Statement of Verdun Spreadborough

Lay Witness

TO TENDER

400 George Street Brisbane
GPO Box 1738 Brisbane
Queensland 4001 Australia
Telephone 1300 309 634

12Name of Witness	Verdun SPREADBOROUGH
Date of Birth	[redacted]
Address and contact details	[redacted] Mt Isa
Occupation	Grazier
Officer taking statement	
Date taken	19 September 2011

Verdun Francis SPREADBOROUGH states:-

I am the landholder of Chidna Station. The Mount Oxide Abandoned Mine is on Chidna Station. The property is 24300 hectares. I have been the landholder since 2001. The property has been associated with my maternal family since the early 1900s.

The property is in hilly rough country and has numerous creeks and rivers running through the property. Two creeks in particular run through the property they are named Twibles Creek and Cave Creek. These creeks have suffered serious environmental harm from the Mount Oxide contamination spills over a number of years

These two creeks only flow in the wet season usually between December through to April of any year.

The abandoned Mount Oxide mine site is located 158 kilometres north of Mt Isa in Central Queensland. The mine site is adjacent to Cave Creek and its tributary Twibble Creek, that flows past the mine and on into Torpedo Creek, then into Gunpowder Creek, then into the Leichardt River and ultimately into the Gulf of Carpentaria.

Mount Oxide mine has not been operational since the late 1970's/ early 1980s. It was mining Copper and Cobalt.

In about August 1999 the Department of Mines and Energy ("DME") accepted a Surrender of Leases of the mine site from the former leaseholder for a sum of $49,000.00 which was held as a security deposit for rehabilitation work, which has fallen far short of what will ultimately be required to undertake such works. At that time of surrender DME recognised that the estimated cost of the minimum cost of rehabilitation required for the Mount Oxide site exceeded $200000. (See attached letter Department of Mines and Energy 1999).

There have been numerous owners of this mine. I do not know who held the leases.

The Department of Environment and Resource Management (DERM) have informed me on a number of occasions that the Mines and Energy Division of the Department of Employment, Economic Development and Innovation (DEEDI) have the lead role in cleaning up this contamination.

Witness Signatu[redacted]ignature of officer .....

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When contacting Mines and Energy the contact persons are Oskar Kadletz, the coordinator for Abandoned Mine Lands and Daniell Gillinder, the Mines and Energy Norther Region Manager.

Both creeks run through the mine and since a child I have been aware that the creeks (Twibles and Caves) on occasion have had a blue colour to them. Even when there's no water in the creek the dry bed is still blueish in colour.

There is also a large open pit, acid mine drainage is within the pit. This pit is near these creeks. It is a source of contamination.

There is also another source of contamination being a number of stockpiles which have been left in the middle of Twibles Creek which also leaches into the water system when the rain comes.

Over the years members of my family have attempted to get some action from the authorities controlling this mine and the contamination of the water and creeks.

In 2001 copper solution and salting was detected in Caves Creek indicating that the ecological health of water may be compromised further downstream. (See attached Mount Oxide Briefing Paper Roche 2001)

2008/2009 & 2009/2010 saw very heavy rain fall during the wet seasons resulting in the large open pit of the mine reaching a certain level and then the water flows through faults in the ground into the creeks and turns them bright blue.

The 2008/2009 wet season saw the mine site cause serious environmental harm to environmental values downstream of the source of contamination.

I have contacted DERM a number of times as they are the government department responsible for the environment. When talking to DERM the contact person is Hamish Bulter.

The contaminate spills into the creeks and stays blue until it dries out in the creek and then crusts over the creek bed or land into a blue/white powder.

Where ever the blue contaminated water goes nothing lives in it. The other creeks around have fresh water fish such as Spangled Perch, Black Bream also frogs, turtles, crabs and native plants.

The waters have been tested by Mines and Energy and DERM and I have been told that results come back as a pH of 2 closest to the source. This is very acidic.

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I am aware that the cattle and fish in the area have been tested and have come back with high levels of copper contamination.

The cattle drink the water and so do the local purple neck wallabies the native birds and other wildlife. They do not drink from the source or in the direct vicinity of the source.

I do not use the creeks to irrigate. I use underground water. I do not know what the heavy metals is doing to that supply. The Government have not told me if the underground water is affected. I am not sure if they have tested it.

There is an exploration company, Perilya, currently doing testing in this area and I think they have tested the underground water. I have not been told of any results.

DEEDI have not given me an explanation about how the high levels of contamination will affect the cattle or fish. Although biosecurity are telling me that the meat from the cattle is safe to eat.

However they can't tell me if the copper contamination affects the growth or well being of the cattle.

I occasionally meet with DERM and they inform me that they are working with Mines and Energy to clean the site. They don't use any signage about the problem in the area.

In 2009 after much lobbying by the landholder Mines and Energy were funded by the Government to cleanup the creek system. Tools were a vacuum cleaner and leaf blower machine. A sump and pump systems was installed in an attempt to collect contaminated seepage and to reshape mineralized heap leach pads.

However the vacuum cleaner was not able to cope and engineering and earth works failed and further contamination of the creek systems occurred again in 2010.

An Expert Panel was formed to gain scientific knowledge. This has been a closed meeting to stakeholders. There is no transparency. We only hear what DEEDI tells us.

In 2010 Mines and Energy placed plastic covers over some of the stockpiles to minimise rainfall infiltration. There was also some diversion works carried out. However the creeks still ran blue with contaminants with the 2010/2011 wet season rain which was an average rainfall without flooding.

Mines and Energy plan further remediation works for 2011. At the last meeting in September Mines and Energy informed me that they were going to treat the pit water to lower the level. This will they hope reduce the volume of pit water before the next wet season and might also provide information of other aquifer sources. The treated water will be sprayed over the stock piles.

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I am concerned about this process as there is potential to cause further serious environmental harm.

I am further concerned that without proper planning, data collection and risk analysis there its potential for funding to be wasted.

As predictions for this upcoming wet season is flooding I am worried the creeks and rivers systems will again be exposed to contaminants from the Mount Oxide Abandoned Mine.

I am concerned that DERM cannot regulate DEED . **See attached Submission Re. DERMs role in setting standards for environmental protection and preparedness prior to the wet season 2010/2011.**

I believe an independent body should oversee this type of problem and ensure that the government's department fix the contamination.

Justices Act 1886

I acknowledge by virtue of section 110A(5)(c)(ii) of the Justices Act 1886 that:

(1) This written statement by me dated 19/9/2011 and contained in the pages numbered 1 to is true to the best of my knowledge and belief; and

(2) I make this statement knowing that, if it were admitted as evidence, I may be liable to prosecution for stating in it anything that I know is false.

..... [redacted] .....Signed at ....Brisbane....this.....19th September.....2011

Witness Signature.. [redacted] Signature of officer .....

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Queensland Government

Ref CTS 06209/11

Office of the
Minister for Environment and Resource Management

07 JUN 2011

Ms Georgie Spreadborough
Email: [redacted]

Dear Ms Spreadborough

Thank you for your email of 31 March 2011 concerning contaminated water management at the Mt Oxide mine. The Minister for Environment and Resource Management has asked me to respond on her behalf.

As you are aware, the Mt Oxide mine is managed by the Department of Employment, Economic Development and Innovation (DEEDI) as part of the State Government's Abandoned Mines Lands Program. The Department of Environment and Resource Management (DERM) continues to actively engage with DEEDI and local stakeholders in relation to the management of contaminated water at the Mt Oxide mine.

DERM acknowledges that further work is required to address contaminated water releases from the mine and, to this end, has technical representation on the expert panel convened to identify remedial measures required at Mt Oxide mine.

In relation to your questions about what regulatory controls DERM has over DEEDI to ensure improvement plans are in place to address the contaminated water issues at Mt Oxide and in relation to abandoned mines in general, DERM administers the *Environmental Protection Act 1994,* which binds all people, including the state. The Act creates a number of statutory tools which are available to DERM. DERM utilises these tools where appropriate, along with other available non statutory measures, to prevent or mitigate environmental harm.

I am advised that DERM is currently working closely with DEEDI to ensure that it manages the Mt Oxide mine and other abandoned mines in the state by taking all reasonable and practicable measures to prevent or minimise environmental harm.

As you are aware, the review of the roles and responsibilities of the former Department of Natural Resources, Mines and Water (NRMW), the Environmental Protection Agency (EPA) and the Department of Primary Industries and Fisheries report produced by the Queensland Service Delivery and Performance Commission in February 2007 (the Keliher Report) made recommendations in relation to a range of issues, including the administration of abandoned mines by the State Government. The Keliher Report recommended that abandoned mines, like Mt Oxide, continue to be managed through the Abandoned Mines Lands Program, which is currently the case.

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The Kelilher Report also recommended that the technical advice and expertise of DERM (incorporating the former EPA) and DEEDI (incorporating part of the former NRMW) are applied to managing complex abandoned mine sites, which is the case in relation to the expert panel convened for Mt Oxide.

The Minister thanks you for bringing this matter to her attention and hopes this information is of assistance. Should you have any further enquiries, please contact Mr Rob Lawrence, Director, Environmental Services, North Region of the Department of Environment and Resource Management on telephone (07) 4222 5338.

Yours sincerely

[redacted]

Principal Policy Advisor

Review of the Roles and Responsibilities

of

The Department of Natural Resources, Mines and Water

Environmental Protection Agency

and

Department of Primary Industries and Fisheries

Service Delivery and Performance Commission

February 2007

A Smart State Initiative

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Queensland Government

Service Delivery and Performance Commission

The Honourable Peter Beattie MP
Premier of Queensland
Executive Building
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BRISBANE QLD 4000

Dear Premier

In accordance with section 30 of the *Service Delivery and Performance Commission Act 2005,* I hereby provide you with the Commission's report on the Review of the Department of Natural Resources, Mines and Water, the Environmental Protection Agency and the Department of Primary Industries and Fisheries.

This report is the culmination of an intensive review of possible overlap and duplication in the responsibilities of these agencies, as well as identifying and rectifying gaps and areas where roles in service delivery were unclear or could be improved.

I commend this report to you and provide it for subsequent tabling in the Legislative Assembly.

Yours sincerely

[redacted]

[redacted]
Chairman
Service Delivery and Performance Commission

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- Stakeholders and clients of the agencies concerned who contributed to the review
- Commissioners of the Service Delivery and Performance Commission
- Directors-General of the agencies under review
- Managers and other staff from the agencies, and
- The Service Delivery and Performance Commission Review Team and Support Staff.

Note:

This review was completed prior to the General Election of 9 September 2006. After the election, the Department of Natural Resources, Mines and Water was split into the Department of Natural Resources and Water, and the Department of Mines and Energy (by combining with the former Department of Energy). References to Departments in this Report reflect the departmental arrangements as at 31 August 2006, with the recommendations for future actions relating to the newly-created departments.

Contents

List of Abbreviations

AMLP	Abandoned Mines Land Program
ASAP	Aligning Services and Priorities
ATS	Automated Titles System
AusBIOSEC	Australian Biosecurity System for Primary Production and the Environment
BWEMP	Business Water Efficiency Management Program
CBRC	Cabinet Budget Review Committee
COAG	Council of Australian Governments
DCA	Declared Catchment Area
DDM	Day to Day Management Program
DLGPSR	Department of Local Government, Planning, Sport and Recreation
DME	Department of Mines and Energy
DPC	Department of the Premier and Cabinet
DPI&F	Department of Primary Industries and Fisheries
DSDTI	Department of State Development, Trade and Innovation
EAs En	vironmental Authorities
EHMP	Ecosystem Health Monitoring Program
EP Act	*Environmental Protection Act 1994*
EPA	Environmental Protection Agency
EPP (Water)	*Environmental Protection (Water) Policy 1997*
EVs En	vironmental Values
FHAs	Fish Habitat Areas
GBRMPA	Great Barrier Reef Marine Park Authority
IDAS	Integrated Development Assessment System
IPA	*Integrated Planning Act 1997*

IPMC	Inter-departmental Pest Management Committee
IQ In	formation Queensland
MDB	Murray Darling Basin
MOU	Memorandum of Understanding
MRA	*Mineral Resources Act 1989*
NAP	National Action Plan on Salinity and Water Quality
NCA	*Nature Conservation Act 1992*
NRW	Department of Natural Resources and Water
NRMSC	Natural Resource Management Ministerial Council Standing Committee
NRMW	Department of Natural Resources, Mines and Water
NSW Ne	w South Wales
PISC	Primary Industries Ministerial Council Standing Committee
PMAVs	Property Maps of Assessable Vegetation
QBFP	Queensland Boating and Fisheries Patrol
QPWS	Queensland Parks and Wildlife Service
QWRS	Queensland Water Recycling Strategy
RE R	egional Ecosystems
ROL	Resource Operations Licences (ROL)
ROP R	esource Operations Plan
RWUE	Rural Water Use Efficiency Scheme
SAA Spe	cial Agreement Act
SDPC	Service Delivery and Performance Commission
SEAP	Stream and Estuaries Assessment Program
VMA	*Vegetation Management Act 1999*
WQOs Wa	ter quality objectives
WRP Wa	ter Resource Plan

Executive Summary

The purpose of this review is to improve the efficiency and effectiveness of service delivery by the Department of Natural Resources, Mines and Water (NRMW), the Environmental Protection Agency (EPA) and the Department of Primary Industries and Fisheries (DPI&F). This is to be achieved by reviewing overlaps and gaps in services provided by the agencies, and areas where roles in service delivery are unclear or could be improved. As a result of the post-election departmental changes, the outcomes of this review now relate to the Department of Natural Resources and Water (NRW), and the mining aspects of the Department of Mines and Energy (DME), as well as EPA and DPI&F.

Overall the review identified a number of areas of positive collaboration between the agencies. However, the review identified several areas where service delivery could be improved by clarifying roles, improving communication, amending legislation, undertaking collaborative work between the agencies or transferring functions between agencies.

Water Management

The management of water issues within government is complex and dynamic. This has led to uncertainty from stakeholders and within government as to agency roles. To address this, the government needs to clearly communicate agency roles in water management issues, as well as water policies and programs, through a whole-of-government website.

There are many entities involved in water quality monitoring in Queensland – including NRMW, EPA, natural resource management bodies, water authorities and local governments. The resources currently being allocated to these tasks can be used more efficiently and effectively if there were greater co-ordination in this area. To achieve this, an integrated approach to water quality monitoring in the State needs to be developed.

The water recycling function and the *WaterWise* initiative in EPA should be transferred to NRMW as these activities are a key part of NRMW's water supply role.

The government also needs to clarify the future use of the *WaterWise* brand.

The pending review of the *Environmental Protection (Water) Policy 1997* needs to remove provisions that duplicate provisions in the *Water Act 2000*.

Biosecurity / Pest Management

DPI&F, NRMW and EPA all have roles in biosecurity / pest management. The allocation of responsibilities between the agencies is not clear in many cases, and there are significant gaps in responsibilities (e.g., invertebrates, birds, marine pests). The unclear accountability and governance mechanisms under the current arrangements compromise the State's capacity to quickly and effectively respond to new pest incursions. This risk is also exacerbated by the absence of an endorsed funding model to deal with incursions.

The dispersed nature of responsibilities across the three agencies also leads to sub-optimisation of capacity (including facilities) in preparedness, surveillance, and science.

To address this, the review recommends all biosecurity / pest management functions in the three agencies be centralised into a Queensland Biosecurity Agency in the primary industries portfolio, to be overseen by a whole-of-government Management Board. The Agency will report to the Minister for Primary Industries and Fisheries through the Director-General, DPI&F.

The review has also recommended a funding model to provide more certainty for the Queensland Biosecurity Agency in dealing with incursions.

Environmental Regulation of Mining

Responsibility for the environmental regulation of most mining activity resides with the EPA under the *Environmental Protection Act 1994*. However, the environmental regulation of Special Agreement Act (SAA) mines[1] is dealt with under separate legislation, which does not reflect contemporary approaches to environmental management.

The review recommends that the environmental regulation of SAA mines under the existing Special Agreement Acts be administratively transferred to the Environmental Protection Agency. EPA is to consult further with the SAA mining companies in relation to moving the mining operations across to the EP Act and report back to Cabinet on appropriate legislative amendments.

The current government review of the level of financial assurances required of miners (to cover future environmental contingencies) should be extended to include the SAA mines.

The State has a substantial legacy of abandoned mines, which are managed by NRMW. However, departmental responsibility for managing any future abandoned mines is unclear.

The review recommends that responsibility for rehabilitating all abandoned mines should reside with the NRMW (now the Department of Mines and Energy). However, to ensure proper collaboration on these issues, it is also recommended that an inter-departmental management committee be established to oversee areas of common interest, including the establishment and release of financial assurances under the *Environmental Protection Act 1994*.

Issues have been raised regarding the level of service provided to small mining operations, mostly in remote areas of Queensland, due to the lack of a physical EPA presence in these areas. EPA and NRMW can provide a better service to small mining operations by:

- entering into a Memorandum of Understanding (MOU) for NRMW to undertake some environmental inspection functions in relation to small mining operations in remote locations on a fee-for-service basis, and
- streamlining NRMW / EPA application processes through the use of combined forms for mining / environmental applications.

There is also the issue of releasing land for further exploration / mining once a mining operation has ceased. Difficulties arise when mining permits are cancelled prior to the release of the relevant environmental authorities when adequate rehabilitation and safety measures have not been completed.

[1] Special Agreement Act mines are mining activities authorised under specific Acts of Parliament (e.g., the *Mount Isa Mines Limited Agreement Act 1985*).

The review recommends that the cancellation power in the *Mineral Resources Act 1989* should be subject to an environmental clearance from the EPA, with a clearance being required within a reasonable time (e.g., 12 months) so as not to cause undue delays in releasing land for subsequent exploration / mining tenure applications.

The review also recommends legislative amendments to clarify that it is EPA's role to regulate the environmental impacts of ash dams, including structural integrity issues, rather than it being dealt with as a referable dam under the *Water Act 2000*.

Development Issues

The *Nature Conservation Act 1992* needs to be incorporated into the Integrated Development Assessment System (IDAS) to ensure that removing protected plants and animals from areas of essential habitat and wildlife corridors are considered in development applications.

Stakeholders for the review raised concerns with land use management and development in dam catchment areas that may adversely impact on the water quality in the water storage. Stakeholders were seeking more guidance from the government on how planning schemes should address these issues and / or greater controls on development in these areas.

This is a complex issue involving a number of government agencies beyond those, the subject of this review. This matter requires detailed analysis and consultation on a whole-of-government basis, and the submission of options to address this issue for government's consideration.

DPI&F currently regulates development in certain coastal areas of the State through the fisheries habitat provisions of the *Fisheries Act 1994*. This role may overlap with restrictions under the *Marine Parks Act 2005*. This first step in streamlining this process is for the Marine Parks Act to be incorporated into the IDAS framework.

EPA and NRMW need to ensure full consultation prior to lease dealings (e.g., issuing of new leases) in sensitive areas of the State. NRMW has progressively improved their systems to ensure this occurs in areas of interest to the EPA. A formal MOU needs to be prepared as a priority between EPA and NRMW to formalise these consultation arrangements and ensure the timely consideration of lease dealings.

The coastal zone is a highly contested area for social, economic and environmental purposes. There are many pieces of legislation that seek to manage development in these areas. An MOU needs to be developed by the agencies to expedite development applications in coastal management districts. The MOU would address pre-conferencing arrangements, standardised information requests, and streamlined assessment criteria and negotiation of offsets.

Marine Fleets

There have been progressive improvements in recent years in the level of co-operation and co-ordination between the Queensland Boating and Fisheries Patrol (DPI&F) and the Marine Parks fleet (EPA). This can be strengthened by EPA and DPI&F developing a joint fleet services strategy, including improved crew sharing arrangements, full implementation of vessel management strategies, cross-authorisation and training of officers, and co-location plans where this is feasible.

Vegetation Mapping

Concerns were expressed during the review about the delays being experienced in obtaining approvals for amendments to Regional Ecosystem maps, and in getting Property Maps of Assessable Vegetation (PMAVs) approved.

Vegetation management is a contentious policy issue for government and was raised as a key issue by rural stakeholders through the *Blueprint for the Bush* consultations. In the Blueprint, the government made a commitment to review the administrative implementation arrangements of vegetation management in 2007. The Service Delivery and Performance Commission (SDPC) review recommends a number of matters that should be considered in this review, including developing a business case for finer scale mapping, updating the current NRMW / EPA MOU in relation to their roles in vegetation mapping, and streamlining the current map amendment processes.

Forestry and Quarrying

NRMW and EPA should standardise all base royalty rates for quarrying, which currently vary under different legislation.

EPA should develop a State-wide code of environmental compliance for extraction, crushing and screening which would provide standard conditions for simple operations that could be subject to code assessment, and therefore not require a full development approval. This would build on the work undertaken in the development of the code of environmental compliance for extractive activities in Cape York, which was developed by EPA in response to Cyclone Larry.

Zoological Parks and Aquaria

DPI&F, NRMW and EPA all have a role in the management of zoological parks, aquaria, wildlife parks, circuses and other animal display / entertainment enterprises. The current approach is sub-optimal as there is no comprehensive approach to the regulation of this sector. One piece of legislation needs to be developed to regulate this sector, dealing with animal welfare, public protection and biosecurity risks. The review proposes that the primary industries portfolio become responsible for the related issues of biosecurity, zoos and animal welfare. Under this model, EPA would however retain responsibility for regulating the keeping of certain native wildlife, e.g., captive breeding programs for threatened species.

Other Issues

There is scope for more formalised collaboration between the DPI&F and NRMW on areas of common interest in scientific research. The Chief Scientist is progressing a number of initiatives to support improved collaboration across government, including building on the potential benefits arising from the co-location of various science functions at the Boggo Road Science Precinct.

DPI&F, NRMW and EPA all have a role in issuing permits for animal research. Application processes should be streamlined, with DPI&F being the initial contact point for applications.

DPI&F currently has responsibility for the environmental regulation of feedlots and piggeries under delegation from EPA under the *Environmental Protection Act 1994*. These arrangements are supported by agencies and stakeholders, including the EPA, and should continue.

Implementation

The implementation of the report's recommendations will result in the improved efficiency and effectiveness of service delivery in the above areas, as well as an improved community understanding of agency roles. While it is expected that these benefits will be significant, it would be difficult to quantify the benefits in dollar terms.

The SDPC will assess the benefits of the implementation of the recommendations in a subsequent review, to be undertaken at the end of 2007.

The review proposes that an Implementation Steering Committee be established to oversee the implementation of the review recommendations.

Recommendations

Water Management

Recommendation 1
It is recommended that the Director-General, NRW develops a whole-of-government website outlining agency roles in water management issues, water policies and programs by 28 February 2007, in consultation with the Department of the Premier and Cabinet (DPC) and other relevant agencies.

Recommendation 2
It is recommended that the Director-General, EPA and the Director-General, NRW, in consultation with key stakeholders such as the natural resource management bodies, jointly develop an integrated waterways quality monitoring program for Cabinet consideration by 31 October 2007, comprising the following elements:

- monitoring frameworks based on the processes influencing aquatic ecosystems health in Queensland
- common techniques, methods and metadata standards for sample collection, handling, analysis, data verification and storage
- common interpretation and assessment techniques
- storage and management of collected information in a way to ensure free and rapid access of appropriate information to all stakeholders
- common indicators and reporting tools, and
- agency roles in water quality monitoring.

Recommendation 3
It is recommended that the responsibility and resources for the *WaterWise* initiative, water recycling, and associated policy be transferred from EPA to NRW by 31 December 2006.

Recommendation 4
It is recommended that the Director-General, DPC, in conjunction with relevant agencies, determines the future use of the *WaterWise* brand by 28 February 2007.

Recommendation 5
It is recommended that the Director-General, EPA in consultation with the Director-General, NRMW, reviews for Cabinet consideration, by 31 December 2007, the provisions of the *Environmental Protection (Water) Policy 1997* that overlap with the *Water Act 2000*[2].

[2] The *Environmental Protection (Water) Policy 1997* expires in September 2007, requiring its full review.

Biosecurity / Pest Management

Recommendation 6

It is recommended that all biosecurity / pest management policy, planning, surveillance, preparedness, science and response functions be amalgamated into a Queensland Biosecurity Agency in the Primary Industries portfolio by 28 February 2007:

- reporting to the Minister for Primary Industries and Fisheries through the Director-General, DPI&F, and
- overseen by a Board of Management.

Recommendation 7

It is recommended that the Board of Management for the Queensland Biosecurity Agency comprise:

(i) representatives at Chief Executive level from
- Department of Primary Industries and Fisheries (Chair)
- Department of Natural Resources and Water
- Environmental Protection Agency, and
- Queensland Biosecurity Agency

(ii) as required, senior executives from other government agencies, including
- Department of the Premier and Cabinet
- Queensland Treasury
- Department of Local Government, Planning, Sport & Recreation
- Department of Emergency Services
- Queensland Health, and
- Queensland Transport.

Recommendation 8

It is recommended that the Chief Executive of the Queensland Biosecurity Agency make arrangements for a review and update of all legislation dealing with pest management / biosecurity, building on the work already undertaken for the Biosecurity (Animal Health) Bill, with Drafting Instructions being prepared for Cabinet consideration by 31 October 2007.

Recommendation 9

It is recommended that the following be transferred from NRW and EPA to DPI&F by 28 February 2007:

- staffing, assets, financial and other resources (including support functions and overheads) devoted to biosecurity / pest management policy, planning, surveillance, preparedness, science and response functions, other than those resources arising from agencies' roles as land managers
- legislative responsibility for Chapter 2 (Pest Management) and other relevant sections of the *Land Protection (Pest and Stock Route Management) Act 2002,* and
- legislative responsibility for prohibited wildlife under the *Nature Conservation Act 1992.*

Recommendation 10
It is recommended that a funding model be endorsed to cover incursion responses (i.e., eradication and containment programs, including any national cost-sharing arrangements) on the following tiered approach, with all amounts being cumulative for any one year:

- the first $0.5 million – 100 per cent funded by the Queensland Biosecurity Agency
- between $ 0.5 million and $ 1 million – 50 per cent funded by the Queensland Biosecurity Agency and 50 per cent supplementary funds, and
- greater than $ 1 million – a submission to Cabinet Budget Review Committee (CBRC) must be made for supplementary funding.

Environmental Regulation of Mining

Recommendation 11
It is recommended that the environmental regulation of Special Agreement Act mines be modified as follows:

- the environmental regulation of SAA mines under the existing Special Agreement Acts be administratively transferred to the Environmental Protection Agency by 31 December 2006
- staffing and other resources associated with this function be transferred from DME to EPA by 31 December 2006
- the Director-General, EPA consult further with the SAA mining companies and report to Cabinet by 30 June 2007 on the outcome of these consultations and recommend appropriate legislative amendments, and
- the current DPC / Queensland Treasury review of financial assurance arrangements be extended to include all SAA mines.

Recommendation 12
It is recommended that DME be immediately responsible for managing all existing and new abandoned mine sites.

Recommendation 13
It is recommended that the Directors-General of DME and EPA establish a senior executive level inter-departmental management committee by 31 December 2006 to:

- oversee the establishment, amendment and release of financial assurances for mining activities under the *Environmental Protection Act 1994*
- manage the inclusion of new sites in the abandoned mines program, and
- ensure that the technical advice and expertise of EPA and DME are applied to managing complex abandoned mine sites.

Recommendation 14
It is recommended that the Directors-General of DME and EPA streamline the environmental monitoring of small mines by the agencies by:

- establishing an MOU, by 28 February 2007, for DME to undertake some environmental compliance activities under EPA delegation in relation to small miners on a fee-for-service basis, and

- preparing single forms for applications for mining leases and environmental authorities, surrenders, assignments and renewals by 28 February 2007.

Recommendation 15
It is recommended that the Director-General, DME and the Director-General, EPA, prepare for Cabinet's consideration amendments to the *Mineral Resources Act 1989* (MRA) and the *Environmental Protection Act 1994* (EP Act) to provide for the following:

- where DME wishes to cancel a mining tenure, DME is to provide EPA and the mining tenement holder with a notice of intention to cancel the mining tenure
- DME can only cancel the mining tenure once the relevant Environmental Authority has been surrendered or cancelled or after a prescribed period of not greater than 12 months after the EPA has been notified about the intended cancellation, unless rehabilitation work has commenced
- provide an additional trigger in section 270 of the EP Act to include receipt of a notice of intention to cancel a mining tenure from DME as grounds for requiring a surrender application, and
- empower DME to order the mining tenement holder to cease the mining activity for non-compliance.

Recommendation 16
It is recommended that the Director-General, NRW prepare for Cabinet's consideration amendments to the *Water Act 2000* to expand the definition of a hazardous dam to include ash dams associated with power generation by 31 October 2007.

Development Issues

Recommendation 17
It is recommended that the Director-General, EPA make arrangements for the *Nature Conservation Act 1992* to be incorporated into the IDAS framework by 31 October 2007 in relation to the identification of essential habitats and wildlife corridors, and the removal of protected plants and animals.

Recommendation 18
It is recommended that the Department of Local Government, Planning, Sport and Recreation (DLGPSR):

- develop for Cabinet consideration by 30 June 2007, options and a preferred approach to planning for land use management and development in water supply catchments, where the supply is for human consumption, and
- consult with the Department of the Premier and Cabinet, the Co-ordinator General, NRW, EPA, the Office of Urban Management, Queensland Health, local governments, water suppliers and other key stakeholders in the development of the preferred approach.

Recommendation 19
It is recommended that the Director-General, EPA prepare for Cabinet's consideration amendments to the *Marine Parks Act 2004* and associated legislation, to incorporate development approvals matters into the IDAS framework by 31 December 2007.

Recommendation 20
It is recommended that the Directors-General of NRW and EPA develop an inter-agency MOU outlining the roles and responsibilities of NRW and EPA in lease dealings under

the *Land Act 1994* by 28 February 2007, including:

- specifying the types of proposed lease dealings (new, amended or renewed) on which EPA is to be consulted
- specifying the timeliness of responses and level of detail required for comments on new leases, lease renewals and amendments of leases, and
- nominating key senior departmental officers to resolve any issues that arise concerning the administration of the MOU.

Recommendation 21
It is recommended that the Directors-General of NRW, DPI&F and EPA, in consultation with the Coordinator-General, develop an inter-agency MOU to expedite development applications in coastal management districts assessed under IDAS by 30 June 2007, including:

- pre-conferencing arrangements (subject to Cabinet's consideration of the outcomes of the DLGPSR IDAS Review)
- standardised information requests
- streamlined assessment criteria and negotiation of offsets, and
- the types of development application that will be covered.

Marine Fleets

Recommendation 22
It is recommended that the Directors-General of EPA and DPI&F develop a joint fleet services strategy by 30 June 2007, incorporating:

- planned vessel and crew sharing arrangements
- full implementation of vessel management strategies, including co-ordinated vessel acquisitions for larger vessels (i.e., greater than 10 metres)
- cross-authorisation and training of EPA officers to enable them to deal with designated less-complex fisheries offences, and
- co-location plans where this is feasible.

Vegetation Mapping

Recommendation 23
It is recommended that the Director-General, NRW considers the following matters during the Review into the Administrative Implementation Arrangements of Vegetation Management:

- developing a business case to determine the resources required and cost-benefit in preparing finer scale RE maps across Queensland and integrated map products (i.e., Property Maps of Assessable Vegetation (PMAVs) and RE maps)
- updating the current MOU to define the roles and responsibilities of NRW and EPA to manage vegetation management into the future
- expediting improved efficiencies in the current map amendment processes between EPA and NRW

- considering the availability, skills and work priorities of Vegetation Management Officers in NRW, and
- reviewing the Herbarium's *Request for Assessment of Queensland's Certified Regional Ecosystems Maps* with regards to reducing the complexity of the map assessment process.

Forestry and Quarrying

Recommendation 24
It is recommended that the Directors-General of NRW and EPA prepare for Cabinet Budget Review Committee consideration a proposal to standardise all base royalty rates for quarrying, including the revenue implications, by 30 June 2007.

Recommendation 25
It is recommended that the Director-General, EPA develop a State-wide code of environmental compliance for extraction, screening and crushing activities by 30 June 2007.

Zoological Parks and Aquaria

Recommendation 26
It is recommended that the responsibility for regulating the use of animals for exhibition or entertainment be vested in the primary industries portfolio by 28 February 2007, and that Drafting Instructions be prepared for Cabinet consideration by 31 October 2007 to:

- enact a single piece of legislation dealing with the keeping of animals (exotic and native) for exhibition or entertainment purposes
- replace relevant provisions currently in the *Land Protection (Pest and Stock Route Management) Act 2002*, and
- amend the *Nature Conservation Act 1992* and the *Nature Conservation (Administration) Regulation 2006* to remove the requirements dealing with the keeping of native animals for display purposes, with the EPA retaining responsibility for threatened species and 'special least concern' animals (e.g., koalas, echidnas, platypuses), including the taking of such animals from the wild, and captive breeding arrangements.

Recommendation 27
It is recommended that any staffing and other resources associated with this function be transferred from NRW and EPA to DPI&F by 28 February 2007.

Other Issues

Recommendation 28
It is recommended that the Directors-General of NRW, DPI&F and EPA develop a single application form for animal research by 28 February 2007, with the form to be a DPI&F controlled form.

Implementation

Recommendation 29
It is recommended that the Directors-General of NRMW, DPI&F, EPA and DME immediately establish an Implementation Steering Committee including senior executive representatives from the three agencies, with an SDPC nominee to attend as required, to oversee the implementation of the review's recommendations.

Recommendation 30
It is recommended that the Directors-General of NRMW, DPI&F, EPA and DME provide a six month progress report to Cabinet on the implementation of the recommendations by 31 May 2007.

Recommendation 31
It is recommended that the Chairman, SDPC review the implementation of the review's recommendations by 31 December 2007.

1 Introduction

The purpose of this review is to improve the efficiency and effectiveness of service delivery by NRMW, EPA and DPI&F. This is to be achieved by:

- identifying overlaps in services provided by these agencies
- identifying areas where roles in service delivery are unclear
- identifying gaps in services resulting from the division of responsibilities between the three agencies, and
- recommending ways to improve service delivery in the areas identified above.

As such, the review is not a general review of the agencies' performance.

As a result of the post-election departmental changes, the outcomes of this review now relate to the Department of Natural Resources and Water, and the mining aspects of the Department of Mines and Energy, as well as EPA and DPI&F.

DPI&F is one of the State's oldest agencies, having been in place, in various forms, since 1887.

The key role of DPI&F is to maximise the economic potential of Queensland's primary industries on a sustainable basis through:

- Industry Development – strengthening the profitability and viability of Queensland's primary industries through increased productivity, market development, strengthened business adaptability, and enhanced sustainability
- Biosecurity – maximising market and community confidence in the integrity of Queensland's agri-products through managing the pest and disease risks to animal and plant production, ensuring proper care and treatment of animals, and ensuring market access for primary industry products, and
- Fisheries – ensuring the sustainable management and economic development of Queensland's fisheries through managing fishery resources on a sustainable basis, protecting fishery resources, developing fisheries and aquaculture, and developing fisheries policy.

In 1996, the Lands Department was joined with part of the Department of Primary Industries (which included the Water Resources Commission and the Forestry Department which merged with DPI in 1989), to become the Department of Natural Resources. In 2001, the Mines part of the Department of Mines and Energy was joined into DNR to become the Department of Natural Resources and Mines. The Premier subsequently added Water to the title of the Department to recognise the importance of water for Queensland.

The key roles of NRMW (as at 31 August) are:

- water resource allocation, infrastructure and supply planning
- management and use of water, including regulation of water service providers
- State land management, use and allocation and achieving sound land management practices on that land

- protecting natural resources for the future, including management of native vegetation
- indigenous land access, including native title and cultural heritage protection
- regional natural resource management planning, investment and implementation through community based groups
- protecting the environment and the community from the adverse impact of weeds and pest animals
- management and marketing of forest products, including quarry material, from State land
- coal, petroleum, gas and mineral exploration and development
- protecting the safety and health of people involved in mining, gas, firework and explosives operations
- providing the community with natural resource information for good decision-making and secure investment, including registry services, and
- high quality science, focussed on providing input to natural resource, mines and water policy and management.

As a result of the post-election departmental changes, the mining-related responsibilities referred to above have been transferred to the newly-created Department of Mines and Energy.

The EPA is the Queensland Government's lead agency for environmental protection and conservation management, and incorporates the Queensland Parks and Wildlife Service (QPWS).

The Agency was founded in December 1998, replacing the former Department of Environment and Heritage. The key outputs of the EPA are to:

- *Protect Our Natural and Cultural Heritage*
  - EPA protects and preserves the diversity and integrity of natural ecosystems and native species and protects historical cultural heritage
  - EPA ensures that Queensland law remains effective and reflects contemporary world's best practice in nature conservation and community standards and expectations.
- *Promote Sustainable Use of Our Natural Capital*
  - EPA develops partnerships with all tiers of government, the community, and business to develop solutions that improve resource efficiency
  - EPA encourages the adoption of new resource management approaches supported by innovative and flexible statutory instruments
  - EPA ensures the parks system, including marine areas, are managed to provide safe and sustainable environmental, social and economic benefits to the Queensland community while maintaining the natural integrity of the environment.
- *Ensuring a Clean Environment*
  - EPA aims to ensure that our environment is clean, liveable and healthy through setting, monitoring and enforcing standards that reflect the community's expectations for clean air, water and environmental amenity. Strategic enforcement is a cornerstone of achieving this outcome and the EPA uses proactive methods to achieve compliance

- EPA provides a rigorous information base through the State of the Environment Report to identify the environmental values of Queensland's air, water, land and cultural resources as well as to enable decision-makers in government, industry and the community to achieve better environmental and natural resource management outcomes.

The review commenced on 29 May 2006 and was overseen by a Director-General Steering Committee chaired by the SDPC Chairman and comprising the Directors-General of the three agencies. The Steering Committee met on three occasions during the review.

The resourcing for the review was supported by agency nominees seconded to the SDPC for the review.

SDPC wrote to 45 stakeholders inviting submissions to the review, and 14 submissions were received. In addition, meetings were held with 16 stakeholder groups. (Refer Appendix 1).

Regional visits were undertaken to Toowoomba, Rockhampton and Townsville, where meetings were held with departmental managers and regional stakeholders.

Numerous meetings and other communications took place within the agencies concerned.

A summary of the Terms of Reference for the review are at Appendix 2.

The review found many areas of positive collaboration between the agencies which needs to be acknowledged. This included projects such as the development of a single register of land tenure and the Information Queensland (IQ) initiative. Information on these initiatives is provided at Appendix 3.

The review also found areas of positive collaboration in the regional areas visited by the review team. In Rockhampton, for example, a Regional Co-ordinating Group has been established between the three agencies and DLGPSR to facilitate greater co-ordination of activities with regional natural resource management bodies in the area. Similar co-ordinating groups also exist in the other areas of the State. The agencies are also progressing office co-locations, where appropriate, to strengthen service delivery to regional areas, which should continue into the future.

However, the review did find a number of unresolved issues and tensions between the agencies, which may be adversely affecting the effective and efficient delivery of services by the government. This has arisen due to:

- the agencies' roles in dealing with matters on which there are divergent community views
- competing demands for the government's limited resources
- the incomplete resolution of whole-of-government restructures, and
- overlapping legislative responsibilities.

The review aims to address the areas of concern to improve service delivery from these agencies and to generally enhance the level of collaboration between the agencies.

2 W ater Management

Many s takeholders an d g overnment ag encies i dentified various a spects of water management that were relevant to this review. In particular, issues were raised relating to:

- roles and responsibilities
- w ater quality monitoring
- water efficiency and recycling
- overlaps be tween th e *Env ironmental P rotection (Water) P olicy 19 97 (* the EP P Water) and the *Water Act 2000* (the Water Act)
- the environmental monitoring of dams, and
- local government subsidy applications.

2.1 Water Roles and Responsibilities

In r ecent y ears, Qu eensland h as experienced r apid change i n the management a nd supply of water, resulting from initiatives such as the national water reforms (through the 1994 Co uncil o f A ustralian G overnments (CO AG) Water Re form Agreement a nd t he 2004 N ational Water I nitiative) a nd a strategic s hift i n water p olicy to sustainable management of the resource. These reforms have brought change in the agencies and stakeholders involved in w ater m anagement a s w ell as th e legislation, s trategies an d policies governing water.

Most dom estic water i s supplied t o households an d businesses i n tow ns and cities b y local governments. Water is also supplied by water suppliers such as SEQWater (owned by l ocal g overnments a nd t he State) a nd commercialised water r etailers s uch a s Brisbane and Gold Coast Water. Most of the storages which supply irrigation businesses are r un by SunWater (a Government Owned Corporation) while there are a number of private water storages t hat supply c ropping, gr azing an d m ining i ndustries. The government o versees thi s supply thr ough catchment pl anning, al locating water an d ensuring management standards are met.

State agencies share a variety of roles for water management as outlined below:

- NRMW manages freshwater, including water resource planning and allocation, water industry regulation, quality and flow management
- EPA manages tidal a nd coastal w ater, th e w ater r ecycling strategy, th e l egislative framework for water quality and licensing businesses whose activities can impact on water quality
- DLGPSR as sists councils with t heir w ater an d s ewerage i nfrastructure th rough funding s ignificant infrastructure, as w ell as through p lanning and building requirements to improve water management, such as water efficiency standards for new housing and greywater re-use regulation
- the C oordinator-General a nd Of fice of U rban Management m anage major w ater infrastructure
- the recently formed Water Commission will also play a key role in ensuring security of supply to S outh-east Queensland through fa cilitating a nd implementing r egional

water security programs and ensuring compliance with the programs and water restrictions, and

- Queensland Health is responsible for setting drinking water standards.

In addition, local governments manage stormwater planning and infrastructure.

The Water Act is the primary legislation that provides a framework for the planning, allocation and sustainable / efficient use of water in Queensland, including regulating major water impoundments and extraction through pumping for irrigation and other users. *The Environmental Protection Act 1994* (the EP Act) and the EPP Water form the primary legislative framework for the protection of water quality for all Queensland waters. This legislation establishes water quality standards, manages compliance and requires local governments to develop plans that address stormwater management, water conservation, sewage and wastewater management.

Other legislation which influences the management and use of water includes the *Integrated Planning Act 1997* and the *Coastal Protection and Management Act 1995*.

The *Queensland Water Plan 2005-2010* was endorsed by government in 2005 and sets out Queensland's strategies for improving water management and actions that will deliver on sustainable management over the next five years.

The review found there was considerable confusion as to agency roles in water management. This was the case even with key stakeholders who have a major interest in water management issues, and to a lesser extent, within government agencies.

This lack of understanding can, in part, be explained by the pace of change in water management nationally and within the State, and the complexity of water management issues. The current drought impacting on South-east Queensland will also result in further policy responses from government.

However, it is critical that the government clearly communicates agency roles, and linkages between agencies, in the water management system. This could best be undertaken by the development and maintenance of a single, whole-of-government website. This website could also provide information on government plans, policies and programs in water management.

Recommendation 1
It is recommended that the Director-General, NRW develops a whole-of-government website outlining agency roles in water management issues, water policies and programs by 28 February 2007, in consultation with DPC and other relevant agencies.

2.2 Water Quality Standards and Monitoring

Queensland's diversity of waters includes streams, rivers, ground waters, lakes, wetlands, estuaries, bays and open coastal waters. With Queensland continuing to be the fastest-growing State in Australia, protecting the quality of the State's waters in the face of such growth is a major priority. Understanding, maintaining and enhancing the State's water quality is necessary to ensure adequate quality and availability of water for human use (e.g., drinking water), recreation, livestock watering, irrigation and aquaculture uses, and to protect the health of aquatic ecosystems. Water quality is assessed by measuring physical, chemical and biological indicators. The fundamental challenges in addressing water quality are in managing land use, water flows, and point source and diffuse source pollution. (This is discussed further in Section 5.2).

As the primary regulatory instrument for water quality, the EPP (Water) provides a framework to:

- set the environmental values (EVs) for all Queensland waters
- decide and state water quality objectives (WQOs) to enhance and protect such values, and
- make consistent and equitable decisions that promote efficient use of resources and best practice management.

The *Queensland Water Quality Guidelines* are the source of information for WQOs. The guidelines specify aquatic ecosystem values which are recommended to support and maintain healthy waterway environments. The EVs and WQOs are taken into account in decision-making under other statutory instruments, such as the Water Act and the *Transport Operations (Marine Pollution) Act 1995*, and guide non-statutory planning such as regional natural resource management plans.

The Water Act sets environmental flows and resultant ecological outcomes to ensure ecosystem health. The Act requires the Chief Executive of NRMW to monitor both the quantity and quality of the water resources. Chapter 2 of the Act links with the EPP (Water) and requires the Minister to consider the EVs under the EPP (Water) when preparing a Water Resource Plan (WRP). WRPs apply to a catchment's rivers, lakes, dams and springs, and if necessary, underground water and overland flow. An important aspect of this regime is the balancing of water allocations with environmental flows.

From a water storage protection perspective, the Water Act provides the capacity to declare catchments to protect water impoundments – i.e., to protect water stored in impoundments from pollution such as sewerage. (This is discussed further in Section 5.2).The Water Act also provides the capacity for NRMW to impose conditions on water service providers on how storages are to be operated, what environmental monitoring is required to determine whether environmental flow objective outcomes are met and for aquatic ecosystem health. The Water Act also provides for the regulation of water use if there is a risk of land and water degradation. This allows action to be taken to regulate water use where it is shown to provide a risk to water quality.

Water quality monitoring is undertaken across Queensland by various State government agencies (NRMW, EPA, and Queensland Health), local governments, water suppliers, natural resource management bodies, the Great Barrier Reef Marine Park Authority (GBRMPA) and community groups.

The EPA undertakes comprehensive water quality monitoring in estuaries and coastal areas in South-east Queensland and sites between Maryborough and Rockhampton. In other locations, water quality data is collected through statutory monitoring requirements placed upon licensed premises under the *Environmental Protection Act 1994.* EPA's estuarine monitoring programs have the broad objectives of assessing ambient trends and condition to detect any worsening trends in quality at an early stage so that remedial action can be undertaken. All data collected is made publicly available through the internet.

The EPA has statutory responsibility for State of the Environment reporting, that draws together data from across government agencies to report on the condition and trend of the Queensland environment, including water quality.

NRMW conducts extensive freshwater water monitoring across the State for a number of purposes and gathers data about flow, chemical and biological condition, and river / stream health. These purposes include:

- to identify any worsening trends in quality at an early stage so that remedial action can be undertaken (e.g., the Queensland Ambient Monitoring and Assessment Program)
- specific monitoring to evaluate the performance of WRPs and Resource Operations Plans (ROPs) in meeting their ecological outcomes
- to monitor sediments and nutrients for the Reef Water Quality Protection Plan
- monitoring associated with the Queensland component of the Sustainable Rivers Audit for the Murray Darling Basin (MDB) Commission
- for the Ecosystem Health Monitoring Program (see below)
- to monitor for salinity in rivers and streams for National Action Plan (NAP) on Salinity and Water Quality, and
- to monitor groundwater as part of the MDB salinity strategy.

There is an Interdepartmental Agreement on Water Quality Monitoring and Reporting in Queensland (1996) between EPA and NRMW which sets out roles and responsibilities and areas of cooperation in water quality monitoring.

In addition, the Ecosystem Health Monitoring Program (EHMP) is undertaken by the Moreton Bay Waterways and Catchment Partnership in South-east Queensland. Data gathered under this program is used to drive changes in activities that impact on SEQ waterways to maintain and improve water quality under the SEQ Regional Water Quality Management Strategy. The program also has effective community engagement with the use of a report card system. Monitoring for the EHMP is delivered by EPA and NRMW for the estuarine and fresh water environments respectively.

It is evident from the above that there is substantial activity in the area of water quality monitoring. However, stakeholders to the review expressed considerable concern with the way water quality monitoring activities are co-ordinated, the comprehensiveness of the monitoring, and how the data is shared and used to improve water quality.

To address this, the government needs to develop an integrated waterways monitoring program across the State, involving all State government agencies, local governments, water suppliers, natural resource management bodies, GBRMPA and community groups. Preliminary work has been undertaken by NRMW and EPA on such a program, but for it to be effective, it requires whole-of-government endorsement and leadership.

The following have been identified by NRMW and EPA as key elements of integrated waterways monitoring program:

- Monitoring frameworks should be developed based on an understanding of the processes influencing aquatic ecosystems health in Queensland (agreed conceptual models)
- Common techniques, methods and metadata standards need to be adopted to describe data quality associated with sample collection, handling, analysis, data verification and storage
- Common interpretation and assessment techniques should be used
- Collected information should be stored and managed in a way to ensure free and rapid access of appropriate information to all stakeholders
- As a minimum, data collected with the support of public funding should be available to all parties, and

- Common indicators and reporting tools should be developed and implemented.

Processes are currently underway through NRMW, guided by a cross-government committee to develop the Queensland Stream and Estuaries Assessment Program (SEAP) to provide a better conceptual and operational framework for an integrated water quality monitoring system across the State. This work should be used to inform the development of an integrated waterways monitoring program.

The program will also lead to updating the current Interdepartmental Agreement between EPA and NRMW. This will ensure greater clarity about roles and responsibilities for the agencies and a clear focus on water quality monitoring needs and priorities for the future.

Recommendation 2

It is recommended that the Director-General, EPA and the Director-General, NRW, in consultation with key stakeholders such as the natural resource management bodies, jointly develop an integrated waterways quality monitoring program for Cabinet consideration by 31 October 2007, comprising the following elements:

- monitoring frameworks based on the processes influencing aquatic ecosystems health in Queensland
- common techniques, methods and metadata standards for sample collection, handling, analysis, data verification and storage
- common interpretation and assessment techniques
- storage and management of collected information in a way to ensure free and rapid access of appropriate information to all stakeholders
- common indicators and reporting tools, and
- agency roles in water quality monitoring.

2.3 Water Efficiency and Recycling

Introduction

Given the continuing drought and population growth in South-east Queensland, added emphasis has been placed on water recycling, re-use and other water efficiency measures. The government is currently administering or introducing a number of water efficiency policies and funding initiatives. At present, roles in this area are spread across agencies, mainly NRMW, EPA and DLGPSR. The increase in activity in this area has prompted consideration of possible amalgamation of these functional areas.

Discussions have been held between agencies regarding the transfer of the *Queensland Water Recycling Strategy* (QWRS) and use of the *WaterWise* brand (as a vehicle for consistent branding of water initiatives) from EPA to NRMW. In this context, questions were also raised about the appropriate location of the industrial eco-efficiency program, ecoBiz.

Water Recycling

The QWRS was released in October 2001. The EPA, in partnership with a range of stakeholders, has progressed actions contained in the Strategy including the release of the *Queensland Water Recycling Guidelines*, the Springfield Dual Reticulation Demonstration Project, the Manual for Recycled Water Agreements in Queensland, and training on the use of the *Queensland Water Recycling Guidelines*.

Water recycling is now a water supply issue in Queensland. Government efforts are being focussed on exploring the policy and legislative requirements that would allow water recycling to substitute or supplement water supplies to ensure safety and continuity of supply. Given NRMW's role as the water regulator, and in developing a regulatory framework and government position for recycled water, the EPA's current role in this area should to be transferred to NRMW.

Water Efficiency Initiatives

A number of agencies are currently involved in water efficiency initiatives and programs targeting rural, industrial and community sectors. These initiatives now go beyond voluntary approaches to more focussed and co-ordinated approaches to guide and achieve water efficiency goals.

NRMW is undertaking various activities and research in water efficiency in the commercial and industrial sectors to identify opportunities and potential measures to reduce water consumption.

Since 1999, NRMW's Rural Water Use Efficiency Scheme (RWUE) has delivered water efficiency programs via industry groups, to the rural sector. RWUE, as a key element in the water reform process, assists irrigators in adopting efficiencies and positioning themselves to take advantage of changes to the way in which water is managed, e.g., water trading. A further commitment to RWUE has been made through the government's *Blueprint for the Bush*.

Earlier this year, the government introduced the Water Efficiency Labelling and Standards Scheme that ensures that all appliances (e.g., showers, dishwashers, washing machines) are rated for water efficiency. DLGPSR promotes urban water efficiency through standards such as the Sustainable Housing Code. NRMW is also leading the development of best practice guidelines for water sensitive urban design, as part of the National Water Initiative.

This year the government provided $92.5 million for enhanced SEQ water efficiency programs. The programs include a $40 million Business Water Efficiency Program (BWEP) being delivered through SEQWater and local councils. The program has been developed with the EPA and incorporates both water and energy efficiency. The government will deliver an expanded residential retrofit initiative ($15 million) called the *Home WaterWise Service*, that involves the provision of plumbing services. The *Home WaterWise Rebate Scheme* ($29 million), administered by NRMW, delivers rebates for water efficient devices such as water efficient washing machines, rainwater tanks and pool covers. A government water efficiency program, including government owned buildings and public housing retrofits, ($8.2 million) has also been developed.

WaterWise was introduced by the government in 1992 with the aim of reducing water consumption by 20 per cent. It is an educative program (and campaign brand) including a schools-based environmental and community initiative. To ensure the continuing effectiveness of this program, the EPA has recently reviewed *WaterWise*, resulting in enhancements such as new curriculum-based school education materials suitable for co-branding by local government and other authorised community groups. The Government recently launched the revised *WaterWise* kit that includes web-based and print materials.

The ecoBiz program is an integrated industry eco-efficiency program incorporating water, waste and energy developed and delivered by EPA. It provides a structured approach to assist businesses to achieve improved efficiencies and environmental

performance and includes a comprehensive toolbox, marketing and promotion, and rebates for implementation of eco-efficiency measures. Companies that received ecoBiz rebates have demonstrated significant efficiency improvements in water, waste and energy use.

The Department of State Development Trade and Innovation (DSDTI), under the manufacturing strategy, has also developed eco-efficiency toolkits for the Meat, Food Processing, Metal Finishing, Foundry and Marine Industries, in partnership with the Australian Industry Group, EPA and other industry associations. These manuals are disseminated through DSDTI regional State Development centres and industry based seminars. Industry uses these manuals to gain ideas and information about business improvements and are encouraged to utilise the ecoBiz program to receive grants to assist with capital investment.

Industry stakeholders consulted during the review supported the continuation of the existing arrangements whereby eco-efficiency programs are delivered collectively to industry.

For the reasons outlined previously, the EPA's responsibilities for the *WaterWise* initiative should also be transferred to NRMW.

As indicated above, the *WaterWise* brand has been used by the government for a variety of water efficiency initiatives. However, it has not been universally applied. The brand could be used to provide consistent branding in the water efficiency area and to promote government water activities.

Recommendation 3
It is recommended that the responsibility and resources for the *WaterWise* initiative, water recycling, and associated policy be transferred from EPA to NRW by 30 December 2006.

Recommendation 4
It is recommended that the Director-General, DPC, in conjunction with relevant agencies, determines the future use of the *WaterWise* brand by 28 February 2007.

2.4 Overlaps between the Environmental Protection (Water) Policy 1997 *and* Water Act 2000

Recent amendments to the Water Act have introduced provisions that address water conservation as a part of the larger drought response initiatives. This has created areas of overlap with the requirements of the EPP (Water).

The EPP (Water) requires that a local government that operates a water supply system must develop a water conservation plan including measures such as water restrictions, use of rainwater tanks, waste water recycling, ways of reducing water usage in industrial processes and household appliance, the use of water meters, water reduction schemes, and the detection and control of leaks in the water supply system.

The Water Act gives the Minister and chief executive powers to impose restrictions or prohibitions in times of water shortage and/or water emergencies. In a water supply emergency, the Minister may direct water suppliers to take certain action such as making available recycled water to other service providers, to restrict the volume of water taken, the hours water may be used on premises and the way water may be used on premises. Under the Act, the Water Commissioner also has power to impose water

restrictions on water service providers. The Act also provides for the development of System Leakage Management Plans for the detection and control of leaks in water supply systems. Water metering for irrigators is dealt with under the regulations under the Water Act.

The EPP (Water) is currently being reviewed and these and other identified overlaps need to be addressed as part of that process.

Recommendation 5
It is recommended that the Director-General, EPA in consultation with the Director-General, NRMW, reviews for Cabinet consideration, by 31 December 2007, the provisions of the *Environmental Protection (Water) Policy 1997* that overlap with the *Water Act 2000*[3].

2.5 Environmental Regulation of Dams

Water supply dams are regulated by NRMW through the provisions of the Water Act. During the review, the possibility was raised of using the general environmental duty provisions of the EP Act, and other provisions in the Act, to regulate the environmental impacts of releases from water supply dams.

The Water Act contains provisions that allow NRMW to regulate and monitor releases from water supply dams through setting of conditions on Resource Operations Licences (ROL).

While the general environmental duty in the EP Act applies to all activities, more specific legislative powers should be used where available, such as those under the Water Act. This would entail appropriate risk assessment approaches for the environmental regulation of dams, in co-operation with ROL holders.

2.6 Local Government Subsidy Applications

DLGPSR administer the Local Government Grants and Subsidy Scheme that provides significant investment capital to major water-related infrastructure projects such as construction of dams, sewage and water treatment plants. NRMW conducts a technical engineering assessment of these applications to ensure that proposals are technically sound.

Late last year, the Minister for the Environment requested that EPA become involved in the grant assessment process. EPA have been involved in updating the guidelines for grants to reflect environmental objectives in particular areas such as coastal management, water quality improvement, aquatic ecosystem conservation and water use conservation. At an operational level EPA has also been part of the assessment panel process for individual applications. This involvement is primarily to ensure that environmental aspects are fully considered and that the Minister is provided with a whole-of-portfolio view on applications.

EPA's new role in the assessment process is not considered by the review to be a duplication of the roles of other agencies.

[3] The *Environmental Protection (Water) Policy 1997* expires in September 2007, requiring its full review.

3 Biosecurity / Pest Management

3.1 Background

Biosecurity has been identified as a key area of interest in the review. In particular, gaps, dispersed capacity, some duplication, and lack of effective cross-government co-ordination and resourcing have been identified. In analysing these issues, the review has focussed on the respective agency roles in prevention, preparedness, investigation, response, and recovery functions for native, exotic, terrestrial and marine pests. The review has also examined the effectiveness of governance, resourcing, and management arrangements for these functions.

The current definition of 'biosecurity' endorsed by the national Primary Industries and Natural Resource Management Standing Committees through the Australian Biosecurity System for Primary Production and the Environment (AusBIOSEC), is assumed for the purposes of this report, i.e.:

> The protection of the economy, environment and human health from negative impacts associated with pests, diseases and weeds, including the management of invasive species once they have become established.

In this context, biosecurity includes all pest management for established pests, as well as pest incursions. This includes native species such as locusts, and native plants outside their area of origin. It does not address the negative impacts or problems caused by some native species such as kangaroos. Also, within the Queensland context, biosecurity includes the impact of chemical use in food production and in pest treatment.

3.2 Current Roles and Institutional Arrangements[4]

Nationally, the co-ordination of Federal, State and Territory biosecurity is being improved by a joint steering group under the Primary Industries Ministerial Council Standing Committee (PISC) and the Natural Resource Management Ministerial Council Standing Committee (NRMSC). The joint steering group is leading the improvement of the government components of AusBIOSEC. AusBIOSEC has been established to provide a policy framework for inter-jurisdictional collaboration and industry involvement to address all invasive plants, animals and diseases of the terrestrial, freshwater and marine environments impacting on primary industries and the natural and built environments. It interfaces with public health in relation to zoonotic diseases and food safety and security.

Each State has plans and organisational arrangements for dealing with biosecurity, including the on- going management of existing pests, as well as for dealing with emergency pest incursions. These operate within national frameworks, for example:

- emergency response plans for invasive pests of primary production, i.e., for crops (PLANTPLAN), production animals (AUSVETPLAN), aquaculture (AQUAVETPLAN), and the marine environment (EMPPlan)
- the proposed development of a national plan for weed management, and
- Strategies and Threat Abatement Plans for established pests, e.g., weeds of national significance, foxes and feral pigs.

[4] This analysis reflects agency roles as at 31 August 2006.

To support these plans, various funding and cost sharing arrangements have been established. For example, for national eradication programs, Ministerial Councils co-ordinate cross jurisdictional cost-sharing arrangements. Species covered by national response plans all have agreed cost-sharing formulas, with agreements under PLANTPLAN and EMPPlan yet to be finalised.

Recently, there has been increased responsibility placed on industry for biosecurity, particularly through their part funding of surveillance programs for 'proof of absence' to support trade. Cost sharing is incorporated in deeds of arrangement (Deeds) for the animal and plant sectors (Emergency Animal Disease Response Agreement, and Emergency Plant Disease Response Agreement). Under the Deeds, industry is required to implement biosecurity plans.

Biosecurity in Queensland is currently managed between DPI&F, NRMW and EPA. The agencies roles in these areas are outlined below:

- DPI&F: Provides biosecurity and animal welfare services to ensure risks to primary production are minimised and that market and community confidence in product quality and integrity is maintained. DPI&F administers a range of legislation including the *Apiaries Act 1982, Stock Act 1915, Plant Protection Act 1989, Exotic Diseases in Animals Act 1981*, *Fisheries Act 1994* and *Forestry Act 1959.* DPI&F undertakes the following functions:
  - undertakes surveillance for major pest and disease risks of food and fibre industries
  - implements responses to detected pests either to eradicate (e.g., bovine tuberculosis), or to manage a zoning of the pest to specific areas (e.g., cattle tick)
  - builds an emergency response capability for incursions (e.g., fire ants, citrus canker, sugar cane smut)
  - undertakes research on pests impacting on the viability of primary industries, and
  - provides resource management and surveillance of all aquatic fisheries systems to protect fisheries resources.
- NRMW: Provides weed and pest animal management in Queensland and has a primary role to enhance the capacity and willingness of others to implement sound weed and pest animal management for established pests. It does this by administering the *Land Protection (Pest and Stock Route Management) Act 2002* (the Land Protection Act). NRMW undertakes the following functions:
  - manages introduced invasive weeds, certain introduced pest animals (mammals, amphibians and reptiles) and native plague locusts
  - provides legislation, policy, research, extension and training in support of others who have the on-ground management responsibility (i.e., land managers, local government, regional bodies)
  - provides emergency response for incursion management and leads all current weed and pest animal eradication projects in Queensland for declared pests (e.g., red-eared slider turtles, alligator weed)
  - regulates the keeping of exotic vertebrates, except birds, in Queensland, and
  - conducts strategic control of locusts that pose a local or intra-State threat to agriculture.
- EPA: Principal responsibility for pest management is as a land manager of almost 12 million hectares of land (QPWS Estate) - including national parks, and State Forests,

Forest Reserves and Timber Reserves under the *Forestry Act 1959*. EPA undertakes the following functions:

- management of threatening processes as part of a conservation plan or recovery plan for threatened species
- management of pest species as part of a national park's 'good neighbour policy'
- lead agency for preparedness planning for guava rust (a potential threat to eucalypts)
- Queensland Government representative on the National Introduced Marine Pests Co-ordination Group, and
- administration of the NCA (including the regulations under the Act) in relation to prohibited wildlife.

All three agencies have various roles in managing weeds, pest animals and aquatic pests, as outlined below.

In relation to weeds, NRMW has a role in overseeing the management of invasive plants (weeds) through research, policy, legislation, extension and control of declared pest species. DPI&F undertakes research, policy, legislation and extension for landholders in relation to some 'native woody weeds' and weeds of crops, including weeds of both native and sown pasture. EPA's role is to monitor and regulate any environmental impacts of weed management methods, and controlling declared plants in National Parks and other areas under its control.

In relation to pest animals, NRMW has responsibility for research, policy, legislation, extension and control of declared species for mammals, reptiles and amphibians, plus dingoes and plague locusts. It supports animal disease control as lead agency for wild animal control during exotic disease incidents within Queensland. (The issue of introduction and keeping of non-indigenous species with high pest potential in zoos and wildlife parks is addressed in Chapter 10 of this report). DPI&F co-ordinates the overall response to exotic animal disease incidents (in contrast to pest animal management), and facilitates the management of exotic pest fish. Management of pest ants is currently with DPI&F, NRMW or shared according to the ant species.

In relation to aquatic pests, DPI&F currently has lead responsibility under the *Fisheries Act 1994* for incursions and management of noxious and non-indigenous fish species in Queensland waterways. This includes Talapia and Nile Perch in inland waterways. The *Fisheries Act 1994* has a broad definition of 'disease' which includes pest species in both fresh water and marine environments, giving DPI&F legislative responsibility for exotic marine pests. However, although DPI&F has legislative responsibility, EPA has an interest in marine pests that have an environmental impact, particularly in marine conservation areas. For example, in relation to species such as starfish and mussels, EPA is assuming a leadership role in relation to environmental and ecosystem impacts. This includes their interest in ballast water discharge from ships which may also contain fisheries 'diseases'. EPA has also been co-ordinating the State's implementation of the Intergovernmental Agreement on a National System for the Prevention and Management of Marine Pest Incursions. Implementation responsibilities of individual agencies are yet to be established.

It should be noted that under current legislation, the management of declared, established invasive species is the responsibility of all landowners, with local government having responsibility for overseeing these activities and State agencies having a monitoring role in some species. Many established invasive species are not declared and are managed by landowners, community groups, and local governments as needed to reduce their impact.

Not all legislation has the same range of powers relating to surveillance, quarantine or control of pests, as for some pests the main focus is on on-going management not incursions. Responses to some invasive species may require agencies to use powers under other agency's legislation.

DPI&F is currently developing a Biosecurity (Animal Health) Bill to integrate and streamline relevant DPI&F legislation relevant to animals (but not declared pest animals). It will replace the *Stock Act 1915*, the *Apiary Act 1982*, *the Brands Act 1915*, the *Agricultural Standards Act 1994*, and major parts of the *Exotic Diseases in Animals Act 1981*. This Bill will not replace the weed and pest animal aspects of the Land Protection Act, which is administered by NRMW.

The Land Protection Council is a major forum for whole-of-State engagement and consultation on issues relating to the management of weeds and pest animals.

The Inter-departmental Pest Management Committee (IPMC) was established in 2002 as a result of the government's Aligning Services and Priorities (ASAP) initiative. IPMC's role is to co-ordinate implementation of pest management reforms across the Queensland Government, to ensure co-ordination and collaboration in pest management and to pursue specific outcomes including:

- the development of a trans-disciplinary approach to pest risk assessment
- the review of legislative policy tools to identify gaps, inconsistencies, opportunities and mechanisms for co-ordinated and collaborative pest management
- the establishment of an incursion response capability at a whole-of-government level
- the development of an inter-agency cost sharing formula to determine responsibilities, and
- the development of plans for management of marine and freshwater incursions and pest birds.

Under the auspices of the IPMC, the draft Queensland Interagency Invasive Species Response Plan (the 'Pest Blue Book') has been developed, though not signed by all agencies. This plan sets out the agency responsibilities and processes for response to pest incursions. It covers three major phases - Pre-event (Prevention, Preparedness), Response (Investigation, Scoping, Operational Response), and Recovery (Review, Industry Recovery, Stand Down). These arrangements are yet to be finalised.

The IPMC is not regarded by agencies as an effective means for managing all incursion responses and was not intended to have this role. It is seen more as a 'pre-planning' mechanism. Its sub-committees are not effectively resourced, with only the IPMC project officer as a full-time resource. IPMC has not fully delivered on the above outcomes. For example, while a draft Incursion Funding Framework and options have been developed, agreement on options has not been reached.

3.3 Key Issues

The three agencies have raised significant concerns over current Biosecurity institutional arrangements operating within the State. The key issues are summarised below:

- The IPMC relies on the co-operation of agencies to resolve issues and make decisions; it has a staff of one officer and does not have any powers; determination of lead agency status has not been consistently applied (e.g., DPI&F has Fire Ants, NRMW has Crazy Ants, with Electric Ants shared)

- There are significant gaps in lead agency responsibilities, for example:
  - Exotic birds (including Indian Mynah birds which are now established)
  - Environmental invertebrates, and
  - Environmental pathogens (e.g., avian viruses)
- The current incursion response model does not lead to quick and efficient deployment of relevant technical skill sets in response agencies for pests where lead agency responsibility is not clear
- There are confused lead agency roles in marine and aquatic pests, with EPA filling a 'lead agency' role for introduced marine pest incursions and having a key role in the National Introduced Marine Pests Co-ordination Group, while DPI&F has legislative responsibility for diseases of fish (under the *Fisheries Act 1994*)
- Outside of established sector-specific response arrangements, particular agencies are currently assumed to lead particular response types without formal agreement (e.g., 'environmental' pests are automatically assumed to be EPA's responsibility)
- The dispersed nature of pest responsibilities across the three agencies leads to sub-optimisation of capacity (including facilities) in preparedness, surveillance, and response with associated risks in response timeliness and effectiveness (e.g., considerable risks and exposures could result from unclear lead accountability for exotic bird diseases, particularly with migratory birds)
- Concerns with the inability of agencies in certain circumstances to maintain effective preparedness and surveillance while they are in emergency response mode (e.g., response to citrus canker, sugar cane smut)
- Separation of agency responsibilities leads to inefficiencies in surveillance activity where, e.g., an agency is monitoring for weeds and does not look for ant incursions
- Inadequate contingency funding for exotic pest and disease incursions proves a disincentive for agencies to take a lead role where no clear agency lead exists (as lead agency must contribute the first $0.5 million)
- Limited ownership and commitment to the *Pest Blue Book* which has not been signed off by all agencies, and
- Use of the term 'biosecurity' by one agency for only part of the full scope of biosecurity (as defined at the start of this paper) can lead to stakeholder confusion regarding responsibilities of agencies.

Key industry and regional stakeholders have identified considerable confusion between respective agencies' roles in pest management. They have raised concern over response capacity for major incursions and the need for more focus on preparedness and surveillance for incursions. They also questioned why DPI&F identifies new weeds when doing plant research, while NRMW also does research and manages weed control. The natural resource management bodies prefer pest management to have an integrated catchment focus which considers primary production systems and productive ecosystems together. Another agricultural industry group feels that more response capacity is needed, with one agency managing all response issues operating under a funding model which has the flexibility to enable an immediate funding response.

There are clear opportunities to strengthen a whole-of-government approach to pest management. Key agricultural industry stakeholders want improvements and a single point of contact. The unclear accountability and governance mechanisms for resource prioritisation and deployment create considerable risk for the State's capacity to respond to pest incursions. The current diffused responsibility for prevention, preparedness, surveillance and research is not enabling optimum use of available resources and

infrastructure. Resourcing of responses is placing considerable pressure on agencies and limiting their capacity to undertake ongoing preparedness and surveillance.

Pest incursion preparedness, surveillance, and response are key issues requiring co-ordination and maximisation of science capacity. To address this, it is critical that co-ordination of science capacity occurs for incursions within all groups of pests.

In other State jurisdictions, progress has been made to consolidate biosecurity under a single agency responsibility or under an agreed governance framework. For example, in Western Australia, the Department of Agriculture and Food has responsibility for all biosecurity safeguards protecting the economy, environment and health from risks associated with pests, diseases and weeds. The department has responsibility for all pests, including pest birds, with only native species (handled by the Department of Conservation & Land Management) and aquatic pests species (handled by the Department of Fisheries) outside their charter.

A robust biosecurity governance function is needed in Queensland across the full spectrum of biosecurity. This includes clear executive leadership accountability. It includes the need for a legislative, policy, planning, preparedness and contingency funding frameworks for all pests across economic, environmental and social impacts. The challenge is to maintain ongoing effort in preparedness and surveillance in a time of increasing risk and frequency of incursion with consequent and often equal risk to natural resources, ecosystems and primary industries. The challenge is to also maintain ongoing effort on established pests.

The review considered several options to improve the framework for biosecurity across government. In summary, the key options considered were:

- strengthen the current IPMC arrangements and give them a clear direction to develop a protocol for determining who should be responsible for new pests
- centralise all incursion management in DPI&F with responsibility for established pests retained in existing agencies, and
- establish a Queensland Biosecurity Agency in the primary industries portfolio, to be overseen by a Board of Management, with all biosecurity functions (e.g., operational management of established pests, policy, planning, preparedness, surveillance, science and response capacity) being centralised within the Agency. This proposal does not suggest any change in responsibilities relating to pest management that agencies undertake as land holders (e.g., EPA's role in managing pests in national parks).

A detailed description and analysis of these options is provided at Appendix 4. The analysis of these options concludes that the establishment of a Queensland Biosecurity Agency in the primary industries portfolio, to be overseen by a Board of Management, presents the best opportunity to remedy the issues identified in the review. The Board would comprise representatives, at Chief Executive level, from DPI&F (Chair), NRMW, EPA and the Biosecurity Agency, with other agencies representatives (e.g., Queensland Health, DLGPSR) attending as required. The Board will ensure that biosecurity issues are assessed on a whole-of-government basis, including taking on responsibility for current and future 'gaps' in pest management responsibility.

The review does not support the Queensland Biosecurity Agency being established as a statutory body for the following reasons:

- there is no compelling argument for the Agency to be independent from government – biosecurity is a core government function

- a separate statutory body will lead to increased costs (e.g., in corporate overheads)
- although resources will need to be transferred from the balance of DPI&F to the Agency, a total separation into a statutory body runs the risk of losing connection with related areas of DPI&F and create dysfunctional structures in DPI&F regional service delivery
- the establishment of the Agency as a separate statutory body would create serious difficulties in resourcing responses to pest incursions, given the Agency's much smaller base budget as compared with a department such as DPI&F, and
- a separate statutory authority undermines the fundamental principle of the model – i.e., achieving single point accountability for biosecurity, as it would not be feasible for DPI&F to be totally divorced from biosecurity responsibilities.

For these reasons, the review concludes that the Queensland Biosecurity Agency should report to the Minister for Primary Industries and Fisheries through the Director-General, DPI&F.

A review and update of all legislation dealing with pest management / biosecurity, building on the work already undertaken for the Biosecurity (Animal Health) Bill will also strengthen the government's legislative base in this area.

Recommendation 6

It is recommended that all biosecurity / pest management policy, planning, surveillance, preparedness, science and response functions be amalgamated into a Queensland Biosecurity Agency in the Primary Industries portfolio by 28 February 2007:

- reporting to the Minister for Primary Industries and Fisheries through the Director-General, DPI&F, and
- overseen by a Board of Management.

Recommendation 7

It is recommended that the Board of Management for the Queensland Biosecurity Agency comprise:

- representatives at Chief Executive level from
  - Department of Primary Industries and Fisheries (Chair)
  - Department of Natural Resources and Water
  - Environmental Protection Agency, and
  - Queensland Biosecurity Agency
- as required, senior executives from other government agencies, including:
  - Department of the Premier and Cabinet
  - Treasury
  - Department of Local Government, Planning, Sport & Recreation
  - Department of Emergency Services
  - Queensland Health, and
  - Queensland Transport.

Recommendation 8

It is recommended that the Chief Executive of the Queensland Biosecurity Agency make arrangements for a review and update of all legislation dealing with pest management/biosecurity, building on the work already undertaken for the Biosecurity

(Animal Health) Bill, with Drafting Instructions being prepared for Cabinet consideration by 31 October 2007.

Recommendation 9
It is recommended that the following be transferred from NRW and EPA to DPI&F by 28 February 2007:

- staffing, assets, financial and other resources (including support functions and overheads) devoted to biosecurity / pest management policy, planning, surveillance, preparedness, science and response functions, other than those resources arising from agencies' roles as land managers
- legislative responsibility for Chapter 2 (Pest Management) and other relevant sections of the *Land Protection (Pest and Stock Route Management) Act 2002*, and
- legislative responsibility for prohibited wildlife under the *Nature Conservation Act 1992.*

3.4 Funding Mechanisms

All agencies agree on the need for speedy and effective responses to incursions (i.e., within hours/days of the incursion being detected). The success (or failure) of the initial response has critical implications for the total cost of subsequent eradication and containment programs. A quick and successful response to an incursion can save the State substantial costs in containment and eradication.

As indicated above, under the current arrangements, agencies are at times reluctant to assume the lead agency role because of uncertainty about funding arrangements.

The need to respond to incursions is increasing and this trend can be expected to continue due mainly to growth in the movement of people and products internationally, environmental change, and the intensification of livestock and agricultural production.

Responding to pest and disease incursions draws resources away from surveillance and preparedness activities and risks compromising their performance. The negative impact incursion responses have on the maintenance of adequate levels of surveillance and preparedness would be reduced by increasing core funding directly targeting biosecurity. Additional resources would generate a bigger pool of trained resources that could be called upon during incursions while reducing the impact on on going surveillance and preparedness levels. These proposals could include strategies such as the establishment of a 'ready reserve' capacity drawn from persons outside of government, such as skilled former employees, private contractors and possibly SES volunteers. Although this proposal has merit, the level of an agency's base funding is a budget issue for the government's consideration, rather than a matter for this review.

The consideration of a funding model needs to be assessed in the context of the above recommendation to centralise all biosecurity functions into a Queensland Biosecurity Agency in DPI&F.

A specific funding model for managing pest incursions does not exist and the creation of one would provide greater certainty for the Queensland Biosecurity Agency, and a significantly improved response to incursions. A funding model must:

- provide certainty in relation to funding responsibility for both initial incursion responses and ongoing eradication and containment programs

- establish a cap on the contributions that the Queensland Biosecurity Agency is expected to make from core funds
- expedite responses to pest incursions
- clarify responsibility for funding activities under national cost sharing programs and significant State-related eradication and containment programs
- promote the efficient use of resources – providing a 'blank cheque' is not appropriate, and
- be triggered by the Queensland Biosecurity Agency determining that a response is required to a pest incursion.

The review considered several options to improve the funding arrangements for biosecurity across government. The review has concluded that the recommended funding model, in conjunction with the establishment of the Queensland Biosecurity Agency will greatly enhance the government's biosecurity capacity, including responding to pest incursions.

Recommendation 10

It is recommended that a funding model be endorsed to cover incursion responses (i.e., eradication and containment programs, including any national cost-sharing arrangements) on the following tiered approach, with all amounts being cumulative for any one year:

- the first $0.5 million – 100 per cent funded by the Queensland Biosecurity Agency
- between $ 0.5 million and $ 1 million – 50 per cent funded by the Queensland Biosecurity Agency and 50 per cent supplementary funds, and
- greater than $1 million – a submission to CBRC must be made for supplementary funding.

4 Environmental Regulation of Mining

4.1 Special Agreement Acts Mines[5]

There are ten sites currently covered by Special Agreement Acts (SAA) in Queensland. These sites represent some of the largest mining operations in the State and include coal mining operations in Central Queensland, bauxite mining on the Cape and the mining operations at Mt. Isa. The Acts are unique to each site and cover all issues relating to the carrying out of mining activities including environmental requirements.

In 1999, the Queensland Government approved the transfer of the environmental regulation of the mining industry from the Department of Mines and Energy to EPA. In implementing this major policy commitment, the Government undertook extensive negotiations with key stakeholders, in particular, the mining industry and conservation groups. This transfer was effective from 1 January 2001. However, the environmental regulation of mining leases granted under the various Special Agreement Acts was not transferred to the EPA at this time. As such, NRMW remains responsible for the environmental regulation of the SAA sites.

As part of these changes, EPA carried out a one-off audit of the environmental performance of the SAA sites. The audit report[6] (July 2001), which has been publicly released, found that with the exception of certain air emissions from the Mt. Isa operations, the levels of environmental management practice and environmental protection being achieved was acceptable, although there were some areas requiring improvement. In the case of Mt. Isa, strategies have progressively been put in place to improve the air emissions from the smelting operations, including the construction of a sulphuric acid plant (to convert sulphur dioxide emissions) and amendments, in 1997, to the *Mt. Isa Mines Limited Agreement Act 1985*. More recently, Xstrata, who now operates the Mt. Isa mine, has advised the SDPC that it has developed strategies to further address these issues.

The environmental conditions applicable to mining activities undertaken on mining leases granted under the Special Agreement Acts differ, as each of the Acts specify environmental conditions separately. On the whole, those conditions are minimal and reflect the requirements at the time the agreements were negotiated. In addition, specific provisions of the *Mineral Resources Act 1989* (MRA) apply, e.g., the requirement for an environmental management overview strategy and a plan of operations, and provisions dealing with security deposits. Although these provisions were repealed in the 2001 amendments, they remain in force in relation to the SAA mines.

The separate environmental regulation of SAA mines has also led to the duplication of environmental regulation on SAA sites and a resultant lack of effective service delivery to mining industry clients. There are many sites across Queensland where an individual company is currently required to deal with two regulators in relation to their environmental management. These sites are usually larger operations where a Special Agreement Act applies to part of the mining activities, while the remainder of the site is dealt with through the MRA and the EP Act.

[5] Special Agreement Act mines are mining activities authorised under specific Acts of Parliament (e.g., the *Mount Isa Mines Limited Agreement Act 1985*)

[6] *Environmental Audits of Mines Operating under Special Agreement Acts*, July 2001

There are benefits for these clients in dealing with only one regulator. One owner of four of the ten SAA sites has approached the EPA directly, requesting that EPA act as the regulator and assist them with environmental matters in relation to their SAA sites. However, EPA has no legislative basis for regulating these sites as this responsibility currently rests with NRMW. Mining operations covered by the EP Act can also access the new progressive rehabilitation framework in the Act.

Transitioning the responsibility for the environmental regulation of SAA mines to EPA, under the EP Act, would ensure that the environmental regulation of the SAA mines reflected current community standards and would result in the consistent regulation of the mining sector across the State. While some sites may not immediately meet the environmental standards required under the EP Act, the provisions under the Act dealing with Environmental Management Programs can be used to demonstrate how these companies will transition to higher performance standards over time.

However, it is recognised that any changes to the environmental regulation of SAA mines needs to be managed to ensure they do not have detrimental consequences for the operations of the mining companies concerned. It is therefore proposed that changes to the environmental regulation of SAA mines be progressed in a two stage process.

In the first instance, the responsibility for the environmental regulation of SAA mines under the existing Special Agreement Acts would be administratively transferred to the Environmental Protection Agency. The Department of Mines and Energy (DME) would remain responsible for the administration of all other aspects of the Special Agreement Acts.

Subsequent to this, EPA would continue consultations with the companies concerned in relation to moving the environmental regulation of the SAA mining operations across to the EP Act. These discussions would enable the companies to fully understand the implications of transitioning to the EP Act. EPA would subsequently report to Cabinet on the outcomes of these discussions, including proposed legislative amendments. Any legislative changes in relation to the environmental regulation of the SAA mines would not affect any other rights that the companies have under the Special Agreements. The subsequent enactment of legislative amendments represents the second stage of the transitioning arrangements.

In addition, the application of financial assurances across the mining sector (to cover future environmental contingencies) does not reflect contemporary approaches to environmental regulation and risk management. There is currently a review being undertaken by DPC and Queensland Treasury of financial assurance arrangements and this review should be extended to cover all SAA mines.

Recommendation 11

It is recommended that the environmental regulation of Special Agreement Act mines be modified as follows:

- the environmental regulation of SAA mines under the existing Special Agreement Acts be administratively transferred to the Environmental Protection Agency by 31 December 2006
- staffing and other resources associated with this function be transferred from DME to EPA by 31 December 2006
- the Director-General, EPA consult further with the SAA mining companies and report to Cabinet by 30 June 2007 on the outcome of these consultations and recommend appropriate legislative amendments, and

- the current DPC / Queensland Treasury review of financial assurance arrangements be extended to include all SAA mines.

4.2 Abandoned Mines

As referred to above, the Queensland Government approved the transfer of the environmental regulation of the mining industry from the Department of Mines and Energy to EPA in 1999.

Under the new arrangements, the EPA was to:

- set levels of environmental assessment for new applications
- undertake environmental assessments
- make environmental management decisions about mining projects, and
- enforce compliance of environmental codes.

With respect to environmental management, NRMW retained responsibility for:

- accepting and processing all mining tenure applications and referring them to the EPA for environmental impact assessment (except for Prospecting Permits and Mining Claims due to their inherently low environmental risk)
- continuing to issue tenures under the MRA
- leading the development of technical Codes of Practice for low impact activities, for the approval of the Environment Minister
- promoting and facilitating industry commitment to, and understanding of, environmental best practice through technology transfer, education and other industry extension services
- monitor and, as appropriate, manage rehabilitation of abandoned mine sites, and
- manage the surrender of leases.

Under these arrangements, NRMW retained the Abandoned Mines Land Program (AMLP). The AMLP is used to rectify abandoned mines where operators have walked away from sites that require ongoing environmental management or rectification for public safety purposes (e.g., the capping of abandoned mines). The annual funding devoted to the AMLP is $3.9 million, and while this is not sufficient to rehabilitate all abandoned mines, it is applied in a prioritised way according to risk. The government has also supplemented this funding, on a case-by-case basis, for high cost and high risk abandoned mines.

There has been a lack of agreement between the agencies since the transfer occurred as to who would be responsible for an abandoned mine which occurred after 1 January 2001.

As the State authorises access to the resources, the State is ultimately responsible for any ongoing liability due to inadequate rehabilitation of a site. The review concluded that it is essential that one agency within government deal with all abandoned mines, whether the abandonment occurred before or after 1 January 2001. NRMW is best placed to take on this role given their existing responsibility for the AMLP, the non-environmental aspects of the AMLP (e.g., mine capping) and the regional location of NRMW staff.

In the event of an operator 'walking away' from a mine in the future, the EPA will exercise the full powers under the EP Act to pursue the operator to finalise and complete any required rehabilitation. In the event that these actions are not successful, the mine effectively becomes 'abandoned' and the ongoing management of the site will transfer to the AMLP. The financial assurances for that mine would be provided to NRMW to undertake relevant works.

This management of the AMLP needs to be supported by an inter-departmental management committee comprising senior executives from NRMW, EPA and Treasury. This Committee would ensure the regulator (EPA) has pursued all legal avenues to force the miner to rehabilitate, manage the inclusion of new abandoned mines into the AMLP, and inform a CBRC process where there is a gap between the financial assurance held in relation to an abandoned mine and the cost of rehabilitation.

Recommendation 12
It is recommended that DME be immediately responsible for managing all existing and new abandoned mine sites.

Recommendation 13
It is recommended that the Directors-General of DME and EPA establish a senior executive level inter-departmental management committee by 31 December 2006 to:

- oversee the establishment, amendment and release of financial assurances for mining activities under the *Environmental Protection Act 1994*
- manage the inclusion of new sites in the abandoned mines program, and
- ensure that the technical advice and expertise of EPA and NRMW are applied to managing complex abandoned mine sites.

4.3 Small Mines

Since the 2001 transfer of the responsibility of the environmental regulation of mining to EPA, there have been on-going issues about the environmental inspections of small mines, particularly in remote areas of Queensland.

EPA officers in Cairns, Emerald and Toowoomba are now providing programmed visits to the opal fields and Cape York small miners. The regulatory systems for small mining have been simplified in the last 18 months. The EPA system is working well, with the number of complaints about lack of service dropping significantly.

A new system for the surrender of small mining environmental authorities has also been developed whereby a miner is able to send pictures of the completed rehabilitation and a statement from the landholder as evidence of compliance with the conditions of the authority.

The EPA has a risk-based approach to its allocation of resources in delivering environmental regulatory functions. As such, the small mining sector, particularly the non-chemical activities, are considered low risk and are allocated resources accordingly.

There is, at times, duplication of effort and inefficiency of government services where two officers travel to remote locations to undertake discrete inspection roles for small miners. The government can improve service delivery to this sector by the EPA delegating powers for some environmental field inspections to NRMW on a fee-for-service basis. The types of inspections that NRMW officers would be asked to deliver

under delegation would only be in relation to low risk sites, e.g., checking if holes have been filled with gravel.

Under this model, EPA would retain overall responsibility for the environmental regulation and compliance functions for small miners, including the issuing of environmental authorities. NRMW would only carry out opportunistic, low level environmental field inspections while they are undertaking tenure compliance checks as part of their responsibilities under the MRA. Prior to undertaking any programmed tenure inspections, NRMW would advise EPA of the proposed sites for inspection and EPA would request the NRMW officers to inspect any sites of interest to EPA's responsibilities. NRMW would be compensated on a fee-for-service basis negotiated in an agreement between the departments.

Stakeholders to this review indicated that they would prefer NRMW to be a 'one-stop-shop' for small miners regarding the handling of paperwork and fieldwork. Almost all mining tenure dealings require the completion of two forms, one for NRMW and another for the EPA. Stakeholders are suggesting that these two forms could be incorporated into one standard form that is lodged with NRMW and copied to EPA.

The issue raised by stakeholders about forms is valid and can be addressed by the development of combined forms to cover the mining lease application and the environmental authority application, surrenders, assignments and renewals.

Recommendation 14
It is recommended that the Directors-General of DME and EPA streamline the environmental monitoring of small mines by the agencies by:

- establishing an MOU, by 28 February 2007, for DME to undertake some environmental compliance activities under EPA delegation in relation to small miners on a fee-for-service basis, and
- preparing single forms for applications for mining leases and environmental authorities, surrenders, assignments and removals by 28 February 2007.

4.4 Cancellation of Mining Permits

Following the lodgement of a notice to surrender a mining claim, exploration permit, mineral development licence or mining lease under the MRA, NRMW is statutorily required to provide a copy of the notice to EPA within 5 business days after it has been lodged. Before a surrender can be accepted under the MRA, the relevant environmental authority (EA) for the tenure must first be cancelled or surrendered under the EP Act.

Where surrenders are proposed under the MRA and referred to the EPA, the EPA may extend the time in which to make the required decision. These powers are used when applicants have not provided sufficient information to make a decision or when the level of rehabilitation is deemed unacceptable and more work is required. This extension of time in which to make a decision effectively keeps the tenure 'alive', creating problems for NRMW as rent continues to accrue until the mining tenure is surrendered. It also delays the release of land for subsequent mining tenure applications.

However, the power still resides in the MRA for NRMW to independently *cancel* a mining lease (such as for the non-payment of rent, or carrying out non bona-fide activities), without referring it to EPA.

Cancellation of mining leases without referral to the EPA creates problems for the government when adequate rehabilitation and safety measures have not been completed. The EPA believes that mining leases should not be cancelled without sufficient checks being made that all rehabilitation requirements have been met.

The review has concluded that the cancellation power in section 308 of the MRA should be amended to require, in the first instance, notification to the EPA and the mining tenement holder of the intention to cancel a mining tenure. This would enable the EPA to determine and direct any outstanding rehabilitation work.

An additional trigger would be required in the EP Act (section 270), to allow the EPA to use existing powers in relation to surrendering EAs, where NRMW provide a notice of intention to cancel a mining tenure. This would enable the EPA to, among other things:

- require the EA holder to make a surrender application for the EA
- require rehabilitation work to be undertaken, and
- pay EPA monies to cover the residual environmental risks at the site.

However, the EA clearance should be required to act within a reasonable time (maximum of 12 months) so as not to cause the problems outlined in the preceding paragraph. Therefore, if the EPA has not made a determination on the EA within the prescribed time-frame, NRMW can proceed to cancel the tenure. If, however, during the specified time-frame, rehabilitation work has commenced, but is not completed, provision will need to be made to allow an extension of time.

The management of sites where NRMW has issued a notice of intention to cancel a lease should be undertaken through the inter-departmental management committee referred to in section 4.2

The power to cancel a mining lease under the MRA is the only legislative power that NRMW has to take definitive action against non-performing tenure holders. To make this subject to the release of the environmental authority may be interpreted that, in the event of non-compliance, the government is unable to take action for up to 12 months. Amendments to the MRA would ensure that NRMW can statutorily make the holder cease the offending activity or cease mining activities. The only activities permitted would be making the site safe and rehabilitation work.

Recommendation 15

It is recommended that the Director-General, DME and the Director-General, EPA, prepare for Cabinet's consideration amendments to the *Mineral Resources Act 1989* (MRA) and the *Environmental Protection Act 1994* (EP Act) to provide for the following:

- where DME wishes to cancel a mining tenure, DME is to provide EPA and the mining tenement holder with a notice of intention to cancel the mining tenure
- DME can only cancel the mining tenure once the relevant Environmental Authority has been surrendered or cancelled or after a prescribed period of not greater than 12 months after the EPA has been notified about the intended cancellation, unless rehabilitation work has commenced
- provide an additional trigger in section 270 of the EP Act to include receipt of a notice of intention to cancel a mining tenure from DME as grounds for requiring a surrender application, and
- empower DME to order the mining tenement holder to cease the mining activity for non-compliance.

4.5 Tailings and Ash Dams

The EPA has historically regulated dams containing hazardous waste under the EP Act. These activities are captured under the Act in two ways:

- as they relate to the carrying out of environmentally relevant activities (ERAs), e.g., an ash dam would be controlled as part of the licensing of a power station, and
- as stand-alone activities where waste material is being held in a dam under the specific ERA category of operating a waste storage facility.

In 2002, the government transferred responsibility for the regulation of hazardous dams associated with mineral processing from NRMW to EPA. This function had been managed by NRMW under the referable dam provisions of the *Water Resources Act 1989.* These dams are referred to as tailings dams.

NRMW now focuses on the regulation of dam safety of referable water dams through the provisions of the Water Act, the emphasis being on protecting people who would be inundated in the event of a dam failure. The Water Act excludes dams containing hazardous waste from being considered as referable dams.

Ash dams are currently referable and are licensed under the provisions of the Water Act and are also being regulated by the EPA under the provisions of the EP Act.

Ash dams are generally associated with coal-fired power stations. They are for the containment of the solid residue of the burnt coal (ash) that has traditionally been transported to the containment site as wet slurry and retained within a dam. Examples occur at the Swanbank, Tarong and Callide Power Stations. These can be large structures with the Tarong Ash Dam being 48 metres high. Newer power stations such as Stanwell often transport the ash in a paste consistency and only need small structures for runoff containment.

The Water Act excludes hazardous waste dams as they relate to mineral processing activities (tailing dams) but does not exclude ash dams. There is confusion as to whether ash dams which are referable are to be dealt with under the Water Act or the EP Act. Both agencies agree that EPA should regulate the environmental impacts of ash dams under the EP Act, including structural integrity issues. An amendment of the Water Act will be necessary to remove this confusion.

Recommendation 16

It is recommended that the Director-General, NRW prepare for Cabinet's consideration amendments to the *Water Act 2000* to expand the definition of a hazardous dam to include ash dams associated with power generation by 31 October 2007.

5 Development Issues

5.1 Biodiversity Conservation

The *Nature Conservation Act 1994* (NCA) provides the statutory expression and mechanisms for the government's policy intent to conserve nature, both in terms of species and habitats (i.e., biodiversity).

The NCA provides for the establishment of a system of protected areas (e.g., national parks) and the protection of native wildlife outside of protected areas. The Minister responsible for the NCA may prepare a Nature Conservation Plan for any native wildlife, class of wildlife, native wildlife habitat or area that is, in the Minister's opinion, an area of major interest. An area of major interest means an area that contains natural resources of significant nature conservation value. There are currently five Nature Conservation Plans that manage or protect endangered species, with the *Native Conservation (Koala) Conservation Plan 2006* commencing on 2 October 2006.

The NCA prohibits protected plants and animals from being removed unless authorised under a Nature Conservation Plan or a permit. This prohibition was intended to prevail over planning schemes. However, the NCA has not yet been linked to the *Integrated Planning Act 1997* (IPA). As a consequence, taking protected wildlife including plants is not a consideration for development assessment under IPA.

EPA classifies areas as being essential habitats or wildlife corridors for species declared under the NCA as being endangered, vulnerable or rare. This methodology classifies areas as being of State, regional or local significance. Many of these areas have protection under the *Vegetation Management Act 1999* (VMA) or within the protected area estate established by the NCA.

The purpose of the VMA is to regulate clearing of native vegetation in a way that conserves remnant vegetation, conserves vegetation in declared areas, prevents land degradation, prevents loss of biodiversity, maintains ecological processes, manages the effects of clearing, and reduces greenhouse gas emissions.

A key biodiversity outcome through the VMA was the cessation of broadscale clearing by 31 December 2006. Generally, the VMA's provisions and mechanisms, which use IPA processes, are focussed on remnant vegetation, although some non-remnant vegetation on leasehold land is protected.

Despite recent government and community efforts, Queensland's biodiversity is declining and threatening processes continue. Habitat loss and fragmentation associated with population growth, grazing management practices, inappropriate fire regimes, invasive pests, and climate change effects are the significant threats.[7] These threats apply across the landscape.

Stakeholders to the review identified significant confusion in planning responsibilities between EPA (with its interests in biodiversity planning under the NCA), and the statutory responsibilities of NRMW in terms of implementing the VMA. This was also

[7] *Queensland State of the Environment 2003, National Biodiversity Decline Report 2005*

raised as a major issue by stakeholders during the current review of the Integrated Development Assessment System (IDAS) arrangements[8].

The VMA and the protected area estate under the NCA are effective in protecting wildlife habitat but are of limited effectiveness in protecting endangered, vulnerable or rare species across a wider landscape such as in:

- urban areas (where only endangered remnant vegetation is captured)
- wildlife corridors, and
- non-remnant vegetation of high conservation value.

The most pressing regulatory gap can be addressed by amendments to the NCA to provide a head of power for a State Biodiversity Conservation Code that standardises existing requirements for permits for removal of protected native plants and minimises impacts on threatened native animals. The Code would be recognised as an IDAS Code under IPA. Amendments to IPA would establish EPA's referral agency roles in IDAS such as in the vicinity of protected areas, essential habitat for threatened species and State wildlife corridors.

A State Biodiversity Conservation Code would direct and inform State agencies and local government on:

- incorporating relevant conservation plans, essential habitat for threatened species, and State wildlife corridors into the development of local government planning schemes
- requirements for wildlife conservation and habitat protection in regional planning and assessment processes, and
- State and regional biodiversity conservation values, targets or thresholds with links to State of the Environment reporting.

Amendments to IPA would provide development assessment triggers for identified essential habitat and wildlife corridors, and removal of protected animals and protected plants which currently require permits under NCA. The State Biodiversity Conservation Code would limit IPA assessment to areas that have been identified by EPA as being critical habitat for species declared under the NCA as being endangered, vulnerable or rare. In addition, the Code would provide the necessary criteria against which the impacts of development on threatened species could be assessed.

This approach would support the *Queensland Biodiversity Policy Framework 2003*, which has identified as a key future direction the integration of biodiversity outcomes into planning and the associated decision-making (i.e., development assessments).

Recommendation 17

It is recommended that the Director-General, EPA make arrangements for the *Nature Conservation Act 1992* to be incorporated into the IDAS framework by 31 October 2007 in relation to the identification of essential habitats and wildlife corridors, and the removal of protected plants and animals.

[8] The Discussion Paper, *Dynamic Planning for a Growing State,* was released for public comment in August 2006.

5.2 Water Supply Catchments

In Queensland, point source pollution[9] is generally dealt with by the EPA under the EP Act through the licensing of businesses whose activities can impact on water quality. However, the management of diffuse source pollution[10] is more complex. Diffuse source pollution is a major cause of deteriorating water quality in South-east Queensland.

The provisions of the Water Act, the *Land Act* 1994 and other legislation go some way to regulating land use activities that contribute to diffuse source pollution. Examples include land and water management plans, and duty of care provisions relating to land leases. In addition, the *Wild Rivers Act 2005* mitigates the risk of pollution in declared wild rivers. There are also a range of regulations that indirectly reduce diffuse pollution such as vegetation clearing, riverine protection and Water Resource Plans.

The Water Act also provides for the declaration of catchment areas to protect water quality in the water storage. There are currently 20 declared catchment areas (DCAs) in Queensland, with the most recent being declared in 1990. The DCAs only apply to a buffer zone around the water storage (e.g., 3-5kms) and not across the entire water supply catchment. The DCA provisions link to IPA, giving the chief executive a concurrence role for certain developments in the water supply catchment. This concurrence role is triggered where there is a proposed reconfiguration of a lot to less than 16ha, or for the establishment or expansion of a waste water disposal system in the catchment area.

The Water EPP applies to all Queensland waters and has the purpose of providing policy direction on the determination of environmental values and water quality objectives, and the protection and enhancement of such values for Queensland waters.

In Queensland a range of voluntary tools and best management practice tools are used to address diffuse sources of pollution. Farm management systems and the Rural Water Use Efficiency program promote voluntary uptake of better farm practices that promote improved water quality. The Rural Leasehold Land Strategy and OnePlan should also deliver mechanisms for improved water quality.

The emphasis on voluntary approaches to the management of diffuse sources of pollution is consistent with the National Action Plan (NAP) on Salinity and Water Quality, the National Heritage Trust, and is reflected in the Queensland / Commonwealth Reef Water Quality Protection Program.

Land use planning and development control is administered principally through IPA. Development which can contribute to pollutant loads such as environmentally relevant activities, earthworks for subdivision, building works and vegetation clearing is approved through IPA. Smaller local governments have expressed concern that there is a lack of State government guidance on how planning schemes should address water quality issues in dam catchment areas, where the resultant water supply is for human consumption. Industry stakeholders were concerned that there is inadequate government controls over development in catchment areas that may adversely affect the environmental values of a water supply dam.

[9] Point source pollution refers to direct discharges of wastewater that result from industrial and commercial processes into a waterway. Typically these activities are regulated as environmentally relevant activities under the *Environmental Protection Act 1994*.

[10] Diffuse or non-point source pollution is pollution resulting from widely scattered or dispersed sources, including run-off after rain which collects pollutants over a wide area and, to a lesser extent, pollutants from the atmosphere by direct deposition or via rainfall. Many water quality problems from diffuse sources are associated with land management activities such as land clearing, use of fertilizers and pesticides and livestock grazing.

In areas under the greatest development pressure there is no statutorily-required consideration of environmental values or water quality objectives for planning scheme development. Also, development applications for many activities that contribute to non-point source pollution are not assessed against the environmental values and water quality objectives.

However, the Commission recognises that this is a complex issue involving a number of government agencies beyond those the subject of this review. Any changes in the current approach to managing water catchments would also require extensive stakeholder consultation. This is a matter that should be progressed by government at a broader level, led by the Department of Local Government, Planning, Sport and Recreation (DLGPSR).

Recommendation 18
It is recommended that DLGPSR:

- develop for Cabinet consideration by 30 June 2007, options and a preferred approach to planning for land use management and development in water supply catchments, where the supply is for human consumption, and
- consult with the Department of the Premier and Cabinet, the Co-ordinator General, NRW, EPA, the Office of Urban Management, Queensland Health, local governments, water suppliers and other key stakeholders in the development of the preferred approach.

5.3 Fisheries Habitats

Fish habitats are managed by DPI&F under the provisions of the *Fisheries Act 1994* through the protection of marine plants (e.g., mangroves), the declaration of Fish Habitat Areas (FHAs) and the restoration of fish habitats damaged or destroyed without authorisation.

Under the Act, marine plants cannot be disturbed in any way (such as by trimming, mowing or removal) without an approval from DPI&F. This protection applies whether or not the marine plants are on private, leasehold or public land. Also, FHAs give protection to inshore and estuarine fish habitats that are important for sustaining local and regional fisheries. A development approval, under IDAS, is required for any works or activities in a FHA.

The *Marine Parks Act 2004* and zoning plans (which are not currently part of IPA) do not have specific policy or criteria for the removal of marine plants, or restoration of habitat (for anything other than environmental emergencies). However, the use and entry provisions of the zoning plans require a permit for activities such as taking plants or the use and amenity of a part of the zone.

A key stakeholder submission raised the issue of whether fisheries habitats areas could be included into EPA zoning plans so there is a single 'point of truth' in relation to State-based zoning legislation.

There is a significant spatial overlap of marine parks and FHAs. There are also many FHAs adjacent to marine parks. However, there are no marine parks in the Gulf of Carpentaria and Western Cape York, where there are significant areas of FHA declared.

In relation to FHAs, one perspective is that they are established to protect and enhance fisheries stocks rather than to conserve habitat or species that are not fish. This view is

supported by the fact that FHAs have generally been selected on the basis of their contribution to fish stocks and the likelihood of disturbance. This explains the concentration of FHAs in intertidal and estuary situations where development pressure is greatest, and the relative lack of FHAs in offshore waters. Under this view, marine parks are established to protect habitat as an end in itself and to conserve species generally.

The alternative view is that both marine parks and FHAs are multiple use regimes that protect habitat for a range of reasons including for the protection of fish stocks. FHAs make a very significant contribution to the conservation of marine and riparian systems across Queensland, often in areas where no other protective regime exists such as in the Gulf of Carpentaria.

Marine parks could deliver the same outcomes as FHAs, and it would be possible to transfer existing FHAs into the marine park system while retaining the current levels of protection and permitted uses. This would also align with delivering the government's commitment for 'Border to Border' marine parks.

However, the review recognises that the environmental regulation of the marine environment is complex and sensitive, and changes could only occur over time to ensure that there were no unintended consequences or adverse stakeholder reactions. In any case, such a transitioning cannot occur while the *Marine Parks Act 2004* remains outside the IDAS arrangements. As such, the review proposes that the *Marine Parks Act 2004*, in relation to development approvals, be incorporated into the IDAS framework. This will not impact on DPI&F's role in regulating fisheries habitats, but will streamline development processes in the marine environment. This issue is discussed further in section 5.5.

Recommendation 19
It is recommended that the Director-General, EPA prepare for Cabinet's consideration amendments to the *Marine Parks Act 2004* and associated legislation, to incorporate development approvals matters into the IDAS framework by 31 December 2007.

5.4 Consultation on Land Leases

Under the *Land Act 1994*, NRMW has responsibility for certain State land assets, including the leasehold estate, roads, reserves, and unallocated state land (USL). In most cases, these assets are allocated for a particular purpose to:

- another State agency (e.g., national park, forest reserve)
- a private person/company (e.g., lease for grazing and agriculture purposes, permit for a pump site, road licence), or
- a local government (e.g., reserve for recreation purposes).

Land administered under the *Land Act 1994* must be managed for the benefit of the people of Queensland having regard to the following principles:

- *Sustainability* - to maintain sustainable resource use and development for current and future needs
- *Evaluation* – land based on the appraisal of land capability and the economic, environmental, cultural and social opportunities of the land
- *Development* - allocating land for development in the context of the State's planning framework to persons who will facilitate its most appropriate use for the well-being of the people of Queensland

- *Community purpose* – the retention for the community in a way that protects and facilitates the community purpose
- *Protection* – protection of environmentally and culturally valuable and sensitive areas and features
- *Consultation* – consultation with community groups, industry associations and authorities is an important part of the decision-making process, and
- *Administration* – consistent and impartial dealings that are efficient, open and accountable, and with a market approach in land dealings that is adjusted for community benefits.

The application of the Act is supported by land administration policies, notifications and resource planning guidelines. Although the protection of environmentally and culturally valuable and sensitive areas and features is a key principle, the identification of environmental issues in a lease dealing does not in itself prohibit leasing.

A lease must only be used for the purpose for which it was issued and may be subject to any condition the Minister decides. All leases are also subject to – a duty of care; the requirement that the lessee use, and develop, the leased land accordance with planning schemes and local laws, and all other relevant State and Commonwealth Acts.

Two matters of concern were raised in the review, i.e.:

- communication between NRMW and EPA could be improved when lease dealings are being considered, particularly in relation to sensitive coastal areas, to ensure that all issues are fully considered in a timely way, and
- despite the above-mentioned lease conditions, some developers may view the granting of a lease as tacit approval for development on the land.

The issue of improving communication between NRMW and EPA on lease dealings has been recognised by the agencies, notwithstanding that, in general, it is standard procedure for NRMW to seek the views of EPA prior to the issuing of new leases, including those that result from lease renewal. NRMW employs a system of consultation and planning assessment for leases and lease renewals which seek to identify and reconcile competing interests from across government, local governments, applicants, indigenous interests and other members of the community. NRMW has implemented new business systems to reduce the potential for missed or incomplete referrals.

The *State Land Asset Management (SLAM) Review 2005 Report* recommended that the NRMW initiate the development of a service agreement with EPA. The desirability of a MOU between EPA and NRMW was also identified in the development of the State Rural Leasehold Land Strategy. While preliminary discussions have occurred between agency personnel on this issue, the MOU has been delayed pending the finalisation of the Strategy.

The MOU needs to deal with the types of lease dealings on which EPA is to be consulted and specify the timelines and details required. This process should also ensure that developers are not given unrealistic expectations when leases are issued or renewed.

Recommendation 20
It is recommended that the Directors-General of NRW and EPA develop an inter-agency MOU outlining the roles and responsibilities of NRW and EPA in lease dealings under the *Land Act 1994* by 28 February 2007, including:

- specifying the types of proposed lease dealings (new, amended or renewed) on which EPA is to be consulted
- specifying the timeliness of responses and level of detail required for comments on new leases, lease renewals and amendments of leases, and
- nominating key senior departmental officers to resolve any issues that arise concerning the administration of the MOU.

5.5 Co-ordination of Coastal Zone Development

The coastal areas of Queensland are highly valued for social, environmental and economic purposes.

Significant pieces of legislation have been introduced to both manage and protect these areas, e.g., the *Coastal Protection and Management Act 1995*, the *Vegetation Management Act 1999*, the *Marine Parks Act 2004* and the *Fisheries Act 1994*. As a consequence, development in these areas can require multiple approvals involving several government agencies.

The IDAS arrangements sought to better co-ordinate such approvals. This system establishes a process for applicants to make one application for a development approval. Local governments are generally responsible for receiving and administering IDAS applications, as the Assessment Managers. Where the State's legislation is integrated with IPA, the agency administering the legislation is a concurrence agency with the power to provide approvals or a refusal for a development permit (i.e., the State agencies provide the Assessment Manager with a 'concurrence response' which is attached to the development application).

However, resource allocations, (e.g., for aquaculture, mining, petroleum leases), and other areas exempted from IPA such as land tenure, lie outside of IPA. In addition, EPA issues permits in the coastal zone under the *Marine Parks Act 2004* and the *Nature Conservation Act 1992*, neither of which is incorporated into IPA. Recommendations 17 and 19 of this Report recommend that this occur.

Stakeholders believe that there can be improved co-ordination between the agencies on development approvals. Concern was also expressed with regard to meeting IDAS time-frames, the time taken to negotiate with agencies on multiple permit approvals, the timeliness of agencies' responses and the complexity of government approval processes.

Feedback from stakeholders indicates support for having all the relevant agencies together for pre-conferencing. Pre-lodgement discussions are also an opportunity to explain the requirements and expectations of State agencies and the local government before developers finalise their design and make financial commitments that reduce their flexibility. A critical component of such arrangements is for agencies to be able to identify key issues and policy conflicts before meeting with the developers. The issue of pre-conferencing is addressed in the Discussion Paper, *Dynamic Planning for a Growing State*.

There is an opportunity for the three agencies to prepare a MOU for dealing with development applications. This MOU could, in the first instance, focus on coastal management districts declared under the *Coastal Protection and Management Act 1995* as the overlap of assessment between the three agencies is concentrated in these areas.

The MOU would aim to streamline and better co-ordinate dealings with applicants and between agencies. The MOU could address pre-conferencing, standard information requests, assessment criteria and negotiation of environmental offsets[11].

Given their role in major developments, the Coordinator-General would need to be consulted in the development of the MOU. This would include ensuring the MOU aligns with the 2006 Election Commitment for more timely development approvals for major projects.

Recommendation 21

It is recommended that the Directors-General of NRW, DPI&F and EPA, in consultation with the Coordinator-General, develop an inter-agency MOU to expedite development applications in coastal management districts assessed under IDAS by 30 June 2007, including:

- pre-conferencing arrangements (subject to Cabinet's consideration of the outcomes of the DLGPSR IDAS Review)
- standardised information requests
- streamlined assessment criteria and negotiation of offsets, and
- the types of development application that will be covered.

[11] Environmental offsets are an action taken to compensate for any negative environmental impacts that might result from an activity or development (e.g., rehabilitation of degraded nearby land to restore a wildlife corridor, or providing funding for a research program for a threatened species).

6 Marine Fleets

6.1 Background

There are four government agencies with maritime roles in Queensland. These are DPI&F (Queensland Boating and Fisheries Patrol - QBFP), EPA's Queensland Parks and Wildlife Service (QPWS) fleet, Queensland Transport (Maritime Division), and Queensland Police Service (Water Police). The operation and maintenance of these collective fleets represent a significant investment by government.

An inter-agency Maritime Operations Group has been established as a formal mechanism to aid co-operation and collaboration in service delivery and better management of vessel assets across all agencies.

An issue of interest to the review is the service delivery and asset utilisation of the QBFP and the QPWS fleet. The agencies have joint interest in marine surveillance and compliance activity, and operate in similar coastal areas.

6.2 Roles and Institutional Arrangements

The QPWS fleet currently comprises 34 vessels in 15 locations across the State, with 20 of these vessels operating within the Great Barrier Reef region from bases between Port Douglas and Gladstone. The QPWS fleet provides field management services in the Great Barrier Reef Marine Park (Commonwealth) and all State marine parks and island national parks throughout Queensland. Vessels provide the basis for marine parks operations and are a tool for implementation of field management. The key field management activities delivered by EPA through the use of its fleet are:

- management of natural and cultural resources (island and marine)
- public contact and education
- compliance monitoring and enforcement – e.g., enforcement of zoning plan provisions, monitoring of whale watching operations
- construction and maintenance of island and marine visitor infrastructure – e.g., walking tracks, moorings
- incident response – e.g., stranded wildlife, oiled fauna, ship groundings, and
- research – e.g., marine turtles, seabirds.

The QBFP fleet comprises 93 vessels, spread throughout 24 centres in five districts, including three inland areas. The QBFP has a responsibility to provide surveillance, monitoring, enforcement and education under various pieces of legislation, including the *Fisheries Act 1994* and the *Transport Operations (Marine Safety) Act 1994*. Their primary activity is targeted surveillance activity (regulatory compliance) for fisheries resource protection purposes. Under a formal MOU and fee-for-service arrangement with Queensland Transport, the QBFP delivers transport safety compliance functions under delegation. This represents approximately 30 per cent of QBFP funding.

QBFP vessels are constructed for speed, endurance and to accommodate staff on long patrols and for the safe use of secondary (rigid hulled inflatable) vessels which are used for boardings.

Both EPA and DPI&F receive significant funding through the Great Barrier Reef Marine Park Authority's (GBRMPA) 'Day to Day Management Program' (DDM) to provide regulatory compliance activities in the Marine Park. Under this program, the Commonwealth and the State each contribute $4.6 million per annum. Of this funding, GBRMPA pays $0.97 million annually to the QBFP, with the balance going to EPA.

The DDM directly funds QPWS vessels and staff that are dedicated full-time on a wide range of tasks (including compliance patrols, island works and moorings maintenance). The DDM also contracts compliance patrol vessels from QBFP on a cost per day basis. Since July 2004, additional QBFP patrol days have also been contracted by the GBRMPA using Commonwealth funding provided to strengthen compliance following the expansion of marine protected areas.

In July 2004, GBRMPA endorsed a policy initiative which more clearly defined the roles of the QBFP and QPWS fleets. It aligned the fleets to deal with compliance issues where they have greater relative expertise (e.g., permit offences and tourism Plans of Management for EPA, and trawling and netting issues, and the bulk of offshore patrols for QBFP). Under this policy, QPWS compliance activities (including information distribution, education and enforcement) were to focus on specific geographical areas (e.g., island national parks, State marine parks and inshore areas of the Great Barrier Reef Marine Park).

A further review to find efficiency gains in the operation of the collective fleet was undertaken as part of the government's Aligning Services and Priorities (ASAP) process. In ASAP (Stage 1), agencies were to investigate and report in more detail on opportunities for better integration of marine vessel service delivery between agencies. Three key options were proposed by agencies during this review:

- continue existing informal partnerships
- establish a single agency for vessel use, or
- adopt a collaborative approach based on implementation of an agreed strategy to improve vessel management.

The agreed preferred option put forward by agencies in ASAP (Stage 2) was the collaborative approach based on implementation of an agreed strategy for vessel management. Three key aspects of this strategy were:

- trial sharing of crew and vessels
- joint acquisition of vessels, and
- development of a vessel management strategy (for vessel replacement).

6.3 Key Issues

The review considered the progress made by the agencies in implementing the ASAP recommendations.

Also, a major industry stakeholder identified significant overlap in compliance roles between different agencies causing duplication in inspections and industry downtime. Examples were cited where commercial fishing vessels had been boarded several times within a few days by different agencies inspecting for the same issues.

To address these concerns, the review considered three options:

- further strengthening the collaboration between the marine fleets

- transferring EPA's compliance functions to the QBFP, and
- amalgamating the fleets under QBFP.

In the context of considering these options, agencies identified the following issues:

- QBFP has a strong compliance culture, whereas QPWS's fleet has a stronger educative approach
- QPWS's compliance role is largely opportunistic or undertaken in conjunction with other fleet functions, and forms a relatively small part of their business
- vessel sharing initiatives, e.g., at Port Douglas, have worked well and there is scope for further collaboration and integration, although this is highly dependant on fleet co-location
- sharing of vessels requires co-ordination on vessel availability and requires clarity on cost transfer arrangements between agencies
- strong collaborative relationships with the fishing industry is critical to effectively delivering compliance activities, and this has been a strength of QBFP
- while 'cross decking'[12] has advantages in particular situations, much co-ordination is required and the needs of agencies invariably do not overlap precisely. For example, if QBFP plans a trip targeting the trawl fishery, all work is performed at night (when the trawlers are working). Staff from other agencies may therefore have no interest in patrols of this nature
- industrial arrangements and conflicting priorities were the main impediments to further progress on 'cross-decking'
- QBFP and EPA agree that cross-decking works best where co-location exists, at peak times, and when boats are undergoing maintenance
- differences in pay and classification arrangements between staff of the two agencies is a barrier to integrating staff under one operation, and
- the two fleets have progressively become more specialised, i.e.:
  - QBFP boats are designed to be fast, enabling stern launching of tenders because they board large numbers of vessels. However their vessels would perform poorly in the carriage of lots of equipment or as diving tenders
  - EPA vessels are fitted out primarily for in-shore work and for marine and national park maintenance activity. QBFP do not consider EPA vessels as being of practical use in much of their compliance work.

A key issue in the above is that the agencies often have different targets, work at different times, and use different types of vessels. In view of this, there appears little potential efficiency gains in the option of QBFP assuming control of the QPWS fleet. In addition, as QPWS's compliance activity is not a discrete function, and forms a relatively small part of their business, there would be no overall benefit in transferring this function to the QBFP.

However, service integration between EPA and QBFP is presently being driven from the operational levels and is opportunistic. There appears to be no co-ordinated policy drive for this from a holistic fleet management perspective in the agencies. There is scope for more planned collaboration, driven by agreed service strategies and outcomes in relation to compliance activity. Integrated vessel asset management for larger vessels (i.e., over 10 metres in length) and shared locations should be further progressed. This

[12] Cross-decking occurs when vessels and/ or crew are shared.

would reduce duplication of effort in surveillance activities and reduce the likelihood of multiple boardings mentioned earlier, although it must be acknowledged that other marine fleets (e.g., the Australian Quarantine Inspection Service (AQIS) also undertake compliance activities in marine areas).

In addition, the potential benefits from expanding cross-authorisation of officers are yet to be fully realised. While QBFP is cross-authorised under Marine Parks legislation, EPA officers are not authorised under the *Fisheries Act 1994*, and therefore cannot deal with a relatively simple matter of a recreational fisher having under-sized fish or exceeding their bag limit. QBFP and QPWS have agreed that authorisation and appropriate training should be undertaken to deal with designated less-complex offences such as this.

Recommendation 22

It is recommended that the Directors-General of EPA and DPI&F develop a joint fleet services strategy by 30 June 2007, incorporating:

- planned vessel and crew sharing arrangements
- full implementation of vessel management strategies, including co-ordinated vessel acquisitions for larger vessels (i.e., greater than 10 metres)
- cross-authorisation and training of EPA officers to enable them to deal with designated less-complex fisheries offences, and
- co-location plans where this is feasible.

7 V egetation Mapping

7.1 B ackground

The ad ministration of the VM A involves s ome c ollaborative an d o verlapping a ctivities between NRMW and EPA in Regional Ecosystem (RE) mapping and map modifications. In c onsultations f or th e r eview, stakeholders r aised concerns with t he efficiency an d effectiveness of the R E mapping pr ocess between EPA a nd N RMW, and th e subsequent impacts on NRMW's administration of the VMA.

The VMA operates through IPA (for clearing and development approvals), under which NRMW is t he Assessment M anager for c learing applications. Applications for clearing can only be accepted for a 'relevant purpose' under the Act, including significant projects under t he *State Development and Pu blic Works Organisation Act 1971*, th e control of weeds or pe sts, pu blic s afety, ne cessary bui lt i nfrastructure w ith n o al ternative site, fodder harvesting, and for an extractive industry.

In 2004, an el ection commitment w as m ade to c ease br oadscale c learing of remnant vegetation by 31 D ecember 2006. This commitment is administered under the VMA. In 2004 and e arly 200 5, a mendments were made t o t he VMA t o br ing t ogether a vegetation management framework including:

- property maps of assessable vegetation (PMAVs)[13]
- f inancial assistance packages
- a ballot process for the final broadscale clearing
- vegetation codes, for assessment of clearing for specified purposes, and
- additional protection of remnant native vegetation on freehold land.

The Commission recognises that vegetation management is a contentious po licy issue for government and was raised as a key issue for rural stakeholders in the *Blueprint for the Bush* consultations. In th e *Blueprint fo r th e Bus h*, the P remier made a commitment to review the administrative implementation arrangements of vegetation management in 2007.

7.2 Regional Ecosystem Mapping

RE m apping i s th e pr incipal statutory tool th at s upports d elivery of the vegetation management fr amework. This m apping i s pr epared through t he combined e fforts of NRMW and EPA's Queensland Herbarium.

To p repare RE maps, satellite p hotography, and tr ee c over d ata an d an alysis i s provided through the NRMW Statewide Land and Trees Survey (SLATS) program to the Herbarium. The Herbarium then applies their own data to overlay regional ecosystems, use their scientific knowledge to analyse the data and call on expert networks to review and determine e cosystem status. This r esults i n t he r egional ecosystem maps t hat

[13] PMAVs have st atutory effect and ove rride t he RE m apping pr ocess by i dentifying and 'locking i n' non-remnant vegetation so that it is not captured by t he VMA at any future time (i.e., by be ing re-designated as r emnant ve getation). P MAV's pr ovide ce rtainty t o manage t hese ar eas w ithout c onstraint into the future.

determine what vegetation is captured by the VMA and provide the foundation for NRMW assessing clearing applications under the VMA.

Once complete, the RE maps are then assessed and certified by NRMW and submitted to Governor-in-Council. When approved, the RE maps and their status are inserted in the schedules to the *Vegetation Management Regulation 2000*. The maps are then displayed on the EPA website and NRMW's (electronic) Vegetation Information Network.

In July 2002, an MOU was developed between EPA and NRMW outlining the roles of the agencies in relation to vegetation management, including RE mapping, training, biodiversity assessments and compliance actions. However, the MOU was prepared prior to the 2004 election commitment and legislative amendments, including the new vegetation management framework. As such, the MOU does not accommodate the current vegetation mapping issues and challenges, including increasing requests for ecosystem assessments and map modifications.

7.3 Map Modification Processes

A map modification process has been established where an interested party may challenge the accuracy of a RE map, by requesting a map assessment and modification from NRMW, or in some cases directly from the Herbarium. In NRMW, Vegetation Management Officers (VMOs), who primarily assess landholders' clearing applications, are the on-ground staff tasked to the map modification process. Map modification guidelines are provided to stakeholders under the Herbarium's, *Request for Assessment of Queensland's Certified Regional Ecosystems Maps*.

Map assessment requests require the interpretation of the status of the vegetation at the time of reassessment based on the aerial photographic and satellite image history and the most recent land resource data. At times, this requires a field-based, property-level assessment. These are conducted by NRMW's VMOs, consultants or the Herbarium. A full assessment analysis must be submitted to the Herbarium (for those not undertaken by the Herbarium) who will complete the map modification, if required. Once a map modification is completed and certified, it is incorporated into the RE maps.

VMOs also prepare PMAVs. These are prepared by NRMW staff using the RE mapping from the Herbarium. PMAVs may generate a map modification process which requires the appropriate assessment data, interpretation and paperwork referred to above.

The VMOs' principal role is in assessing vegetation clearing applications. The unprecedented volume of these applications has created a backlog. This backlog is exacerbated where map modifications are requested. As landholders are still able to clear non-remnant vegetation, this has markedly increased the volume of map modification requests whereby stakeholders query the current maps and request more detail and verification of what is 'on-the-ground' in terms of vegetation / ecosystems.

In addition, landholders are also using the PMAV process as a de facto map modification process by requesting more detailed PMAVs, which also significantly increases the time it takes to complete a PMAV. These map modification processes have added to the current backlogs and the strain on NRMW's VMO resources in following up and monitoring pending applications.

Stakeholders for the review have identified significant concerns with the operations of the RE mapping conducted between NRMW and the EPA's Herbarium and questioned the effectiveness of the RE mapping process in being able to meet stakeholders' needs

and timeframes. Specific issues for stakeholders included the resourcing of this function, the lack of on-the-ground detail in maps, changes in the maps resulting in problems for development and planning, the complexity of the processes between the mapping and administering agencies, and the subsequent delays, timeliness and costs.

The review has identified two key issues to address the above – the resourcing available for RE mapping and the scale of the RE maps.

7.4 Resourcing Issues

The volume of work in administering the VMA, including assessing applications for vegetation clearing, and assessments and modification of RE maps and production of PMAVs has proved to be much greater than the government anticipated.

As a consequence, there is currently a significant backlog in NRMW for vegetation clearing applications (368), map modifications (557) and 'detailed' PMAVs (more than 300)[14].

NRMW has identified the need for suitably qualified and sufficient resources to undertake all these activities to reduce current backlogs and provide a timely service to landholders. The lack of expertise (botanists) in NRMW is also seen as affecting its ability to adequately complete the map assessment process and to effectively and efficiently manage the large volume of RE map modification requests.

NRMW is attempting to address the resourcing issue through several actions. While not directly related to RE mapping, NRMW is simplifying its vegetation codes which may reduce some of the VMOs' time spent on interpreting the codes and enable more time to be spent on other activities.

Other suggestions which may alleviate the resourcing issue include:

- a review of the 2002 MOU between EPA and NRMW with regards to vegetation management arrangements, and
- a review of the Herbarium's *Request for Assessment of Queensland's Certified Regional Ecosystems Maps* in order to reduce the complexity of the map assessment process for VMOs.

7.5 Scale of Mapping

The Queensland Herbarium's surveying and mapping methodology is to international standards at 1:100,000 scale, although some vegetation mapping has been undertaken for more populated areas of the State at 1:50,000 and 1:25,000 scale. For example, Logan City Council has engaged EPA to produce 1:25,000 maps. While Brisbane City Council has independently prepared 1:25,000 mapping, this has yet to be adopted by government.

At the scale provided (1:100,000), RE mapping may not provide adequate details about what is actually on-the-ground and about the break up of ecosystems. This in turn may generate challenges about the maps, difficulties in development and planning, requests for map modifications and criticism of the validity of government's mapping system. NRMW considers that the current 1:100,000 scale does not fully meet the business needs of NRMW in administering the VMA.

[14] As at July 2006

An increase in finer scale mapping across the State would assist in supporting the effective implementation of the VMA, and may reduce requests for map modifications and challenges of the RE maps. However, the introduction of this initiative will have resourcing implications for government. A business case would need to be developed to determine the resources required and a cost-benefit analysis in producing higher definition maps in the scale of 1:50,000 and 1:25,000 across the State.

Currently, PMAVs are not included in the RE mapping, increasingly causing discrepancies between what is on-the-ground, and what has effect as assessable vegetation under the VMA. There would also be considerable benefits in including the PMAVs in RE maps, i.e., so as to provide one definitive map of assessable vegetation under the VMA.

7.6 Review of the Administrative Implementation Arrangements of Vegetation Management

As indicated above, the Premier made a commitment in the *Blueprint for the Bush*, to review the administrative implementation arrangements of vegetation management in 2007. The RE mapping, as the principal statutory tool that supports the administration of the VMA, will be investigated as part of this review.

As such, the 2007 review should take precedence over the current Commission review. Nevertheless, the recommendations of the Commission's report should be used to inform the development of the Terms of Reference for the 2007 review.

Recommendation 23

It is recommended that the Director-General, NRW consider the following matters during the Review into the Administrative Implementation Arrangements of Vegetation Management:

- developing a business case to determine the resources required and cost-benefits in preparing finer scale RE maps across Queensland and integrated map products (i.e., PMAVs and RE maps)
- updating the current MOU to define the roles and responsibilities of NRW and EPA to manage vegetation management into the future
- expediting improved efficiencies in the current map amendment processes between EPA and NRMW
- considering the availability, skills and work priorities of Vegetation Management Officers in NRMW, and
- reviewing the Herbarium's *Request for Assessment of Queensland's Certified Regional Ecosystems Maps* with regards to reducing the complexity of the map assessment process.

8 Forestry and Quarries

8.1 Forestry

The forest industry encompasses forest operations, timber milling, processing, and manufacturing segments. The turnover of the industry is about $200 million annually and is an important contributor to employment in rural communities. The industry is sustained by timber and other forest products sourced from both State-owned and private lands.

Forestry functions are allocated across State Government agencies in a way that reflects the government's policy of having separate Ministerial responsibilities for forest resource planning, commercial activities, custodial estate control, forestry regulation, private forestry and research.

Recent reforms have resulted in the NRMW taking responsibility for the management of native forest sale activities on State Forests, Timber Reserves and State rural leasehold lands. EPA retained responsibility for native forests, including the custody and management of State Forests and Timber Reserves, environmental planning, nature conservation and provision of nature based recreation. From 1 May 2006, the remaining plantation management component of DPI&F Forestry became Forestry Plantations Queensland (FPQ) under the *Forestry Plantations Queensland Act 2006*. FPQ is established as a statutory body reporting jointly to the Minister for Primary Industries and the Treasurer.

Table 1 describes portfolio responsibilities for native forest and plantation forestry.

Table 1: Responsibilities Applying to Forestry (Native Forest and Plantations) - as at 31 August 2006

Minister Principal Responsibilities	Ministerial Responsibilities	Acts Administered
Deputy Premier, Treasurer and Minister for State Development, Trade and Innovation	Commercial Plantation Forestry Custody and Management of State Plantation Forests	*Forestry Act 1959* (jointly administered) *Forestry Plantations Queensland Act 2006*
Minister for Natural Resources, Mines and Water	Allocation, management and use of State land Commercial Forestry for native forest under the *Forestry Act 1959*	*Land Act 1994* *Forestry Act 1959* (jointly administered) *Vegetation Management Act 1999*
Minister for Environment, Local Government, Planning and Women	Custody and Management of State Forests other than State Plantation Forests Native Forest Management	*Forestry Act 1959* (jointly administered)

Minister Pr	incipal Ministerial Responsibilities	Acts Administered
Minister for Primary Industries and Fisheries	Forestry Industry Development Private Forestry Commercial Plantation Forestry Custody and Management of State Plantation Forests Primary Industry Research, Development and Extension	*Forestry Act 1959* (jointly administered) *Forestry Plantations Queensland Act 2006* *Diseases in Timber Act 1975* *Timber Utilisation and Marketing Act 1987*

A MOU has been developed between the agencies with native forest and plantation land management responsibilities to provide a framework for co-ordinated operations. This MOU came into effect from 2 May 2006.

There are two Codes of Practice applying to forest harvesting in Queensland, one that applies to State lands, and the other to freehold lands.

The EPA regulates timber production activities, under the control of NRMW, through arrangements based on the *Code of Practice for Native Forest Timber Production 2002* (the 'State Land Forestry Code'), as follows:

- strategic harvest plan approval – NRMW prepares a strategic harvest plan describing intended sale areas three years in advance and forwards to EPA for approval
- operational harvest plan approval – NRMW prepares operational harvest plans detailing site works on sale areas based on the requirements of the State Land Forestry Code, and
- a formal audit regime against the State Land Forestry Code and operational harvest plan.

In addition to this regulatory regime, NRMW has its own environmental management system which has been independently certified to comply with the internationally recognised *Australian Forestry Standard*.

For private lands, NRMW applies a separate Code of Practice to regulate native forest harvesting pursuant to the VMA – the *Native Forest Practice on Freehold Land* (the 'Freehold Land Forestry Code'). This Code relates to remnant vegetation on freehold land. If NRMW is notified of the native forest practice, and if the owner conducts the forest practice in accordance with the Freehold Land Forestry Code, a permit under the *Vegetation Management Act 1999* is not required.

The extension of the State Land Forestry Code to cover freehold land in lieu of a separate freehold code was considered under the Queensland Forest Practice System managed by DSDTI. However, the State Land Forestry Code was deemed to have a wider scope in relation to the forest values it addressed and is too complex and technical for application as a self assessable code by landholders.

Stakeholders raised the differences between the Codes and, in particular, that the Freehold Land Forestry Code does not address timber removal in bed and banks of watercourses, which is a requirement under the Water Act.

The Minister for Natural Resources is reviewing the Freehold Land Forestry Code which will, in part, address issues such as the removal of timber in bed and banks of watercourses on freehold land.

8.2 Quarries

The administration of quarries (or extractive industries) by the State Government is linked to legislative responsibilities involving the allocation and sale of resources, environmental regulation and the safe operation of quarries. The management of these activities is primarily undertaken by NRMW and EPA. These roles are described in Table 2.

Table 2: State Government Roles in Quarrying and Extraction of Resources

	Resource Allocation Decisions	**Environmental Management Decisions**
State Lands (forests, etc.)	NRMW - *Forestry Act 1959* EPA	- *Environmental Protection Act 1994*
Fresh Water	NRMW – *Water Act 2000* EPA	– *Environmental Protection Act 1994*
Tidal Water	EPA – *Coastal Protection and Management Act 1995*	EPA – *Environmental Protection Act 1994*
Private Lands (post 1992)	NRMW – *Forestry Act 1959* EPA	– *Environmental Protection Act 1994*

IPA and the IDAS process provides the framework for the co-ordination of agencies in assessing development applications. In all areas except tidal waters, segregation of responsibilities between EPA and NRMW is founded on a philosophy of segregating the environmental regulator and the resource manager. This segregation does not occur in tidal waters, with EPA having the role of both environmental regulator and resource manager.

However, the review has concluded that this dual role should be retained due to the sensitivity and complexity of coastal processes, and the associated environmental impacts. Separating these responsibilities is also likely to increase the cost of regulating the extraction of quarry material in tidal waters.

Stakeholders for the review indicated that the royalties for the extraction of quarry material differ between agencies. Table 3 presents a comparison of base royalties for quarry materials.

Table 3: Base Royalties for Quarry Material

Base Royalty ($ / M^3)	**NRMW** *(Forestry Act 1959* and *Water Act 2000)*	**EPA** (*Coastal Protection and Management Act 1995*)
For use by a government department	Nil	Exemption for dredging for navigation purposes
For use by a local government or statutory body for its own use	$0.52	$0.50
Otherwise (standard)	$1.43	$1.45

The base royalties should be equivalent across the State. This can be achieved, for example, by adjusting the rates to achieve parity at the time of the next Consumer Price Index (CPI) increase.

In response to Cyclone Larry, a code of environmental compliance was approved for extractive activities in Cape York. An opportunity exists to further expand this code and improve the efficiency of environmental regulation of extractive activities State-wide through the introduction of a code of environmental compliance for extraction, crushing and screening. Such a code would provide a simplified and timely assessment and approval process for standard activities which have a low level of environmental impact and present a low risk of environmental harm. In addition to standard environmental conditions, the codes contain advisory notes that provide information on how to manage projects in compliance with the standard conditions.

Recommendation 24
It is recommended that the Directors-General of NRW and EPA prepare for Cabinet Budget Review Committee consideration a proposal to standardise all base royalty rates for quarrying, including the revenue implications, by 30 June 2007.

Recommendation 25
It is recommended that the Director-General, EPA develop a State-wide code of environmental compliance for extraction, screening and crushing activities by 30 June 2007.

9 Zoological Parks and Aquaria

9.1 Background

Exhibited animals in Queensland are used for many different purposes, including:

- display in zoos, circuses and aquaria
- for demonstration at shopping centres, schools and community centres, and
- for television and film work.

Queensland has faced numerous challenges recently within the field of exhibited animal regulation. Some zoos have closed or refocussed their business opportunities, circuses have evolved past traditional activities, and public perceptions of how animals are held in captivity are changing.

Recent events documented in the media within Queensland zoos and circuses have raised the profile of the exhibited animals industry and have exposed areas of regulation that could be improved.

9.2 Agency Roles

The regulation and use of such animals is complex and currently requires a multi-agency government response to requests for permits.

NRMW is responsible for land protection under the Land Protection Act. The main purpose of the Act is to provide for pest management on land, and for stock route network management. To facilitate the protection of land in Queensland, the introduction, feeding, keeping and releasing of declared exotic species of animals is regulated by the issue of permits under the Land Protection Act. The primary concern of NRMW in declaring and regulating animals by the issue of permits is the potential impact escaped animals may have on Queensland's primary industries, natural eco-systems, and human and animal health. There is a secondary legislative responsibility of assessing public safety.

The display of native animals is addressed under the NCA which is administered by EPA. The Act authorises the chief executive to make codes of practice for protected wildlife. 'Protected wildlife' means native wildlife prescribed under the Act. The *Code of Practice of the Australasian Regional Association of Zoological Parks and Aquaria Queensland – Minimum Standards for Exhibiting Wildlife in Queensland* has been in place under the Act since 1995.

DPI&F administers animal welfare (both native and exotic) under the provisions of the *Animal Care and Protection Act 2001.* Under this Act, a regulation may make a code of practice about animal welfare, including the use of animals in zoos. There is currently no compulsory code in place in relation to zoos. However, the *Queensland Code of Practice for the Welfare of Animals in Circuses 2003* is a mandatory code for the display and movement of circus animals. Voluntary codes of practice exist for the use of animals in film and television production and the farming of exotic animals.

9.3 Key Issues

The legislative frameworks surrounding the exhibition of animals in Queensland means there is a separation of agency functions in dealing with exhibited animals, resulting in multiple and overlapping responsibilities within the Queensland government.

The existing overlap of responsibility of agencies with legislative responsibility in this area means that a zoo in Queensland which exhibits both native and exotic animals is required to comply with the three legislative regimes and to obtain authorities from both EPA and NRMW to lawfully keep the relevant animals.

In addition, the management of exhibited animals are not always considered core business by agencies, which may lead to:

- diffused responsibility for the required functions
- lack of appropriate resourcing for the function, and
- staff skill shortages in dealing with this speciality field.

The lack of clear lead agency responsibility in this area has led to reactive responses to incidents as they arise. Incidents that have occurred in the past may have been better addressed through forward planning, risk management, and auditing. Currently when incidents occur, a multiple agency response is required. Agency commitments, legislative conflicts and resourcing constraints can hinder a whole-of-government approach to the matter.

The Land Protection Act is not an appropriate vehicle to regulate this sector. When developed, the Land Protection legislation was clearly intended to manage pests, including the keeping of any exotic mammal, amphibian and reptile. In some cases, the objectives are clear, such as the licensing of monkeys and snakes, as the escape of a breeding pair could have an adverse effect on natural ecosystems. However, the pest potential of escaped polar bears would be short lived (although it would be a risk to public safety). Although primary responsibility for exotic animals nominally lies with NRMW, the Land Protection Act is currently only concerned with preventing animals establishing as pests (through escape and breeding) and does not have sufficient scope to deal with all aspects of regulating the exhibition of animals.

In addition, the current regulation of exhibited animals in Queensland is limited to certain species. Some birds, invertebrates, marine fauna and freshwater fish are not regulated by any State agency. Gaps in regulatory coverage of such exhibited animals could lead to:

- the display of inappropriate species
- potential establishment of agricultural, environmental or social pests
- lack of agency knowledge on species locations
- limited ability for regulation of disease outbreak and control, and
- public interaction, safety and human health risks.

There are also public safety issues in the regulation of this sector. Many potentially dangerous animals are exhibited in Queensland facilities, including lions, tigers, bears, elephants and many exotic snakes. Approximately three million visitors attend Queensland zoological parks and aquaria (and attend circus activities) each year and expect a high level of safety. In the last year, there have been at least two incidents in Australian zoos involving attacks on the general public and one serious attack in New

Zealand on a staff member. Declared pest permit conditions currently require facilities to contact NRMW if animals held under their permit have escaped from enclosures. Within the last two years, NRMW has been notified of five animal escapes, with all animals being recaptured.

Stakeholders raised a number of issues with the regulation of this sector, including poor communication and the lack of a whole-of-government view on industry issues. They suggested a single government contact operating in close co-operation with the industry and able to apply a whole-of-government approach to minimise overlap among the three departments.

It is evident from the above analysis that the current arrangements in Queensland are not working well. There are gaps in coverage and there is a risk to government in not adequately protecting animals and in safeguarding public safety. Combining these functions into one agency, under a single piece of legislation, would address these issues.

In NSW, the exhibition of all animals is regulated by the NSW Department of Primary Industries' Animal Welfare Unit under the *Exhibited Animals Protection Act 1986*. The Act regulates the exhibition of all vertebrate animals, irrespective of whether they are native or exotic. The Act falls within the portfolio of the Minister for Primary Industries, with the Director-General of the NSW Department of Primary Industries as the licensing authority. The standard of animal exhibits and the facilities provided by the exhibitors are required to meet a high standard of husbandry and presentation. Operators of zoos and fauna parks are required to hold an animal display establishment licence.

Specific legislation should be supported by minimum standards for all exhibited animals in Queensland. Currently, standards exist only for native species. The absence of comprehensive standards linked to legislation has been an impediment to the management of exhibited exotic animals. It is desirable to see comprehensive standards introduced for exotic animals so that there is greater legislative ability to deal with any sub-standard establishments.

The legislation needs to cover all exhibited animals, including the entertainment industry where animals are used or displayed. This would capture circuses, magicians, movie and television production, and oceanariums. The keeping of animals for research purpose is a separate issue and is referred to in Chapter 10 of this Report.

Consolidating this function in the primary industries portfolio would give that portfolio responsibility for the related areas of animal welfare, biosecurity and regulation of exhibited animals.

However, it is essential that EPA retains a role in critical aspects of the management of certain native wildlife. Unlike other captive wildlife, threatened species are only considered for captive breeding, or keeping, if it is identified that for the conservation of the species an external group, such as a zoo, can provide a clear benefit for conservation of the species in the wild. Objectives of research and education alone are not sufficient justification for taking threatened species from the wild for captive use (i.e., for display).

Taking threatened species from the wild for commercial purposes is not allowed under the *Nature Conservation (Wildlife Management) Regulation 2006*. Captive breeding agreements for threatened species are also a requirement under the NCA. Recovery planning, conservation planning and other management plans direct activities necessary for the recovery of threatened species. This is the responsibility of the EPA who is

responsible for co-ordinating threatened species recovery planning, monitoring and implementation.

EPA also needs to retain specific responsibilities for 'special least concern' wildlife (e.g., koalas, echidnas, platypuses).

To achieve this, EPA would also need to retain powers of entry and inspection in relation to exhibited native animals and zoo records (including breeding and movement records), and have investigative powers including the right to require answers to questions and make copies of relevant documents.

Recommendation 26

It is recommended that the responsibility for regulating the use of animals for exhibition or entertainment be vested in the primary industries portfolio by 28 February 2007 and that Drafting Instructions be prepared for Cabinet consideration by 31 October 2007 to:

- enact a single piece of legislation dealing with the keeping of animals (exotic and native) for exhibition or entertainment purposes
- replace relevant provisions currently in the *Land Protection (Pest and Stock Route Management) Act 2002*, and
- amend the *Nature Conservation Act 1992* and the *Nature Conservation (Administration) Regulation 2006* to remove the requirements dealing with the keeping of native animals for display purposes, with the EPA retaining responsibility for threatened species and 'special least concern' animals (e.g., koalas, echidnas, platypuses), including the taking of such animals from the wild, and captive breeding arrangements.

Recommendation 27

It is recommended that any staffing and other resources associated with this function be transferred from NRW and EPA to DPI&F by 28 February 2007.

10 Other Issues

10.1 Science

All three agencies play important roles in the science arena.

NRMW is responsible for key natural resource management issues. In particular, NRMW simulates and predicts natural resource processes and productivity, and the consequences of human intervention at systems, regional, and catchment level. NRMW reports on the condition, trend and use of the State's natural and mineral resources.

This knowledge provides information to assist NRMW in managing land, water, vegetation, minerals, petroleum and extractive material and preservation of indigenous cultural heritage. NRMW is lead agency for climate change and adaptation including policy work, and climate change science and modelling for use by the three agencies.

The DPI&F *Research and Development Strategy (2005)* outlines the key research directions for that agency. This includes research in the areas of animal industries, biotechnology, fisheries and aquaculture, food technology, forestry, intensive livestock and plant industries (including horticulture and field crops). DPI&F's role in climate science is production-focussed, and provides objective tools for the evaluation of management options in agronomic, economic and environmental terms.

EPA conducts scientific monitoring, modelling and assessment of environmental conditions and trends in a variety of areas, including air quality, water quality, coastal waves, tides and biodiversity. EPA provides scientific advice and assessments on pollutants, greenhouse gas emissions and climate change. EPA's Herbarium maps the State's vegetation, regional ecosystems and wetlands, as well as maintaining, to international standards, the government's herbarium of 700,000 specimens. EPA develops and maintains environmental information systems and provides comprehensive public environmental reporting, including Queensland's State of the Environment Reports (SoE) and *SoE Online*.

The Chief Scientist (and the Office of the Chief Scientist) in DSDTI develops the whole-of-government research and development priorities, in collaboration with research areas of government agencies.

The review did not identify any major areas of overlap in the scientific roles performed by the agencies, although there is scope for stronger collaboration. The co-location of many of NRMW and DPI&F science functions at the Boggo Road Science Precinct will positively benefit collaboration between the agencies.

The Chief Scientist has identified the need for greater collaboration in science work, which will be given greater prominence in future agency Research and Development Plans. The Chief Scientist is also looking at mechanisms to ensure the physical co-location of the sciences at the Boggo Road Science Precinct will resulting greatly enhanced collaboration in areas of common interest.

The Review also notes that the Premier has announced, as part of the 2006 Election Commitments, that a Queensland Climate Change Centre of Excellence is to be established. This Centre will harness the scientific knowledge and expertise of officers from NRMW, DPI&F and EPA.

10.2 Animal Research Permits

DPI&F has responsibility for animal welfare covering all animals kept for research purposes under the provisions of the *Animal Care and Protection Act 2001*. This Act ensures that the use of animals for scientific purposes is accountable, open and responsible. It requires a person using an animal for scientific purposes to comply with the 'scientific use code'. This code means the most recent edition or revision of the *Australian Code of Practice for the Care and Use of Animals for Scientific Purposes*, published by, or for, the National Health and Medical Research Council. It provides for, among other things, the establishment of an animal ethics committee to monitor the welfare of the research animal.

NRMW currently has responsibility for issuing permits for the keeping of exotic animals or declared pests for research purposes under the provisions of the Land Protection Act, while EPA currently has responsibility for the issuing of licences for the keeping of native animals for research purposes under the provisions of the NCA.

Due to these arrangements, there may be two or three agencies involved in the regulation of animals used in research. Although this is not a major issue from the agencies' perspectives, there is scope to improve service delivery by streamlining the approval processes.

Although NSW has passed specific animal research legislation to deal with animal research issues, and to complement the *Exhibited Animals Protection Act 1986* (see Chapter 9 of this Report), the issues in Queensland are not of such significance to warrant a separate Act of Parliament. DPI&F are adequately addressing the animal welfare needs, but there needs to be a single point of contact in government to deal with these issues. This would mean that the DPI&F application form would also address the need to obtain permission to keep the animal, regardless of whether it is a native or an exotic pest[15].

Recommendation 28
It is recommended that the Directors-General of NRW, DPI&F and EPA develop a single application form for animal research by 28 February 2007, with the form to be a DPI&F controlled form.

10.3 Intensive Livestock Management

There are three intensive animal industries regulated under the EP Act – cattle feedlots, piggeries and poultry farming.

The environmental regulation of poultry farming is devolved to local government to administer. By devolving the regulation of an activity, the EPA ceases to have the role of the administering authority under the EP Act.

DPI&F currently has responsibility for the environmental monitoring of cattle feedlots and piggeries under delegation from the EPA under the EP Act. This has been in place since the commencement of the EP Act in 1995. There is an MOU regarding intensive animal industries between DPI&F and EPA.

[15] Under Recommendation 6, the responsibility for all pest management would transfer to DPI&F, further streamlining the processes for animal research permits.

These arrangements do not provide for a clear separation of the industry development function from the environmental regulation function as occurs in other industry sectors.

However, the EPA, DPI&F and stakeholders believe the current delegation of the environmental regulation of intensive livestock activities is working well, particularly given DPI&F's expertise in other aspects of cattle feedlots and piggeries. It is important to note that the role is performed under delegation from the EPA, who therefore retain overall accountability for the performance of this function. EPA provides targetted training to DPI&F staff to become authorised officers under the EP Act and provides other assistance on request. As such, the review does not propose to make any changes to these arrangements.

11 Implementation

Governance arrangements will need to put in place to ensure the proper implementation of the recommendations in this report. This will involve the establishment of an Implementation Steering Committee and the submission of progress reports on implementation.

There are a number of recommendations in this report that involve changing departmental responsibilities, i.e.:

- the transfer of the *WaterWise* initiative, water recycling, and associated policy from EPA to NRW
- the establishment of the Queensland Biosecurity Agency in the primary industries portfolio
- the transfer of responsibility for the environmental regulation of SAA mines from DME to EPA, and
- the amalgamation of responsibility for zoo management in the primary industries portfolio.

The above recommendations will require the negotiation of resource transfers between the relevant Directors-General. This will be of most significance in establishing the Queensland Biosecurity Agency, which will require significant resource transfers from NRW and within the primary industries portfolio.

With the exception of the transfer of responsibility for the environmental regulation of SAA mines, the review's recommendations are budget-neutral on a whole-of-government basis. The transfer of responsibility for the environmental regulation of SAA mines from DME to EPA will potentially involve additional resources as the transfer also potentially involves changes to the regulatory regime under which the SAA mines operate. As indicated in section 4.1, the environmental conditions in the SAA Acts are generally minimal and reflect the requirements at the time the agreements were negotiated. As such, the resources devoted by NRMW to this role would be low compared to those required to properly administer the environmental regulation of mining under the EP Act. The resources for this change will need to be considered by EPA and, if necessary, supplementary funds sought from government.

The implementation of the report's recommendations will result in the improved efficiency and effectiveness of service delivery in a number of areas, as well as an improved community understanding of agency roles. The benefits will be most pronounced in the areas of water management, biosecurity / pest management, the environmental regulation of mining, the various development issues identified in this report, and in the regulation of the keeping of animals for display or entertainment (e.g., zoos). While it is expected that these benefits will be significant in these areas, it would be difficult to quantify the benefits in dollar terms.

The SDPC will assess the benefits of the implementation of the recommendations in a subsequent review, to be undertaken at the end of 2007.

Recommendation 29

It is recommended that the Directors-General of NRW, DPI&F, EPA and DME immediately establish an Implementation Steering Committee including senior executive

representatives from the three agencies, with an SDPC nominee to attend as required, to oversee the implementation of the review's recommendations.

Recommendation 30

It is recommended that the Directors-General of NRW, DPI&F, EPA and DME provide a six month progress report to Cabinet on the implementation of the recommendations by 31 May 2007.

Recommendation 31

It is recommended that the Chairman, SDPC review the implementation of the review's recommendations by 31 December 2007.

Appendix 1: Stakeholder Consultation

Stakeholder Submission Invited	Meeting	Written Submission Received
Agforce	✓	✓
APPEA - Qld		
Australian Forest Growers Association		✓
Australian Industry Group	✓	
Australian Meat Industry Group		
Australian Mines and Metals Association		
Australian Pipeline Association		
Australian Regional Association of Zoological Parks & Aquaria (Qld)		✓
Australian Sugar Milling Council		✓
Australian Water Association (Qld)	✓	✓
Canegrowers		
Cement Concrete & Aggregates Australia	✓	✓
Commerce Queensland		
Council of Mayors (Qld)		
Extractive Industry Association – QCCI		
Great Barrier Reef Marine Park Authority	✓	
Growcom	✓	
Institute of Public Works Engineering Australia		✓
Institute of Quarrying		
Institute of Surveyors		
Local Government Association of Queensland	✓	
Meat and Livestock Association		
Moreton Bay Waterways Partnership		✓
North Qld Miners Association		✓
Nursery & Garden Industry of Qld		
Planning Institute of Australia		
Property Council of Australia		
Qld Conservation Council	✓	
Qld Dairyfarmers		
Qld Farmers Federation	✓	
Qld Major Gas Users Group		

Stakeholder Submission Invited	Meeting	Written Submission Received
Qld Resources Council	✓	✓
Qld Seafood Industry Association	✓	
Qld Tourism Industry Council		
Queensland Irrigators Council		
Queensland Water Directorate		✓
Real Estate Institute of Qld		
Regional NRM Groups Collective	✓	
RSPCA		
SEQ Water	✓	
Sunfish Qld Inc		✓
SunWater		✓
Sustainable Minerals Institute		✓
Timber Industry Limited	✓	
Urban Development Institute of Australia	✓	

Note: The Review Team also met with the Central Queensland Local Government Association.

Appendix 2: Summary of Review Terms of Reference (May 2006)

Background

The role of the Service Delivery and Performance Commission (SDPC) is, in partnership with government agencies, to review and identify possible cost savings, and efficiencies in Queensland Government agencies.

The Review of the Role of the Department of Natural Resources, Mines and Water; the Environmental Protection Agency and the Department of Primary Industries and Fisheries (NRMW, EPA & DPI&F respectively) will focus on the roles, responsibilities and accountabilities of these three agencies with a view to examining any duplication or overlap.

Preliminary information suggests that there is some scope for role clarification and rationalisation of services between these three agencies. This will include an examination of legislation and regulation pertaining to each agency.

Objectives and Outcomes

The objectives of this review will be, in consultation with each agency to:

- analyse in each agency:
  - organisational arrangements
  - future developments and directions, and
  - outputs, outcomes
- identify in each agency:
  - overlap or duplication in primary and subordinate legislation between and among the three agencies
  - functional areas, roles and responsibilities where there is no overlap or duplication between or among the three agencies, and
  - functional areas, roles and responsibilities where there is overlap or duplication between or among the three agencies.

In addressing the above objectives, the SDPC will produce the following outputs:

- a summary of identified areas of overlap and duplication between and among the agencies
- a summary of identified areas where there is no overlap and duplication between and among the agencies
- an evaluation of areas of overlap and duplication between the agencies identified, and
- recommendations to improve efficiency and effectiveness in delivering Government services.

These outcomes support the objectives of Section 5 of the *Service Delivery and Performance Commission Act 2005* and the Queensland Government priority of *Delivering Responsive Government* by:

- strengthening government policy development and implementation to focus on future policy challenges, and
- supporting a responsive public sector, focussed on improving government service delivery.

Scope

This review encompasses all areas of responsibility, accountability and service delivery of the Department of Natural Resources, Mines and Water, the Environmental Protection Agency and the Department of Primary Industries and Fisheries.

Initiatives within the current Shared Services Initiative are considered to be outside the scope of this review. However, where the linkages from each agency to the Shared Service Initiative become relevant, they will be included as being within the scope of the review.

Similarly, statutory bodies associated with each agency are considered to be outside the scope of this review. However, where the linkages from each agency to the statutory bodies become relevant they will be included as being within the scope of the review.

Methodology

The following six stage methodology will be used:

Stage 1 Initial Information Gathering

- analyse relevant written information to identify the functions of each agency and the outputs and outcomes sought to be achieved
- establish a Steering Committee comprising the Chair, SDPC and Directors-General of each of the three agencies
- request appointment of a Senior Executive level liaison officer in each agency
- request that an officer from each agency at AO8 level or above be made available to work full time as review team members, and
- develop a communication strategy.

Stage 2 Detailed Information Gathering

- identify relevant federal, State and local government legislation
- consultation with key stakeholders, and
- where appropriate, research key directions and issues in other jurisdictions.

Stage 3 Detailed Analysis

- Analyse summaries of written information and consultations for key issues, and
- Prepare conclusions.

Stage 4 Development of Advice

- Prepare advice / recommendations.

Stage 5 Report Development

- Write draft final report for consideration by the Chair, SDPC.

Stage 6 Report Consideration

- After endorsement by the Chair, SDPC, submit to the SDPC Commissioners for consideration.

Timeframes

This review will commence on 29 May 2006 with a report being delivered to the Chair, the SDPC by 31 August 2006.

Reporting Relationships

The Review Director will report regularly to the Executive Director, SDPC concerning all aspects of this review. Other briefings will be provided to the Chair, SDPC as required.

Communication Management

The communications strategy will include:

- regular communication during the review with the Executive Director, and the Chair, SDPC as appropriate
- preparation of information on the review - e. g., for the SDPC website and for departmental correspondence
- preparation and circulation of a letter from the Chair, SDPC to identified stakeholders informing them of the review and a request for participation in the process
- information sessions by the Chair, SDPC and senior SDPC staff when requested and / or as indicated with departments and agencies, and
- consultation sessions with identified stakeholders.

Risk Assessment & Management

The Review Team has identified a number of risks applicable to each stage of the review. Accordingly, strategies have been developed to mitigate and treat these risks if they were to occur.

Review Appraisal

It is proposed that the review will be successful if the above objectives are achieved, and recommendations to the SDPC are endorsed for submission to the Premier.

Review Team

The members of the review team were:

- Tony Hayes, Executive Director, SDPC
- Paul Sheehy, Director, SDPC
- Christian McClelland, A/Principal Review Officer, SDPC
- Nicole Buchanski, Director, Office of the Director-General, EPA
- Susan McNulty, Director, Policy Co-ordination, Office of the Director-General, NRMW
- Steve Turner, General Manager, Strategy and Performance, DPI&F

- Ken Davis, Director, Executive and Administration Services, NRMW (from 12 June 2006)
- Paul Roff, Manager, Strategic and Legal Policy, EPA (from 10 July 2006), and
- Warren Edwards, Contractor, DPI&F (from 24 July 2006).

Appendix 3: Examples of Positive Collaboration

Single Register of Land Tenure

NRMW's land registry comprises a number of registers relating to land (and water allocations) in Queensland. The land registry provides the point of truth (definitive source) for tenure, ownership and other interests in land. Currently, however, there is no single point of reference for tenure and ownership details covering all land parcels within the State. The registry excludes unallocated state land, lands vested in a number of government agencies, protected area estates, forest estates and Commonwealth owned land that is yet to be made freehold tenure. There is no readily available public access to information for these excluded areas, as relevant details are recorded in various electronic and manual systems across government agencies.

Of particular interest to the review is the current exclusion from the registry of protected area estates and forest estates administered by EPA. This exclusion is being addressed under a project, known as the Land Register Project, being undertaken by NRMW.

The Land Register Project will consolidate relevant information on all land parcels in the State into a single database, namely, the Automated Titles System (ATS). The ATS is a major Queensland Government system that contains the electronic registers maintained in the land registry. This project will allow ATS to provide the single publicly-searchable point of truth for tenure, ownership and other interests for all land in Queensland. Consultations have been undertaken with all relevant agencies, including EPA, to achieve this goal.

EPA's protected area estates include national parks, conservation parks, resource reserves, forestry reserves, and forests estates (include State forests and timber reserves). Senior land registry officers have negotiated with senior EPA officers to integrate these areas into the land registry (ATS) through an expanded data share arrangement between EPA and NRMW. The data share agreement will provide details of EPA's protected areas and forest estates to the ATS, allow EPA access to the land registry on a limited scale, and subsequently allow land tenure changes to be updated online. Recent amendments to the *Land Title Act 1994* now allow NRMW to enter into such data share agreements with EPA and other relevant agencies with respect to the land registry. An MOU is currently being drafted to effectively implement the data share agreement between NRMW and EPA, and to streamline arrangements for data maintenance and the ongoing update of data sets.

There are minimal resource implications for EPA under the proposed arrangements. EPA will retain policy and management roles, responsibilities and accountabilities for its respective areas. EPA will benefit from free access to NRMW's data sets allowing for process efficiencies, while NRMW will benefit from improved access to EPA's contaminated land register, cultural heritage list and various survey related plans.

The finalisation of the Land Register Project will result in the ATS providing the single *point of truth* for information on all land in Queensland. All stakeholders stand to benefit from ATS's search capability, enabling public searches of tenure, ownership and other details for every parcel of land in the state.

The project is due to be completed in November 2006 and is a good example of cross-agency collaboration to achieve improvement in electronic records and information provision.

Data Sharing

Both government and industry stakeholders for the review have raised the issues of data sharing and access to data as areas for improvement. In particular, issues have been raised around external stakeholders' access to government data, the timeliness of data provision, agencies' willingness to share data, the complexity of data share arrangements and, to a lesser extent, the fees associated with data access.

Currently, NRMW, EPA and DPI&F each have data share licences or agreements with other government agencies and industry. Across government, several initiatives have also been undertaken to improve access to data and information for particular user groups. For example, the Integrated Justice Information System has been established to allow the justice cluster of State Government to share information relating to police, corrective services, families and justice. Another example is the Smart eDA (Smart eDevelopment Assessment) system, which is being developed to bring the integrated development application system online for external and government stakeholders.

However, senior officers from the three review agencies and several individual industry bodies stressed the need for easier, more central access to comprehensive sets of government information. Senior officers stated that there is increasing demand from both within and outside the Queensland Government for more accessible, integrated and interactive government information. In particular, the current Information Queensland (IQ) initiative was supported and nominated as a key mechanism to allow this to occur.

IQ is a Smart State initiative to develop an internet-based 'one-stop-shop' for Queensland Government information. It is a four-year whole-of-government program, led by NRMW, but jointly sponsored by Queensland Treasury and the Department of Public Works. IQ was announced as an election commitment in February 2004, with funding from the Smart State Building Fund.

At present, a large amount of Government information is not readily available to the public, industry, or to other agencies and stakeholders, beyond the information custodians. IQ will allow stakeholders easier access to government data from one portal, and make accessing government information more efficient and cost effective. As such, the IQ program involves the review and realignment of governance arrangements surrounding data custodianship, shared processes, shared technology infrastructure and use of information between agencies. The development of an integrated model for whole-of-government information management, access and use will reduce the need for agencies to individually provide the necessary infrastructure and processes to deliver information.

The initial focus of IQ is on delivering the vast quantities of freely available data, currently made available on individual agency sites, or within business systems. In the future however, the public will be able to connect to an ever increasing supply of demographics, economic and social statistics, satellite imagery and property and land information.

IQ currently has 52 data sets online and launched an Online Atlas in March 2005. It is anticipated that IQ will expand on its existing capacity over the next 6-8 months, with a completion date of 2008. Once complete, IQ will provide central portal access to government information which will address a range of data sharing issues raised in the Review consultations.

Appendix 4: Options for Biosecurity / Pest Management

Option 1: Strengthen the current IPMC arrangements and give it a clear direction to develop a protocol for determining who should be responsible for new and gap pests.

The key features of this option are:

- A full time governance and liaison function would be established. This option builds on the collaborative IPMC model now existing by providing that committee with a full-time support group (e.g., 5 staff) to support the work of the committee and ensure objectives are achieved. The IPMC, as now, to comprise senior representatives of the relevant agencies and to be based on collaboration and co-ordination. Support group to be a part of the establishment of one of the agencies
- IPMC to develop a framework or protocol agreed by all the members, on dealing with new or gap pests (e.g., decisions on actual or potential pest incursions that impinge on the business interests of two or more of the key response agencies)
- A whole-of-government Biosecurity Strategy would be developed, including updating all relevant legislation
- Cabinet-endorsed funding arrangements would apply, and
- Feasibility of an emergency response reserve workforce to be examined – this would comprise specialist contractors, consultants and former staff providing an on-call capacity.

Strengths:

- Builds on work already achieved, but with added resourcing and focus
- Avoids structural changes, leaving existing pest management responsibilities intact
- Would complement, rather than replace, existing pest response processes (e.g., current arrangements dealing with pests which impinge solely on agriculture would continue to be dealt with by DPI&F)
- Promotes a consistent approach through agreed processes without requiring changes to legislative responsibilities or service delivery, and
- Provides a first point of call for the public on who does what in biosecurity across government.

Weaknesses:

- The collaborative IPMC model has not been successful to date with significant agency and stakeholder concerns raised
- Government remains exposed to risk of inadequate preparedness for incursions
- Issue of determining lead agency accountability for specific pest incursions remains problematic
- Requires some additional resourcing to support the governance functions of the IPMC and co-ordination between agencies
- Would not address lack of industry and community understanding of the roles operating within the model

- Does not address the need for joined-up capacity on research, planning, surveillance and response expressed by industry
- Risk of sub-optimisation and duplication of effort would remain between agencies
- Potential for multiple points of contact for some issues remains, and
- Requires an agreed funding framework for it to successfully operate.

Option 2: Centralise all incursion management in DPI&F with responsibility for established pests retained in existing agencies.

The key features of this option are:

- In this model, DPI&F has responsibility for all new incursion responses across the full pest and disease spectrum in Queensland, excluding Queensland Health responsibilities
- Need to establish an agreed incursion management framework which clearly identifies at what point incursions become endemic containment issues to be managed by appropriate agencies
- Responsibility for management of existing pests and diseases (e.g., rubber vine, locusts) remains as per existing responsibilities
- Agencies retain their existing surveillance, science and pest containment capacities
- NRMW and EPA existing response capacity to be transferred to DPI&F
- A whole-of-government Biosecurity Strategy would be developed, including updating all relevant legislation
- Cabinet-endorsed funding arrangements would apply, and
- Feasibility of an emergency response reserve workforce to be examined – this would comprise specialist contractors, consultants and former staff providing an on-call capacity.

Strengths:

- Identifiable immediate response capacity for Queensland
- Clear responsibility for incursions and for communications in emergencies
- Minimal structural change and disruption, and
- The emergency response phase will be managed consistently by an agency with a critical mass of officers who are trained in the emergency management techniques required.

Weaknesses:

- Still are multiple points of contact for pest management (except incursions)
- Would disconnect prevention from management of established pests for weeds and pest animals within NRMW
- Biosecurity is far broader than emergency response (e.g., requires surveillance, diagnostics, regulation, and public awareness on prevention); there are many synergies between ongoing management of pests and response to emergency pests
- This proposal would require DPI&F to handle new incursions, but deny it the related benefits of handling biosecurity in established weeds and pests of interest

- The transition from an emergency response to a long-term control project would need to be managed, with the issue of where funds are drawn from influencing the transition process
- This proposal does not offer any benefits in the way of efficiencies – it may require an increase in DPI&F resourcing, and
- Requires an agreed funding framework for it to successfully operate.

Option 3: Establish a Queensland Biosecurity Agency in the primary industries portfolio to be overseen by a Board of Management. All biosecurity including ongoing pest management, policy, planning, preparedness, surveillance, science and response capacity would be centralised within the Agency.

The key features of this option are:

- The model includes all pests, diseases and weeds, and the management of invasive species once they have become established, as well as emergency response
- The responsibility for ensuring pest management on lands they manage remains with responsible agencies (e.g., EPA for national parks)
- The Board of Management for the Queensland Biosecurity Agency would include Chief Executive level representation from DPI&F (Chair), NRMW, EPA and the Biosecurity Agency – with other agencies such as DLGPSR, Emergency Services, Queensland Health, Transport, DPC and Queensland Treasury participating as required. The Board would oversee the strategic direction and performance of the Agency
- The Agency would report to the Minister for Primary Industries and Fisheries through the Director-General, DPI&F
- DPI&F would:
  - establish a legislative and strategic planning framework for biosecurity consistent with national planning
  - undertake planning and risk assessment for incursions and lead immediate response strategies
  - manage preparedness and exercises for preparedness
  - represent Queensland for biosecurity incursion related issues at the national level (e.g., AusBIOSEC; plague locust committee; AQIS; Plant Health Australia; Animal Health Australia)
  - be the only point of contact for biosecurity incursions and emergencies in Queensland with close links with Health, Emergency Services, Police and other related Queensland emergency and terrorist response groups, and
  - ensure necessary research to support biosecurity.
- Requires the transfer of significant staff and resources to DPI&F from NRMW and, to a lesser extent, EPA. For NRMW this would mean the transfer of:
  - up to 140 FTEs (including Land Protection Officers who may have a stock route role in addition to a pest management role)
  - budget of approximately $15 million (including annual payments from local government), plus $3 million for the *Blueprint for the Bush* pest offensive, and
  - three science and research facilities located in five locations across the State.
- Responsibility for pest management functions under the Land Protection Act moves to DPI&F. The stock route aspects of this Act would need to remain with NRMW.

- Cabinet-endorsed funding arrangements would apply, and
- Feasibility of an emergency response reserve workforce to be examined – this would comprise specialist contractors, consultants and former staff providing an on-call capacity.

Strengths:

- Provides single point accountability for all biosecurity outcomes across the State and a single point for national co-ordination
- Addresses industry and community understanding of biosecurity roles
- Clearly badged and identifiable immediate response capacity for Queensland and for communications in emergencies
- Clear responsibility for current gaps in pest management responsibilities
- Addresses the need for joined-up capacity on research, planning and surveillance expressed by industry
- A larger resource and expertise base resulting from having all capacities within one agency provides greater resource flexibility, enabling emergency response while maintaining ability to deliver ongoing business
- Risk of sub-optimisation and duplication of effort is eliminated
- Integrates biosecurity science and surveillance effort, and science facilities, which provides a platform for maximising new science applicable to surveillance activity, and
- Builds on DPI&F's existing preparedness, surveillance, research and response capacity in biosecurity.

Weaknesses:

- Involves a transfer of resources from NRMW and EPA to DPI&F
- Involves a transfer of resources from within DPI&F to the Queensland Biosecurity Agency
- There is risk that the biosecurity focus could be biased toward production impacts over land and environment issues
- Connectivity with local government and natural resource management groups would need to be assured, and
- NRMW loses the ability to integrate pest management activities with those relating to other parts of the business such as leasehold land management, vegetation management and stock routes.

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QUEENSLAND GOVERNMENT

DEPARTMENT OF MINES AND ENERGY

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25 June 1999

[redacted]
Minter Ellison
PO BOX 7844
Waterfront Place 4001

Dear [redacted]

I refer to your letter of 15 March 1999 and advise that the security deposits lodged on the Mount Oxide leases is in fact the amount of $49000 lodged as a single Bank Guarantee (National Australia Bank Limited) over mining leases 5406, 5408, 5409, 5411, 5422, 5423, 5425, 5458, 5547 and 5558. The guarantee does not mention the actual break down of the amounts per mining lease.

The Mount Oxide mine presents DME a major rehabilitation task — the former stockpiled ore that has been subject to heap leaching is a major problem that must be addressed together with the maintenance and construction of silt traps around the existing mullock heaps to reduce the amount of mineralised material entering the adjacent water courses.

The estimated cost of the minimum amount of rehabilitation required for this site exceeds $200000, which is far greater than the $49000 bond held.

In considering your proposal for surrender of the Mining Leases, we have taken into account that the majority of mining on these leases was carried out around 1970 and that the procedures used more than likely met the requirements of that time. The Department proposes in this particular case to accept the surrender of the leases after applying the amount of Bank Guarantee to reducing the possible environmental harm from the site.

Yours sincerely

[redacted]

Acting Executive Director
Resource Development Division

DME DEVELOPMENT DIV
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Mount Oxide Briefing Paper

Purpose
This briefing paper provides background information to Northern Region Mining Support Unit officers of the Department of Natural Resources and Mines attending the Mt Oxide field trip and meeting planned for Mt Isa on 6-7 June 2001.

Location
Mount Oxide abandoned minesite is located 158 km by road north of Mount Isa. Take the Western Metals' Mt Gordon/Gunpowder turn-off on the Barkly Highway 44km out from Mt Isa towards Camooweal. Progress through the Mt Gordon security check a further 82 km out. Turn right at the small Mt Oxide sign along a further 3.8 km. Follow the track across Gunpowder Creek. (If creek is flowing strongly reroute to Mt Gordon administration office for alternate route through Mt Gordon Operations area.) Turn right toward Mt Oxide. Continue a further 6.5 km past the old airstrip on the right.

Site History
Mount Oxide was discovered by Ernest Henry in 1882, but little production took place until the 1920s, mainly because of the very remote location. The main mining periods were 1927 to 1943 and 1955 to 1960, when the higher grade ore was worked by underground methods with access via an adit, and 1967 to 1971, when the lower grade envelope and remnants of high-grade ore were bulk mined in an open cut. Underground mining produced 79,000 t of ore (15.9% Cu) for a yield of 12,500 t of copper, and some 355,000 t of ore averaging 2.5% Cu were treated at the Gunpowder concentration plant in 1970/71. Leaching and precipitation operations in the 1962 to 1965 and 1978 to 1982 periods yielded an additional 1,369 t of copper.
The Mount Oxide and Mammoth (Gunpowder) copper mines were purchased by Adelaide Brighton Limited in 1989-90. A wholly owned subsidiary, Gunpowder Copper Limited, was established to oversee redevelopment including rehabilitation of both mines (Trezise 1995).
Legal issues were raised over the extent and responsibility for rehabilitation liability. Subsequently, the Mount Oxide mining leases were accepted for surrender. DME was left holding $49,000 as a security deposit despite rehabilitation estimates ranging from $400,000 to in excess of $2m depending upon the level of remediation activities undertaken.
In May 1995 DEH provided written opinion that water quality at Mount Oxide will be shown to be a significant issue necessitating urgent works to prevent further water pollution with regard to low pH and elevated heavy metal levels.
In July 1996 Minister Tom Gilmore had concluded that the Mount Oxide site needs to be rehabilitated to an acceptable level to ensure that the potential for contamination of watercourses off lease is minimised.
A number of DME and EPA officers have been on site in recent years. Impacts have been observed to be variable depending on the time of visit, and have at times been noted as minimal. However, impacts following a record 2001 wet season have been more obvious and protracted.

Mineralisation
The widespread occurrence of copper mineralisation in the Mount Oxide region suggests the presence of a large mineralised system associated with the Mount Oxide and Mount Gordon faults. High-grade secondary ore was mined historically to 90m depth. Secondary replacement of pyrite and chalcopyrite by bornite and chalcocite +- covellite is related to supergene enrichment.

Exploration
In 1949, Broken Hill South Ltd took out the first Exploration Permit to cover the oxidised copper deposits at Mount Oxide. Early exploration was slow and difficult because of poor access, rugged topography and extreme surface weathering. Enterprise Exploration Company mapped an area

from Mount Oxide to Mammoth and later covered out reconnaissance over a larger area. The Mount Oxide area has subsequently been investigated by several companies. In 1980 Anaconda Australia Incorporated undertook detailed rock chip sampling of carbonaceous shales of the Gunpowder Creek Formation in the Mount Oxide Syncline, with negative results. In the 1980s Aberfoyle Resources Ltd took out several permits in the Mount Oxide/Mammoth area and exploration led to the delineation of additional copper resources at Mammoth and Esperanza. Perilya Mines NL was granted EPMs 6085 and 6086 in October 1989 which cover copper occurrences at Mount Oxide, Chidna and Big Oxide.

Disturbed Areas

- Disturbed areas have been estimated to comprise 40.4ha. Mining lease areas totalled 216.35ha.
- The pit area has unstable eroding benches to the west - includes carbonaceous slates.
- To the east/south east is a large multi lobed overburden dump. The dump appears to be largely inert with the exception of a mineralised area in the north east.
- To the west/north west of the pit are mullock heaps. Some of these are badly eroding and include erosion towards a sedimentation trap located high above the void, as well as erosion down the drainage slope.
- A smaller overburden dump, of apparently inert material, dams a valley to the south west of the void. Severe erosion is occurring, with movement of materials downstream.
- The old heap leach area is located to the south of the void. Bunding has been breached and erosion of the leach pad into the creek system is occurring. Some of the piping and collection system remain in situe.
- A number of ore dumps occur further south of this area along the access route.
- Scrap iron dumps (for copper precipitation) occur at a number of sites – including, south and north of the leach pad, north east of the void, and south west of the void.
- Cementation (copper precipitation) tanks and associated infrastructure occur to the north east of the void, to the south east and to the west.
- Asbestos water piping and pump footings occur to the north east of the void where they lead from a small dam near the caves to a water tank on the treed ridge above the void; similar piping and footings occur in the valley to the west of the south west dump.
- Miscellaneous drums, piping, old machinery, general waste and evidence of human habitation are found on parts of the disturbed areas.
- A number of small water holding structures and sedimentation traps are found on the site.
- Historic and culturally significant disturbances are documented separately on file.

Site Drainage

Tributaries of Caves Creek drain the site. These lead to Gunpowder Creek as part of the Leichardt River catchment.

Impacts

Blue copper solution is detected initially in the Caves Creek tributary some hundreds of metres downstream of the heap leach pad, and appears to be travelling to this spot through gravel beds in the creek system. Above this confluence water upstream to the south west, in the caravan park branch of the creek, when present, is of acceptable quality. Downstream copper is quickly precipitated and also forms frothy effloresences. Within several kilometres water quality has returned to acceptable parameters – but no doubt this would be influenced by the flow regimes operating in the various tributaries at the time of sampling. While limited salting was observed at the next major confluence downstream (estimate 4km) in February 2001, considerable fine salting over the river rocks was apparent during May 2001. And while the downstream creek initially appeared pristine, by May 2001, algal mats in ephemeral holes, and one blue pond indicated that the ecological health of waters may be compromised further downstream.

The northern arm of Caves Creek below the eastern waste rock dump receives mineralised discharges from one lobe of this dump adjacent to the inadequately small sedimentation pond. This creek stretch has sometimes been described as having a greenish flow and may reflect higher iron levels, as evidenced by iron staining of the creek bed, and test results. Mineralisation/salting is entering the creek via sedimentation pond overflow as well as probably seeping through the natural landform immediately to the north of the pond, as indicated by salting. This arm of the creek joins with the flow below the leach pad at the Chidna road crossing upstream of the wheelwright's platform. Downstream, beaching of precipitates can be observed.

Erosion of materials placed in and adjacent to upstream tributaries of Caves Creek is an issue. This applies to the south west dump and the heap leach pad and associated bunding. The upstream tributaries enter steep gorge country and drain considerable areas. The movement of materials down these creek systems indicate that flows are large and have the power to erode rock dumps, and indicates that the present positioning of these structures is not satisfactory. Valley erosion issues apply to the western waste rock dumps, while rilling and erosion of the eastern rock dumps need to be assessed in relation to final landform stability and design.

Parameters- what's the state of play?
Copper levels in leachate are the significant issue for the site. Pit water copper levels have remained relatively constant over the years at about 600 mg/L copper – pH ~2.5. Lead and zinc appear to not be an issue on site. Cobalt and nickel are low to marginal but may need some consideration. Sulphate and TDS levels have been variable and may reflect stratification in the pit.

February 2001 copper levels in Caves Creek ranged downwards from 59mg/L to acceptable levels, reflecting rapid downstream precipitation. Downstream sludge precipitates recorded 39% elemental copper equivalent. TDS and sulphates were generally acceptable but no doubt evaporative concentration effects would occur in ephemeral holes. pH showed improvement downstream to acceptable levels over several kilometres. Many of these characteristics reflect the nature of the dolomitic basin into which Mount Oxide discharges flow. Nevertheless, visual impacts of the heavily mineralised copper drainage are startling, and precipitation does not prevent downstream transfer of the copper load.

Possible Courses of Action

- The "do nothing" approach is not consistent with responsible environmental management nor best practice environmental management. Furthermore, the Queensland Government could be seen to be negligent in not taking measures to prevent or minimise environmental harm.

- Measures aimed at entrapment and recovery of copper precipitates are not likely to be successful due to unpredictable large volume water flows. Also, the large quantities of eroded waste rock material currently moving down the creek system would complicate recovery.

- Encapsulation of the heap leach pad material in its present location is unlikely to be successful. Unpredictable large volume water flows are likely to challenge the integrity of any such undertakings.

- Inviting local operator Western Metals Copper Limited to remove all low grade ore for processing could prove a viable low cost solution. However, this may be problematic from an area that is no longer a mining lease. Other issues include costs of road maintenance, road safety considerations, and implications of disposal of tailings.

- Relocation of mineralised stockpiles and capping may not be cost efficient and offer the long term solution provided by pit disposal.

- Return of all ore stockpiles, heap leach material and scrap iron stockpiles to the void appears to be the most satisfactory long-term solution. This would include the stockpiles off-mining lease on the southern approach to the site. Reprofiling of the dumps to the west would be necessary. The south western overburden dump may need to be relocated – possibly used to cover the mineralised waste in the pit. The mineralised lobe of the eastern dump would need to be relocated to the pit or reprofiled and sealed. A treatment/neutralisation and release regime may need to be developed for the pit water – possibly using local crushed dolomite or purchased limestone/slaked lime.

The future

The next step should be to quantify the sizes of all dumps which may require relocation, and determine the pit volume. Literature searches so far have failed to provide critical information. This information is necessary for cost estimation and tendering processes and any water treatment regime which may be required. Western Metals Townsville office may be able to assist with this historical information.

Some groundwater monitoring had been undertaken in the past. Far as I recall there was nothing outstanding in the results. However, a better understanding of the hydrology of the area could be developed.

Acknowledgments: Much of the above information was accessed from *Mineral Exploration in the Camooweal 1:250 000 Sheet Area, North-West Queensland* (Queensland Geological Record 1999/3 – Department of Mines and Energy Queensland) by L G Culpeper and T J Denaro.

Submission by [redacted] Spreadborough, Chidna Station,
24 September 2011
Re. Mt Oxide Abandoned Mine

Information for Mr Callahan for the Flood Commission of Enquiry
Re. DERM's role in setting standards for environmental protection and preparedness prior to the wet season 2010/11

A FUNDAMENTAL QUESTION has arisen from the enquiry 22/9/2011;

If DEEDI are self-regulating in their management of Abandoned Mines/Mt Oxide and we are not satisfied with the quality of investigation, planning and works nor the timing, which do not appear to be in line with expectations for an operating mine, then who sets the standard and time frame for environmental protection work at Mt Oxide (and all abandoned mines in QLD)? It is more than a grey area, it is a black hole.

Other questions follow:

QUESTION 1

In light of this response from 7 June 2011 (Letter from Office of the Minister for DERM to us/Georgie Spreadborough) and DEEDI's evidence on 22 Sep to this enquiry we want to know….. how DERM have applied the EPAct (1994) to Mt Oxide in approving and overseeing works undertaken by DEEDI?

Background to support this question:
"DERM says DERM applies the Act and statutory tools"

> In relation to your questions about what regulatory controls DERM has over DEEDI to ensure improvement plans are in place to address the contaminated water issues at Mt Oxide and in relation to abandoned mines in general, DERM administers the *Environmental Protection Act 1994*, which aims at people, including the state. The Act creates a number of statutory tools which are available to DERM. DERM utilises these tools where appropriate, along with other available non statutory measures, to prevent or mitigate environmental harm.

Extracts from Letter from Office of the Minister for DERM 7 June 2011

DEEDI says they are not regulated by DERM or anyone

22/9/2011 From line 38, p3110
Can I ask you, perhaps by taking you to paragraph 23, you say there, "DD's activities are not regulated by any environmental program."?-- That's right. This is relating to Mt Oxide you are talking about?

DEEDI seeks "approval" from DERM

From Line 55, p3110
Which leaves you, does it, in something of a vacuum, but presumably you adopt some sort of standards or principles?-- The way we address that vacuum is two-fold. In the first instance, we work closely with DERM to make sure that they're

aware of what we're planning and have comment on it and happy with the direction we're taking, and the second aspect is that we've convened the expert panel, which has expertise from a broad range of people on the issues that we know exist at the site to again provide broad input into how - to discover what the issues are, how

DEEDI 'recognises' the environmental standards – what does this mean to DERM? Is it adequate for a mining company to simply 'recognise' the standards or should they aim to comply with them?

from line 55 p3111
And so is that the case of abandoned mines across Queensland, that they're effectively self-regulated by you?-- Yes, in collaboration with DERM, and in saying that, we recognise the current environmental standards and we aim to work towards meeting them wherever we can.

QUESTION 2:

On applying equivalent environmental protection standards to a mining company do DERM consider it is satisfactory to apply earthworks on a site containing Acid Mine Drainage generating wastes and a pit which is thought to leak; when there is no clear understanding of how contaminated water reaches the creek?

Ie would DERM consider the following acceptable standards for a mining company to undertaken the following in the absence of good technical data on the source of contamination – where it is coming from and the pathways:

- Attempt to suck contaminated water from a creek
- Undertake earthworks on waste piles to reshape them, and
- Cover dumps with plastic

QUESTION 3:
How do DERM know if DEEDI are making the site better or worse by these measures and provide assurances to us that appropriate standards are being applied?

QUESTION 4:
Are DERM relying (inappropriately) upon the expert panel to do their job ?;

DEEDI convened an expert panel (see above *From Line 55, p3110*) but where is the evidence that the panel have a clearly defined function (terms of reference)? How heavily does DERM rely upon this panel

Where are the Terms of Reference for this panel and the reports produced by them? Why have we, as landholders, been excluded from Expert Panel meetings and why have we not been given any reports which independently review the work undertaken by DEEDI. Where are the independent investigation and monitoring reports which quantify the contaminant load from each source (pit and stockpiles)? If they haven't been done then why weren't they done before money was wasted on earthworks sheets of plastic? On 22/9/2011 DEEDI claim that their work has improved the water quality in the creek? Where is the evidence? Can DERM confirm this is the case? We don't want more opinion, we want technical evidence by independent experts familiar with abandoned mines and AMD to support this claim.

QUESTION 5:
How do DERM approve the program of work undertaken by DEEDI? What evidence is there of the program of work and DERM's approval. We have never seen it.

from Line 21 p 3111
Does that mean that there's no timeline set for you as an acknowledgement of your limited resources?-- There's no timeline set to finally fixing the problem, partly because we don't know how to do that completely. The complexity issues mean that it may not be feasible, that part of the - part of the problem is natural. So, we have got to look at that as well. Each year we get together with DERM - as a matter of fact several times a year - we get together with DERM and we discuss our an annual work program and our work program into the future and we have a conversation about the pace at which the work is going and, I guess, DERM is asking questions to satisfy itself that we're doing as much as we can.

QESTION 6:
Under Recommendation 13 of the Keliher review (2007) it states:

Recommendation 13
It is recommended that the Directors-General of DME and EPA establish a senior executive level inter-departmental management committee by 31 December 2008 to:

- oversee the establishment, amendment and release of financial assurances for mining activities under the *Environmental Protection Act 1994*
- manage the inclusion of new sites in the abandoned mines program, and
- ensure that the technical advice and expertise of EPA and NRMW are applied to managing complex abandoned mine sites.

This committee has not been established four and a half years later. Why is that? As landholders we can see there is insufficient high level support to fix these problems so money is being wasted on what is thought to be a quick fix but in fact is simply wasting money for no gain and wasting our time as well.