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Consultation on Policy Options

Mining and Energy industry impacts on natural resources In the Queensland Murray-Darling Basin

The Queensland Murray-Darling Committee (QMDC) believes development of the Surat and Bowen Basin energy reserves may significantly impact on the natural resource assets of the Queensland Murray-Darling Basin. As well as the potential impact from individual projects, the cumulative impact of all mining and energy sector activities within the Basin must be considered. The QMDC Executive Committee is drafting a policy to provide the basis for a consistent response to mining and energy sector issues within the Basin.

QMDC is not averse to extractive industries if issues surrounding biodiversity, water quality, riverine/wetland impacts, salinity, land use and weeds can be effectively managed, mitigated or preferably avoided.

The QMDC wants its landholder, community and organisational stakeholders to help develop this policy response to mining and energy industry activities in the Queensland Murray-Darling Basin.

A draft is available online at www.qmdc.org.au. Hopefully, when finalised, this document will be used not just by QMDC but also other organisations as the region addresses the potential impacts of the mining and energy sectors on the Basin's natural resources.

The policy will provide a framework for the decision-making, risk management and response to the specific impacts on natural resources. It will ensure a consistent and robust position when working with communities, industry organisations and companies, local government and state government on mining matters.

Please review our first draft policy document and forward your comments and suggestions by the end of August 2009. Liz Todd, Policy and Planning Officer with QMDC, is available to discuss the policy with individuals or groups, or attend meetings at request, to enhance opportunities for meaningful consultation. Further information with regard to QMDC mining policy development is also available on our website (www.qmdc.org.au). This includes mapping undertaken by our organisation to demonstrate exploration activity as at December 2008.

We look forward to your input into a policy addressing the impacts that the mining and energy industry may have on the region's natural resources.

Regards,

Peter Blundell
Chairman
Queensland Murray-Darling Committee Inc

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QMDC Draft Policy Options For Consultation

Mining and energy industry impacts on natural resources in the Queensland Murray-Darling Basin (QMDB)

DRAFT Policy Options for Consultation
14 April 2009

Contents

Contents	1
Policy development strategy	1
Document version control	2
Policy context.....	3
Principles underpinning policy development.....	4
Program logic.....	5
Policy options.....	6
Vegetation and Biodiversity Policy	6
Riverine, Floodplains and Wetlands Policy	8
Associated Water Policy	10
Land and Soils Policy.....	13
Weeds and Pest Policy	14
Aboriginal Interests and Cultural Assets Policy.....	15
Institutional Assets Policy.....	16
Acronyms and definitions.....	18

Policy development strategy

The QMDC Executive Committee has approved a policy development strategy outlining the steps to develop a policy for the impacts of mining and energy industry on the Queensland Murray-Darling Basin's natural resources.

The Objectives:

1. Develop a policy to provide a framework for the decision-making, risk management and response to the specific impacts of the mining and energy industry on the Queensland Murray-Darling Basin's natural resources.
2. Community members and representative organisations of the Queensland Murray-Darling Basin provide direction and input into the region's response to the impacts of mining and energy industry activities.



QMDC Draft Policy Options For Consultation

Document version control

Date	Version
05/03/2009	Preliminary draft: First round of discussions with the QMDC Executive Committee. Direction given to fully develop first draft.
02/04/2009	First draft: Presented to QMDC Executive Committee at St George. Adopted for consultation with modifications.
03/04/2009	First draft: Presented to QMDC Members Meeting at St George.
14/04/2009	First draft with modifications: Consultation with key organisations.

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DRAFT

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Policy context

Southern Queensland is a major producer of energy projects (coal, oil, natural gas, condensate, liquefied petroleum gas and coal seam gas). In the Queensland Murray-Darling Basin energy reserves are significant in the Surat Basin and underlying Bowen Basin. Development of the energy reserves involves coal seam gas extraction, and open cut coal mining and supporting industries.

Development of the Surat and Bowen Basin energy reserves has the potential to impose considerable local and cumulative impacts to the natural resource assets in the Queensland Murray-Darling Basin.

In August 2008, the QMDC Executive Committee supported the view that, “overall QMDC is not adverse to mining activity if the below issues can be effectively managed, mitigated or preferably avoided.”

The items below are identified in the Regional NRM Plan, approved by State and Federal Governments (Joint Steering Committee).

Biodiversity: continued decline in vegetation extent through clearing and the loss of habitat through fragmenting of remnant vegetation.

Water Quality: possible pollution/sedimentation of water ways (rivers, creeks and wetlands) from erosion off mine sites and spoil heaps; leakages and possible overtopping of settling ponds or evaporation ponds.

Riverine/Wetlands: the modification of river and floodplains flows caused by creek, and river diversions and floodplain levy banks diverting flows. This leads to erosion of floodplains and creek bank erosion, and slumping.

Salinity: waste water with high salt content has the potential to be used (irrigation) or leak and damage farming land and creeks, rivers and wetlands.

Land Use: mining that utilises areas of good quality soil (agricultural land) and is not able to be rehabilitated could mean productive farming land is lost forever.

Weeds: weed seed spread from machinery and other vehicles.

A detailed policy position and framework for the Queensland Murray-Darling Basin is needed to respond to existing and emerging issues relating to impacts on natural resources from mining and energy industry activities.

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Principles underpinning policy development

The Regional Natural Resource Management Plan (NRM Plan) 2004 adopted a number of principles underpinning its development. These have been applied to the development of policy options.

- Address causes not symptoms
- Alignment of planning processes
- Consistency with other policies
- Conservation of natural assets
- Sustainable use of natural resources
- Ecologically sustainable development
- Precautionary principle
- Community based process
- Effective engagement of stakeholders
- Continuous development and improvement
- Capacity building to ensure quality of ongoing process
- Best available science
- Objectivity and transparency

Further to this a number of foundational principles form the policy framework.

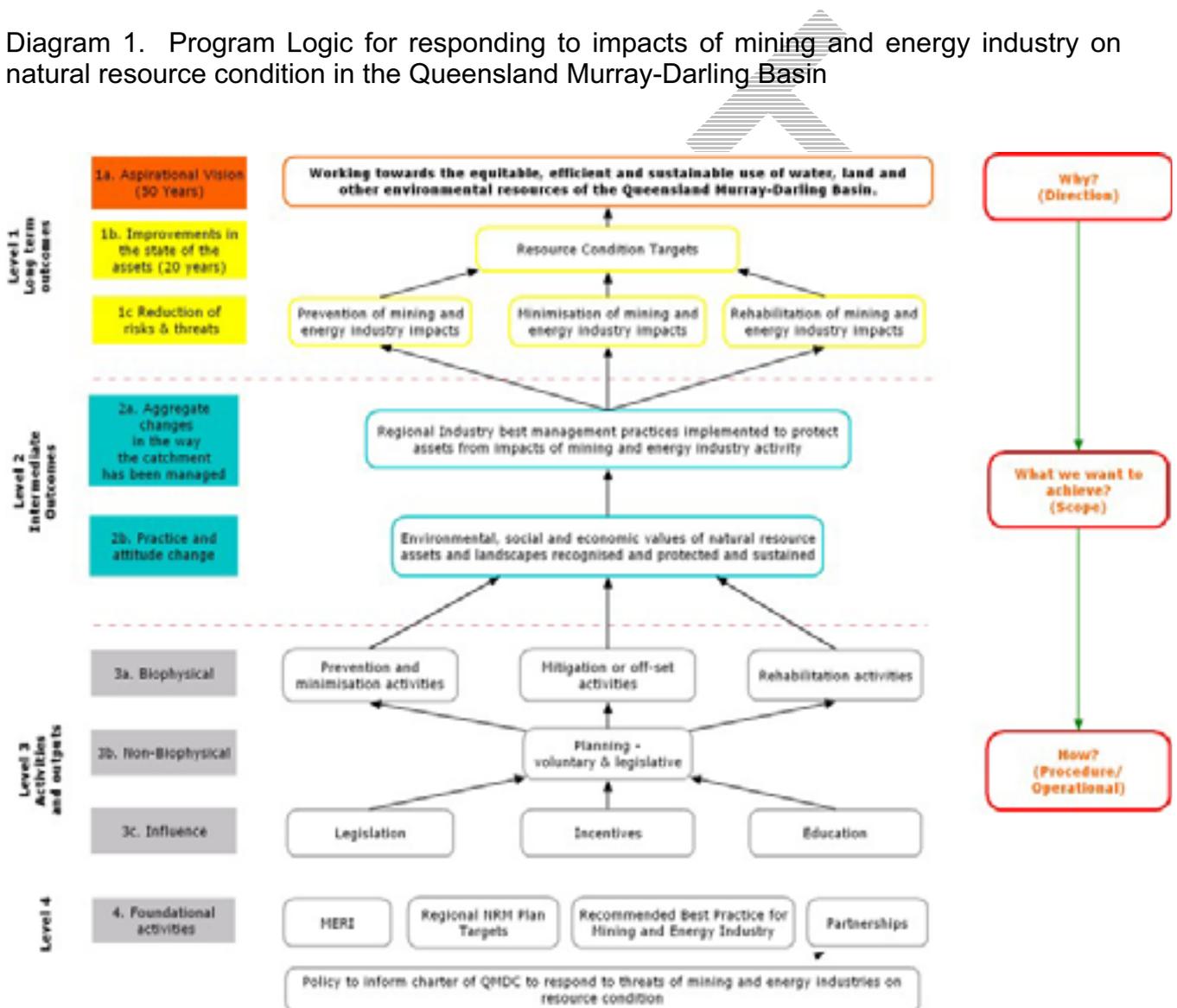
- Impacts on natural resources are prevented from occurring. Where an impact can not be prevented it should be minimised; and rehabilitated to its former value and function.
- Regional NRM Plan Resource Condition Targets provide the baseline of assets and values.
- Cumulative impacts on natural resources are considered and prevented – whereby individual site impacts across multiple sites over multiple years are considered.
- Thresholds are determined for each asset defining the point at which an impact is no longer acceptable.
- Public consultation and disclosure of information, including monitoring data is expected.
- Existing legislation is applied where it adequately protects the assets identified in the Regional NRM Plan.

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Program logic

To clarify the rationale behind the policy options at the strategic and operational levels, a method of program logic was used. The purpose is to understand the cause-and-effect relationships between mining and energy industry activities, intermediate outcomes and ultimate goals.

Diagram 1. Program Logic for responding to impacts of mining and energy industry on natural resource condition in the Queensland Murray-Darling Basin



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Policy options

Recommendation: The following policy options are adopted in response to the impacts on the region's natural resources from mining and energy industry activities at the strategic level (Level 1 of Program Logic, page 5).

Vegetation and Biodiversity Policy

VB 1. The Resource Condition Targets (Regional NRM Plan, revised targets 2006) apply to mining and energy industries; and form the baseline of the cumulative vegetation and biodiversity assets in the Queensland Murray-Darling Basin.

VB RCT1 A minimum of 30 percent native vegetation coverage is managed or conserved to maintain ecological processes and ecosystem linkages at priority catchment scales by 2020.

VB RCT3 By 2020, there is a ten percent increase in area of sustainably managed native vegetation for landscape and biodiversity outcomes through traditional and innovative economic uses, based on representative areas.

VB RCT4 By 2020, the extent of 'endangered' regional ecosystems across catchments with less than 30 percent remnant vegetation will be increased by ten percent of the 2001 mapped extent.

VB RCT5 By 2020, the extent of 'of concern' regional ecosystems across catchments with less than 30 percent remnant vegetation will be increased by ten percent of the 2001 mapped extent.

VB RCT6 By 2010, areas of identified high nature conservation significance are maintained in current condition and improved against Common Nature Conservation Classification System 2003/2004 survey benchmarks.

VB RCT7 By 2020, decline in populations of 'at risk' flora and fauna species in the Maranoa-Balonne and Border Rivers catchments is halted as determined against baseline data.

VB RCT8 By 2020, the biodiversity condition and ecological health of ten percent of the area of native vegetation in priority catchments are maintained or improved as measured against baseline conditions.

VB 2. The cumulative impact from mining and energy industries on landscape functions of native vegetation coverage, ecosystem linkages, ecological processes and biodiversity condition (per VB1) in the Queensland Murray-Darling Basin is prevented.

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VB 2.1 The individual site impacts from mining and energy industries on native vegetation coverage, ecosystem linkages, ecological processes and biodiversity condition in the Queensland Murray-Darling Basin is prevented.

VB 2.2 Where individual site impacts from mining and energy industries caused by native vegetation clearing can not be prevented, they are:

- a. Minimised through appropriate planning and design; and
- b. Offset (native vegetation) within the local area to cause no cumulative impact (or net loss) in the Queensland Murray-Darling Basin; and
- c. Rehabilitated to its former value and extent, with native (endemic) vegetation.

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Riverine, Floodplains and Wetlands Policy

RFW 1. The Resource Condition Targets (Regional NRM Plan, revised targets 2006) apply to mining and energy industries; and form the baseline of the cumulative riverine, floodplain and wetland assets in the Queensland Murray-Darling Basin.

RFW RCT1 By 2020, river health at representative sites of the Maranoa-Balonne and Border Rivers catchments is maintained or improved relative to baseline conditions. Specific RCT/s are developed, for macro-invertebrate and fish indices, flow regime, riparian zone, and physical form.

RFW RCT2 By 2020, flow regimes for health of wetland organisms are maintained or improved against baseline conditions.

RFW RCT4 By 2020, the following key water quality indicators remain below baseline levels:

- Salinity concentrations at end of valley locations for specified median and peak EC unit levels and average salt loads;
- Total suspended sediment loads for specified average and peak levels at locations;
- Pesticide concentrations for specified levels at set locations; and
- Nutrient concentrations for specified levels at set locations.

RFW RCT5 By 2015, the condition of high priority wetlands in the Maranoa-Balonne and Border Rivers catchments are maintained or improved relative to baseline conditions. Specific RCT/s are developed for condition of macro-invertebrate and fish indices, water quality, flow regimes, riparian zone and physical form in high priority wetlands.

RFW RCT6 By 2020, the condition of representative floodplains is maintained or improved relative to baseline conditions. Specific RCT/s are developed for flow regimes and relevant flora and fauna for representative floodplains.

RFW 2. The cumulative impact from mining and energy industries on the riverine, floodplain and wetland assets and function (per RFW1) in the Queensland Murray-Darling Basin is prevented.

RFW 2.1 The direct and indirect impacts from mining and energy industries on riverine, floodplain and wetland assets and function in the Queensland Murray-Darling Basin are prevented, by:

- a. Buffer zones appropriate to Stream Order.

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b. No mining and energy industry off-site movement of soil, salt, contaminants and weeds to riverine, floodplain and wetland areas, either directly or through landscape processes.

c. No alteration to surface water flow systems and interaction with ground water flow systems.

RFW 2.2 Where impacts from mining and energy industries caused by direct disturbance to riverine, floodplain or riverine environments can not be prevented, they are:

a. Not undertaken for Stream Orders 4, 5, 6, and 7.

b. Minimised through appropriate planning and design for Stream Orders 1, 2 and 3, considering values and function, taking into account:

- In-stream flow regimes
- Surface Water Flow Systems (including potential salinity, erosion, groundwater interface, barriers to movement of flow and in-stream species risks)
- Ground Water Flow Systems
- Riparian function (ground cover, bank stability, habitat, connectivity)
- Wetland and floodplain function

c. Rehabilitated to its former function and value.

RFW 2.3 Where mining and energy industries cause indirect impacts on riverine, floodplain or riverine environments and can not be prevented, they are:

a. Within water quality baseline indicators appropriate to sub-catchment levels.

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Associated Water Policy

AW1. The Resource Condition Targets (Regional NRM Plan, revised targets 2006) apply to mining and energy industries; and form the baseline of the cumulative surface water and ground water and associated flow systems assets in the Queensland Murray-Darling Basin.

AW RCT1 Water use efficiency rating for high water use industries/sectors that is equal to or better than the state and national average by 2020.

AW RCT2 Stabilise groundwater levels for high priority sub artesian groundwater systems and reduce decline in pressure in the Great Artesian Basin. Specific RCTs will be developed for groundwater quality and quantity, including water pressure in the GAB.

AW RCT3 Achieve ecological outcomes, in accordance with Environmental Flow Objectives as specified in the Condamine Balonne, Border Rivers, Moonie and Warrego, Paroo, Bulloo and Nebine Water Resource Plans.

AW RCT4 Achieve trading rules in accordance with water allocation security objectives as defined by the final Condamine Balonne, Border Rivers, Moonie Water Resource Plans.

AW 2. The cumulative impact from mining and energy industries on the surface and ground water flow system assets and function (per AW1) in the Queensland Murray-Darling Basin is prevented.

AW 2.1 The direct and indirect impacts from mining and energy industries on surface and ground water flow system assets and function in the Queensland Murray-Darling Basin are prevented, by:

- a. Buffer zones appropriate to the surface water flow system and ground water flow system, taking into account the interaction between surface and ground water systems; and
- b. No alteration to surface water flow systems and ground water flow systems.

AW 2.2 Where impacts from mining and energy industries caused by direct disturbance to surface water flow systems can not be prevented, they are:

- a. Not undertaken on floodplains; and
- b. Minimised at a landscape level through appropriate planning and design; and

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- c. Within baseline conditions per RFW 1; and
- d. Within current floodplain management infrastructure guidelines; and
- e. Compliant with existing legislation applicable to surface and ground water; and
- f. Rehabilitated to its former function and value.

AW 2.3 Where impacts from mining and energy industries caused by direct disturbance to ground water flow systems and can not be prevented, they are:

- a. Not undertaken where the impacts are not known or understood;
- b. Not undertaken where there are known impacts to stock and domestic or irrigation supplies;
- c. Minimised through appropriate planning and design; and
- d. Rehabilitated to its former function and value.

AW 2.4 Where mining and energy industries cause indirect impact on surface water flow systems and ground water flow systems and can not be prevented, they are:

- a. Within Water Resource Plan guidelines for the appropriate catchment;
- b. Subject to Water Resource Plans and associated legislation regulating changes to overland flow and surface water flow systems.

AW 2.5 Where mining and energy industries re-inject associated water into aquifers, the water is:

- a. Subject to agreed definition of a 'safe' aquifer for re-injection disposal; and
- b. Must not have impact on the Great Artesian Basin.

AW 2.6 Where mining and energy industries make associated water available for beneficial use, the water is:

- a. Subject to risk assessments based on the immediate, future or cumulative impact which may result from its use, taking into account salinity, surface and ground water interaction, changes to overland flow, and infrastructure development; and

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b. Subject to existing legislation, including Water Resource Plans for the relevant catchment and associated Land and Water Management Plans.

AW 2.7 Where mining and energy industry associated water (including by-products) is not injected into aquifers or beneficially used, the water is:

- a. Subject to Water Resource Plan guidelines for the appropriate catchment;
- b. Subject to Water Resource Plans and associated legislation regulating changes to overland flow and surface water flow systems;
- c. Aggregated only where risk and safety measures are appropriate for the volume of water and storage location within the landscape; and
- d. Disposed of in a manner whereby 'disposal' is defined against specific criteria and limitations that mitigates the risk and safety associated with the storage, transport, destination, cumulative and long-term impacts of such volumes of water; and
- e. The 'disposal' of associated water within natural systems does not impact on the ecological functioning of that system; and
- f. Where associated water is 'disposed' of into a natural system the water quality parameters are within locally established guidelines or historical baseline (per RWF 1).

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Land and Soils Policy

LS 1. The Resource Condition Targets (Regional NRM Plan, revised targets 2006) apply to mining and energy industries; and form the baseline of the cumulative land and soil assets in the Queensland Murray-Darling Basin.

LS RCT1 By 2020, salinity impacts on specified assets (Table LS1) are reduced against baseline conditions.

LS RCT2 By 2020, salinity impacts in specified areas of high salinity hazard (Table LS2) are avoided or minimised.

LS RCT3 By 2020, soil condition is maintained or improved against a baseline.

LS RCT4 By 2020, soil degradation impacts have not increased against a baseline.

LS 2. The cumulative impact from mining and energy industries on land and soil assets and function (per LS1) in the Queensland Murray-Darling Basin is prevented.

LS 2.1 The direct impacts from mining and energy industries on land and soil assets and function in the Queensland Murray-Darling Basin are prevented, by:

a. No disturbance to the soil asset where the structure or condition is impacted.

LS 2.2 Where impacts from mining and energy industries caused by direct disturbance to soil assets and function can not be prevented, they are:

a. Not undertaken for areas defined as 'Good Quality Agricultural Land' under a modified state policy, that defines areas of 'Premium Quality Agricultural Land'; and

b. Minimised through appropriate planning and design, including identification of low risk areas in the landscape for mining and energy industry development; and

c. Restricted from causing off-site impacts through movement of soil, salt and other contaminants and weeds, either directly or through landscape processes; and

d. Restricted from causing alteration to surface water flow systems and ground water flow systems.

e. Compliant with the existing State Planning Policy for the protection of Good Quality Agricultural Land;

f. Rehabilitated to its former function and value .

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Weeds and Pest Policy

WP 1. The Resource Condition Targets (Regional NRM Plan, revised targets 2008 to be inserted when available) apply to mining and energy industries; and form the baseline of the cumulative weeds and pest threats to assets in the Queensland Murray-Darling Basin.

WP RCT1 The extent and impact of priority terrestrial and aquatic weeds and pests stabilised by 2015, and decreasing by 2025. Specific RCTs to be developed.

WP RCT2 Reduce the incidence of recorded infestations of new weed and pest outbreaks. Specific RCTs to be developed.

WP 2. The cumulative impact from mining and energy industries, caused by the introduction or spread of invasive plants and animals, posing a threat to riverine, floodplain, biodiversity, land and soil, and cultural assets and function in the Queensland Murray-Darling Basin is prevented.

WP 2.1 The direct and indirect impacts from mining and energy industries causing the introduction or spread of invasive plants in the Queensland Murray-Darling Basin are prevented, by:

- a. Identification of risk at all stages of exploration, production and rehabilitation of mining and energy industry and associated activities; and
- b. Site, property and district pest management planning to mitigate risk; and
- c. Compliance of all stages of operations (and operators) to prevention strategies identified in pest management plans, consistent with existing legislation.

WP 2.2 Where mining and energy industries cause direct or indirect introduction or spread of invasive plants or animals, or are conducting activities where there are existing invasive plants or animals in the Queensland Murray-Darling Basin, the response must:

- a. Prevent further spread; and
- b. Actively manage in accordance with existing legislation and best management practice.

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Aboriginal Interests and Cultural Assets Policy

AI 1. The Resource Condition Targets (Regional NRM Plan, revised targets 2008) apply to mining and energy industries; and form the baseline of the aboriginal interests and cultural assets the Queensland Murray-Darling Basin.

AI RCT1 Increase Aboriginal participation in NRM. Specific RCT/s will be developed for Aboriginal engagement in NRM.

AI RCT2 Improved knowledge and awareness of Aboriginal interests in NRM. Specific RCT/s will be developed for knowledge and awareness of Aboriginal interests in NRM.

AI RCT3 Maintain and enhance significant cultural heritage sites that result in NRM outcomes. Specific RCT/s will be developed for maintenance and enhancement of cultural heritage sites.

AI 2. The cumulative impact from mining and energy industries to aboriginal interests and cultural assets (per AI 1) in the Queensland Murray-Darling Basin is prevented.

AI 2.1 The current legislative requirements apply.

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Institutional Assets Policy

IA 1. The Resource Condition Targets (Regional NRM Plan, revised targets 2008) apply to mining and energy industries; and form the baseline of the institutional assets and community capital in the Queensland Murray-Darling Basin.

IA RCT1 Improved institutional frameworks to engender sustainable natural resource management.

IA RCT2 15% increase in private sector (non-government) investment and involvement in sustainable natural resource management by 2015.

IA RCT3 Robust regional bodies demonstrating leadership in sustainable natural resource management processes.

IA RCT4 Effective and comprehensive monitoring and evaluation programme in place.

IA 2. The mining and energy industries contribute positively to institutional assets and community capital function (per IA1) in the Queensland Murray-Darling Basin.

IA 2.1 The institutional frameworks for sustainable natural resource management of both the public and private sectors provide for the effective delivery of public policy.

IA 2.2 Where institutional frameworks fail to protect the region's natural resource assets:

a. The community should expect a more enduring and direct role in the planning, decision-making and implementation of natural resource policies and activities as they relate to mining and energy industry impacts; and

b. Policy and legislative frameworks are consistent with community expectations with regard to natural resource management; and

c. There is timely and public disclosure of changes to Environmental Management Overview Statements as initially agreed by the State Government, and subsequent proposed changes; and

d. There is timely and public disclosure of monitoring requirements and subsequent results for the condition and trend of natural resource assets including site, total and cumulative impacts as they relate to the mining and energy industry; and

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e. Monitoring requirements and management are consistent within the defined asset and across mining and energy industry operations and report against site, total and cumulative thresholds.

e. The cumulative threshold for the region's natural resource assets are defined, and is the limit to which impact is no longer acceptable within the resource capability for a set timeframe.

IA 3. A determined percentage of the royalties received from the mining and energy industry is invested in natural resource management within the originating region.

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Acronyms and definitions

(Incomplete)

Mining is the extraction of valuable minerals or other geological materials from the earth, usually from an ore body, vein or (coal) seam. Materials recovered by mining include base metals, precious metals, iron, uranium, coal, diamonds, limestone, oil shale, rock salt and potash.

Energy industry is a generic term for all of the industries involved the production and sale of energy, including fuel extraction, manufacturing, refining and distribution. In particular, the energy industry comprises:

- the petroleum industry, including oil companies, petroleum refiners, fuel transport and end-user sales at gas stations
- the gas industry, including natural gas extraction, and coal gas manufacture, as well as distribution and sales
- the electrical power industry, including electricity generation, electric power distribution and sales
- the coal industry
- the nuclear power industry
- the renewable energy industry, comprising alternative energy and sustainable energy companies, including those involved in hydroelectric power, wind power, and solar power generation, and the manufacture, distribution and sale of alternative fuels.

QMDB Queensland Murray-Darling Basin

Regional NRM Plan...

Cumulative impacts result when the effects of an action are added to or interact with other effects in a particular place and within a particular time. While impacts can be differentiated by direct, indirect, and cumulative, the concept of cumulative impacts takes into account all disturbances since cumulative impacts result in the compounding of the effects of all actions over time. Thus the cumulative impacts of an action can be viewed as the total effects on a resource, ecosystem, or human community of that action and all other activities affecting that resource no matter what entity is taking the actions.

Direct and indirect impacts...

Individual site impacts include clearing of native vegetation (causing loss of habitat extent and connectivity, and habitat), weed incursions, pest animal presence, and disturbance to wildlife (noise, dust, traffic, displacement).

Native vegetation means plants that are indigenous to the QMDB, including trees, shrubs, herbs and grasses. Endemic...

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Offset (native vegetation) is any works or other actions to make reparation for the loss of native vegetation arising from the removal of native vegetation. Its purpose is for the protection, enhancement or regeneration of native vegetation leading to no net loss, or a net gain of native vegetation in the Queensland Murray-Darling Basin.

An offset may be:

- an area of existing remnant vegetation that is protected and managed
- an area that is revegetated and protected
- an area that is set aside for regeneration or restoration, or
- any combination of the above.

An offset may involve undertaking works or making a payment for certain works to be provided. In either case, an offset should:

- achieve a gain in the quality and quantity of native vegetation commensurate with the native vegetation lost, and
- be secure and ongoing.

Re-established (native vegetation) is the provision for replanting of native species, of those that are indigenous to the area, to replace native vegetation lost on the site during the life of the mining and energy industry activities.

If an area of intact remnant vegetation is to be removed or destroyed:

- It is replaced with at least an equivalent area of planting using native vegetation (trees, shrubs and grasses) that are indigenous to the area and that are appropriate to the site, to reinforce or restore existing environmental values on the land or within the general area surrounding it.
- Measures such as fencing and weed control programs are taken to ensure the long term protection and enhancement of other intact remnant vegetation on the land or within the general area surrounding it.

Replace 'Re-established' with - Restore to original landscape condition and function.

Associated water...