

MURRAY-DARLING BASIN COMMISSION

Natural Resources Management Strategy

STRATEGIC INVESTIGATIONS AND EDUCATION PROGRAM**Application Form – Extension to existing project I6053****Office Use Only**

Project Number

Program Area

Please read the "Instructions to Applicants".

Please answer all questions relevant to your project.

NB. The Commission requires ten (10) copies of this application by**1999/2000**

1. Project Title (<i>Maximum 10 Words</i>) Extension to project I6053 Salinity control with sustainable farm salt balance through integrated management	
2. Applicant: (<i>organisation to be contracted</i>) Department of Natural Resources and Environment	
3. Project Manager: (<i>name, organisation, postal address, telephone & fax no.</i>) Mr. Alfred Heuperman Inst. of Sustainable Irrigated Agriculture Department of Natural Resources and Environment, Private Bag 1, Ferguson Rd. Tatura. 3616. Phone (058) 335 222 Fax (058) 335 299	4. Administrative Contact: (<i>name, organisation, postal address, telephone & fax no. - all correspondence forwarded to this person</i>) Ms. Christine McKinnon Department of Natural Resources & Environment Box 2500 BENDIGO MAIL CENTRE VIC 3554 Phone: 03 54 304553 Fax: 03 54 304454
5. Other Organisations Involved: (<i>organisation name, postal address, contact, role in project</i>) Goulburn Broken Catchment Management Authority (GBCMA). Private Bag 1, Ferguson Road, Tatura, 3616. Ken Sampson Funding of monitoring of Mt Scobie Pilot site. Berriquin Community Land and Water Management Plan (BCLWMP), PO Box 528, Deniliquin, 2710. Charlie Robinson. Funding of monitoring of Blightly pilot site.	
6. Project Location: (<i>list all regions/areas in which project occurs</i>) <ul style="list-style-type: none"> Local Government Area(s): Shire of Campaspe, Shire of Conargo State Region(s): Goulburn Broken Cathment Management Authority, Berriquin community Land and Water Management Plan. Nearest Town: Kyabram and Blightly 	
7. Project Duration: (<i>SI&E Funded</i>) Commencement Date <u>1/1/1996</u> Completion Date <u>30/7/2004</u>	

Project Funds - Summary8. *Table 1 - Summary of Fund*

Projects will be funded up to 36 months only. As funds are provided on a financial year basis, the project may cross four financial years.	2000-2001 (\$,000)	2001-02 (\$,000)	2002-03 (\$,000)	2003-04 (\$,000)	Total All Years (\$,000)
SI&E Funds Requested (refer Table 3)					
Salaries	3.65	3.83	4.02	12	
Operating					
Total SI&E Funds Requested	3.65	3.83	4.02	12	23.5
Total Other Committed Contributions (refer to Table 5)	10.9	11.4	11.98	12.6	46.8
TOTAL PROJECT FUNDS	14.55	15.23	16	24.6	70.3
Funds Currently being sought from Other Granting Bodies (provide program name and amount)					

Project Objectives

9. Project Objectives

- To monitor soil and groundwater salinity trends resulting from the farm management of saline groundwater at the Mt Scobie and Blighty Pilot sites.
- Report observed soil and groundwater salinity trends at Mt Scobie and Blight pilot sites to stakeholders.

Project Benefits

10. Project Outcomes (Describe the **measurable** achievements and benefits expected as a result of carrying out this project, and include measures of success.)

- Clearly identified impact on soil salinity and groundwater salinity from farm management of saline groundwater.
- A basis to modify land and water management plans for improved sustainability.

Long term outcome of work:

Increased longevity of current groundwater pumping practices for controlling salinity

Project Description

11. Background/Justification: (Maximum A4 page)

High watertables and salinity are a major problems facing irrigated agriculture. Land and Water Management Plans have been developed to arrest the salinity problem. Groundwater pumping is a major component of these management Plans. Groundwater pumping reduces groundwater pressures enabling leaching. Pumping groundwater for controlling salinity also provides an additional water source in areas where groundwater salinity is low. However, in areas where groundwater salinity exceeds 5 dS/m, there are limited options available for disposal of the saline groundwater. Management practices for safe disposal are required if groundwater pumping is to be used for controlling salt problems in areas of high groundwater salinity.

This project was developed originally to assess options available for controlling irrigation salinity in areas with high watertables and groundwater salinity (> 5dS/m). The original project involved conceptual modelling of the salt and water balance at an irrigated farm scale. This work identified that farm management of saline groundwater is technically feasible and more favourable in economic terms than either exporting salt off farm (through surface drains) or to large evaporation basins. Two pilot sites were established to test the outputs from the conceptual modelling. The sites were located on dairy farms near Kyabram in northern Victoria and near Blighty in southern New South Wales. These sites had existing salinity problems and groundwater was saline (between 5 and 10 dS/m). The establishment of the pilot sites was funded in the original project with substantial contributions from the relevant Land and Water Management Plans and from the farmers. Assessment of the sustainability of these sites require long term monitoring to assess the impacts of pumping saline groundwater on soil and groundwater salinity. The original project was too short in duration to acquire this data. An extension to the project will allow measurement of the impacts of pumping saline groundwater over a 5 year period.

Funding for the monitoring of the two sites will be provided by the relevant Land and Water Management Plans. The MDBC contribution to the extension of the project will cover the cost of on-going data archival and reporting to stakeholders.

Project Description

12. *Main Activities and Methods: (Describe the main activities to be undertaken and the procedures / research methods to achieve the project objectives and outcomes.)*

1. Measure water budget for study areas (groundwater and surface)
2. Measure change in soil salinity over a 5 year period. Annual soil surveys will be conducted at the end of each irrigation season.
3. Measure changes in groundwater salinity over a 5 year period.
4. Archive and report on findings to project stakeholders (MDBC, BCLWMP, GBCMA).
5. Review and report on the 5 year impact of pumping saline groundwater on soil and groundwater salinity.
6. Provide recommendations on actions necessary for project findings to be implemented into relevant land and water management plans.

Project Management

13. *Project Manager and Other Team Members:*

Name, Qualification and Organisation	%age Time Allocated to Project	Responsibilities within Project	Relevant Experience
Alfred Heuperman	1%	Project management	18 years experience in soil and water research
Alistair Terry	5%	Project Officer	7 years research experience in farm salt and water management
Matthew Bethune	1%	Scientific input	

14. *Project Milestones: (Describe major milestones of the project showing completion date for each milestone, and the achievement criteria for verifying that milestones have been reached. The project should have no more than two major milestones per year.)*

Date for Completion	Description of milestone	Achievement Criteria
30/7/2001	Completion of annual report	Acceptance of annual report by stakeholders [#]
30/7/2002	Completion of annual report	Acceptance of annual report by stakeholders [#]
30/7/2003	Completion of annual report	Acceptance of annual report by stakeholders [#]
30/7/2004	Completion of final report	Acceptance of final report by stakeholders [#]

[#] Stakeholders include: Murray Darling Basin Commission, Goulburn Broken Catchment Management Authority and Berriquin Community Land and Water Management Plan

15. *Table 2 - Timetable of Activities and Achievements: (For each activity rule a line through the period to complete activity. Indicate key milestones)*

	00			01			02			03			04		
Activity or Achievement	May	June	July	May	June	July	May	June	July	May	June	July	May	June	July
1) Soil sampling	---			---			---			---			---		
2) Soil chemical analysis		---			---			---			---			---	
3) Annual report			---*			---*			---*			---*			
4) Final report															---*

* Indicates due date of milestone

Project Funds and resources - Detail

16. *Table 3 - Source of Other Committed Funds:*

	1999-2000 (\$,000)	2000-01 (\$,000)	2001-02 (\$,000)	2002-03 (\$,000)	Total (All Years) (\$,000)
Other Committed Contributions – LIST BY TASK					
Financial (ie Cash)					
Soil sampling and analysis at Blighty: Berriquin Community Land and Water Management Plan	5.425	5.7	5.99	6.3	23.4
Soil sampling and analysis at Mt Scobie: Goulburn Broken Catchment Management Authority	5.425	5.7	5.99	6.3	23.4
TOTAL OTHER COMMITTED CONTRIBUTIONS	10.9	11.4	11.98	12.6	46.8

Project Certification

17. *Certification: I certify that this application has my approval and I understand a project agreement will be entered into should this proposal be approved for funding.*

Name: Dr Robert Wildes

Position Held: Principal Scientist Sustainable Agriculture, Institute of Sustainable Irrigated Agriculture, Tatura.

Signature:

Date: __/__/