Senate Standing Committee on Environment and Communications Legislation Committee

Answers to questions on notice

Sustainability, Environment, Water, Population and Communities portfolio

Supplementary Budget Estimates, October 2010

Question on Notice 40 Appendix A

Annexure A: Terms of Reference

SOCIO-ECONOMIC CONTEXT FOR BASIN PLAN –Project Terms of Reference

1. Background

The Murray-Darling Basin Authority has been established under the *Water Act 2007* (Cwlth), and under that Act has responsibility for developing and implementing the Basin Plan (for the Murray-Darling Basin).

There are a number of elements within the Basin Plan that require socio-economic information either as a specific mandatory component of the Basin Plan, or as inputs to analysis used to develop the Basin Plan.

2. Statement of Need

a. Mandatory Content

The Water Act 2007 specifies the mandatory content for the Basin Plan which includes *a description of the Basin water resources and the context in which those resources are used.*

The specific requirements as described in the Act are that the description must include information about:

1. the size, extent, connectivity, variability and condition of the Basin water resources: and,
2. the uses to which the Basin water resources are put (including by indigenous people) and,
3. the users of the basin water resources; and,
4. the social and economic circumstances of Basin communities[1] dependent on the Basin water resources.

b. Socio-economic data/analysis to support development of the Basin Plan

Development of the Basin Plan is likely to require socio-economic data and/or analytical tools to complete the following five key tasks:

1. the development of the environmental watering plan (EWP) which will require the integration of biophysical and socio-economic parameters;
2. the development of the Water Quality and Salinity Plan which will require the integration of biophysical and socio-economic parameters;
3. the development of Sustainable Diversion Limits which will require the integration of the EWP and the WQSP.
4. analysis to provide advice to MDB Ministerial Council on the likely socio-economic implications of any reduction in long-term average sustainable diversion limits proposed in the Basin Plan (sect 43A (3)); and,

[1] Basin communities extend to those communities outside of the Murray-Darling Basin catchment boundaries that receive water from the Murray Darling Basin system to meet critical human needs as described in Sec 86A of the Water Act 2007.

5. analysis to provide advice to MDB Ministerial Council on the impacts of the Basin Plan as soon as possible after the end of the first 5 years of the implementation of the Basin Plan

3. Project Objectives:

The objectives of this Project are:

1. to provide expert advice to the MDBA in relation to addressing the socio-economic issues in the development of the Basin Plan methodology.
2. to review, analyse, compile and present all relevant information required to comprehensively describe the social and economic circumstances of Basin communities dependent on the Basin water resources;
3. to review, describe and report on the Decision Support Tools/analytical Tools required to support the socio-economic analysis required as summarised in 2(b) above.
4. to review and report on the extent to which current data exists to apply available tools and identify critical gaps.

Expected required deliverables

The following project deliverables are anticipated:

1. Expert advice into the design and finalisation of the Project Description and Methodology
2. Within the context of the broader Project Objectives provide a detailed Project Methodology Report including:
    a. mock up of the final design of the Socio-Economic Circumstance report,
    b. a description of the datasets to be presented and the method in which they will be presented (ie graphs, maps, tables, confidence intervals).
    c. Analysis of any issues that may relate to the public release of the data underpinning the report including IP, License, Privacy issues.
3. A comprehensive report describing the social and economic circumstances of communities in the Basin in order to fulfil the relevant mandatory requirements of the Basin Plan.
4. A report addressing Objectives 3 and 4 as described above.

Issues to be considered Mandatory Content: Description of current socio-economic circumstances (Deliverables 1, 2 and 3)

The description will need to take account of the following issues.

First, the description will need to be consistent with, or easily transferable to, the spatial boundaries which will be used in the development of the Environmental Watering Plan (EWP) and the Water Resource Plans (WRP) for surface water and groundwater which collectively will set the Sustainable Diversion Limits for the Basin Plan. The Water Act requires that, as far as possible, the boundaries used for the Water Resource Plan areas within the Basin Plan be aligned with those provided for under state water management law (Section 22 (2)). However, it is possible that a range of new boundaries may be developed as required to support the EWP, Salinity and Water Quality Plan and WRP's .

Second, the data sets used to compile the description will be used as inputs to the development and implementation of decision support systems/analysis tools required to undertake the five key tasks requiring socio-economic analysis described above.

It will be essential that the description of the social and economic circumstances of Basin communities dependent on the Basin water resources can be communicated as a clear and transparent baseline data set as an input to subsequent socio –economic analysis.

It is anticipated the description will need to:

a. Define metrics relevant to describing the social and economic circumstances of communities[1] dependent on Basin water resources.
b. Present these metrics at a range of relevant spatial and temporal scales including analyses of past trends in order to adequately describe the current context.
c. Include analyses of likely future trends
d. Consider the best way to most effectively communicate socio-economic circumstances including the use of case studies.
e. Include all aspects of water dependence: identifying those communities and industries directly dependent on water, as well as those indirectly dependent on water, such as those with a significant tourism/recreation elements; and
f. Include an overall analysis at the Basin scale.
g. Record information gaps including any data limitations identified through the above processes.

It is anticipated that information is required for, though not limited to, the following themes:

- Water use and dependency;
- Population demography;
- Social/Economic well-being;
- Business demography (including entries and exits);
- Industry (including Agriculture/Forestry) structure and outputs;
- Land use and tenure;
- Land management practice;
- Economic conditions;
- Regional infra-structure;
- Regional contributions to national production/exports/services;
- Recreation/tourism activities and contribution; and
- Cultural/heritage values.

Review and evaluation of existing Decision Support Systems/Analysis tools for application in the development of the Basin Plan (Deliverable 4)

The decision support/analysis tools need to allow for interrogation of the impacts of SDLs at multiple levels both spatially and by community or industry categories. These categories are likely to require whole of MD Basin scale, the catchment and groundwater boundaries adopted for the Basin Plan, CSIRO Sustainable Yields Regions, identified sub-catchments, Local Government Areas, significant communities, significant industry sectors, Federal State

electoral boundaries, State and Territory boundaries, Australian surface water management areas (ASWMA), Catchment Management Authority and Natural Resource Management Board boundaries and others.

Time frame

Deliverable	Required Date
Expert advice into the design and finalisation of the Project Description and Methodology (Deliverable 1)	Ongoing February 2009 – Project Completion
Detailed Project Methodology Report (Deliverable 2)	April 17 2009
Description Report Socio- Economic Circumstances (Deliverable 3)	May 31 2009
DSS/ Tools Review (Deliverable 4)	June 15 2009

Budget

Advice is sought on likely personnel requirements and costs.

A consortium approach is required, with the primary partners being:

- Australian Bureau of Statistics
- Bureau of Resource Sciences
- Australian Bureau of Agricultural and Resource Economics

Project management

The Project Officer within the MDBA will be: John Purcell, Assistant Director, Modelling & Data Management

Attachment A: Social and Economic Assessment – Requirements, Themes and Needs

Purpose of plan, Section 20(d) – "The purpose of the Basin plan is to provide for the integrated management of the basin water resources in a way that promotes the objects of this Act (Section 3), in particular by providing for (*inter alia*) (d) The use and management of basin water resources in a way that optimises economic, social, and environmental outcomes."

Mandatory Basin plan content, Section 22 (1- b, c & d) – "A description of the basin Water resources and the context in which those resources are used: (*inter alia*) (b) The uses to which the basin water resources are put (including Indigenous people), (c) The users of the basin water resources; and (c) the social and economic circumstances of basin communities dependent on the Basin water resources."

Providing advice to Ministerial Council, Section 43A (3) – "The copy [of the Basin plan] must be given together with the Authority's advice to the Murray-Darling Basin Ministerial Council on the likely socio-economic implications of any reduction in the long-term average sustainable diversion limits proposed in the proposed Basin Plan."

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Appendix B

PROJECT/CONSULTANCY BRIEF

(1) Project Number **(2) Contract Number**

(3) Project Title (20 words maximum).

Indicators of Community Vulnerability, Resilience and Adaptive Capacity across the Murray-Darling Basin

(4) Project Background

The Murray-Darling Basin Authority (MDBA) has been established by the *Water Act 2007* and has responsibility for developing and implementing the Murray-Darling Basin Plan.

The Basin Plan is being developed to support the integrated management of the Basins water resources. It will identify key environmental assets and ecosystem functions of water resources that must be protected. The plan will also identify risks to the condition or continued availability of Basin water resources and provide strategies for managing those risks.

The MDBA will develop the plan on the basis of a number of factors including social and economic analysis. This will include having regard to social, cultural, Indigenous and other public benefit issues. The MDBA will use the social and economic analysis to inform how, where and when water can be delivered to meet environmental requirements.

In developing the Basin Plan, MDBA will assess the likely social and economic implications of any reductions in the long term average sustainable diversion limits and provide advice to the Murray–Darling Basin Ministerial Council on these implications. Governments will may this information to consider appropriate responses to social and economic impacts of the Basin Plan.

To assist in this process, the MDBA is seeking to understand and measure community vulnerability and sensitivity, as well as resilience and adaptive capacity, to reductions in water availability for consumptive purposes across the Basin. This project will complement other social and economic assessments already underway that aim to optimise the outcomes of the Basin Plan.

(5) Project Objectives.

The objectives of this project are to:

- review and synthesise the current state of thinking around the concepts of community resilience, vulnerability and adaptive capacity with an emphasis on understanding the drivers of change in regional and rural communities especially in regard to reductions in water availability for consumptive purposes across the Basin
- identify suitable indicators of community vulnerability, resilience and adaptive capacity across the Basin, especially to reductions in consumptive water use
- measure and map the relative resilience/vulnerability of communities across the Murray Darling Basin. This information will assist in setting the SDL(s) and optimising the economic, social and environmental outcomes of the Basin Plan.

(6) Project Approach and Methodology.

Desktop analysis, consultations with appropriate experts and research institutions and a workshop are expected to be important components of this project.

This project complements two other projects that are currently underway:

1. ‘Social and economic advice, modelling and analysis’ which is focussed on integrated Basin-wide economic impact scenario modelling to estimate the effect of potential changes in water availability on land and water use for the agricultural sector and subsequent flow on effects for employment and incomes at the regional, catchment or Basin scale.
2. ‘Economic and social profiles and impact assessments in the Murray Darling Basin’ which aims to build upon a range of descriptive information prepared by the Australian Bureau of Statistics, the Australian Bureau of Agricultural and Resource Economics and the Bureau of Rural Sciences, including a series of community profiles.

Accordingly, the project should take account of the emerging outputs from these projects and consider how the outputs of all three can be integrated in a manner that can usefully inform the setting of the long-term sustainable diversion limits (SDL).

Further projects currently being undertaken that may also inform this work include:

- Structural adjustment pressures affecting irrigated agriculture in the Murray Darling Basin
- Review of Social and Economic studies in the Murray Darling Basin

Given the existence of these projects, the MDBA will be able to supply a substantial amount of data to support the community resilience/vulnerability assessment. It is anticipated this will both expedite the project and contribute to the containment of costs.

The project should include an evaluation of existing information products, including specifically the potential of the Australian Bureau of Statistics’ Socio Economic Indexes for Areas Census product, to be used as the basis of indicators for resilience or vulnerability.

Given the sensitivity of the results of the analysis, some attention to the language used in reporting the relative resilience of communities is advised. In particular, the term ‘vulnerability’ should be used with caution. A suggested alternative term may be ‘susceptibility’ to change in water access and use.

Timeframes for delivery on this project are particularly acute. The MDBA is working to release a draft Basin Plan for public consultation by June 2010. Consequently, the outputs of this project will need to be finalised by March 2010.

(7) Anticipated outputs and deliverables of this Project

The following project deliverables are anticipated:

1. A report that provides:
    - A literature review of current studies and assessments of community resilience and vulnerability including definitions and an outline of a conceptual framework on which an assessment of the resilience and vulnerability of Basin communities can be based
    - An analysis of the relevance of the concepts of community resilience and vulnerability to the work of the MDBA in assessing the likely social and economic implications of reduced water availability for consumptive purposes across the Basin
    - An evaluation of the applicability of existing information products including the Australian Bureau of Statistics’ Socio-Economic Indexes for Areas Census product to be used as the basis of indicators for resilience or vulnerability
    - The development of indicators and a method for carrying out an assessment of the resilience and vulnerability of Basin communities, with particular focus on relevance to reductions in consumptive water use
2. A workshop with selected invitees from academia, government, industry and the community (to be agreed with MDBA) to consider the merits of the proposed conceptual framework, indicators, methodology and integration with the SDL

3. A draft report, including spatial maps, on the application of the proposed method for measuring and mapping community vulnerability, resilience and adaptive capacity across the Basin
4. A final report, incorporating comment from MDBA, the outcomes from the workshop and spatial maps illustrating community vulnerability, resilience and adaptive capacity across the Basin
5. Powerpoint slides identifying key findings from the project
6. Presentation of the results to the staff and Board of the MDBA (if required)
7. Electronic versions of the above reports and related information described above should be provided as available.

(8) Anticipated outcomes directly resulting from this Project

The anticipated outcome is an improved understanding of community resilience and vulnerability that allows for evaluation of Basin communities capacity to respond to change. In this particular instance the driver of change is reduction of water available for consumptive purposes across the Basin. A determination of community resilience or vulnerability will assist:

- Evaluate the relevance of concepts and indicators of community resilience and vulnerability to assessing the likely social and economic implications of reduced water availability for consumptive purposes and informing SDL(s)
- Subject to the above, inform setting of SDL(s) by identifying communities that may be most vulnerable or resilient to change in water availability.
- Guide more detailed and targeted investigations of the impact of the Basin Plan, by identifying those communities that are either more resilient or more vulnerable to change in water availability.
- Optimise development of the proposed Basin Plan by ensuring any social and economic impacts of the plan are equitably managed while achieving the environmental objectives of the Water Act
- Improve prioritisation of any government assistance for adaptation that may be required

(9) Who will be the users of the Project outputs?

The staff and Board of the Authority will be the principal users of the information produced by this project; they will use it as an input into the Basin planning and decision-making processes.

(10) What involvement will other organisations and the users of the project outputs have in this project?

Other organisations will be involved mainly through consultation processes used by the consultants in the gathering and dissemination of project information.

(11) How will the project outputs be disseminated to the user?

The outputs will mainly be disseminated through a series of reports, maps and a workshop.

(12) What measures will be put in place to ensure that the project outputs are applied and the outcomes are achieved?

This work forms part of the social and economic information work plan, and the overall work plan, developed for implementing the Basin Plan, as noted by the Board at its 5th meeting. Its implementation will be monitored by the Executive and Board of the Authority.

(13) Anticipated start date, end date, duration, and other key dates

The project will start as soon as possible and be completed by 28th February 2010.

The proposed timetable is:

Deliverable	Required Date
Report on literature review, proposed framework and methodology (Deliverable 1)	4/1/10
Workshop on proposed conceptual framework, indicators, methodology (Deliverable 2)	15/1/10
Draft assessment report (including maps and feedback from workshop) (Deliverable 3)	29/1/10
Final assessment report (including maps) (Deliverable 4)	28/2/10
Other deliverables (5, 6 &7)	28/2/10

Due to the nature of work required in developing the Basin Plan, potential stop points may occur for this project at Deliverable 1. These will be reflected in the final contract between the supplier and MDBA and any payments adjusted accordingly.

(14) Estimated Project Cost

It is anticipated that the cost of the project will be up to $80,000 *inclusive* of GST. The final budget will depend on the proposed approach included in tenders

(15) What project management arrangements are proposed for the project (steering committee composition, chair etc.)?

The project will be managed by the Director, Research and Information in the Basin Plan Division in consultation with the Director, Community and Engagement Section of the Engagement Branch - under the sponsorship of the General Manager, Environmental Planning Branch.

(16) Project risk

There are several inter-related risks to be managed in this project:

- The commencement of this project is delayed leading to late production of information to inform development of the Basin Plan – the Authority is required to use best available socio-economic analysis to assist it perform its functions
- The project requires a combination of skills in the area of social impact assessment; there is a risk that it may be difficult to assemble a team of highly qualified consultants capable of doing this work on the scale and in the timeframe required, as there will be considerable pressure to undertake the analyses to deliver outputs of sufficient and defensible quality
- Interpreting the outcomes of qualitative analysis, which will form the basis of much of this project, in a way that integrates with other economic and hydrological modelling work will present a challenge; this will be managed through the development of a sound methodology by the consultants (a report on which forms the first deliverable for the project), development of a close working relationship with Authority staff and with the consultants undertaking the complementary projects listed in point (6) above.

(17) Ownership and management of project IP

Standard Authority contractual arrangements are proposed; i.e. all IP should be owned by the Authority.

(18) O H & S issues

No particular OH&S issues are anticipated in undertaking this work

(19) Other issues

Please note that any reports and/or maps produced must comply with MDBA map and website publication specifications as outlined in the final contract. See Attachment 1

ATTACHMENT 1

1. MDBA Spatial Data Requirements

Minimum Data Requirements for MDBA data:

<table>
<tr><th>Component of spatial data</th><th>Format / standard</th></tr>
<tr><td>Metadata</td><td>• Metadata describing the dataset that is ANZLIC metadata compliant and is captured in accordance with the MDBA metadata guidelines at Attachment A.</td></tr>
<tr><td>Data dictionary</td><td>• A table defining the attributes within the spatial data. At a minimum this should include the attributes, their definition, and associated fixed values (or look-up tables).</td></tr>
<tr><td>Vector data
(i.e. points, lines and polygons)</td><td>• Provide as ESRI Shapefile or Personal Geodatabase.
• Must not contain topological errors – slivers, dangles, edit masks etc.</td></tr>
<tr><td>Raster data</td><td>• Provide as a geo-referenced file in an ESRI-compatible format.</td></tr>
<tr><td>Maps</td><td>• Provide as per agreed requirements, or at a minimum the MDBA map production specifications at Attachment B.</td></tr>
<tr><td>Projection</td><td>• Geocentric Datum of Australia (GDA94).
• The Universal Transverse Mercator (UTM) can be used for projects where a smaller area within the MDB (e.g. catchment or sub-catchment) is being mapped.</td></tr>
<tr><td>Attributes</td><td>• All attributes must be labelled clearly and logically. Unique identifiers must be unique.</td></tr>
<tr><td>Quality attributes</td><td>• If data quality, accuracy, reliability and/or resolution vary markedly across the data, then data must contain a field that records that variation either explicitly or by a documented code.
e.g.
<table>
<tr><th>ID</th><th>Scale</th><th>Accuracy</th><th>Reliability</th></tr>
<tr><td>1</td><td>1:25,000</td><td>10</td><td>90</td></tr>
<tr><td>2</td><td>1:250,000</td><td>20</td><td>100</td></tr>
<tr><td>3</td><td>1:50,000</td><td>15</td><td>50</td></tr>
</table>
DOCUMENTED CODES:
Scale: maximum scale that data can be used for.
Accuracy: positional accuracy of data (m).
Reliability: Degree of confidence in data (%).
• Databases containing multiple-scale data must record a scale class against each value (e.g. ‘1:25,000’; ‘1:100,000’).</td></tr>
<tr><td>Specifications</td><td>• If a specification has been agreed to for project data over and above these minimum data requirements, then the data supplied to the MDBA must conform with that specification also.</td></tr>
<tr><td>Quality assurance</td><td>• Data should be scanned for completeness, accuracy, and any errors before delivery.</td></tr>
<tr><td>Delivery</td><td>• All final datasets to be delivered on portable storage medium (e.g. CD, DVD, external hard drive) and labelled with title, data, project number and an index of contents. Contractor details should be on the media cover.
• All spatial data and relevant metadata funded by a MDBA project (including purchased data) must be forwarded to the MDBA upon</td></tr>
</table>

	completion of the project, according to the above requirements. All data obtained or developed through project funding are regarded as MDBA deliverables, including relevant license documents.

2. Externally acquired spatial data

Data either purchased or acquired through a MDBA funded project under a licence agreement from an external organisation;

- Must have the 'Murray-Darling Basin Authority' as the Licensee;
- Should allow the MDBA to use it internally for other program work where feasible; and
- Should not have a duration period where feasible.

Such data should conform, where possible, with the specifications in this document.

3. MDBA Metadata Guidelines

These guidelines are a modified version of the 'ANZLIC Metadata Guidelines Version 2' (at http://www.anzlic.org.au/download.html?oid=2358011755). They have been developed to provide guidance to MDBA staff and external consultants on the required level of metadata documentation for all spatial datasets.

This document should be used in association with the 'ANZLIC Metadata Guidelines Version 2' for the following purposes:

- For using the pre-defined terms for the relevant metadata elements; and
- For gaining a greater understanding of the definition of each of the elements where required.

Metadata element	***Definition and allowable values***
Dataset	
ANZLIC Identifier:	Unique identifier assigned by MDBA ASDD node. This is not assigned by the metadata author.
Title:	The ordinary name of the dataset. This should clearly and concisely indicate the content of the dataset.
Custodian	
Custodian:	This business name of the custodian agency or responsible party associated with the dataset. For MDBA datasets this should be 'Murray-Darling Basin Authority (MDBA)'
Jurisdiction:	State or country in which the custodian of the dataset is domiciled. For MDBA datasets this should be 'Australia'
Description	
Abstract:	A brief narrative of the purpose and content of the dataset. Where possible, you should aim to organise and complete it with the following subheadings: • ***PURPOSE:*** Purpose for which the dataset was created, including the project it was created for. • ***RECOMMENDED USE:*** Recommended use of the dataset and any limitations associated with the data to assist the user determine fitness for use. • ***DATASET FILE CONTENT* (only if applicable):** If the dataset is made up of one or more files or components, then list them here. This should also include the geometry of the data (i.e. point, line, polygon, raster) • ***DATA CONTENT:*** General listing of main attributes. • ***PROJECTION:*** Projection and datum of the data. This can be in terms of Projection, Zone (if applicable), Datum, Units, and Spheroid.
Search word:	Words likely to be used by a non-expert to find the dataset. This is to support dataset searching in the Australian Spatial Data Directory (ASDD). The search terms are from a pre-defined list.
Geographic	Ordinary name of one or more pre-defined, known geographic objects

Extent Name (GEN):	that reasonably show the extent of geographic coverage of the dataset. This element is implemented as GEN Category and GEN Name. Most MDBA datasets will probably most likely be to the extent of the Murray Darling Basin, therefore: • ***GEN Category*** = 'Drainage Divisions and Major River Basins'; and • ***GEN Name*** = 'MURRAY-DARLING'
Geographic Extent Polygon (GEP):	Boundary enclosing the dataset expressed as a closed set of geographic coordinates (latitude, longitude in decimal degrees) of the polygon referenced to GDA94. This is an alternative way of describing geographic extent of the dataset if no-predefined area is satisfactory.
Geographic Bounding Box:	Box defining the minimum and maximum geographic coordinates (in decimal degrees) of the entire data. This data is implemented as four discrete elements as listed below: • ***North Bounding Latitude:*** Northern-most latitude coordinate. • ***South Bounding Latitude:*** Southern-most latitude coordinate. • ***East Bounding Longitude:*** Eastern-most longitude coordinate. • ***West Bounding Longitude:*** Western-most longitude coordinate.
Description	
Beginning Date:	Date that the dataset was first created or the date of the first record.
Ending Date:	Latest date in which the dataset was revised or verified. This date represents the reliability date of the dataset.
Dataset Status	
Progress:	Status of the process of creation of the dataset. The search terms are from a pre-defined list.
Maintenance and update frequency:	Frequency of changes or additions that are made to the dataset after its initial completion. The search terms are from a pre-defined list.
Access	
Stored data format:	Native format of the dataset. This is generally the format in which the dataset is stored by the custodian.
Available data format:	Format in which the dataset is being supplied to producers.
Access constraint:	Any restrictions or legal prerequisites that may apply to the access and use of the dataset including licensing, liability and copyright. Where possible, you should aim to organise and complete it with the following subheadings: • ***TYPE OF LICENCE:*** The type of MDBA licence that the dataset is available under. • ***DOWNLOAD (only if applicable):*** This will be link to download the data.
Data quality	
Lineage:	Brief history of the source and processing steps used to produce the dataset.
Positional accuracy:	Brief assessment of the closeness of the location of spatial objects in the dataset in relation to their true position of the Earth. Where possible, you should aim to organise and complete it with the

	following subheadings: • ***SCALE/RESOLUTION:*** Scale or resolution of the dataset. This can also include the scale/resolution of the source data used to create the dataset. • ***PLANITMETRIC ACCURACY:*** Horizontal accuracy assessment against their real world features (e.g. +/- 100m). • ***VERTICAL ACCURACY (only if applicable):*** Vertical accuracy assessment.
Attribute accuracy:	Brief assessment of the reliability assigned to features in the dataset in relation to their real world values. This can include an assessment of how well the significant attributes have been populated, and any limitation on the data's use as a source for attribution.
Logical consistency:	Brief assessment of the degree of adherence of logical rules of data structure, attribution and relationships.
Completeness:	Brief assessment of the extent and range in regard to the completeness of coverage, classification and verification. Where possible, you should aim to organise and complete it with the following subheadings: • ***SPATIAL COMPLETENESS:*** Assessment of the spatial coverage of the dataset. • ***ATTRIBUTE COMPLETENESS:*** Assessment of the completeness of significant attributes fields.
Contact information	
Contact organisation:	This should be 'Murray-Darling Basin Authority (MDBA)'
Contact Person:	This should be 'Director, Natural Resource Information'
Mail address:	This should be 'GPO Box 1801 Canberra City ACT 2601'
Telephone:	This should be '(02) 6279 0643''
Facsimile:	This should be '(02) 6230 7579'
Electronic Mail Address:	This should be 'gis@mdba.gov.au'
Metadata date	
Metadata date:	Date in which the metadata record was created or last updated.
Additional metadata	

Additional metadata:	Any additional metadata that supports documentation of the dataset including a reference to another directory report.
	Where possible, you should aim to organise and complete it with the following subheadings:
	• ***ASSOCIATED REPORTS:*** Listing (including links) of report(s) associated with the dataset.
	• ***DATA DICTIONARY (only if applicable):*** This is for datasets that have attribution. The data dictionary at a minimum should include the following for each field:
	  • ***Definition:*** A general description of the field
	  • ***Allowable values:*** Values that are allowed in the field, including the definitions values in a pick-list.

4. Map Production Specifications

The following specifications have been prepared by MDBA to provide guidance to MDBA staff and consultants on the minimum required level of mapping detail for production of MDBA Maps, both hardcopy and digital.

Map Element	*Instruction*
Title	Descriptive and meaningful title.
Location map	Where appropriate, insert a map showing the context of the mapped area.
Colours	As a general rule: • for large areas, use light colours • for small areas, use dark colours. Ensure colours contrast sufficiently that the user can discriminate between them easily.
Fonts	The number of different fonts and sizes should be minimised. Fonts that are sans serifs (e.g. Helvetica) are preferred.
Data source statement	Data source includes the original and nature of the information on the map, including derived or interpreted data. The statement should also show the currency and limitations of the data.
North arrow	Include on map.
Logos	Logos should not be overly prominent. Multiple logos should be grouped together.
Projection and data statement	Include on map.
Scale bar	Include scale bar, with optional statement of scale (Scale 1: xxx xxx)
Legend	Legend should clearly depict accurate colouring and labelling relevant to the information shown on the map.
Copyright information	Copyright information consists of a statement of who holds copyright for the map, and year of publication.
Publication information	Include name of publisher, and place and date of publication.
Map number	Map number should be included if the map is part of a numbered series. Group with Title.
Embedding into document	When producing maps to be embedded in a document, ensure that they are presented in a consistent style (e.g. same colours for the same attributes; borders; backgrounds etc).

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Appendix C

Review of Social and Economic Studies in the MDB

Project Brief

Background

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The Basin Plan is being developed to support the integrated management of the Basins water resources. The plan will identify key environmental assets and ecosystem functions of water resources that must be protected. It will also identify risks to the condition or continued availability of Basin water resources and provide strategies for managing those risks.

The MDBA will develop the plan on the basis of a number of factors including social and economic analysis. This will include having regard to social, cultural, Indigenous and other public benefit issues. The MDBA will use the social and economic analysis to inform how, where and when water can be delivered to meet environmental requirements.

In developing the Basin Plan, MDBA will assess the likely social and economic implications of any reductions in the long term average sustainable diversion limits and provide advice to the Murray–Darling Basin Ministerial Council on these implications. Governments will use this information to consider appropriate responses to social and economic impacts of the Basin Plan.

Statement of Need

To assist both the development of the Basin Plan and determination of the likely social and economic implications of the proposed plan, the MDBA is seeking to identify and document current and existing social and economic research and analytic work undertaken in relation to the Murray-Darling Basin.

Project Objectives

The objective of this project is to provide, in a manner consistent with the Statement of Need above, a comprehensive collation of existing materials and work in progress that documents:

- The owner of the pieces of work, including the commissioning organisation (if different);
- The author and/or organisation responsible for producing the work;
- A description of the objectives of the work;
- A description of the scale and scope to which the work applies;
- A description of the methods used to produce the work;
- A brief abstract of the work and an outline of its key findings;
- An overarching review and synthesis of all the findings and results arising from the pieces of work and their relevance to assessing the likely socio-economic implications of the proposed Basin Plan.

Expected required deliverables

The following project deliverables are anticipated:

1. A report, in hard copy and digitally, consistent with the Project Objectives above
2. Powerpoint slides identifying key findings from the project
3. Electronic versions of the pieces of work described in the project and any related documents should be provided as available

4. Presentation of the results to the staff and Board of the MDBA
5. Participation in at least one public workshop.

Evaluation Criteria

Submissions will be assessed on the basis of overall value for money and this will include an assessment of the:

- expertise of consultant(s)
- overall cost
- quality of the proposal in outlining the proposed approach and methods
- demonstrated experience in delivering quality outputs on time and budget
- demonstrated understanding of MDB water resource management issues.

Time frame

Deliverable	Required Date
Draft Report (Deliverable 1, 2 and 3)	16/12/09
Final Report (Deliverable 1, 2 and 3)	01/02/10
Presentation/workshop participation (Deliverable 4 & 5)	To be determined

Cost

It is anticipated that the cost of the project will be between $40,000 and $60,000.

Project management

The MDBA project officer will be: Assistant Director, Research and Information.
The MDBA project sponsor will be: General Manager, Environmental Planning Branch

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Appendix D

ATTACHMENT 2: PROJECT BRIEF

Component 2: Economic and social profiles and impact assessments in the Murray-Darling Basin

Statement of Need

To assist both the development of the proposed Basin Plan and determine its likely implications for Basin communities, the Authority is seeking to procure expert services in relation to social and economic impact assessment, analysis and community consultation.

This project forms a major component of the Authority's strategy to develop a sound understanding of the social and economic circumstances of the Basin communities and to assess the likely social and economic impacts of setting alternative SDLs in developing the Basin Plan on these communities so as to assist the Authority seek to optimise economic, social and environmental outcomes.

This project will use and build upon a range of descriptive information being prepared by the Australian Bureau of Statistics, the Australian Bureau of Agricultural and Resource Economics and the Bureau of Rural Science, including a series of draft community profiles.

This project complements another project on 'Social and economic implications of changes to water availability and security' which is focused on integrated Basin-wide economic impact scenario modelling to estimate the effect of potential changes in water availability on land and water use for the agricultural sector and subsequent flow-on effects for employment and incomes at the scale of the region or catchment and the Basin as a whole.

Accordingly, the primary need for this project is to provide social, cultural and economic information, assessment and analysis to assist in understanding the social and economic circumstances of Basin communities and in the setting of SDLs and development of the proposed Basin Plan. This project has a focus on the regional and local scale and it is anticipated that it will involve the use of both quantitative and qualitative analysis. The results of this project will also be used to assist the Authority determine and report upon the likely social and economic implications of the final proposed plan. To meet these information needs, the Authority seeks services to assist it:

1. Complete profiles and situation analyses, including of strengths and weaknesses, of regional and selected local Basin communities;
2. Undertake assessments of the likely economic impacts (positive and negative) of changes in water availability on selected regional or local communities and industries in the Basin;
3. Undertake assessments of the likely social and cultural impacts (positive and negative) of changes in water availability on selected regional or local communities and industries in the Basin; and
4. Consult extensively with regional communities in undertaking the above.

Project Delivery

The Authority recognises that the range of tools, approaches and skills that may be required in undertaking this project in an integrated fashion in the timeframe available may not necessarily reside within the one organisation. It is anticipated that a consortium approach may be required to deliver these services.

Given the timeframes available, the project will be expected to draw upon the best available existing data and information, including from the ABS, the contemporary literature and theory of economic and social impact assessment as it applies to water resource management, and to utilise and build upon previous studies and assessments done in the Murray-Darling Basin, such as through The Living Murray. Collecting and collating new data will still be critical for some aspects of the project.

The successful service providers will be expected to work closely with Authority staff, a steering committee and the complementary regional economic impact modelling project to assist in delivering an overall cohesive outcome. Consultation with the Authority to develop consistent and agreed approaches to the use of data and methodologies is expected.

Objectives

The objective of this project is to provide, in a manner consistent with the Statement of Need above:

- A completed series of up to 32 community profiles and situation analyses for regional, and selected local, Basin communities;
- Assessments of the likely economic impacts of changes in water availability on up to 14 selected regional or local communities and industries in the Basin;
- Assessments of the likely social impacts of changes in water availability on up to 14 selected regional or local communities and industries in the Basin;
- Up to 20 regional workshops involving key community, industry, NRM, local government stakeholders; and
- An overarching review, synthesis and summary of all the findings and results arising from the above assessments and activities.

Expected required deliverables

The following project deliverables are anticipated:

1. A report outlining the proposed conceptual framework and methodology for undertaking the social and economic impact assessments, including an outline of the quantitative and qualitative data to be used.
2. Advice and information on how this project can contribute to an overall assessment of the social and economic implications of setting alternative SDLs and the proposed Basin Plan.
3. Initial findings and observations, based on existing data and reports, presented in a discussion paper within 8 weeks of commencing the project. These initial findings will aim to stimulate early consideration of the likely consequences of SDL options, with the information being primarily for the use of the Authority.
4. Up to 20 workshops in regional locations throughout the Basin designed to both present, test and gather feedback on existing information as well as gather new information from stakeholders;
5. Up to 32 draft community profiles (18 sustainable yield regions and 14 local districts as agreed with the Authority).

6. A detailed draft report on the project:
    a. outlining the approach and methods used as well as data sources
    b. providing a compilation of the assessments of the likely economic and social impacts of setting various SDL options on the identified Basin communities
    c. providing a synthesised review and summary of the overarching findings and results.
7. A detailed final report incorporating feedback from the Authority on the draft report. The precise content and format of the final report will need to be agreed with Authority staff.
8. Up to 32 final community profiles.
9. PowerPoint slides identifying key findings and results from the project.
10. Electronic versions of all reports and any related documents and data stores consistent with Authority standards and suitable for possible publication.
11. Presentation of the results to the staff and Board of the Authority.
12. Participation in up to three public workshops to present the results of the project.

Project Approach and Methodology

Scope

The scope of issues to be considered by this project is broad, encompassing aspects of both economic and social impact assessment at the regional to local scale as well as extensive stakeholder consultation to assist in further developing and refining community profiles and contributing to socio-economic assessment processes.

The community profiles are expected to cover the 18 Sustainable Yield Regions used by CSIRO in its report on 'Water Availability in the Murray Darling Basin' plus up to another 14 profiles for smaller districts located along the Murray and Murrumbidgee Rivers and in the Namoi, Gwydir, Border-Rivers and Condamine-Balonne catchments. The 14 regional or local communities selected for economic and social assessments will be the same as for the additional profiles. The final list of areas will need to be agreed with the Authority.

Desktop analysis, consultations and regional workshops are expected to be an important component of this project, with the workshops in particular providing an opportunity for key community and industry stakeholders to:

- Ground-truth the information contained in a series of draft community profiles (currently being prepared by the ABS, ABARE and BRS) to ensure they provide a reasonable statistical reflection of social and economic status of Basin regional communities
- Provide new qualitative and quantitative data and information about social, cultural and economic values and uses associated with the Basin water resources to enrich the community profiles
- Provide social, cultural and economic data and information that will be useful in helping to assess the extent of likely impacts of changes in water availability, through setting of SDLs, on Basin communities and industries (e.g. on issues such as the extent and nature of water dependence, economic diversity, and community resilience and adaptability)
- Provide information about the nature of past, current and prospective adaptation and adjustment strategies adopted by Basin communities and industries (so as to assist in understanding the vulnerability and resilience of selected Basin communities) .

The proposed location of the workshops will need to be agreed with the Authority. It is not proposed that further development and refinement of every community profile for the 18 sustainable yield regions will necessarily require a workshop.

The economic impact assessments should consider the range of positive and negative effects of several likely scenarios for change in water availability on Basin communities, including quantitative and qualitative consideration of:

- Consumptive uses
- Long term security and reliability of water supplies
- Flow-on effects to regional economies (e.g. service and food processing industries)
- Non-consumptive uses of water, such as fishing, recreation etc
- Effects of other market, policy or environmental factors on irrigated farming and Basin economies

The social impact assessments should seek to provide insights, using both quantitative and qualitative information, to inform the Authority's consideration of:

- The social and cultural values Basin communities attach to the use and management of water resources and associated environmental assets
- How these values may be affected by the scenarios for changes in water availability
- Community resilience and adaptability
- Indigenous values and uses of Basin water resources

Development of the community profiles and the economic and social assessments should be considered against the background of the historical and geographical context of the use and management of water resources in the Basin and its constituent regions. For example, issues to be considered, amongst other things, should include the historical trends of change and development relating to agriculture, water and regional economies and any geographical differences across the Basin that may affect future adjustment options (e.g. the extent of diversity of regional economies).

Proposed Time frame

Procurement

The following dates are proposed:

Market exposure via Austender on 12/11/2009

Receipt of proposal by 4.30pm on 07/12/2009

Deliverables

The project will start as soon as possible and be completed within 6 months. The proposed timetable is:

Deliverable	Required Date
Report on proposed framework and methodology	Within 2 weeks of project commencement.
Discussion paper on initial findings	Within 8 weeks of project commencement.

Draft community profiles	Within 8 weeks of project commencement.
Draft report	Within 12 weeks of project commencement.
Final community profiles	Within 12 weeks of project commencement.
Final report	Within 16 weeks of project commencement.
Presentation/workshop participation	To be determined

Budget

Indicative project costs are in the order of $600,000 to $800,000. Tenderers will be expected to provide their own estimate of the costs of providing the required services and provide sufficient material to support those estimates to the satisfaction of the MDBA Evaluation Committee.

Project management

The MDBA project officer will be: Director, Research and Information.

The MDBA project sponsor will be: General Manager, Environmental Planning

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Appendix E

PROJECT/CONSULTANCY BRIEF

(1) Project Number **(2) Contract Number**

(3) Project Title (20 words maximum).
UQ RSMG - Validation of economic impacts of reduced water availability

(4) Project Background

The Water Act (2007) requires the Authority to undertake socioeconomic impact assessment of the Basin Plan and SDL's. Through an earlier procurement process, MDBA appointed ABARE to undertake a socioeconomic impact assessment of SDLs. ABARE's water trade model will assess the cost implications of reduced water on irrigated agriculture. Given that there are limited water trade models that have capacity to undertake economic impacts of changes to water allocations, and that models by their nature have inherent limitations, it is deemed necessary that ABARE's Water Trade Model be validated against another model of similar capabilities. The University of Queensland's RSMG model is known to have this capability and this project will recruit UQs Risk and Sustainable Management Group (RSMG) for validation purposes. Validation of this nature will enable the Authority to make a comparative analyses of potential impacts and provide a confidence or error margin when interpreting results from ABARE's impact assessments.

(5) Project Objectives.

This project will enlist the UQ-RSMG economic model to:

i. Compare and contrast some modelled results of ABARE socio-economic modelling and analyse why differences occur; and
ii. Gain insights between the relationship of SDLs and water variability and the implications for the Basin Plan.

(6) Project Approach and Methodology. ***Mandatory***

Project methodology is predetermined by the RSMG model and defined in the attached project proposal by UQ. It will test a 30% reduction in SDLs and compare results of RSMG model against ABARES assessment of a 30% reduction in SDLs.

(7) Anticipated outputs and deliverables of this Project ***Mandatory***

Outputs will include:

1. Results of model run at a 30% reduction in SDLs as per attached proposal;

(8) Anticipated outcomes directly resulting from this Project

A comparative assessment of impacts of SDLs at 30% allowing a secondary source of information to ABARE's modelled results. Validation of ABARE model runs will provide increased confidence on the range of possible impacts of SDLs.

(9) Who will be the users of the Project outputs?

Use will be limited to MDBA to advise the Board on impacts of SDLs. The project will also help provide input to impacts of the Basin Plan which at a later stage will serve to inform MDB Ministerial Council.

(10) What involvement will other organisations and the users of the project outputs have in this project?

Modelled results will be made available to ABARE and MDBA economic advisors for cross analysis and comparison.

(13) Anticipated start date, end date, duration, and other key dates ***Mandatory***

(14) Estimated Project Cost ***Mandatory***

Maximum cost up to $65,000 GST inclusive.

(15) What project management arrangements are proposed for the project (steering committee composition, chair etc.)? Mandatory

The project will be managed by Brenda Dyack from the Research and Information section, with expert advice also from Drew Collins and Jeff Connor.

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Appendix F

ANNEXURE A

PROJECT/CONSULTANCY BRIEF

(1) Project Number **(2) Contract Number**

(3) Project Title (20 words maximum).

Effects of change in water availability on Indigenous people of the Murray Darling Basin

(4) Project Background

The Murray-Darling Basin Authority (MDBA) has been established by the *Water Act 2007* and has responsibility for developing and implementing the Murray-Darling Basin Plan.

The Basin Plan is being developed to support the integrated management of the Basin's water resources. It will identify key environmental assets and ecosystem functions of water resources that must be protected. The plan will also identify risks to the condition or continued availability of Basin water resources and provide strategies for managing those risks.

The MDBA will develop the plan on the basis of a number of factors including social and economic analysis. This will include having regard to social, cultural, Indigenous and other public benefit issues. The MDBA will use the social and economic analysis to inform how, where and when water can be delivered to meet environmental requirements.

To assist in this process, the MDBA is seeking to understand the particular likely effects of change in water availability associated with the implementation of the Basin Plan on Indigenous people and communities across the Basin. This information will assist in setting the Sustainable Diversion Limit(s) (SDL) and optimising the economic, social and environmental outcomes of the Basin Plan.

This project will complement other social and economic assessments already underway that aim to optimise the outcomes of the Basin Plan.

(5) Project Objectives.

The objectives of this project are to:

- engage with Indigenous stakeholders and communities to gain their input to, and feedback on, the potential impacts of the Basin Plan on Indigenous rights, responsibilities and interests in water of the Basin.
- review and synthesise the current knowledge of Indigenous cultural, social, economic and environmental values of water in the Murray Darling Basin
- identify Indigenous stakeholders and communities and their rights, responsibilities and interests in the waters of the Basin
- assess the likely impacts (positive and negative) of a reduction in sustainable diversion limits on Indigenous values and interests.

(6) Project Approach and Methodology.

Desktop analysis, consultations with appropriate experts and research institutions, consultations with Indigenous leaders and communities and several case studies illustrating the potential impacts of SDL(s) in selected regions are expected to be important components of this project

This project complements two other larger projects that are currently underway:

1. 'Social and economic advice, modelling and analysis' which is focussed on integrated Basin-wide economic impact scenario modelling to estimate the effect of potential changes in water availability on land and water use for the agricultural sector and subsequent flow on effects for employment and incomes at the regional, catchment or Basin scale.
2. 'Economic and social profiles and impact assessments in the Murray Darling Basin' which aims to build upon a range of descriptive information prepared by the Australian Bureau of Statistics, the Australian Bureau of Agricultural and Resource Economics and the Bureau of Rural Sciences, including a series of community profiles.

Accordingly, the project should take account of the emerging outputs from these projects and consider how the outputs of all three can be integrated in a manner that can usefully inform the setting of the long-term sustainable diversion limits (SDL).

Further projects currently being undertaken that may also inform this work include:

- Review of Social and Economic studies in the Murray Darling Basin
- Indicators of Community Vulnerability, Resilience and Adaptive Capacity across the Murray-Darling Basin

Given the existence of these projects, the MDBA will be able to supply a certain amount of data to support the work required. It is anticipated this will both expedite the project and contribute to the containment of costs.

The MDBA convenes a Basin Community Committee (BCC) which includes an Indigenous water subcommittee that guides consideration of Indigenous matters relevant to the Basin's water resources. The MDBA also employs an Indigenous engagement team that works with the Basin's Indigenous communities. It is expected that the successful tenderers will liaise with both these groups during the project (see also point 15 below), including to determine the location and focus of the case studies.

Timeframes for delivery on this project are particularly acute. The MDBA is working to release a draft Basin Plan for public consultation by June 2010. Consequently, the initial outputs of this project (the literature review, workshop and draft assessment report – see also points 7 and 13 below) will need to be finalised by March 2010, with the final report due by 14 June 2010.

(7) Anticipated outputs and deliverables of this Project

The following project deliverables are anticipated:

1. A report that provides:

- a literature review and synthesis of the current knowledge of Indigenous interests in and cultural values of water in the Murray Darling Basin
- identification of Indigenous stakeholders and communities and their cultural values, rights, responsibilities and interests in the waters of the Basin
- draft assessment of the likely impacts (positive and negative) of potential reductions in SDL (s) on those cultural values and interests; and
- three case studies illustrating the potential impacts of reductions in SDL (s) on selected regions and communities

2. A workshop with Indigenous representatives from across the Basin to consider and contribute to the proposed report and its assessments and case studies.

3. Draft assessment report (including feedback from workshop)
4. A final report on the potential impacts of the Basin Plan on Indigenous rights, responsibilities and interests in the waters of the Basin
5. Powerpoint slides identifying key findings from the project
6. Presentation of the results to the staff and Board of the MDBA (as required)
7. Electronic versions of the above reports and related information described provided as available.

(8) Anticipated outcomes directly resulting from this Project

The anticipated outcomes are

- an improved understanding of Indigenous cultural interests in the water resources of the Murray Darling Basin. A determination of such interests will complement the other socio-economic analyses already underway. This information will assist in setting the Sustainable Diversion Limit(s) (SDL) and optimising the economic, social and environmental outcomes of the Basin Plan.
- Improved engagement with Indigenous communities across the Murray Darling Basin

(9) Who will be the users of the Project outputs?

The staff and Board of the Authority will be the principal users of the information produced by this project; they will use it as an input into the Basin planning and decision-making processes. Indigenous communities may also use the information to improve understanding of the Basin Plan, its objectives and its potential effects on their use of the Basin's water resources.

(10) What involvement will other organisations and the users of the project outputs have in this project?

Other organisations will be involved mainly through consultation processes used by the consultants in the gathering and dissemination of project information.

(11) How will the project outputs be disseminated to the user?

The outputs will mainly be disseminated through the draft and final report and the workshop. Results of the project will also be presented to the BCC and to the Indigenous communities of the Basin, via the MDBA Indigenous Engagement team.

(12) What measures will be put in place to ensure that the project outputs are applied and the outcomes are achieved?

This work forms part of the social and economic information work plan, and the overall work plan, developed for implementing the Basin Plan, as noted by the Board at its 5th meeting. Its implementation will be monitored by the Executive and Board of the Authority.

(13) Anticipated start date, end date, duration, and other key dates

The project will start as soon as possible and be completed by 14 June 2010.

The proposed timetable is:

Deliverable	Required Date
Report on literature review (Deliverable 1)	29 January 2010
Workshop with Indigenous leaders (Deliverable 2)	15 February 2010
Draft assessment report (including feedback from workshop) (Deliverable 3)	5 March 2010

Final report on the likely effects of change in water availability associated with the implementation of the Basin Plan on Indigenous people (Deliverable 4)	14 June 2010
Other deliverables (Deliverables 5, 6 & 7)	14 June 2010

Due to the nature of work required in developing the Basin Plan, potential stop points may occur for this project at Deliverable 1. These will be reflected in the final contract between the supplier and MDBA and any payments adjusted accordingly.

(14) Estimated Project Cost

It is anticipated that the cost of the project will be up to $100,000 *inclusive* of GST. The final budget will depend on the proposed approach included in tenders

(15) What project management arrangements are proposed for the project (steering committee composition, chair etc.)?

The project will be managed by the Director, Research and Information in the Basin Plan - under the sponsorship of the General Manager, Environmental Planning Branch. A steering committee comprising representatives from the MDBA Indigenous Engagement section, the BCC Indigenous water subcommittee and the Research and Information section will guide progress in the project.

(16) Project risk

There are several inter-related risks to be managed in this project:

- The commencement of this project is delayed leading to late production of information to inform development of the Basin Plan – the Authority is required to use best available socio-economic analysis to assist it perform its functions
- A crucial aspect to this project is ensuring that those working with Indigenous communities are credible within than community. The risk is that choice of inappropriate provider will delay or impinge on the quality of the final outcomes.
- Delayed implementation caused by delays in consultation with Indigenous communities.
- Interpreting the outcomes of qualitative analysis, which will form the basis of much of this project, in a way that integrates with other economic and hydrological modelling work will present a challenge; this will be managed through the development of a sound methodology by the consultants (a report on which forms the first deliverable for the project), development of a close working relationship with Authority staff and with the consultants undertaking the complementary projects listed in point (6) above.

(17) Ownership and management of project IP

Standard Authority contractual arrangements are proposed; i.e. all IP should be owned by the Authority. It should be noted, however, that some special provisions apply to Intellectual Property provided by Indigenous informants. This will be noted in the final contract.

(18) O H & S issues

No particular OH&S issues are anticipated in undertaking this work

(19) Other issues

Please note that any reports and/or maps produced must comply with MDBA map and website publication specifications as outlined in the final contract. Maps etc may be subject to verification by Indigenous leaders.

Our Ref: ***Quote for Work -***

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Appendix G

Structural Adjustment Pressures on Irrigated Agriculture in the MDB

Project Brief

Background

The Murray-Darling Basin Authority (MDBA) has been established under the *Water Act 2007* and has responsibility for developing and implementing the Basin Plan (for the Murray-Darling Basin).

The Basin Plan is being developed to support the integrated management of the Basins water resources. The plan will identify key environmental assets and ecosystem functions of water resources that must be protected. It will also identify risks to the condition or continued availability of Basin water resources and provide strategies for managing those risks.

The MDBA will develop the plan on the basis of a number of factors including socioeconomic analysis. This will include having regard to social, cultural, Indigenous and other public benefit issues. The MDBA will use the socioeconomic analysis to inform how, where and when water can be delivered to meet environmental requirements.

In developing the proposed plan, MDBA will assess the socioeconomic implications of any reductions in the long term average sustainable diversion limits and provide advice to the Murray–Darling Basin Ministerial Council on these implications. Governments will use this information to consider appropriate responses to social and economic impacts of the Basin Plan.

Statement of Need

To assist both the development of the Basin Plan and determination of the socioeconomic implications of the proposed plan, the MDBA is seeking to better understand the range of structural adjustment pressures affecting, or likely to affect, irrigated agriculture in the Murray-Darling Basin; including as they relate to water availability, water security and water policy.

Project Objectives

The objective of this project is to examine, in relation to irrigated agriculture and its dependent communities, in a manner consistent with the Statement of Need above:

- The range of current and anticipated drivers of structural adjustment within the Murray-Darling Basin;
- The current and foreseeable scope, impacts and implications of such adjustments;
- The extent to which water availability, water security, and water policy are factors;
- Information on the extent to which current and relevant data, information and knowledge exists which describes and quantifies these adjustment pressures.

Expected required deliverables

The following project deliverables are anticipated:

1. A report consistent with the Project Objectives above;
2. A presentation to MDBA staff.

Evaluation Criteria

Submissions will be assessed on the basis of overall value for money and this will include an assessment of the:

- expertise of consultant(s)
- overall cost
- quality of the proposal in outlining the proposed approach and methods
- demonstrated experience in delivering quality outputs on time and budget
- demonstrated understanding of MDB water resource management issues.

Time frame

Deliverable	Required Date
Draft Report (Deliverable 1)	16/12/09
Final Report (Deliverable 1)	01/02/10
Presentation to MDBA (Deliverable 2)	To be determined

Cost

It is anticipated that the cost of the project will be between $15,000 and $25,000.

Project management

The MDBA project officer will be: Assistant Director, Research and Information.
The MDBA project sponsor will be: Director, Research and Information.

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Appendix H

Annexure C – Project Brief

New Project – Draft Project Description for Terms of Reference

Review of Economic Analysis of Non Market Benefits associated with Murray-Darling Basin Environmental Assets

Purpose
This study is being commissioned in order to inform the MDBA about non-market values associated with Basin environmental assets and how these values may change as a result of changes in sustainable diversion limits (SDLs).
Consideration of non-market values in Basin planning is consistent with the requirement to assess the social and economic implications of changes to SDLs.

Method
A desk-top literature review is sought. No new primary research is required as part of this project. Based upon this review, a comprehensive assessment of existing studies of economic non market values associated with the environmental condition of Murray-Darling Basin assets is sought. To the extent that it is appropriate, the providers should draw on studies of benefits outside the Murray-Darling Basin and outside of Australia in order to inform their assessment of values held for assets in the Basin.

Outputs
A **Draft Literature Review and Slides for Presentation to the Board**
Due 26 February

1. 3 slides for presentation to the MDBA Board on 2 March 2010

2. Draft literature review that covers the topics as outlined below in Sections A and B – less than 10 pages in length, approximately.

The format of the three slides will be discussed in collaboration with MDBA staff but are anticipated to cover the following 3 topics.

- What do we know about the size of Total Economic Value of basin environmental assets? (Estimates and ranges.)

- What do we know about relative values of environmental assets? (Examples.)

- What do we know about marginal values related to changes in water availability? (Need to link ecological and economic evaluation.)

The following information should be made available as part of the slide presentation material:

- What are the implications for developing SDLs that could arise from omitting consideration of these values?

- How could the estimates be included in the development phase of the Basin Plan and SDLs? For example, how could non-market value estimates be used to help prioritise across river reaches or assets?

B Literature Review and Expert Economic Evaluation of Non-Market Benefits

Due 15 March

The following tasks are sought as part of the literature review and expert evaluation of existing economic value estimates.

Literature Review

1. An Executive Summary that highlights the main points being made in the paper particularly the information that supports the three slides to be presented to the Board on 2 March.

Literature Review to include the following information and expert evaluation:

2. A discussion of the meaning of non-market valuation.

    a. Explain what is meant by 'values' and 'benefits' in the analyses being reviewed. Compare this to other meanings of values and benefits used in common language and in other disciplines such as Social Science.

3. A discussion of how non-market valuation techniques can assist in water management and planning.

    a. Provide an Australian and an international context for how studies are being used in economic valuation of water policy and natural resource management more broadly. Are there observable trends for incorporating estimates of environmental values in policy making?

    b. What valuation techniques are being employed and comment on the efficacy of alternative techniques in different contexts? Explain the difference between revealed and stated preference approaches? What are the criticisms of these estimates? Why do economists use stated preference techniques if they are less precise than revealed preference techniques? What is the confidence related to non-market value estimates?

    c. Are there trends in the magnitude of estimated values? Why?

4. Describe Total Economic Value (TEV) and Marginal Economic Value (MEV) and the importance of understanding these values in policy assessment.

5. Provide quantitative information about the economic value of changes in environmental quality of environmental assets in the Basin based on a full literature review of all studies that relate to Basin environmental assets.

    a. What is the best estimate of TEV? How reasonable and comprehensive is it?

    b. What can be said about MEVs?

6. How can values for a range of sites inform assessment of tradeoffs of directing water to various sites?

    a. What are the ways this information can be used in assessments?

    b. How can this information be used to inform an assessment of the impact of the Basin Plan on economic values?

    c. Can alternative policies be valued? Can alternative sites and alternative attributes be compared – fishing versus biodiversity conservation, for example?

7. Boxes should be provided that illustrate the values of key sites and also the way the values may be used. Examples include Barmah and Coorong recreation estimates (Dyack et al.), River Red Gums (Bennett), Macquarie Marshes (Morrison) - old and new estimates.

8. What primary research studies could provide valuable on-going non-market value information to assist on-going Basin planning?

    a. What are the knowledge gaps and how long would it take to fill these gaps? Can the gaps be prioritised?

    b. What decisions would be likely to change if this information were available?

C On-going Expert Advice

Expert advice regarding how non-market benefits could potentially inform Basin planning may be sought over the period to 30 June 2010.

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Appendix I

ANNEXURE A

PROJECT BRIEF

Social and Economic implications of changes to water availability and security

Background

The Murray-Darling Basin Authority has been established under the *Water Act 2007* and under that Act has responsibility for developing and implementing the Basin Plan (for the Murray-Darling Basin).

The Basin Plan is being developed to support the integrated management of the Basins water resources. The Basin Plan will identify key environmental assets and ecosystem functions of water resources that must be protected. It will also identify risks to the condition or continued availability of Basin water resources and provide strategies for managing those risks.

The MDBA will develop the plan on the basis of a number of factors including socioeconomic analysis. This will include having regard to social, cultural, Indigenous and other public benefit issues. The MDBA will use the socioeconomic analysis to inform how, where and when water can be delivered to meet environmental requirements.

In developing the proposed Basin Plan, MDBA will assess the socioeconomic implications of any reductions in the long term average sustainable diversion limits and provide a report to the Murray–Darling Basin Ministerial Council along with the proposed Basin Plan. Governments will use this information to consider appropriate responses to social and economic impacts of the Basin Plan.

Statement of Need

To assist both the development of the Basin Plan and in the determination of the socioeconomic implications of the proposed Basin Plan the MDBA is seeking to procure services in relation to social and economic advice, modelling and analysis.

The services will be used to establish a framework for assessing the immediate and longer term socioeconomic implications of the Basin Plan; to inform the determination of sustainable diversion limits (SDLs); and as input to the MDBA's report to the Murray–Darling Basin Ministerial Council on the socioeconomic implications of the proposed plan.

Expert advice is also required to assist the MDBA in developing and undertaking the project.

The project will need to meet the MDBA's immediate Basin Plan needs in a manner that establishes a more enduring framework for determining, recording, describing and communicating the social and economic implications of changes to water availability and security.

It is anticipated that the provision of such services would be supported by social and economic decision support and/or modelling capacity suitable for undertaking detailed analysis at a national, Basin, and regional scale. The impacts on regional economies and regional industry sectors are also required.

The ability, or otherwise, of particular water availability and security scenarios to sustain viable communities is a key aspect of the project.

Further to this, the MDBA is specifically seeking assistance in determining the socio-economic implications of the Basin plan as they relate to the following segments:

- The Australian community;
- The National economy;
- The people and communities located within the Murray-Darling Basin;
- Regional economy's within the Murray-Darling Basin;
- Industry Sectors within the Basin; and
- Regional communities and economys outside the basin that depend on Basin water resources.

Project Delivery

The MDBA recognises that the range of tools, approaches and skills that may be required in determining the socioeconomic implications for each of the above segments may not necessarily reside within the one organisation. Potential suppliers may choose to tender in relation to one or more of the above segments, tender for part of a segment **or** develop a consortium to undertake all or part of the entire project.

Where less than the entire project is tendered for the Project objectives and deliverables will relate to the portion of the project tendered for.

Project Objectives

The objectives of this project are to provide, in a manner consistent with the Statement of Need above;

1. An enduring approach to the ongoing assessment of the socioeconomic implications that result from the Basin Plan's integrated management of the Basins water resources.

2. A consistent but immediate approach to assessing the socioeconomic implications of the initial Basin Plan.

3. Socioeconomic advice, modelling and analysis to inform determination of sustainable diversion limits (SDLs).

4. Input to the MDBA's report to the Murray–Darling Basin Ministerial Council on the socioeconomic implications of the proposed plan.

5. Information on the extent to which current data, information and knowledge exists and how accurately it delivers on the above project objectives.

Expected required deliverables

The following project deliverables are anticipated:

1. A report outlining both the conceptual context and the proposed framework by which the socioeconomic implications are being determined, including the data to be used and its availability. The report must articulate the rationale, approach, metrics and

indicators to be used and the scales to which they can be applied.

2. In line with the framework (1 above) and for the life of the project, ongoing advice and information as to the socioeconomic implications of potential water availability scenarios.

3. In line with the framework (1 above), a detailed report, or reports, on the socioeconomic implications of the proposed Basin Plan.

4. An information store of all relevant data, information and meta-data used within the project; including expert advice on establishing the enduring aspects of such an information store.

5. A strategy for communicating content in both a technical and plain English manner.

6. A report recording information gaps and providing recommendations, where appropriate, on how to address, over the longer term, any identified significant gaps. The report should include any data or information limitations and constraints identified in the delivery of the project.

Issues to be considered

The project will need to take account of the following issues.

1. The project will need to be consistent with, or easily adaptable to, the spatial boundaries that will be used in the development of the Environmental Watering Plan (EWP) and the Water Resource Plans (WRPs) for surface water and groundwater, which collectively will set the Sustainable Diversion Limits (SDL) for the Basin Plan. The Water Act 2007 requires that, as far as possible, the boundaries used for the WRP areas within the Basin Plan be aligned with those provided for under state water management law (Section 22 (2)).

   However, it is possible that a range of new boundaries may be developed, as required, to support the EWP, Salinity and Water Quality Plan and WRPs. Ideally the project will be sufficiently flexible to enable presentation across a range of geographies and scales.

2. Deliverable 2 relates to a process whereby a number of water availability options will be considered for each region or area and socioeconomic analysis of each option is required. The process is likely to be iterative and the information required would become more detailed as the number of potential options decreased. This analysis would be INPUT to the determination of SDLs and the overall development of the Basin Plan.

3. Given the timeframes available the project will need to harness the best available existing data and information. The opportunity to develop new or extensively modify existing decision support and/or modelling tools may be limited.

4. The potential for the Basin Plan to provide improved water security to users must be considered.

5. The project is required to determine the socioeconomic implications of the Basin Plan and to do so will need to distinguish between Basin Plan related implications and those that relate to other factors such as ongoing drought, climate change and existing social or economic trends.

6. The data and information used in the project will be used in both developing the Basin Plan and, over the longer term, in its review. The quality of the data and information used will need to reflect this and their provenance appropriately documented. The current social and economic context for the Basin has been developed by the MDBA based primarily on Australian Bureau of Statistics information - the ability of the project to link with and leverage off this information is paramount.

7. The data and information used in the project will be incorporated into a range of information delivery products. These products include a Ministerial Council document, research and technical papers, information papers and fact sheets. The project deliverables must be provided in a manner suitable for both highly technical and plain English use.

8. The users and uses of Basin water resources extend to those activities outside of the Murray-Darling Basin that receive water from the Murray Darling Basin system and relate to those uses and users directly dependent on the Basin water resource.

Proposed Time frame

Procurement

The following dates are proposed:

Market exposure via Austender on 13/11/2009

Receipt of proposal by 4.30pm on 30/11/2009

Deliverables

Deliverable	Required Date
Conceptual context and Framework Report (Deliverable 1)	Within 28 days of the project commencing
Ongoing advice and reporting as to the Socioeconomic implications of potential water availability scenarios. (Deliverable 2)	Ongoing for the life of the project
Detailed report on the socioeconomic implications of the proposed Basin Plan. (Deliverable 3)	Draft – 15/04/2010 Final- 15/06/2010
Information Store (Deliverable 4)	15/06/2010

Strategy for communicating the technical and scientific aspect of the project. (Deliverable 5)	15/06/2010
Information gaps and limitations report (Deliverable 6)	15/06/2010

Budget

Indicative project costs are in the order of $200,000 to $300,000. Tenderers will be expected to provide their own estimate of the costs of providing the required services and provide sufficient material to support those estimates to the satisfaction of the MDBA Evaluation Committee.

Project management

The MDBA project officer will be: Director, Research and Information.

The MDBA project sponsor will be: General Manager, Environmental Planning

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Appendix J

Annexure C – Project Brief

The MDBA has now received 3 reports in respect of socio-economic and financial management issues:

- KPMG – Accounting advice on the consequence of the release of the Guide and Basin Plan;
- Marsden-Jacobs – Socio economic studies; and
- Financial Advisor (Adrian Rizza) – Financial consequence of the release of the Guide and Basin Plan.

The themes in these reports need to be drawn together into a single report that addresses all the aspects of potential socio economic impact which may arise from the release and implementation of the Guide to the Basin Plan and the Basin Plan. The Authority is engaging a consultant to draw these 3 reports together.
An issue raised in stage 1 of the project is the immediacy with which capital providers are responding to the potential of a change in risk profile of their invested capital in Basin commercial activities. This presents significant challenges for the release and implementation of the Guide and Basin Plan.
To assist in gain a more thorough understanding of this raised in stage 1 and too better appreciate the breath of effect, the Authority has requested that the Financial Advisor should undertake further work to more adequately understand potential financial and socio economic impacts for the development and implementation of the Guide or Plan. These include matters such as:

- assessing implications for working families and small business (including indigenous peoples);
- the inclusion of Banks, equity providers, listed agri businesses and other relevant stakeholders in the MDBA's consultation program; and
- the identification of social service tipping points and the link to capital provider actions.

While, the MDBA recognises that many of these also issues require a broader coordinated Government response the focus on the Financial Advisors project stage 2 is not intended to imping on the whole of Government response.

Scope of Work
With regard to the reduction of consumptive water in Basin regions, the Financial Advisor is to:

1. undertake an assessment of how capital providers are likely to respond to working families (including indigenous people) small businesses as a result of the release of the Guide or the Plan. The assessment should have regard to the:
    a. the effect on irrigated businesses cash flows,
    b. the link between small business in regions to the irrigation sector and how Banks will view the flow on effect to their viability;
    c. the materiality of the small business sector to the Basin and how dependent it is on the irrigation sector. The Advisor should provide comment on this issue

and how material the effected on small business owning families might be (eg a rough idea of how many small business have used the family house as security for the business);

d. the link between the irrigation sector, small business and families with loans or investments. The Advisor should provide comment on this issue and small business sector's materiality.

2. Consistent with the objectives of Authority's engagement strategy, urgently undertake workshops with lending institutions to Basin commercial activity to:
   a. inform them of the pending release of the Guide and Plan;
   b. increase their awareness and knowledge about key features of the Guide and Plan which may affect their approach to their capital exposed to the Basin and the changing risk profile that it faces;
   c. workshop, with lending institutions, their responses and assess proposed mitigation strategies; and
   d. report to the Authority on the issues.

3. Consistent with the objectives of Authority's engagement strategy, urgently undertake consultation with listed agri businesses operating in the Basin (at the CEO or Board level) to:
   a. inform them of the pending release of the Guide and Plan;
   b. increase their awareness and knowledge about key features of the Guide and Plan;
   c. offer to attend meetings with their lending institutions or analysts if necessary to ensure that have an informed view of the Guide and Plan; and
   d. report to the Authority on the issues.

4. Work with Marsden Jacobs to assess the relationship between the release of the Guide or Plan, capital provider responses, Basin community impacts and tipping points for social infrastructure (eg health, banking, etc).

5. Continue to be available to Basin stakeholders wishing to provide information or be consulted on this matter as part of the Authority's ongoing engagement strategy and engage in the Authority's Guide consultation as required by the Authority.

In undertaken this project the Financial Advisor should liaise with Marsden Jacobs and other advisors as required particularly in relation to combination of the 3 bodies of work (referred to above) into a single report to the Authority.

Deliverables
The Advisor will provide:

- short PowerPoint presentation, supported by short targeted papers, to the Authority as required;

- assistance to the Authority's Engagement Team in conveying these matters to stakeholder as required; and
- a report at the completion that incorporates previous work undertaken to assess the impact of the proposed Basin Plan.

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Appendix K

1. PROJECT /SERVICES TITLE	Integration of socio-economic assessments of the Basin Plan
2. DESCRIPTION OF SERVICES	Consolidate independent reports to provide a single report that addresses all the aspects of the potential socio-economic aspects of the Guide to the Basin Plan and the Basin Plan.

7. TASKS TO BE UNDERTAKEN

	Date Due	Task Description
1.	**31 July 2010**	The Consultant will integrate the following reports into a single report that addresses all the aspects of potential socio economic impact which may arise from the release and implementation of the Guide to the Basin Plan and the Basin Plan: • accounting advice on the consequence of the release of the Guide and Basin Plan; • socio economic studies; and • financial consequence of the release of the Guide and Basin Plan.

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Appendix L

Modelling the socioeconomic implications of the introduction of Sustainable Diversion Limits in the Murray-Darling Basin

Project scope

Introduction

The Murray-Darling Basin Authority (MDBA) requests the Centre of Policy Studies (CoPS) to provide advice, including analysis and modelling, identifying the short, medium and long term socioeconomic implications of the introduction of Sustainable Diversion Limits (SDLs) on a regional and Basin wide level and upon downstream economic industries and sectors.

Background

In 2007, the Australian Parliament passed the *Water Act 2007* (the Act), a statutory foundation for implementing the Murray-Darling Basin initiative. A key element of the Act is a requirement for the MDBA to prepare a Basin Plan.

The Act requires that the Authority establish sustainable diversion limits that reflect an environmentally sustainable level of take (s23(1)), that is a level of extraction that will not compromise the environmental water requirements of key environmental assets, including water-dependent ecosystems, ecosystem services, and sites with ecological significance; key ecosystem functions; the productive base; and key environmental outcomes for the water resource. Furthermore the Act (s3(c)) requires the Authority, in giving effect to relevant international agreements through determining sustainable diversion limits, to promote the use and management of water resources in a way that optimises economic, social and environmental outcomes. The MDBA is required set long-term average SDLs for volumes of surface water and groundwater extraction and the conditions under which such diversions can occur.

The introduction of SDLs will mean that a substantially greater proportion of water is available to meet ecosystem requirements. This will support an environmental watering plan included as part of the Plan and address objectives and targets for water-dependent ecosystems across the Basin.

The introduction of SDLs in the Basin will be undertaken in conjunction with two Australian Government programs implemented as part of “Water for the Future”. These are:

- A $3.1 billion buyback of water entitlements
- A $5.8 billion investment in water savings infrastructure aimed at achieving significant water savings for public and public use.

In accordance with the Act, SDLs must be based upon the best available scientific knowledge and must reflect a sustainable level of take. In the event that these proposed diversion limits are exceeded, key environmental assets, ecosystem functions and environmental outcomes of the productive base of the water resource would be compromised.

There is a wide expectation that SDLs will be set below current levels of consumptive water use. This reflects existing stresses on the Basin’s ecosystems. SDLs will apply to overall water resources across the Basin as well as water at the sub-regional and catchment level.

Requirements

CoPS is requested to provide socioeconomic advice, including modelling and analysis, on the short, medium and long term socioeconomic implications of the introduction of SDLs. Where possible, CoPS will undertake analysis of the adjustment path for each relevant MDB region.

CoPS will model these socioeconomic implications on the following basis:

- Change in Gross Value of Irrigated Agricultural Product (GVIAP) and Gross Regional Product (GRP)
- Time periods of one, three and five years from 2014 as well as to 2026
- Basin-wide and individual regions across the Murray-Darling Basin
- Downstream economic implications of the introduction of SDLs on industry sectors including the food, beverage and tobacco processing sector
- A range of agreed assumptions set out below.

As part of its modelling, CoPS will consider a range of socioeconomic implications on a regional and Basin wide level. These may include (but are not limited to) the following:

- Irrigated agricultural production (and dryland agricultural production)
- Industries and sectors present within the Murray-Darling Basin
- Population
- Employment
- Income
- Regions outside the Murray-Darling Basin (including New South Wales, Victoria, Queensland and South Australia).

CoPS is requested to undertake this analysis using its TERM-H2O model (the model). This model comprises 23 regions based on 18 regions within the Murray-Darling Basin and five regions outside the Basin. As part of this advice, CoPS is also requested to further develop the model so as to represent an additional description of regions which may be agreed with the MDBA.

Assumptions

TERM-H2O is a dynamic model. This means that it can model scenarios year-by-year. For example, it may take five years to reach SDL targets. TERM-H2O can model the path of adjustment during the incremental build up to SDL targets, and in the years following. The aim is to model each scenario till the year 2026. All dynamic runs using TERM-H2O include a business-as-usual year-by-year forecast baseline and a year-by-year policy scenario.

For the short term analysis, estimated reductions in water availability due to SDLs under the Basin Plan will be provided by the MDBA against two scenarios:

(1) long run average; and

(2) trend of last five years.

For the medium and long term analyses, estimated changes in water availability caused by the introduction of SDLs on a Basin wide and regional basis will be based on scenarios of reductions of 2000 GL, 3000 GL, 3500 GL, 4000 GL and 5000 GL to current diversion limits and interceptions.

No structural adjustment transitional arrangements will be assumed.

For this purpose, Victoria will be treated the same as other jurisdictions.

Estimates will be prepared on two bases:

(1) no compensation will be assumed; and

(2) compensation will be assumed.

These assumptions will include consideration of the likely effects of current and planned future environmental water purchases in the TERM-H2O baseline.

An additional policy scenario may cover modelling an environmental manager who trades water across time. That is, SDLs are aimed at maintaining average annual environmental flows, but with higher flows in wet years and smaller diversions in dry years. In this stylized scenario, the environmental manager will buy water from farmers in wet years and sell water in dry years.

CoPS will undertake this analysis in a manner that enables the sensitivity of results to be gauged in response to potential movements in commodity prices and water prices. In particular, CoPS will undertake this analysis to include:

- Estimated changes in commodity prices due to shrinkage and growth of industries in response to reduction in water availability by crop, if such price changes are likely to occur
- Indications of the change in supply per crop and the markets that will absorb the supply
- Estimated changes in land values by irrigated, commercial, residential categories for each region resulting from changes to commodity prices and the assumed water trade.

This modelling will be undertaken on the basis that:

- Water trade occurs between regions in the southern Murray-Darling Basin
- No water trade occurs between regions in the northern Murray-Darling Basin.

TERM-H2O Baseline

In most decades, there will be at least a year or two of moderate drought. TERM-H2O can model drought via temporary falls in dry-land agricultural productivity and a fall in the contribution of rainfall to the water available to irrigators. The inclusion of moderate droughts in the baseline impacts on the price of irrigation water, which rises with worsening water scarcity. This will worsen the economic outcome for the policy deviation from forecast relative to years in which rainfall is average or above average.

Liaison with ABARE

CoPS will liaise with ABARE, as appropriate, to confirm any elements of its modelling approach so as to facilitate the consistent application of assumptions across each set of modelling commissioned by the MDBA.

Project Milestones and Timeframes

CoPS will complete this project in accordance with the following schedule and the final report will be provided to the MDBA on 20 September 2010. This schedule also identifies key project milestones.

The proposed timeframes are subject to the MDBA providing to CoPS data on estimated reductions in short and long run average water availability under the Basin Plan so that the project inception meeting may take place on 30 July 2010.

	Milestone description	Date due	Achievement criteria
1.	Inception meeting and proposed methodology report including specification of regions to be analysed	30 July	Meeting held and report accepted by the MDBA
2.	An Interim report outlining the approach and methods used as well as data sources and providing a compilation of the assessments of the likely short term socioeconomic implications of the introduction of SDLs	20 August	Accepted by MDBA as being of appropriate quality and consistent with the inception meeting and the agreed methodology.
3.	A detailed final report incorporating feedback from the Authority on the draft report.	20 September	Accepted by MDBA as being of appropriate quality and consistent with the inception meeting and the agreed methodology and incorporates required changes identified through the draft reports

Further aspects of the project scope are set out in the related document: Project Specifications Required for the Preparation of Contacts prepared by the MDBA.