystems Policy* (DLWC 2002b) outlines how groundwater will be protected in water management plans prepared by water management committees under the Water Management Act 2000 (DLWC 2002b):

The state Groundwater Dependent Ecosystems Policy is specifically designed to protect our valuable ecosystems which rely on groundwater for survival so that, wherever possible, the ecological processes and biodiversity of these dependent ecosystems are maintained or restored, for the benefit of present and future generations.

The Policy outlines five principles for guiding management of groundwater dependent ecosystems in NSW, largely centred on groundwater use being managed so it is sustainable, and so that groundwater dependent ecosystems are protected (Table 3.2).

Table 3.2. Five principles for management of groundwater dependent ecosystems in NSW (DLWC 2002b).

Principle 1	The scientific, ecological, aesthetic and economic values of groundwater dependent ecosystems, and how threats to them may be avoided, should be identified and action taken to ensure that the most vulnerable and the most valuable ecosystems are protected
Principle 2	Groundwater extractions should be managed within the sustainable yield of aquifer systems, so that the ecological processes and biodiversity of their dependent ecosystems are maintained and/or restored. Management may involve establishment of threshold levels that are critical for ecosystem health, and controls on extraction in the proximity of groundwater dependent ecosystems
Principle 3	Priority should be given to ensuring that sufficient groundwater of suitable quality is available at the times when it is needed: <ul style="list-style-type: none"> • for protecting ecosystems which are known to be, or are most likely to be, groundwater dependent; and • for groundwater dependent ecosystems which are under an immediate or high degree of threat from groundwater related activities
Principle 4	Where scientific knowledge is lacking, the precautionary principle should be applied to protect groundwater dependent ecosystems. The development of adaptive management systems and research to improve understanding of these ecosystems is essential to their management
Principle 5	Planning, approval and management of developments, water use and land use activities should aim to minimise adverse impacts on groundwater dependent ecosystems by: <ul style="list-style-type: none"> • maintaining, where possible, natural patterns of groundwater flow and not disrupting groundwater levels that are critical for ecosystems; • not polluting or causing adverse changes in groundwater quality; • rehabilitating degraded groundwater systems where practical

NSW wetlands management policy

The *NSW Wetlands Management Policy* (DLWC 2000) sets out the following goal for decision making with regard to wetlands:

The ecologically sustainable use, management and conservation of wetlands in NSW for the benefit of present and future generations.

The Policy outlines a number of principles that will be adopted to achieve the goal of ecologically sustainable use, management and conservation of wetlands. Many of these are relevant to cotton growers, such as (DLWC 2000):

- *water entering natural wetlands will be of sufficient quality so as not to degrade the wetlands;*
- *wetlands will have formal recognition in water allocation and management plans;*
- *wetlands of regional or national significance will be conserved.*

3.3.3 Statutory Resource Management Committees

Catchment Management Boards

In May 2000, the NSW State Government appointed members to 18 new Catchment Management Boards (CMB), established under the *Catchment Management Act 1989* (DLWC 2002a):

The boards will focus on five specific tasks:

- 1. Identify the opportunities, problems and threats associated with the use of natural resources to support rural production and protection and enhancement of the environment.*
- 2. Identify the first order objectives and targets, within the overall legislative and policy framework, for the use and management of the region's natural resources.*
- 3. Develop management options, strategies and actions to address the identified objectives and targets.*
- 4. Assist in developing a greater understanding within the community of the issues identified and action required to support rural production and enhance the environment.*
- 5. Initiate proposals for projects and assess against the targets, all projects submitted for funding under Commonwealth and State natural resource management grant programs.*

CMBs prepared Catchment Blueprints. Targets and priority actions for biodiversity, vegetation management, water management, salinity and soils are detailed in these blueprints. The targets are intended to provide direction to land holders and relevant agencies for the next 10 years. Many of these targets have direct implications for cotton growers, as they make specific recommendations regarding issues such as vegetation clearance and the use of riparian zones. Given the lengthy nature of these blueprints, individual plans should be consulted for detailed target and priority action lists.

3.4 Queensland Government

3.4.1 Legislation and regulations

Nature Conservation Act 1992

The *Nature Conservation Act 1992* is Queensland's primary statute covering the conservation of biodiversity (EPAQLD 1999). This legislation covers the declaration of protected areas, management of protected areas, and the protection of native wildlife and its habitat, with an emphasis on ecologically sustainable use and development. Three regulations operate under the Act: (1) the *Nature Conservation Regulation 1994*, dealing with licences for wildlife, stock transport and grazing, access to protected areas, camping, world heritage areas, cultural use and access issues; (2) the *Nature Conservation (Wildlife) Regulation 1994*, that defines and lists schedules of different categories of animals and plants (e.g. extinct, vulnerable, common etc.) and outlines management intentions and principles; and (3) the *Nature Conservation (Protected Areas) Regulation 1994* that deals with reserved public land.

Environment Protection Act 1994

This Act sets out the procedures relating to the regulation of Environmental Impact Statements, Development Approvals and Environmental Authorities, and Environmental Audits:

The object of this Act is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends ("ecologically sustainable development").

Integrated Planning Act 1997

This Act outlines procedures for the operation of local planning schemes, how State planning policies relate to local approval processes, and enables desired environmental outcomes to be outlined in a planning scheme:

The purpose of this Act is to seek to achieve ecological sustainability by –

- (a) coordinating and integrating planning at the local, regional and State levels; and*
- (b) managing the process by which development occurs; and*
- (c) managing the effects of development on the environment (including managing the use of premises).*

Local authority planning schemes and regulations are the primary regulatory control over activities on freehold land, such as native vegetation clearance (EPAQLD 1999). The *Vegetation Management Act 1999* makes the clearance of native vegetation on freehold land assessable under this Act (NR&M 2001). Under the new provisions, a development application to clear native vegetation under this Act, will need to be accompanied by a property vegetation management plan.

Note that just before this report was printed, the Premier of Queensland, Peter Beattie, announced an immediate halt on accepting land clearing applications, effective 16 May 2003. The halt on accepting applications will remain in place until the Queensland and Federal Governments negotiate ways to address high rates of clearing

Vegetation Management Act 1999

This Act provides for the preparation of vegetation clearance policy for freehold land, and for the completion of Regional Vegetation Management Plans (RVMPs) for vegetation management on freehold land which will set directions for vegetation management in the region (NR&M 2001):

The purposes of this Act are to regulate the clearing of vegetation on freehold land to –

- (a) preserve the following –*
 - (i) remnant endangered regional ecosystems;*
 - (ii) vegetation in areas of high nature conservation value and areas vulnerable to land degradation; and*
- (b) ensure that the clearing does not cause land degradation; and*
- (c) maintain or increase biodiversity; and*
- (d) maintain ecological processes; and*
- (e) allow for ecologically sustainable land use.*

The plans will be used to:
Guide vegetation management activities in the region;
Assess applications to clear vegetation within the region;
Record areas declared to be of high nature conservation value or to be vulnerable to land degradation;
Provide information to landholders and give a regional context to Property Vegetation Management Plans;
Provide locally relevant good practice guidelines.

Twenty-four draft RVMPs have been prepared and are currently out for public comment (www.nrm.dnr.qld.gov.au/vegetation/rvmp.html). Table 3.3 lists the RVMP Planning Groups relevant to cotton growing (NR&M 2001). This Act operates in conjunction with the *Vegetation Management Regulation 2000*. This Regulation contains schedules detailing 'Endangered Regional Ecosystems', 'Of Concern Regional Ecosystems' and 'Not of Concern Regional Ecosystems' in the different bioregions in the State. The Regulation also outlines what must be included in a property vegetation management plan.

Table 3.3. Regional Vegetation Management Plan Planning Groups, Queensland

Planning Group	Cotton growing areas involved
Brigalow Belt – Southern Highlands Planning Group	Emerald
Brigalow Belt – Capricorn – Dawson Planning Group	Theodore, Biloela
Southern Brigalow Region	Darling Downs, St George

The Queensland government has recently declared a moratorium on the receipt of new clearing applications, and has proposed to phase out broad scale clearing by December 2006.

Land Act 1994

A Broadscale Tree Clearing Policy and Local Tree Clearing Guidelines came into effect in 1997 under the Land Act 1994 (EPAQLD 1999). These native vegetation clearance controls relate to leasehold land (67% of Queensland) (EPAQLD 1999). Under these controls, a permit is required to clear native vegetation, and the permit is subject to an assessment against criteria such as whether the ecosystem is endangered.

3.4.2 Policies and strategies

State of the Environment Queensland 1999

There is currently no Queensland biodiversity strategy (EPAQLD 1999). However, *State of the Environment Queensland 1999* (EPAQLD 1999) has a chapter devoted to biodiversity, and this gives a comprehensive overview of the status of biodiversity conservation efforts in Queensland. The main pressures facing biodiversity in Queensland are discussed in detail (i.e. clearing and fragmentation of native habitat, introduced species, alteration and degradation of native habitat through grazing, altered fire regimes and pollution, and the harvesting of native species). An assessment is given of the current state of ecosystem diversity, species diversity and genetic diversity.

The report mentions many areas of interest relevant to cotton growing. The potential for non-target species to be affected by harmful chemicals such as pesticides is noted, but despite audits of application rates, and increasing knowledge of the quantities discharged into aquatic ecosystems, the ultimate impacts on biodiversity are unknown (EPAQLD 1999).

The report also outlines the actions of various levels of government and the community towards the conservation of biodiversity. As 89% of the State is managed for production-oriented outcomes, and that the costs of acquisition are high, there is increasing recognition of the role land holders must play in achieving biodiversity conservation objectives (EPAQLD 1999). This is likely to be reflected in future biodiversity and land use strategies.

State Policy for Vegetation Management on Freehold Land 2000

The *State Policy for Vegetation Management on Freehold Land* (DNR 2000c) was prepared in accordance with the *Vegetation Management Act 1999*. It outlines the State Government's policy in regards to vegetation clearance, and provides a framework and principles for vegetation management decision making. It states the Government's desired biodiversity and land management outcomes, details how regional vegetation management plans should be prepared and how vegetation clearance applications should be assessed, and provides a detailed code for the clearing of native vegetation in line with relevant Acts, policies and regional vegetation management plans. An important part of the Policy relates to not approving the clearing of more than 30% of the pre-clearing extent of remnant vegetation in a bioregion.

Broadscale Tree Clearing Policy for State Lands 2000

The *Broadscale Tree Clearing Policy for State Lands* (DNR 2000a) was prepared in accordance with the *Land Act 1994*. This policy aims to create a framework for the management of vegetation consistent with the principles of ecologically sustainable development. As with the policy for freehold land, it outlines the principles for vegetation management decision making on leasehold land, states the biodiversity and land management outcomes that are desired, details how the regional vegetation management planning process and the supporting statutory framework will be used to implement the policy, and provides a detailed code for the clearing of vegetation on leasehold land. The same restriction on not allowing the clearing of more than 30% of the pre-clearing extent of remnant vegetation exists.

Integrated Catchment Management: A Strategy for Achieving the Sustainable and Balanced Use of Land, Water and Related Biological Resources

The Strategy (DPIQLD 1990) provides a framework for cooperation and coordination between government agencies, land holders, resource users and community groups (NR&M 2002a). This Strategy initiated establishment of Catchment Management Associations (CMAs), now responsible for managing and coordinating a wide array of works and investigations in catchments across Queensland.

3.4.3 Statutory resource management committees

Catchment Management Associations

In Queensland, cotton is grown in the Murray-Darling Catchment and the Fitzroy Catchment. Within the Murray-Darling Catchment, there is the Queensland Murray-Darling Basin Coordinating Committee, the Condamine Catchment Committee, the Border Rivers Catchment Management Association Inc., and the Maranoa-Balonne Catchment Management Association. Within the Fitzroy Catchment there is the Fitzroy Basin Association and the Dawson Catchment Coordination Association (DNR 1999b). All of these associations are responsible for initiatives such as pesticide audits, natural resource strategy development, participation in water resource planning and allocation processes, and water quality monitoring. These associations play an important role in community participation in catchment planning processes, and planning future directions for works and research. Catchment management strategies produced by authorities relevant to cotton growing include the *Condamine Catchment Strategic Plan* (CCMA 2001), *Our Plan for the Border Rivers Catchment* (Draft) (BRCMA 2001), *Maranoa-Balonne Strategic Plan* (MBCMA no date), and *Dawson River Catchment Strategy: Reviewed Edition 2002* (Otto 2002).

3.5 Local Government

The *National Local Government Biodiversity Strategy* (Berwick and Thorman 1998) was adopted at the General Assembly of Local Government in 1998, and implementation began in 1999. The Strategy was prepared to help Local Government actively participate in delivering biodiversity conservation objectives at the local level. The Strategy addresses the key issues of (1) awareness, training and education, (2) local Government resourcing, (3) regional partnerships and planning, (4) legislative frameworks, and (5) information and monitoring.

The Strategy outlines the objective for each of these key issues, and suggests actions to assist Local Government in their delivery.

The *Biodiversity Toolbox* (Anon. 2003a) is an interactive web-based collection of information, tools and resources designed to assist local governments to prioritise and integrate biodiversity conservation into the management of local issues. The *Biodiversity Toolbox* was developed by the National Local Government Biodiversity Education Steering Committee, and is accessible through the Environment Australia website.

The *Biodiversity Planning Guide for NSW Local Government* (Fallding et al. 2001) provides guidance to local governments on how they can implement key aspects of the *NSW Biodiversity Strategy* (NSW NPWS 1999). The emphasis of the Guide is on how biodiversity relates to local government responsibilities and processes, and how local governments can undertake biodiversity planning to improve the quality of their decisions regarding land use and developments. There doesn't appear to be an equivalent guide for Queensland.

Shires in which cotton is grown may have their own planning requirements which affect agricultural activities. For example, the Dubbo City Council's (DCC) *Local Environmental Plan 1997 – Rural Areas* requires that a comprehensive 'Property Development Plan' be prepared for any application to grow cotton, detailing factors such as methods of production,

environmental safeguards and previous performance. In 1999, the DCC received an application for development consent for cotton farming, and after considering the Property Development Plan and public submissions, refused the application. The Land and Environment Court approved the application in 2000, but the approval was subject to conditions provided by the DCC. The conditions are such that it is unlikely that the proponent will ever actually grow cotton (Nita Lennon, pers. comm. 2003). In Queensland, the Waggamba Shire Council has enacted a local law under the *Local Government Act 1993* to license levee banks associated with cotton growing.

Planning requirements will vary from shire to shire, and have the potential to vary over time. There may be public pressure to increase controls if there is a perception that cotton growing is resulting in off-site impacts. For example, in the case of the application to grow cotton on land under the planning control of the DCC, there were 1200 public objections to the proposal (Nita Lennon, pers. comm. 2003).

3.6 Murray Darling Basin Commission

The Murray Darling Basin Commission (MDBC) released its report, *Integrated Catchment Management in the Murray-Darling Basin 2001-2010: Delivering a Sustainable Future*, in June 2001 (MDBC 2001). This report outlines how targets relating to catchment health will be developed over the next 10 years to guide actions and monitor progress towards agreed outcomes. Targets will be set for the areas of water quality, water sharing, riverine ecosystem health and terrestrial biodiversity. They will initially be developed on a Basin-wide scale, but some catchment communities may set additional natural resource targets. Once agreed upon, these targets will be incorporated into local catchment strategies and action plans.

In regards to the timetable for the setting of targets, Table 3.4 outlines examples of the types of targets and when they will be developed in each area. The report states that the lack of information for some areas will mean that it will be some time before targets are developed.

The process for setting terrestrial biodiversity targets (actions that are achievable and measurable over a 5-10 year period) in the Murray-Darling Basin was further progressed with the release of the report *A Framework for Terrestrial Biodiversity Targets in the Murray-Darling Basin* (James and Saunders 2001). The framework outlined in the report provides a technique for prioritising targets at a variety of scales (i.e. from the sub-catchment to Basin scale). The types of biodiversity targets that may be developed through this process include targets for the area of different vegetation types to be conserved, desired sizes of native fauna populations, changes in the condition or quality of certain areas (e.g. improved vegetation quality through the removal of weed species), and design parameters for certain landscapes (e.g. patterns of vegetation clearance). The lack of information on factors such as the thresholds of land use intensification that lead to dramatic declines in the integrity of certain ecosystems, is acknowledged as hampering the target setting process.

Table 3.4. MDBC timetable for setting catchment management targets (MDBC 2001).

Target	Timetable
<i>Water quality (including surface and groundwater)</i>	
Reducing or slowing the rate of increase of in-stream salinity	By 2001. Basin strategy for in-stream salinity and end-of-valley targets for each major catchment of Basin will be established as part of Basin Salinity Management Strategy. Over time these will be underpinned by system of within-valley targets.
Reducing the threat of algal blooms	By 2003. Basin strategy for in-stream nutrients and other factors affecting algal blooms, and targets for each major catchment of Basin will be established. Over time these will be underpinned by system of within-valley targets. These targets will be informed by regular Sustainable Rivers Audit. Other possible areas for setting water quality targets will be considered by Ministerial Council, including pesticides, temperature, and turbidity.
<i>Water sharing, including surface water and groundwater</i>	
Establishing flow regimes that provide an appropriate balance between consumptive and in-stream, wetland, floodplain, riparian and estuarine water requirements. Consumptive use includes irrigation, stock and domestic use, and urban water supplies	Arrangements for cap on diversions of water from Basin's rivers were agreed in 1995. Introduction of cap seen as essential first step in establishing management systems to achieve healthy rivers and sustainable consumptive use. The current cap has been set at 1993-94 levels, adjusted for climate conditions, except for Queensland and the Australian Capital Territory. By 2002. Interim targets for environmental flows for the River Murray will be established. By 2006. A Basin strategy for water sharing and targets for each major catchment of the Basin will be established. Targets for water sharing will be informed by a regular Sustainable Rivers Audit.
<i>Riverine ecosystem health</i>	
Maintaining/re-establishing viable populations of native species and integrity of ecological communities throughout their range within floodplain, wetland, riparian, in-stream and estuarine ecosystems	Between 2001 and 2006. Work will be undertaken to determine appropriate targets to reflect riverine ecosystem health, building on and extending work on targets for water quality and water sharing. Development of Basin strategy and catchment targets for riverine ecosystem health, and timeframe for development, will be informed by regular Sustainable Rivers Audit. Basin strategy and targets for each major catchment will be in place by 2006.
<i>Terrestrial biodiversity</i>	
Maintaining key ecological processes; maintaining or re-establishing viable populations of native species and the integrity of ecological communities (especially vegetation); and controlling threats to biodiversity	Between 2001 and 2006. Work will be undertaken to determine appropriate targets to reflect terrestrial biodiversity. These targets will take account of management options for salinity. As initial step, work will commence on determining appropriate targets for native vegetation in major catchments to deliver Basin outcomes. Basin strategy and targets for each major catchment will be in place by 2006. By 2002. Basin strategy and interim targets for native vegetation for each major catchment of Basin will be established.

3.7 Incentive Schemes for Biodiversity Conservation

Farmers and landcare groups may be eligible for assistance with biodiversity conservation works on their properties through various government incentive schemes. The predominant sources of federal government funding are distributed through the recently revamped Natural Heritage Trust (NHT). Under the new arrangements, there are four funding programs: Landcare, Bushcare, Rivercare and Coastcare. These programs will fund 10 areas of activity such as threatened species and native vegetation restoration and management. The local action component with grants of up to \$30 000 will be known as the Australian Government Envirofund. The Regional Investments component will direct funds to regional organisations for implementation of Accredited Natural Resource Management Plans (most funds will be administered through this component). A National/State Investments component will fund activities with a national or state focus such as research and resource assessment. Details can be obtained from the NHT website (<http://www.nht.gov.au>).

Environmental Trust Grants are administered by the NSW Environment Protection Authority. These grants fund restoration and rehabilitation works, research and education projects. Closing dates and criteria vary from year to year. Details can be obtained from the NSW EPA website (<http://www.epa.nsw.gov.au/envtrust/index.htm>).

Conservation Grants to Non-Government Organisations are administered by Queensland's Environment Protection Agency, and can be used by community groups to undertake conservation works that are priorities for the Queensland EPA and Queensland Parks and Wildlife Service. Funding details are available on the Queensland EPA website (<http://www.epa.qld.gov.au/environment/environment/grants/>). This site also provides comprehensive details of other funding opportunities.

There are many other sources of funds potentially available to groups and individuals, from both government and private sources, that may be useful to cotton farmers. Good sources of information on these grants are:

- *Australian Directory of Philanthropy 2002/2003* (Philanthropy Australia 2003) (can be purchased from (<http://www.philanthropy.org.au>)).
- *2003-2004 Funding Calendar – A Directory of Community Funding* (WESTIR 2003) (can be purchased from <http://www.westir.org.au>).

These directories provide extensive lists of funding opportunities available to both groups and individuals from governments of all levels, private, family and corporate trusts and foundations. Grant opportunities constantly change, so groups interested in securing funds should check these different websites frequently.

As an example of the funds accessible by farmers in one cotton growing catchment, the Liverpool Plains Land Management Committee (LPLMC) currently has funds available for farmers in their area who want to:

- adopt an Environmental Management Systems approach on their property (NHT);
- undertake on-ground works with a water quality focus (e.g. fencing and revegetating riparian areas) (NHT, State Salinity Strategy); and
- protect grassy white box woodlands (World Wildlife Fund).

In recent times, farmers on the Liverpool Plains have been able to access remnant vegetation funds from Greening Australia and the Department of Land and Water Conservation. The

LPLMC has also received Environmental Trust funds for producing a booklet for farmers on using rain where it falls (to combat salinity), and NSW State Forests have undertaken agroforestry trials in the area. In total, around \$900 000 has been spent on the Liverpool Plains in the last 18 months (Di Bentley, pers. comm. 2003).

