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NORTHERN AUSTRALIA IRRIGATION

FUTURES: Providing new knowledge, tools, and processes to support debate and decision making regarding irrigation in northern Australia

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CSIRO Land and Water Client Report

NPSI Project CDS23

Milestone 4 Report

January 2006



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CSIRO

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National Program for Sustainable Irrigation (NPSI)

CRC for Irrigation Futures

Australian Government

Queensland Government

Northern Territory Government

Western Australian Government

Steering Committee

Greg Claydon (Chair) – Queensland Department of Natural Resources and Mines

Murray Chapman – National Program for Sustainable Irrigation

Ross Dalton - Australian Government Department of Agriculture, Forestry and Fisheries

Kevin Devlin – Sunwater

Mathew Durack – Cooperative Research Centre for Irrigation Futures

Andrew Kelly – Ord Irrigation Cooperative

Jos Mensink – WA Office of Water Strategy

Ian Smith – NT Department of Environment, Natural Resources and the Arts

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NORTHERN AUSTRALIA IRRIGATION FUTURES

Providing new knowledge, tools, and processes to support debate and decision making regarding irrigation in northern Australia

1.0 SUMMARY

Deciding on whether to irrigate in northern Australia, and if so what irrigation should look like, where it should be located, and how it should be managed, requires improved understanding of river and catchment attributes and the risks associated with irrigation. Various studies are underway to improve that understanding and ensure decisions are made with the best information available about the long term implications for tropical catchments. The Northern Australia Irrigation Futures (NAIF) project is funded by the Commonwealth Government and the Governments of Western Australia, Queensland and the Northern Territory with the aim of providing new knowledge, tools and processes to support debate and decision making regarding irrigation in northern Australia.

The NAIF project will deliver a Sustainability Framework for use by policy makers, regulators, community organisations, managers, and investors to support more robust debate and improved decision making regarding if and where to irrigate in tropical Australia, what tropical irrigation systems could look like, and how they should be managed to meet social, cultural, environmental and economic sustainability objectives. The sustainability framework will also allow assessment of the performance of existing irrigation areas to help determine if and what changes may be necessary to make them more sustainable. The project will draw on past experience of irrigation and develop new knowledge of groundwater systems and irrigation mosaics to build an understanding of risks associated with irrigation and of key landscape attributes critical to sustainable irrigation in northern Australia.

The NAIF project comprises of two key phases. Project initiation in 2003 was funded through Land and Water Australia's (LWA) National Program for Sustainable Irrigation (NPSI) and funding through the CRC for Irrigation Futures (CRC IF) for PhD students to undertake research consistent with the NAIF objectives. Subsequent to that, the QLD, NT, WA and Commonwealth Governments provided additional resources to the research by funding a new position of Sustainability Specialist. While the initial research under the LWA/NPSI program concludes in mid 2007, further follow-on work is anticipated as the funding agreement for the Sustainability Specialist position with the NAIF project extends to October 2008.

This NPSI Milestone 4 Report puts into effect changes required to implement the revised NAIF Stage 2 Work Plan, as approved by the S on 1 December 2005 and attached to the Milestone 3 Report.

2.0 PROJECT DETAILS

2.1 Project Reference Number: CDS23

2.2 Project Title: Northern Australia Irrigation Futures: Providing new knowledge, tools, and processes to support debate and decision making regarding irrigation in northern Australia

2.3 Contracted Research Organisation: CSIRO Land and Water

2.4 Principal Contact:

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2.5 Project Duration: 01/07/03 – 30/06/07

2.6 Milestone number: 4

2.7 Due date: 31 January 2006.

Note: Change of due date from 30/11/05 to 31/1/06 was approved on 5/12/05.

2.8 Project Objectives:

1. Delineate key landscape attributes (including soil & water resources, climate, vegetation, rivers, near shore marine environments, & where appropriate links to people, industries, markets) relevant to sustainable irrigation development across northern Australia
2. Use key landscape attributes to develop sustainability indicators and associated management criteria covering a range of scales (field, farm, district, irrigation scheme, catchment) for northern Australia
3. Develop an overall framework that, through their involvement, is embraced by policy makers, regulators, investors and managers, to ensure irrigation is developed and managed in a consistent and sustainable manner across northern Australia
4. Use a number of linked case studies to support and inform development and enable testing of the framework
5. Through provision of a robust framework, contribute tools and knowledge to support considered debate & long term strategic planning for northern Australia & Australia as a whole

3.0 ALTERATION TO ORIGINAL OBJECTIVES

The following change to the original Project Objectives (above) is proposed:

Objective 3 to be amended to address incorrect perceptions that the project is promoting new irrigation development and to better reflect that the project aims to support decisions about irrigation in northern Australia. Objective 3 would then read:

“Develop an overall framework that, through their involvement, is embraced by policy makers, regulators, investors and managers, to help ensure irrigation developments in northern Australia are managed in a consistent and sustainable manner.”

4.0 MILESTONE DESCRIPTION AND ACHIEVEMENT

4.1 Generic Deliverables – Achieved

Related Achievement Criteria: *“Generic deliverables achieved”*

Report format

All project reports and communications are available in electronic and hardcopy as specified by LWA.

Photographs

A disk containing photographs depicting project milestones in a digital format suitable for web and PowerPoint presentations will be forwarded to NPSI separate to this report. Discs containing photographs will be forwarded at each Milestone report.

Media

Minister Truss featured the NAIF project in his keynote address to the Irrigation Association of Australia’s Annual Conference in Townsville on 18 May 2005 (Attachment 1).

CSIRO issued a media release on 12 August 2005 seeking expressions of interest to the NAIF Stakeholder Reference Group and on 19 October 2005 announcing the appointment of Jeff Camkin to the position of Sustainability Specialist. Both are at Attachment 2 and available at <http://www.clw.csiro.au/naif/media.html>.

On 29 October 2005 the Canberra times carried a story “CSIRO ‘bled to death’; 780 jobs under review. The article was generally about a restructure within CSIRO but finished by indicating that the Australian Conservation Foundation and World Wildlife Fund Australia were critical of the NAIF project. A copy of the article is at Attachment 3.

A list of media articles directly relating to the NAIF project is at Attachment 4.

CSIRO has recently changed its policy regarding public comment and Dr Bristow now has Divisional approval to deal directly with the media regarding irrigation and water management in northern Australia, including the NAIF project. Similar approvals are being sought for Jeff Camkin. NAIF media releases require approval of the Communications Management Team of the SC Chairman Greg Claydon, Dr Keith Bristow and Jeff Camkin. Where the media release includes potentially sensitive material of a scientific or political

nature, SC members will be given the opportunity to comment prior to release.

Knowledge assets

The NAIF project is delivering a range of new knowledge assets. NAIF reports released to date include either new knowledge or interpretations/new perspectives of existing knowledge in the northern Australia context.

A widening cross-section of the Australian community which has been engaged by the project continues to build its knowledge and understanding of the uniqueness of the northern Australia environment and of the various issues that need to be addressed in assessing the risks associated with irrigation in tropical Australia.

Equally, the NAIF project team and SC are building their awareness of the issues of importance to northern Australia stakeholder and how the NAIF project is viewed. For example, it has become clear that irrespective of the project aim of providing new knowledge, tools and processes to support debate and decision making regarding irrigation in northern Australia some stakeholders are concerned that the project will facilitate significant additional pressures for the expansion of irrigated agriculture. The project team and SC are taking this knowledge on board and actively looking for ways to address these stakeholder concerns.

Comments on Special Conditions (as required)

Nil.

4.2 Work plans continue with all priority stakeholders participating – Achieved.

Related Achievement Criteria: *“Work plan goals achieved: Report on Northern Australia’s social, economic and institutional arrangements; and Report on NAIF Engagement / Communication strategies including evidence of NAIF team taking proactive approach to identification of key audiences, their issues and NAIF response.”*

Funding partner organisations have been engaged in the development and implementation of the Work Plan through the NAIF SC. The SC approved a revised Stage 2 Work Plan on 1 December 2005, which was provided as Appendix 3 to the NPSI Milestone 3 Report.

The Work Plan will be provided to the Stakeholder Reference Group (SRG). Any comments received from the SRG will be considered and, where appropriate, modifications to the Work Plan proposed for SC consideration.

The status of deliverables due within the reporting period to 31 January 2006, as specified in the Stage 2 Work Plan, is as follows:

Activity	Deliverable	Due	Status
1.1	Project monitoring and reporting strategy	20/12/05	SC will consider draft Monitoring and Evaluation Plan on 14/2/06 (Attachment 5)
1.2	Communication risk management plan	31/12/05	SC will consider draft Stakeholder Engagement and Communication Strategy on 14/2/06 (Attachment 6)

2.1	Guide to northern Australia institutional frameworks	31/12/05	Draft Guide to Institutional, Legislative and Policy Frameworks Relevant to Water and Irrigation Management in Northern Australia under final review prior to forwarding to SC members for review (Attachment 7)
5.3.1	Operational agreement between NAIF & NT re case study	31/1/06	Delayed due to unavailability of key officers during January. Target is now 28/2/06
5.3.2	NT case study stakeholder engagement strategy	31/1/06	As above. Target is now 28/2/06
5.4.1	Operational agreement between NAIF & WA re case study	31/1/06	As above. Target is now 28/2/06
5.4.2	WA case study stakeholder engagement strategy	31/1/06	As above. Target is now 28/2/06
5.5.1	Operational agreement between NAIF & QLD re case study	31/1/06	As above. Target is now 14/2/06
5.5.2	QLD case study stakeholder engagement strategy	31/1/06	As above. Target is now 14/2/06

4.3 Draft of SF available with prototype SI's for GW systems and mosaics – Partially achieved.

Related Achievement Criteria: Nil.

The Sustainability Framework and Sustainability Indicators

This work, which was originally led by Bart Kellett, focuses on development of a Sustainability Framework consisting of a set of tools and processes to help address the likely future role of irrigation in northern Australia. It is important to note that the NAIF project does not and will not make decisions about whether or not irrigation should take place and if so where. Those decisions will continue to be the responsibilities of governments and the relevant communities. The NAIF project aims to help those decision makers to make the most informed decisions possible by providing new knowledge, tools and processes to improve decision making.

This research addresses the environmental sustainability of irrigation through application of tools and processes designed to support debate about irrigation and decision making about whether to proceed with irrigation or not. The current prototype of the Sustainability Framework was presented by Dr Bristow at the NPSI Investors Forum on 23 October 2005 and is reproduced in *Figure 1*. The prototype indicates that the tools that make up the Sustainability Framework will include a visioning tool, a planning and assessment tool, and monitoring and reporting. The aim is to also use these tools to further improve existing and evolving irrigation areas.

The Visioning Tool will contribute an information base and process to support region-specific irrigation visioning: a process necessary to strengthen regional natural resource planning. The Planning and Assessment Tool will contribute to regional natural resource management by identifying risky irrigation designs and management options. The Monitoring and Reporting Tool will contribute indicators, threshold values, and a process for the development and application of these to irrigation regions. Development of the Sustainability Framework will show the necessity of interdependent visioning, planning, assessment,

monitoring and reporting practices to improve decision making transparency and consistency.

A range of activities inside and outside of the project contribute to the development of visioning, planning and assessment, and monitoring and reporting tools. For example, monitoring and reporting tools are being progressed through the CRC IF Sustainability Challenge project. As the NAIF case studies progress they will draw in to the project the important learnings from the Sustainability Challenge project of relevance to the NAIF project with respect to monitoring and reporting.

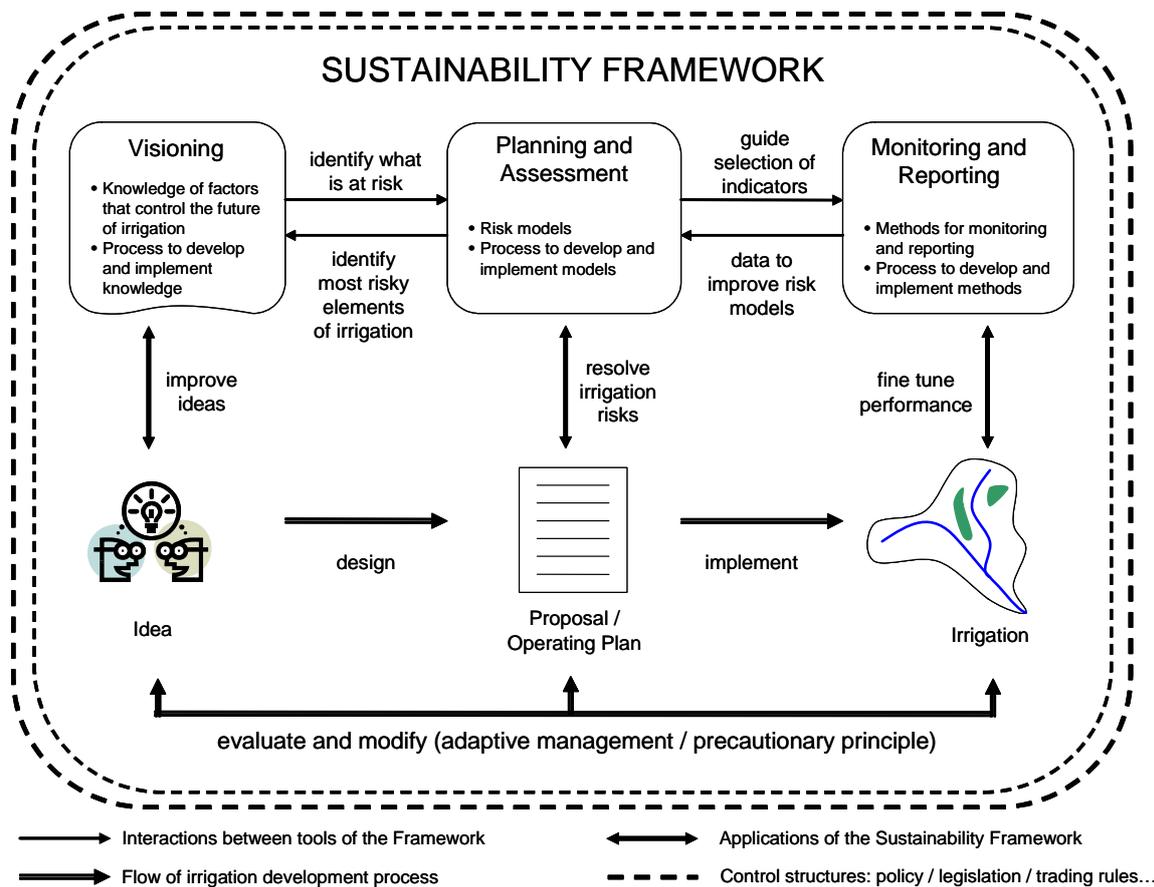


Figure 1: Schematic of the proposed Sustainability Framework and its application

The use of Sustainability Indicators for irrigation was examined in the NAIF/CSIRO Technical Report “Indicator Frameworks for Assessing Irrigation Sustainability” (Kellett, B., Bristow, K.L. & Charlesworth, P.B. 2004). The report is available at: <http://www.clw.csiro.au/publications/technical2005/tr1-05.pdf>. Subsequent work suggests that sustainability criteria in the form covered in the report may not be as useful as first thought.

Bart Kellett made substantial progress with the Sustainability Framework, but review of his PhD program has meant that he will now need to focus more of his attention on particular elements of the Framework in order to meet PhD requirements. Broader aspects of the Sustainability Framework will therefore need additional input from the Sustainability Specialist and other members of the Project Team, particularly relating to the Visioning tool, and from the CRC IF Sustainability Challenge project which is working in close cooperation

with the NAIF project, particularly in relation to the Monitoring and Reporting tool.

NAIF Work Plan Activity 5.2.1, due 31 March 2006 will report on the lessons learnt to date under the NAIF project and propose to the SC an approach for finalising the Sustainability Framework. This will be covered in the Milestone 5 Report.

Northern Australia Groundwater Systems

This work, which is led by Dr Cuan Petheram, focuses on developing improved understanding of water in the tropics, particularly tropical groundwater systems and likely risks to groundwater and connected surface water systems if used for irrigation. The aim is to draw on other work on 'cultural values of water' in addressing these issues.

The work links with other government, community and regional NRM activities at various sites and particularly at agreed case study sites including the Lower Burdekin and the Daly River basin.

A review of tropical groundwater systems has commenced with the support of the WA, QLD and NT Government agencies. Work on developing a groundwater flow classification system for northern Australia has been proposed and is under further consideration by the agencies and the NAIF SC. Recommendations on how to proceed with the classification system will follow further analysis over the next few months.

In conjunction with the WA Department of Water a project proposal "*Improved understanding and management of water resources in northern WA*" was submitted for funding consideration under the Premier's Water Foundation. The project aims to consolidate information and generate new knowledge about the hydrogeological settings and water resources of WA's north. It will focus on the groundwater systems, surface water – groundwater interactions, the ability of groundwater systems to serve as 'water storages', water availability, and the likely impact of climate variability and climate change on water availability. This project proposal reflects discussions between the NAIF project team and hydrogeologists from the NT, WA and QLD and is likely to be matched with a similar proposal under the Commonwealth Government's Raising National Water Standards program. While some outputs from the proposed project may not be available during the course of the current NAIF project, this proposal demonstrates the important role that NAIF can play in identifying knowledge gaps and facilitating cooperative arrangements across northern Australian jurisdictions to address them.

Irrigation Mosaics

This work focuses on developing a conceptual understanding of the differences between traditional large scale irrigation systems and irrigation mosaics involving irrigation of smaller discrete patches of land dispersed across the landscape. Dr Freeman Cook is progressing this work following the Departure of Dr Charlesworth from CSIRO. The new delivery timelines are included in the revised Stage 2 Work Plan. Further details on this issue are provided in 7.0 Human Resource Issues.

4.4 Attendance including presentation and poster display by PI at annual Sustainable Irrigation Program Forum – Achieved.

Related Achievement Criteria: *“Presentation and poster display at annual forum”*.

The Principal Investigator (Dr Keith Bristow) and the project Sustainability Specialist (Jeff Camkin) attended the NPSI Investors Forum on 23 October 2005. Dr Bristow presented on the NAIF project status, learnings to date and future directions. The presentation and poster display are at Attachment 8.

4.5 At least one Steering Committee meeting held – Achieved.

Related Achievement Criteria: *“Steering committee meeting held and relevant plans and strategies agreed.”*

Steering Committee meetings continue to be held on an as needs basis to address agreed priorities. Six Steering Committee meetings were held between 30 May 2005 and 1 December 2006, 4 of which were by tele-conference. Key matters addressed during this period were funding for the sustainability specialist position, appointment of a consultant to undertake a communication risk assessment and approval of the Stage 2 Work Plan.

Meeting dates from the inception of the Steering Committee are recorded below. All Steering Committee meetings are minuted and have been provided to NPSI.

SC Meeting #	Date	Format
15 (pending)	14 February 2006	Face-to-face; Townsville
14	1 December 2005	Tele-link
13	26 October 2005	Face-to-face; Mildura
12	13 September 2005	Tele-link
11	4 August 2005	Tele-link
10	12 July 2005	Tele-link
9	30 May 2005	Face-to-face; Darwin
8	21 April 2005	Tele-link
7	14 March 2005	Tele-link
6	14 February 2005	Tele-link
5	9 September 2004	Tele-link
4	21 May 2004	Tele-link
3	14 May 2004	Tele-link
2	15 April 2004	Tele-link
1	11 March 2004	Tele-link

4.6 Engagement and communications strategies implemented with feedback from stakeholders involved – Achieved.

Related Achievement Criteria: *“Report on NAIF Engagement/Communication strategies including evidence of NAIF team taking proactive approach to identification of key audiences, their issues and NAIF response.”*

Stakeholder Engagement and Communication Strategy

Members of the NAIF Project Team communicate regularly and transparently with NPSI, CRC IF, LWA, the SC, the NAIF SRG and CSIRO Land and Water. Communication is through email, telephone and face-to-face meetings.

A draft Stakeholder Engagement and Communication Strategy (Attachment 6) was prepared, taking into account a communication risk assessment. The aim of the Strategy is to significantly increase stakeholder and community awareness of the NAIF research project intent, activities and outputs in order to improve stakeholder engagement, develop greater community support for the project and maximise project benefits.

The Strategy pays particular attention to engaging and communicating with:

- The project funding and partner organisations
- Governments
- Researchers
- Non-government interest groups, including environmental and indigenous groups
- Case study area stakeholders
- The general community and
- The media.

Key stakeholder engagement and communication tools include:

- The Steering Committee
- The Stakeholder Reference Group
- The NAIF Stakeholder Network
- Briefings for Government Ministers and their agencies
- Publication of scientific research
- Meetings with key stakeholder representatives
- Presentations, exhibitions and posters
- Newsletters
- NAIF website at <http://www.clw.csiro.au/naif/>
- Media releases and press advertisements and
- Preparation of key messages and Q&A.

Ongoing efforts will be made to profile the project and its outputs at the local, regional, state, national and international levels. In doing so, the project team will work with the SC to assess political sensitivities and ensure quality control of communications. Particular attention will be given to communication products (specifically reports) produced by the project to ensure they are, where possible, coordinated with other key northern activities including Government and Tropical Rivers Program activities.

The SC endorsement is expected to endorse the Stakeholder Engagement and Communication Strategy at its meeting on 14 February 2006.

Stakeholder engagement and communication features during the reporting period
Monthly tele-meetings of NAIF, the Tropical Rivers Inventory and Assessment Project, Charles Darwin University, the Northern Territory Department of Natural Resources, Environment and the Arts have been established to share information, identify opportunities for collaboration and maximise linkages across current and future research projects. The group is chaired by Jeff Camkin.

As agreed by the SC, Jeff Camkin attended a series of meetings organised by the Australian

National Committee on Irrigation and Drainage (ANCID) in Darwin on 21-22 November 2005 to discuss ANCID's 2006 Annual Conference, which will be hosted by the Ord Irrigation Cooperative but held in Darwin in October. This provided an opportunity to meet with some of the NAIF key stakeholders in the Northern Territory and to investigate possible linkages between the ANCID conference and the NAIF project. Jeff Camkin subsequently met with other NT stakeholders to discuss the NAIF project and identify opportunities for collaboration.

Dr Keith Bristow presented a paper "*Irrigation in northern Australia – is it worth the risk?*" at the ASA-SSSA National Conference, 6-10 November, Salt lake City, Utah, USA.

Dr Keith Bristow and Jeff Camkin met with a range of WA government stakeholders on 30 November – 2 December 2005 in Perth to progress the proposed WA case study, work on understanding tropical groundwater systems and generating further support for the NAIF project.

Jeff Camkin was invited by the National Water Commission to participate in a workshop in Canberra on 2 December 2005 aimed at developing guidelines for funding of irrigation related projects under the Water Smart Australia program.

Bart Kellett presented a paper and poster "*Reflecting on stakeholders' perceptions in an ecological risk assessment workshop*" at the Environmental Research Event Conference, 29 November – 2 December in Hobart, Tasmania.

A list of all NAIF publications and presentations, and workshops, seminars and meetings facilitated by or featuring NAIF, is at Attachment 9.

Correspondence

The following correspondence was received/sent during the reporting period:

- 15 December 2005. Letter received from Dr Stuart Blanch, Freshwater Manager WWF on behalf of affiliate groups of the Northern Australia Environmental Alliance. The letter was in response to a letter of 11 May 2005 from the Chairman, NAIF Steering Committee, which in turn was in response to a letter from Dr Blanch of 30 March 2005. Dr Blanch advised in the 15 December 2005 letter that NAEA declined the invitation to join the NAIF Stakeholder Reference Group. Dr Blanch raised several issues regarding the project and, on behalf of NAEA, proposed a meeting between key members of the NAIF project and NAEA affiliate groups to discuss and clarify any misunderstandings and seek a way forward. A response from the NAIF Steering Committee Chairman is in preparation.
- 26 September 2005. Letter to all nominations advising of their acceptance onto the NAIF Stakeholder Reference Group.

4.7 Monitoring and evaluation strategies implemented – Achieved.

Related Achievement Criteria: Nil.

It has always been recognised that the NAIF research project is a challenging one that will require a high degree of adaptability to achieve success. The project funders, SC and project team have all demonstrated an understanding and willingness to adapt the project design in response to new knowledge and feedback.

A Monitoring and Evaluation Plan, based on a continuation of the principles of adaptive and participatory management has been prepared (Attachment 5). The Plan is designed to:

- Assist the project team, SC and funding organisations to decide if the project and its priorities, targets and actions need to be changed, and where attention should be focussed
- Support the use of an adaptive management approach to ensure continuous improvement based on new knowledge and experience as the project progresses
- Determine accountability for monitoring, evaluation and reporting outcomes
- Establish regular reporting systems for accountability to SC and the State and Commonwealth Government project investors
- Assess project outcomes and success.

The Plan provides the project goals and objectives, describes the performance indicators against which success can be measured, lists the sources of data to enable measurement, identifies the risks to success, establishes the reporting regime, documents the role of peer review and allocates responsibilities for implementing the Plan.

SC endorsement of the Plan is expected at its meeting on 14 February 2006.

4.8 Stakeholder Reference Group receiving and providing feedback – Achieved.

Related Achievement Criteria: “*SRG functioning*”.

The Stakeholder Engagement and Communication Strategy reflects the view of the project team and SC in highlighting the importance of the NAIF Stakeholder Reference Group (SRG) as a key mechanism to engage with key stakeholders.

A request for Expressions of Interest (EOI) in joining the SRG was advertised on 12 August 2005 and nine responses were received. The result of the EOI process is that for some sectors there were duplicate nominations and for others no nominations were received. The SC endorsed the appointment of all nominations to the SRG but agreed that membership of the SRG should remain open with sectors not covered encouraged to join, subject to SC endorsement. Strategies to address membership of the SRG are included in the Stakeholder Engagement and Communication Strategy.

All nominations to the SRG received a letter of confirmation of appointment from the Chairman of the Steering Committee. All SRG members were contacted during the reporting period and advised of the current status of the project, including details of the revised Stage 2 Work Plan, development of the Stakeholder Engagement and Communication Strategy, status of the SRG and proposed activities for the SRG in 2006. All SRG members were very positive about the NAIF project and enthusiastic about their involvement in it.

An update on the status of the SRG will be provided in the Milestone 5 Report.

4.9 Milestone report submitted – Achieved.

Related Achievement Criteria: “*Milestone approved by Land & Water Australia.*”

This Milestone 4 Report was submitted on 31 January 2006.

5.0 VARIATIONS REQUIRED TO FUTURE MILESTONES

The Milestone 3 Report noted that suggested variations to future milestones, incorporating the changes required to implement the revised Stage 2 Work Plan approved by the SC on 1 December 2005 would be addressed in the Milestone 4 Report. Recommended variations to future milestones are at Attachment 10 to this report.

Proposed changes to the Milestone 5, 6 and 7 Deliverables and Achievement Criteria reflect the revised Stage 2 Work Plan. Each proposed deliverable has specific achievement criteria related to it.

The due date for Milestone Reports 5 and 6 remains the same. A change in the due date for Milestone 7 – Final Report from 1 May 2007 to 31 July 2007 is proposed. This change will increase the time available to properly engage with stakeholders in the case study activities and will help ensure important learnings from the case study activities and from Bart Kellett's PhD can be incorporated into the sustainability framework. The Final Financial Statement will still be delivered by the current due date of 30 September 2007.

The funding agreement between CSIRO and the Commonwealth, QLD, NT and WA Governments for the Sustainability Specialist position supports the change in completion of the NPSI Final Report. The agreements are for the period October 2005 to October 2008, thereby bridging the period that the Final Report is required.

6.0 FINANCIAL ISSUES

Cash contributions to the NAIF project from the QLD, NT, WA and Commonwealth Governments have increased significantly in accordance with their commitment to fund the establishment and operation of a new position of Sustainability Specialist. These contributions are \$65,000 p.a. from QLD and WA, \$50,000 p.a. from NT and \$20,000 p.a. from the Department of Agriculture, Fisheries and Forestry (DAFF), all excluding GST.

The NAIF Stage 2 Work Plan has been revised to take into account the additional contributions from these sources and the additional capacity that the Sustainability Specialist position brings to the project.

The arrangements for funding the Sustainability Specialist are detailed in Deed of Grant between CSIRO and DAFF and a funding Agreement between CSIRO, the State of Queensland represented by the Department of Natural Resources and Mines, the State of Western Australia represented by the Department of the Premier and Cabinet, and the Northern Territory represented by the Department of Natural Resources, Environment and the Arts. The Deed and Funding Agreement are for a period of three years (17 October 2005 to 16 October 2008), which extends beyond the LWA/NPSI project conclusion.

7.0 HUMAN RESOURCE ISSUES

The NAIF project comprises of two key phases. Project initiation in 2003 was funded through Land and Water Australia's (LWA) National Program for Sustainable Irrigation (NPSI) and

funding through the CRC for Irrigation Futures (CRC IF) for PhD students to undertake research consistent with the NAIF objectives. Subsequent to that, the QLD, NT, WA and Commonwealth Governments provided additional resources to the research by funding a new position of Sustainability Specialist. While the initial research under the LWA/NPSI program concludes in mid 2007, further follow-on work is anticipated as the funding agreement for the Sustainability Specialist position with the NAIF project extends to October 2008.

The Milestone 3 Report indicated that Jeff Camkin had commenced in the position of Sustainability Specialist on 17 October 2005 and that further details on the final arrangements would be detailed in the Milestone 4 report. The final duty statement for the position of Sustainability Specialist is at Attachment 11. Jeff Camkin was appointed to the position at CSIRO Officer Level 7 for a three year term appointment. CSIRO issued a media statement announcing Jeff Camkin's appointment to the position.

Dr Phillip Charlesworth left CSIRO in mid-June 2005. This requires the identification and appointment of a new person to the project with appropriate understanding and experience with spatial data management and analysis tools to address the issue of irrigation mosaics. The position of Irrigation/Water Systems Scientist was advertised by CSIRO but no suitable applicants have been received to date. Changes to the timetable for delivery of work on irrigation mosaics because of this delay in appointment were reflected in the Stage 2 Work Plan approved by the SC on 1 December 2005. Dr Freeman Cook, CSIRO Land and Water, is now leading work on irrigation mosaics consistent with the revised Work Plan.

CV summaries for all Project Team members are now available on the NAIF website at http://www.clw.csiro.au/naif/project_team.html.

8.0 COMMUNICATION ACHIEVEMENTS

Key communication achievements have been addressed under 4.6 above.

One new publication, 8 presentations and 18 additional workshops, seminars and meetings occurred during the Milestone 4 reporting period.

A list of all NAIF publications and significant workshops and meetings facilitated by or involving NAIF are at Attachment 9. A list of all NAIF publications is available at <http://www.clw.csiro.au/naif/publications.html>.

Reports on the following subjects are currently in preparation. The report titles and the number of reports may change as the project progresses.

- An overview of irrigation across northern Australia
- An analysis of the Ord, Katherine-Douglas-Daly and lower Burdekin irrigation systems: implications to future designs and management of tropical irrigation
- A review of hydrogeological systems of northern Australia
- A guide to northern Australia's institutional water frameworks

9.0 LIST OF ATTACHMENTS

The following are provided as attachments to this report:

NUMBER	DESCRIPTION
Attachment 1	Presentation by Hon Warren Truss MP, Minister for Agriculture, Forestry and Fisheries at IAA Conference, Townsville, 18 May 2005.
Attachment 2	NAIF media releases on 17 October 2005 and 12 August 2005.
Attachment 3	Media item referring to the NAIF project.
Attachment 4	List of media items relating to NAIF project.
Attachment 5	Monitoring and Evaluation Plan (Draft)
Attachment 6	Stakeholder Engagement and Communication Strategy (Draft)
Attachment 7	Guide to Institutional, Legislative and Policy Frameworks Relevant to Water and Irrigation Management in Northern Australia (Draft)
Attachment 8	Presentation and posters by Principal Investigator at 2005 NPSI Investors Forum, Mildura, 23 October 2005
Attachment 9	List of all publications, presentations, workshops, seminars & meetings facilitated by or featuring NAIF
Attachment 10	Proposed changes to future project Milestones
Attachment 11	Sustainability Specialist duty statement

10.0 OTHER COMMENTS: Nil

Address by

The Hon. Warren Truss MP

Australian Government Minister for Agriculture,
Fisheries and Forestry

Keynote address to the Irrigation Association
of Australia (IAA) Conference 2005

9:45-10:15 am, Wednesday, 18 May 2005
Townsville, Qld

Thank you Mr Addis for your introduction – and Counsellor Burnnell for your warm welcome on behalf of the people of Townsville.

Good morning and ladies and gentlemen, and may I say at the outset how pleased I am to be here for the 2005 Irrigation Association of Australia conference, with its timely theme of “Restoring the Balance”.

All Australians – whether they are in rural or urban locations – know they face a challenging time in using and managing the nation’s water resources. These issues have an immediate impact as many communities continue to deal with drought.

Water availability problems are critical in many urban areas. I know that the current shortages and restrictions on use are having an impact on many industries represented at this conference.

“Restoring the Balance” is a recurrent theme we hear when we talk about water. However, it has many dimensions and governments, communities and industries are examining approaches to better balance supply and demand for water’s many users.

The irrigation industry, as you know, is the lifeblood of many of Australia’s rural and regional communities. It provides an estimated 188,000 jobs, and adds \$12 billion every year to the Australian economy. However, as a nation, we have recognised we need to manage our precious resources better if the industry is to continue to grow and prosper.

Today, I will discuss some of the initiatives the Australian Government is implementing to restore the balance.

I will also discuss how the Australian Government is working with our state and territory counterparts – including Minister Robertson, local government colleagues, like Counsellor Burnnell, and industry bodies like the Irrigation Association of Australia – to meet the challenge.

The Australian Government, I am pleased to say, is a sponsor of this conference through the Natural Heritage Trust, which we established in 1997 to help conserve and restore the balance to Australia’s environment and natural resources.

Since then, thousands of community groups and organisations have received funding for environmental and natural resource management projects.

The Natural Heritage trust has also been a significant investor in water, with the Government committing \$350 million to water quality over the Trust’s life. Of course, most of its funds – and those of the National Action Plan for Salinity and Water Quality – go towards addressing regionally determined goals and investments.

Innovation in irrigation showcase

The Natural Heritage Trust has also supported projects to underpin the sustainability of Australia’s irrigation industry. A recent example of this is the Innovation in Irrigation showcase, which is on display at this conference.

The 12 irrigators from across Australia featured in the showcase are leaders in water

management, who have employed creative strategies to ensure high productivity for every megalitre of water they use.

I know these examples are inspiring and encouraging fellow irrigators to improve their practices, and realise the exiting potential of Australia's irrigation future. I encourage you to attend the Innovation in Irrigation workshop to share the skills and knowledge of these innovators. I would also be interested in exploring the potential for a similar exercise with the urban irrigation industry.

'Irrigation Insights' Soil Water Monitoring information package

The Australian Government is also investing in key research for the future of the irrigation industry through Land and Water Australia's national Program for Sustainable Irrigation.

This program brings together 14 funding partners, including irrigators, water authorities, research agencies, commodity groups, Australian and state government departments.

It is providing \$7 million for a range of research projects, and project partners have contributed another \$8.3 million.

To ensure irrigators have access to the vital information the research projects are generating, the Programme produces a valuable publication known as Irrigation Insights.

I suspect many of you here today have already used the 'Soil Water Monitoring Irrigation Insight'.

So it will come as not surprise to you to learn Land and Water Australia is today releasing the second edition of this valuable information package, which brings together information on how irrigators can improve soil water measuring and monitoring equipment and techniques.

The next edition of Irrigation Insights – On-Farm Monitoring Irrigation Insight will highlight case studies that demonstrate the best way to use the information from on-farm monitoring equipment to improve yields. I understand Townsville hosted the first research workshop last Tuesday and more workshops will be held around the country this year.

I invite you to visit the Program's exhibition stand today and lean more about the National Program for Sustainable Irrigation.

Pratt Water study

The Australian and New South Wales Governments provided \$5.3 million from the National Action Plan for Salinity and Water Quality to fund the Pratt Water study into water savings in the Murrumbidgee Valley. The final report, *The Business of Saving Water*, highlights the economic and regional benefits governments can gain from working with the private sector to deliver urgently needed investment, which can improve the efficiency and productivity of water storage and use.

Governments supported the project to gain further insights into the potential for applying a business approach to improved irrigation efficiency and environmental benefits. The report focused on the Murrumbidgee Valley in New South Wales, but we will be looking at ways of applying the findings in other parts of the country.

The Australian Government is examining the report as part of our wide-ranging water reform agenda and developing a response.

Australian's Tropical Rivers

To my mind there's no better place to talk about the theme of this conference than tropical Townsville. This city – Townsville and Australia's north – offer an important opportunity to create a balanced future for Australia's irrigation future.

Australia's tropical rivers discharge 70 per cent of Australia's available fresh water.

Sizeable parts of these river systems are free of large-scale extraction and diversion, and important for northern Australia's environmental values. There may also be opportunities to use northern Australian water resources for irrigation.

The Australian Government – recognising both of these realities – is supporting research to understand the key sustainability issues in land and water resources use while protecting downstream users and the unique ecology of our tropical rivers, floodplains, wetlands and estuaries.

Northern Australia Irrigation Futures

The Northern Australia Irrigation Futures project is undertaking research into the biophysical issues that form the basis of smart land and water management systems. The research is helping us build a sustainability framework that can be extended to include considerations of economic, social and cultural issues.

The research will examine basic information, such as the source and availability of water, supply variability, and types of soils and landscapes.

It will also look at key features of the surface and groundwater systems, including conjunctive use, environmental flow requirements, and the likely on-and off-site impacts of implementing particular irrigation systems and management.

Australian Tropical Rivers program

As a complementary project, the Australian Tropical Rivers program aims to improve our understanding of the protection, management and sustainable use of Australia's tropical rivers.

The program is doing this by assessing river assets and threats, supporting regional planning frameworks, assessing social, cultural and economic values and opportunities, and understanding river ecosystems.

With a better understanding of our tropical rivers and catchments, we can ensure we manage our tropical rivers in a socially, economically and environmentally sustainable way.

Land and Water Australia is sponsoring both projects, which involve governments and agencies from across northern Australia.

Great Barrier Reef Water Quality Protection Plan

I could not talk in Townsville without mentioning the Great Barrier Reef.

The Australian and Queensland governments are working together to deliver the Great Barrier Reef Water Quality Protection Plan. Its key objective is to 'halt and reverse the decline of water quality entering the reef as soon as practicable'.

The success of many of the actions will depend on the uptake of improved land and water management practices within the catchments bordering the Reef. I know that regional communities in catchments bordering the Reef are incorporating that objective in their catchment plans, which the NHT and the National Action Plan support.

Industries working to improve the efficiency and effectiveness of irrigation systems will assist efforts to reduce run-off of sediments and nutrients from the catchments.

Here, I want to emphasise that these are not just rural issues. I am sure your efforts in the urban irrigation sector have a role to play in enhancing water quality in this and other coastal regions.

National Water Initiative

Nationally, a great deal is happening to improve the way water is used. On 25 June 2004, the Australian, state and territory governments agreed on the actions to implement them through the National Water Initiative.

The initiative builds on the 1994 Council of Australian Government water reforms. It will drive further reforms over the next 10 years to increase the productivity and efficiency of Australia's water use and ensure the health of our water systems.

Key outcomes will include improved investment certainty, environmental health, water supply certainty and water planning.

First, the initiative will improve investment certainty through the provision of more secure water access entitlements. It will help broaden and deepen the water trading market, allowing water to move to its highest value uses and providing greater flexibility in business planning.

Second, environmental health will improve as environmental objectives are described more explicitly. Governments will be obliged to provide sufficient water and suitable management to ensure achievement of environmental outcomes.

Third, water supply certainty will improve by addressing over-allocated systems as quickly as possible. The National Water Initiative signatories have agreed to restore over-allocated systems to sustainable levels of use by 2010.

Finally, the initiative will foster more sophisticated, transparent and comprehensive water planning that deals with key issues, such as the interaction between surface water and ground water.

There's also a strong urban focus to the National Water Initiative.

Investments supporting the National Water Initiative

The Australian Government supports implementation of the National Water Initiative with investment in the Living Murray Initiative and the Australian Government Water Fund.

In June 2004, the Australian, New South Wales, South Australian, Victorian and Australian Capital Territory governments agreed – through the Murray Darling Basin Inter-Governmental Agreement – to invest \$500 million over five years.

The investment will address over-allocation of water in the Murray-Darling Basin to provide new water for environmental flows for the River Murray and the six significant ecological assets identified through the Living Murray Initiative. The Murray Darling Basin Ministerial council has agreed to four proposals from Victoria and New South Wales that will recover 240 GL at a cost of \$179 million.

Australian Government Water Fund

The \$2 billion Australian Water Fund, announced by the Prime Minister in September last year, demonstrates the Australian Government's commitment to securing Australia's water resources. In essence, it will fund on-ground water solutions that support the National Water Initiative's objectives.

The Fund has three parts, including the Water Smart Australia program, the Raising National Water Standards program and Community Water Grants.

The Water Smart Australia programme will invest \$1.6 billion over six years to accelerate the dissemination and adoption of the smartest technologies in water use across Australia.

The Raising National Water Standards programme, worth \$200 million, will ensure Australia uses the best available science and data to manage our precious water resource.

The guidelines for the first round of funding for the Water Smart Australia program, which were released on 19 April, are available on the National Water Commission website. I understand officers from the Commission are here at the conference to speak with you over the next couple of days.

Applications for the first round of funding close on 30 June 2005. I encourage the irrigation industry to take this opportunity to develop its own innovative water resource management projects.

Community Water Grants will provide \$200 million in grants of up to \$50,000 to support community groups, schools, local government, and community groups to encourage better water use or improved water health through practical on-the-ground projects.

Nationally, 27 Community Water Grants demonstration projects will receive a total of \$1 million in 2004-05 to demonstrate practical ways that communities can save water or improve the health of their local waterways.

In Queensland, the Australian Government is funding four demonstration projects worth almost \$160,000. They include revegetation projects along the Bremer River and improved water use efficiency in two Brisbane schools.

There is also a waste water recycling system in Beaudesert, in Queensland's south east, which will retrofit existing facilities at a retirement centre. This project will use dual wastewater lines to direct the grey water to a demonstration treatment plan.

Community groups in rural, regional and metropolitan Australia will be able to apply for Community Water Grants when the first round of grants opens shortly.

My colleagues – Senator Macdonald and Senator Campbell – will be responsible for further announcements on the full operation of the Community Water Grants in the near future.

The National Water Commission

To help with effectively implement the National Water Initiative and drive the water reform, the Government has established the National Water Commission as an independent statutory body within the Prime Minister's portfolio.

The National Water Commission has several roles.

Its first role is to assess the National Water Initiative's progress every two years.

Second, it will advise the signatories to the National Water Initiative how they can better improve water resource management under the Initiative agreement.

Third, the Commission will advise on the performance of the water industry against national benchmarks in areas such as irrigation efficiency, management costs and water pricing.

Fourth, the Commission will assess the progress of water reform under the National Competition Policy.

And finally, the National Water Commission will administer the Australian Government Water Fund I mentioned earlier.

Conclusion

In closing, I would like to emphasise that all Australians should feel positive about the future of water resource management in Australia. We are continuing the work of the Council of Australian Governments through the National Water Initiative, with the support of the Australian Water Fund.

Water has a prominent place in our thoughts as a nation, and governments have made significant policy and program commitments to improve the whole regime of water use and management.

For those in the irrigation sector, there will be improved certainty that allows for investment and longer-term planning for improved water use.

The natural resource base and the environment will also benefit. All governments are now working to improve the health of waterways, increase our knowledge of the resource and sponsor communities in their efforts to sustain the nation's water resources.

Industries represented at this conference are playing a role through research, new products, smarter water application and improved performance measurement. The task is to continue innovation and encourage the adoption of that innovation throughout the community.

I am encouraged by the progress industries are making. There's no better evidence than this conference and its theme of balancing irrigation and the environment. Thank you.

NAIF MEDIA RELEASE – 17 OCTOBER 2005

Sustainability Specialist joins Northern Australia Irrigation Futures Project

The Northern Australia Irrigation Futures (NAIF) Project has appointed Mr Jeff Camkin as Sustainability Specialist.

“Mr Camkin brings valuable experience and skills to the team” said NAIF project leader Dr Keith Bristow. “This includes excellent knowledge of key natural resource management issues facing northern Australia and extensive experience in government processes and in developing public policy.”

“His expertise will help the project deliver to governments, community groups and other organisations an improved understanding of tropical water systems and a sound base on which to engage in debate and decision making regarding irrigation in northern Australia”.

The NAIF project was established to provide the knowledge, tools, and processes needed to help governments and communities decide the sustainable future of Northern Australia, and whether this will involve irrigated agriculture.

“There is increasing pressure on water resources in Australia’s north, where tropical rivers discharge some 70 per cent of the nation’s fresh water,” Dr Bristow said. “To maintain the integrity of this region’s unique and diverse ecological systems, it is widely recognised that any decisions about the future extraction of water must be based on the best knowledge available.”

Mr Camkin will work closely with the NAIF project team and stakeholders to ensure effective engagement and communication underpins development and delivery of a sustainability framework designed to support discussion and improved decisions about if and where to irrigate in tropical Australia; what tropical irrigation systems could look like; and how they should be managed to meet social, cultural, environmental and economic sustainability objectives.

“I am excited about the opportunity to work on such an important project addressing critical issues for the future sustainability of northern Australia,” said Mr Camkin, “and am looking forward to engaging with stakeholders across the country, and particularly across northern Australia”.

The NAIF project has widespread support from NRM regional bodies, local governments and communities across northern Australia, and is currently funded by Land & Water Australia’s National Program for Sustainable Irrigation, CRC for Irrigation Futures, CSIRO, and the Australian, WA, NT and QLD Governments.

Mr Jeff Camkin will be based at the CSIRO Land and Water Laboratory at Floreat Park in Perth, WA.

Further Information:

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Keith.Bristow@csiro.au

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02 6246 5850 or 0403 739 108

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NAIF MEDIA RELEASE – 12 AUGUST 2005**Have your say in Northern Australia's Irrigation Future**

Expressions of interest are invited from people passionate about the future of northern Australia.

There is increasing pressure on water resources in Australia's north, where tropical rivers discharge some 70 per cent of the nation's available fresh water. To maintain the integrity of this region's unique and diverse ecological systems, it is widely recognised that any decisions about the future extraction of water must be based on the best knowledge available.

The Northern Australian Irrigation Futures (NAIF) project has been established to contribute the understanding, tools and processes needed to help governments and communities decide the sustainable future of Northern Australia, and whether this will involve irrigation or not.

The NAIF project has widespread support from NRM regional bodies, local governments and communities across northern Australia, and is funded by both state and federal agencies.

"There is recognition that huge mistakes were made in the past in other parts of Australia and around the world, where many key irrigation systems are now degraded or degrading," says NAIF project leader Dr Keith Bristow, "and no one wants to see that repeated in northern Australia."

The Steering Committee for the NAIF Project seeks expressions of interest from individuals with a stake in northern Australia's sustainable future. The Group will work closely with the NAIF Steering Committee and NAIF Project Team to help ensure effective linkages between the project and stakeholders to address environmental, economic, and social/cultural sustainability issues of relevance in determining the role irrigation may or may not play in the future of northern Australia, and if there is to be irrigation, where it should be located, what it should look like, and how it should be managed.

The project hopes to attract up to 10 members to the Stakeholder Reference Group who can best represent key views of local government, communities (indigenous, urban, rural), the environment (land and marine), NRM regional bodies, agriculture, other industries (fisheries, mining), and the media.

Expressions of interest should address the criteria outlined on the Northern Australian Irrigation Futures website – see <http://www.clw.csiro.au/naif/> - and close 22 August 2005. They should be sent to:

Ms Di Popham, CSIRO Land and Water, PMB Aitkenvale, Townsville, QLD 4814
Phone: 07-4753 8597; Email: Di.Popham@csiro.au

The NAIF project is funded by Land & Water Australia's National Program for Sustainable Irrigation, CRC for Irrigation Futures, CSIRO, and the Australian, WA, NT and QLD Governments.

Further Information:

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MEDIA ITEM REFERRING TO NAIF PROJECT**CSIRO 'bled to death'; 780 jobs under review**

By Rosslyn Beeby Research, Conservation and Science Reporter
29 October 2005

[Canberra Times](#)

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Australia's peak science organisation, the Commonwealth Science and Industrial Research Organisation, has confirmed that 780 jobs worth about \$155million are under review as part of a cost-cutting exercise to free up more funds for research. A former member of CSIRO's management council said the organisation was in dire financial straits, unable to meet its operating costs and has "been bled to death" over the past 15 years as a result of diminishing government funding. "CSIRO is bankrupt and the great tragedy is that the nation doesn't really know this - it's a national disaster," Dr Graeme Pearman said. The former chief of the organisation's Atmospheric Research Division and winner of a CSIRO medal for outstanding research, Dr Pearman said executive management in the organisation had been "dumbed down" and the leadership needed to secure adequate funding was lacking.

He described the reappointment of chief executive Dr Geoff Garret to head the organisation for another three years as "a huge disappointment" for Australian science. "In my view, there has not been an adequate assessment of his performance." The CSIRO Staff Association has expressed concern about the proposed support services jobs cuts, claiming figures in the 2004-05 annual report show senior executive salary packages increased by 24 per cent in the past financial year. "On a per senior executive package basis, that is an average increase of 11.4 per cent," an association spokeswoman said. According to association figures, a CSIRO level 5 scientist's annual salary is about \$67,000, while post- doctorate researchers earn about \$58,000. Figures in the CSIRO 2004-05 annual report show the number of

senior executives earning salaries above \$300,000 has doubled. Earlier this year, CSIRO flew 70 of its "science communicators" - as well as a Queanbeyan comedian, Majura the Magician - to South Stradbroke Island in Queensland for a two-day conference at an estimated cost of about \$31,360, excluding travel costs. CSIRO sources claim the organisation encountered serious financial difficulties three years ago, after a 5per cent staff wage increase and associated costs created a \$140million "black hole" in its budget. But CSIRO chief finance officer Mike Whelan said this figure did not make sense given CSIRO's current annual wages bill was \$537million. "If you take 5 per cent of that it doesn't add up to \$140 million." Mr Whelan also talked down the financial implications of the organisation's \$9.2million operating deficit for the past financial year - a blow-out of 73 per cent. "We don't exist to maximise our budget surplus. We exist to do research. This organisation doesn't have a religious focus on trying to maximise profit." The review was aimed at reducing the cost of CSIRO support services by about 25 per cent and "transfer

dollars from support to science". The jobs under review include finance, human resources, legal, property and facilities, libraries and records, commercialisation and contract administration. A final decision on how and where support jobs would be cut would be made next month.

"I think it is important for people to understand that CSIRO spends about \$300million per annum on its research support services, which is about 30 per cent of total organisation expenditure," Mr Whelan said. "Benchmarking suggests that in some instances we spend twice as much as other scientific research establishments on support services like paying accounts."

Meanwhile, a leading ecologist and CSIRO honorary research fellow, Professor Charley Krebs, has accused CSIRO of abandoning its professional responsibilities by scaling back feral pest control research. Speaking at a recent CSIRO sustainable ecosystems seminar, Professor Krebs said the division had switched its research efforts to landscape ecology "at a time when many ecologists have declared it an emperor with few clothes".

His comments follow staff protests over a succession of retrenchments at the division's Canberra headquarters, and claims by its chief, Dr Andrew Johnston, that feral pest research did not fit new "whole of landscape research priorities". **Peak conservation groups, including the Australian Conservation Foundation and World Wildlife Fund Australia, also believe a CSIRO irrigation project in northern Australia poses a significant threat to the ecological integrity and biological diversity of Australia's tropical rivers and wetlands. In a letter to CSIRO Land and Water research director Dr Keith Bristow the conservation groups claimed the project did not meet the accepted definition of ecologically sustainable development, and that it "strongly advocates" a significant expansion of irrigated agriculture that would degrade the region's conservation and cultural values.**

* Bold emphasis added for this report

ATTACHMENT 4

LIST OF MEDIA ITEMS RELATING TO THE NAIF PROJECT *

DATE	SOURCE	HEADLINE
2005		
29 October	Canberra Times	CSIRO ‘bled to death’; 780 jobs under review.
2004		
2003		
19 November	ABC News	Daly should be considered for irrigation, Minister says. 179 words.
19 November	Herald & Weekly Times	Time our northern potential flowed. 786 words.
24 October	ABC News	Group slams govt funding for Kimberley river study. 152 words.
23 October	West Australian	New Fitzroy water project. 468 words.
23 October	ABC News	Research project gets mixed support. 225 words.
22 October	ABC News	Group supports plan for Burdekin irrigation. 189 words.
22 October	Ayr Advocate	Burdekin’s bounty Study offers ‘tremendous opportunity’ Plan to ‘bring industry to the water’. 403 words.
21 October	Geelong Advertiser	Move north for water: Truss. 146 words.
21 October	ABC News	Concerns raised over northern irrigation plan. 204 words.
21 October	ABC News	Environmentalists dismiss northern irrigation plans. 203 words.
21 October	Adelaide Advertiser	Farming looks north. 96 words.
21 October	Townsville Bulletin	Tor strikes a cord. 1,382 words.
21 October	Townsville Bulletin	Push to water North Study will expand on Burdekin’s potential. 391 words.
21 October	The Australian	Tropical irrigation warning. 317 words.
21 October	Sunday Territorian	Water plan for north. 339 words.
21 October	Sydney Morning Herald	Irrigation Study To Look North. 568 words.
21 October	AAP General News	Irrigators may be encouraged to move to Australia’s north. 473 words.
20 October	The Australian	Tropical solution for farm irrigation. 371 words.
20 October	The West Australian	Fitzroy water irrigation plan. 463 words.
20 October	ABC News	Study to consider Fitzroy River farming water. 136 words.
20 October	ABC News	Study to look at boost to irrigation farming from rivers. 181 words.
20 October	The Courier-Mail	Scheme to untap northern riches. 460 words.

* List is currently incomplete.

DRAFT MONITORING AND EVALUATION PLAN

This document is too large to be included here and has been provided to NPSI as a separate file.

ATTACHMENT 6

DRAFT STAKEHOLDER ENGAGEMENT AND COMMUNICATION STRATEGY

This document is too large to be included here and has been provided to NPSI as a separate file.

ATTACHMENT 7

DRAFT GUIDE TO INSTITUTIONAL, LEGISLATIVE AND POLICY FRAMEWORKS RELEVANT TO WATER AND IRRIGATION MANAGEMETN IN NORTHERN AUSTRALIA

This document is too large to be included here and has been provided to NPSI as a separate file.

(Updated 5-1-06)

NAIF PUBLICATIONS AND PRESENTATIONS

NAIF PUBLICATIONS:

Kellett, B.M., Walshe, T. & Bristow, K.L. 2005. Ecological Risk Assessment of the Wetlands of the Lower Burdekin. CSIRO Land and Water Technical Report No. 26/05. 30 pp.

Bristow, K.L. & S. MacKinnon. 2005. Northern Australia Irrigation Futures (NAIF) - Research, Frameworks and Sustainability. IAA Journal, Vol 20 No. 2 pp. 54-55.

Kellett, B., Bristow, K.L. & P.B. Charlesworth. 2005. Indicator Frameworks for Assessing Irrigation Sustainability. CSIRO Land and Water Technical Report No. 01/05

NAIF PRESENTATIONS AT CONFERENCES, WORKSHOPS AND MEETINGS

Bristow, K.L., Petheram, C. & Kellett, B.M. 2005. Irrigation in northern Australia – is it worth the risk? ASA-SSA national Conference, 6-10 November, Salt Lake City, Utah, USA (Agron. Abstr. 2005 CD-ROM)

Kellett, B.M., Bristow, K.L., Moore, G., Beilin, R. and F.h.s. Chiew. 2005. Reflecting on stakeholders' perceptions in an ecological risk assessment workshop. In: Proceedings of the Environmental Research Event Conference. 29th November – 2nd December, 2005, Hobart, Tasmania.

Bristow, K.L. & C. Petheram. 2005. Irrigation and groundwater systems in northern tropical Australia. ANCID Conference, Mildura, Victoria (24-26 October 2005)

Bristow, K.L. 2005. Northern Australia Irrigation Futures. Land and Water Australia Sustainable Irrigation Program Investors Forum, Mildura, Victoria (23 October 2005)

Bristow, K.L. 2005. The Northern Australia Irrigation Futures Project. Environmental Research Institute of the Supervising Scientist (ERISS), Darwin, Northern Territory (7 October 2005)

B.M. Kellett & K.L. Bristow. 2005. Risk and Resilience for Adaptive Irrigation Planning. CRC for Irrigation Futures Annual Forum, Mildura, Victoria (19-21 September 2005)

Bristow, K.L., C. Petheram & B.M. Kellett. 2005. Northern Australia Irrigation Futures: An update. CRC for Irrigation Futures Annual Forum, Mildura, Victoria (19-21 September 2005)

- Bristow, K.L., Jolly, P., Smith, I., Petheram, C. & P.B. Charlesworth. 2005. Groundwater systems and their potential role in irrigation in northern Australia. Workshop on Groundwater Surface Water Interaction in the Tropics, Darwin, NT, Australia (26-27 May 2005)
- Kellett, B.M. Bristow, K.L., Charlesworth, P.B., Malano, H., Moore, G. & F. Chiew. 2005. Accounting for stakeholders' assumptions and cultural understandings in environmental risk assessment for irrigation: A groundwater nitrate case study. Irrigation Association of Australia (IAA) Conference on Restoring the Balance. Townsville, QLD, Australia (17-19th May 2005)
- Bristow, K.L., Charlesworth, P.B., Thayalakumaran, T., Narayan, K.A. & C. Petheram. 2005. Water and irrigation management on the Burdekin coastal floodplain. OzWater WaterShed Conference, , Townsville, QLD, Australia (5-7th May)
- Bristow, K.L. 2005. Northern Australia Irrigation Futures. Northern Australia Environment Alliance, Brisbane, QLD (22 February 2005)
- Kellett, B.M. 2005. A Sustainability Framework to Guide Irrigation Development in Northern Australia. BBIFMAC Office, Ayr (14 February 2005)
- Kellett, B.M. 2005. A Sustainability Framework to Guide Irrigation Development in Northern Australia. The University of Melbourne, Melbourne (4 February 2005)
- Bristow, K.L. 2005. Northern Australia Irrigation Futures. SunWater, Ayr, QLD (1 February 2005)
- Bristow, K.L. 2005. Irrigation within a broader sub-catchment context: The lower Burdekin. CSIRO Floreat Park, Perth, WA (28 January 2005)
- Bristow, K.L. 2005. Northern Australia Irrigation Futures. WA Water Task Force, Perth. (27 January 2005)
- Bristow, K.L. 2004. Northern Australia Irrigation Futures. CRC for Irrigation Futures Sustainability Challenge Workshop, Stamford Airport Hotel, Sydney, (17 November 2004)
- Kellett, B.M. 2004. A Sustainability Framework to Guide Irrigation Development in Northern Australia. PhD Introductory Seminar, CSIRO Land and Water, Davies Laboratory, Townsville (15 October 2004)
- Bristow, K.L. 2004. Northern Australia Irrigation Futures: An Update. ANCID Conference, Barossa Valley, Tanunda, South Australia (10-13 October 2004)
- Bristow, K.L. 2004. Northern Australia Irrigation Futures. Land and Water Australia Sustainable Irrigation Program Investors Forum, Barossa Valley, Tanunda, South Australia (10 October 2004)
- Bristow, K.L. 2004. Northern Australia Irrigation Futures. CRC for Irrigation Futures Annual Workshop, University of Western Sydney, Sydney (20 September 2004)

Kellett, B.M. 2004. A Sustainability Framework to Guide Irrigation Development in Northern Australia. CRC for Irrigation Futures Annual Workshop, University of Western Sydney, Sydney (20 September 2004)

Bristow, K.L. 2003. Northern Australia Irrigation Futures: Building a basis for developing sustainable irrigation across northern Australia. ANCID Conference, Shepparton, Victoria, Australia (19-22 October 2003)

Bristow, K.L. 2003. Northern Australia Irrigation Futures: Building a basis for developing sustainable irrigation across northern Australia. Land and Water Australia Sustainable Irrigation Program Investors Forum, Shepparton, Victoria, Australia (19 October 2003)

RADIO:

Northern Australia Irrigation Futures. ABC North West WA Radio News (6 May 2004)

Water futures. Curtin FM Seeling Solutions with Retirees WA (27/3/2003)

TELEVISION:

Tropical river systems and North Australian Irrigation Futures. ABD6 State Television News, Darwin (2 February 2004)

WORKSHOPS, SEMINARS AND MEETINGS FACILITATED BY OR FEATURING NAIF

(Participant numbers (#) does not include NAIF team members or NAIF consultants)

Seminars Meetings Workshops	Date	#	Organisations Represented
2005			
Meeting, Office of Water Strategy, Perth	7 December	3	<ul style="list-style-type: none"> Office of Water Strategy Dept of Water Dept of Agriculture
Meeting, Water Smart Australia, Canberra	2 December	≈ 30	<ul style="list-style-type: none"> National Water Commission National Farmers Federation Victorian Farmers Federation Cotton Australia Twynam Agricultural Group Ricegrowers Association of Australia Irrigation Association of Australia NSW Irrigators Council South Australian Murray Irrigators SunWater CRC for Irrigation Futures National Program for Sustainable Irrigation SA Murray Darling NRM Board NT Agricultural Association Pratt Water Aust. National Committee on Irrigation & Drainage Cth Dept of Agriculture, Forestry & Fisheries Southern Rural Water CSIRO (Jeff Camkin)
Meeting, CSIRO, Perth	2 December	3	<ul style="list-style-type: none"> Dept of Water
Meeting, Office of Water Strategy, Perth	1 December	10	<ul style="list-style-type: none"> Office of Water Strategy WA Irrigation Review Steering Committee Dept of Water (formerly Dept of Environment) Dept of Agriculture Water Corporation
Cross Project Collaboration tele-meeting	1 December	2	<ul style="list-style-type: none"> NT Dept Natural Resources, Environment & the Arts Environmental Research Institute of the Supervising Scientist
Meeting, CSIRO, Perth	1 December	1	<ul style="list-style-type: none"> Dept of Industry Resources
Meetings, Darwin	23-24 November	10	<ul style="list-style-type: none"> NT Dept Natural Resources Environment & the Arts NT Dept of Primary Industries, Fisheries and Mining Amateur Fishing Association of NT NT Horticultural Association Charles Darwin University Environmental Research Institute of the Supervising Scientist CSIRO Sustainable Ecosystems Aust. National Committee on Irrigation & Drainage

Seminars Meetings Workshops	Date	#	Organisations Represented
Meetings organised by ANCID, Darwin	21-22 November	12	<ul style="list-style-type: none"> • Aust. National Committee on Irrigation & Drainage • NT Dept Natural Resources, Environment & the Arts • Ord Irrigation Cooperative • NT Dept of Primary Industries, Fisheries and Mining • Charles Darwin University • Environmental Research Institute of the Supervising Scientist
Cross Project Collaboration tele-meeting	31 October	4	<ul style="list-style-type: none"> • NT Dept Natural Resources, Environment & the Arts • Environmental Research Institute of the Supervising Scientist • Charles Darwin University
Meeting, Environmental Research Institute of the Supervising Scientist (ERISS), Darwin	7 October	12	<ul style="list-style-type: none"> • SSD • Environmental Research Institute of the Supervising Scientist • NT Dept Natural Resources, Environment & the Arts • NT Dept of Primary Industry, Fisheries and Mining • Cth Department of Environment and Heritage • WWF • CSIRO
Meeting, Northern Australia Groundwater Systems, NRETA, Darwin	3-5 October	6	<ul style="list-style-type: none"> • NT Dept Natural Resources, Environment & the Arts • QLD Dept of Natural Resources and Mines • CSIRO
CRC IF Annual Research Forum, Mildura	19-21 September	>80	<ul style="list-style-type: none"> • CRC Irrigation Futures • CSIRO Land and Water • QLD Dept Natural Resources, Mines and Energy • National Program for Sustainable Irrigation • Land and Water Australia • VIC Dept of Primary Industries • University of Melbourne • University of Southern Queensland • University of South Australia • University of Western Sydney • Charles Sturt University • NSW Agriculture • South Australian Research and Development Institute
Meeting, Sustainability Challenge, North Burdekin Water Board Case Study, Ayr	27 July	14	<ul style="list-style-type: none"> • North Burdekin Water Board • South Burdekin Water Board • CSR • QLD Dept of Natural Resources and Mines • Burdekin Shire Council • Canegrowers • CSIRO • University of New England • BSES
Meeting, Sustainability	30 June	6	<ul style="list-style-type: none"> • North Burdekin Water Board • CSIRO

Seminars Meetings Workshops	Date	#	Organisations Represented
Challenge, North Burdekin Water Board Case Study, Ayr			<ul style="list-style-type: none"> • University of New England • BSES
Workshop, Lower Burdekin Knowledge Platform, Ayr	17 June	≈ 30	<ul style="list-style-type: none"> • North Burdekin Water Board • South Burdekin Water Board • Sunwater • Burdekin Dry Tropics Board • Burdekin Shire Council • Canegrowers • QLD Dept of Natural Resources and Mines • BBIFMAC • QLD Dept of Primary Industry and Fisheries • BSES • James Cook University ACTFR
ERA workshop, Ecological Risk Assessment for the Wetlands of the Lower Burdekin	1 June	25	<ul style="list-style-type: none"> • North Burdekin Water Board • South Burdekin Water Board • Burdekin Dry Tropics Board • Townsville City Council • Canegrowers • Dept of Natural Resources and Mines • BBIFMAC • Dept of Primary Industry and Fisheries • EPA • ACTFR • University of Melbourne • University of Western Australia • Great Barrier Reef Marine Park Authority • Australian Sweet Forage Pty Ltd • Earth Environmental Consulting • Haughton Catchment Committee • Creek to Coral Waterwatch • CRC for Irrigation Futures • Burdekin Productivity Services Ltd • Monash University • CSIRO Land and Water
NT Stakeholder Meeting, Darwin	30 May	≈ 26	<ul style="list-style-type: none"> • NAIF Steering Committee • NT Dept Infrastructure Planning and Environment • NT Dept Business Industry & Resource Development • CSIRO • Environmental Research Institute of the Supervising Scientist • Land & Water Australia • NT Agricultural Association • NT Cattleman's Association
Workshop: Groundwater surface water interaction in the tropics, Darwin	26-27 May	≈ 40	<ul style="list-style-type: none"> • SKM • QLD University of Technology • QLD Dept Natural Resources & Mines • Charles Darwin University • CSIRO • NT Dept Infrastructure Planning and Environment • NT Dept Business Industry & Resource

Seminars Meetings Workshops	Date	#	Organisations Represented
			<ul style="list-style-type: none"> Development EWL Sciences Pty Ltd Australian National University Ord Irrigation Cooperative
ERA Workshop: Irrigation in the Katherine-Daly region, Darwin	18 May	≈ 25	<ul style="list-style-type: none"> NT Dept Infrastructure Planning and Environment NT Dept Business Industry & Resource Development Charles Darwin University NT Horticultural Association Environmental Research Institute of the Supervising Scientist Cth Department of Environment and Heritage CSIRO
Darwin meetings	17 May	7	<ul style="list-style-type: none"> Sue Jackson, CSIRO Peter Jacklyn, CRC Savanna's Peter Jolly et al, NT DIPE
SunWater, Ayr	10 March	1	<ul style="list-style-type: none"> Shaun Davidge – Project Manager: Water for Bowen
Sustainability Challenge Project Meeting, Charles Sturt University, Albury	25 February	≈ 20	<ul style="list-style-type: none"> CRC Irrigation Futures CSIRO Land and Water QLD Natural Resources and Mines South Australian Research and Development Institute University of Western Sydney Charles Sturt University NSW Agriculture
Northern Australia Environment Alliance (NAEA), Brisbane	22 February	4	<ul style="list-style-type: none"> Stuart Blanch – Manager Freshwater WWF Australia Kerryn O'Connor - Wilderness Society Henry Boer - Queensland Conservation Council Matthew Durack – CRC IF
CRC IF Sustainability Challenge, Townsville, Ayr	15-17 February	≈ 10	<ul style="list-style-type: none"> CRC IF Sustainability Challenge (Christen, Shepherd) North Burdekin Water Board BBIF MAC SunWater
BBIFMAC, Ayr	14 February	10	<ul style="list-style-type: none"> Burdekin Bowen Integrated Floodplain MAC
University of Melbourne – Confirmation Seminar, Melbourne	4 February	25	<ul style="list-style-type: none"> University of Melbourne CRC for Irrigation Futures National Program for Sustainable Irrigation
Sunwater, Ayr	1 February	3	<ul style="list-style-type: none"> SunWater
WA Water Task Force, Perth	27 January	≈ 15	<ul style="list-style-type: none"> See minutes of meeting
2004			
CRC IF Sustainability Challenge Project Workshop, Sydney	17 November	23	<ul style="list-style-type: none"> CRC Irrigation Futures CSIRO Land and Water SunWater QLD Natural Resources and Mines South Australian Research and Development

Seminars Meetings Workshops	Date	#	Organisations Represented
			<ul style="list-style-type: none"> Institute • University of Western Sydney • Charles Sturt University • NSW Agriculture
ERA Workshop Townsville	10 November	25	<ul style="list-style-type: none"> • CSIRO Land and Water • National Program for Sustainable Irrigation • Monash University • Australia Centre for Tropical Freshwater Research • NT Dept of Infrastructure, Planning and Environment • QLD Dep. of Primary Industries • QLD Dept of Natural Resources and Mines • Ord Land and Water • Burdekin Bowen Integrated Floodplain MAC • Burdekin Dry Tropics Board • CSR
Seminar – Kellett; CSIRO Davies Laboratory Townsville	15 October	25	<ul style="list-style-type: none"> • CSIRO Land and Water • CSIRO Sustainable Ecosystems • QLD Environmental Protection Agency • QLD Natural Resources and Mines • North Queensland Area Consultative Committee • Individual Farmers
CRC IF Annual Conference	20 September	100	<ul style="list-style-type: none"> • CRC Irrigation Futures • CSIRO Land and Water • QLD Dept Natural Resource Mines and Energy • National Program for Sustainable Irrigation • Land and Water Australia • Victoria Department of Primary Industries • University of Melbourne • University of Southern Queensland • University of South Australia • University of Western Sydney • Charles Sturt University • NSW Agriculture • South Australian Research and Development Institute
Brisbane Workshop	3 August	18	<ul style="list-style-type: none"> • QLD Dept of Primary Industries and Fisheries • QLD Environmental Protection Agency • QLD Dept Natural Resources Mines and Energy • QLD Dept State Development and Innovation • CSIRO Sustainable Ecosystems • CRC Irrigation Futures • Land and Water Australia
Darwin Workshop	26-27 May	20	<ul style="list-style-type: none"> • Cth Bureau of Rural Sciences • CSIRO Land and Water • National Program for Sustainable Irrigation • Cth Dept of Fisheries, Forestry & Agriculture • NT Dept of Business, Industry & Resource Development • CRC for Irrigation Futures • Land and Water Australia • Cth Dept of Environment and Heritage • Environmental Research Institute of the Supervising

Seminars Meetings Workshops	Date	#	Organisations Represented
			Scientist <ul style="list-style-type: none"> • QLD Dept of Natural Resources, Mines & Energy • NT Dept of Infrastructure, Planning & Environment • WA Dept of Environment • WA Dept of Agriculture
Kununurra Meeting 2	7 May	2	<ul style="list-style-type: none"> • WA Dept of Agriculture
Kununurra Meeting 1	7 May	1	<ul style="list-style-type: none"> • WA Dept of Environment
Kununurra Seminar	6 May	9	<ul style="list-style-type: none"> • WWF • Ord Cucurbit Growers • WA Dept of Agriculture • Ord Land and Water • Ord Irrigation • Ord Irrigation Coop • Kimberley Primary Industries Association
Broome Seminar	5 May	6	<ul style="list-style-type: none"> • Environs Kimberley • Kimberley Land Council • Gray's Organic Produce • Individual Farmers • Kimberley Area Consultative Committee • Kimberley Sustainable Regions Advisory Committee
Karratha Seminar	5 May	3	<ul style="list-style-type: none"> • WA Dept of Environment • WA Dept of Agriculture
Perth Seminar	4 May	10	<ul style="list-style-type: none"> • WA Farmers Federation • WA Dept of the Premier and Cabinet • Irrigation Association of Australia, WA Region • CSIRO Land & Water • WA Dept of Environment • WA Dept of Industry and Resources • Conservation Council of WA • Pastoralists and Graziers Association of WA

PROPOSED CHANGES TO FUTURE PROJECT MILESTONES

EXISTING DELIVERABLES	EXISTING ACHIEVEMENT CRITERIA	PROPOSED DELIVERABLES	PROPOSED ACHIEVEMENT CRITERIA
<p><i>1/05/2006: Milestone 5</i></p> <ul style="list-style-type: none"> • *Generic deliverables • Work plan continues with all priority stakeholders participating • Government and community interactions and feedback on SF tools and processes documented • At least one Steering Committee meeting held • Engagement and Communication strategies operating, with feedback from stakeholders involved • SRG feedback considered • Milestone report submitted 	<ul style="list-style-type: none"> • Generic deliverables achieved • Work plan goals achieved • Report on classification system for tropical GW systems <ul style="list-style-type: none"> - Report on northern inventory - report on NAIF engagement / communication strategies including evidence of NAIF team taking proactive approach to identification of key audiences, their issues and NAIF response • Steering committee meeting held and relevant plans and strategies agreed • SRG functioning • Milestone approved by Land & Water Australia 	<p><i>1/05/2006: Milestone 5</i></p> <ul style="list-style-type: none"> • *Generic deliverables • Implementation of work plan continues • Implementation of Stakeholder Engagement & Communication (SE&C) Strategy continues • At least one Steering Committee (SC) meeting held • Milestone report submitted by 1/5/2006 	<ul style="list-style-type: none"> • Generic deliverables achieved • Work plan deliverables achieved (as per Gantt Chart): <ul style="list-style-type: none"> - Report on tools to assist individuals & communities to identify control structures and influences relevant to their decisions on irrigation in northern Australia - Recommended approach for finalising and delivering the Sustainability Framework • Report against SE&C Strategy including evidence of NAIF taking proactive approach to identify key audiences, issues and strategies to address them, and feedback from SRG. • SC meeting held with Work Plan confirmed or modified, if required. SC endorses Milestone 5 report. • Milestone report approved by LWA

EXISTING DELIVERABLES	EXISTING ACHIEVEMENT CRITERIA	PROPOSED DELIVERABLES	PROPOSED ACHIEVEMENT CRITERIA
<p><i>30/09/06: Financial Statement 2005/06</i></p> <ul style="list-style-type: none"> • Financial Statement 2005/06 to land & Water Australia 		<p><i>30/09/06: Financial Statement 2005/06</i></p> <ul style="list-style-type: none"> • Financial Statement 2005/06 submitted to LWA 	<ul style="list-style-type: none"> • Financial Statement approved by LWA
<p><i>30/11/2006: Milestone 6</i></p> <ul style="list-style-type: none"> • *Generic deliverables • Work plan continues with all priority stakeholders participating • Draft reports highlighting progress in all key work areas underway • Attendance including presentation and poster display by Principal Investigator at annual Sustainable Irrigation Program Forum • Engagement and Communication strategies operating, with feedback from stakeholders involved • At least one Steering Committee meeting held • SRG feedback considered • Milestone report submitted 	<ul style="list-style-type: none"> • Generic deliverables achieved • Work plan goals achieved • Prototype SF being tested by stakeholders • Draft reports on SI's associated with GW systems and irrigation mosaics <ul style="list-style-type: none"> - Presentation and poster display at annual forum - Report on NAIF Engagement/Communication strategies including evidence of NAIF team taking proactive approach to identification of key audiences, their issues and NAIF response • Steering Committee meeting held and draft reports discussed • SRG functioning • Milestone approved by LWA 	<p><i>30/11/2006: Milestone 6</i></p> <ul style="list-style-type: none"> • *Generic deliverables • Implementation of work plan continues • Implementation of SE&C Strategy continues • Attendance including presentation and poster display by Principal Investigator at annual NPSI Program Forum 	<ul style="list-style-type: none"> • Generic deliverables achieved • Work plan deliverables achieved (as per Gantt Chart): <ul style="list-style-type: none"> - Report "Overview of irrigation in northern Australia" - Report "State of knowledge of groundwater flow systems in northern Australia" - Report "Current understandings of irrigation mosaics" • Report against SE&C Strategy including evidence of NAIF taking proactive approach to identify key audiences, issues and strategies to address them, and feedback from SRG. • Presentation and poster to highlight progress in all work areas

EXISTING DELIVERABLES	EXISTING ACHIEVEMENT CRITERIA	PROPOSED DELIVERABLES	PROPOSED ACHIEVEMENT CRITERIA
		<ul style="list-style-type: none"> • At least one SC meeting held • Milestone report submitted 	<ul style="list-style-type: none"> • SC meeting held with Work Plan confirmed or modified, if required. SC endorses Milestone 5 report. • Milestone report approved by LWA
<p><i>1/05/2007: Milestone 7 – Final Report</i></p> <ul style="list-style-type: none"> • Independent review of the research prior to concluding the final report • Combined workshop with all project members and key stakeholders • Final report to peer review standard with all technical reports used in the research project carried as attachments • Final report on Engagement and Communication with key stakeholders in NAIF • Final report in LWA format (12 pages) together with statement on the knowledge assets generated by the project • Summary fact sheet of the project and its key findings of relevance to end users 	<ul style="list-style-type: none"> • *Generic deliverables achieved <ul style="list-style-type: none"> - Independent external review of project completed - Project response to review submitted to LWA - Successful interaction with case study sites and stakeholder documented - Evidence that NAIF project has interacted with and engaged key stakeholder and interest groups in project • Workshops held in each state • Updated SF made available to Stakeholders • Steering Committee meeting held and final report approved • Final report approved by Land & Water Australia 	<p><i>31/07/2007: Milestone 7 – Final Report</i></p> <ul style="list-style-type: none"> • *Generic deliverables • Implementation of work plan continues • Progress towards development of the sustainability framework 	<ul style="list-style-type: none"> • Generic deliverables achieved • Work plan deliverables achieved (as per Gantt Chart): <ul style="list-style-type: none"> - Report “Research findings, modelling results and applications for irrigation mosaics in northern Australia” - Report “Towards a sustainability framework for supporting community decision making regarding irrigation in northern Australia: Lessons from three case studies” • Independent review of the research • Report on project response to independent review provided to SC • Combined workshop in each

EXISTING DELIVERABLES	EXISTING ACHIEVEMENT CRITERIA	PROPOSED DELIVERABLES	PROPOSED ACHIEVEMENT CRITERIA
<ul style="list-style-type: none"> • At least on Steering Committee meeting held 		<ul style="list-style-type: none"> • Sustainability Framework documented and available to stakeholders • Implementation of SEC Strategy continues • At least one SC meeting held • Final report to LWA by 31/07/07 	<ul style="list-style-type: none"> state with all project members and key stakeholders • Final major report to peer review standard with all technical reports used in the research project carried as attachments • Final report against SEC Strategy including advice on outstanding issues for stakeholders • SC meeting held and final reports approved • Final short report in LWA format (12 pages) together with statement on the knowledge assets generated by the project • Summary Research Bulletin of the project and its key findings of relevance to end users
<p><i>30/09/2007: Final Financial Statement 2006/07</i></p> <ul style="list-style-type: none"> • Final Financial Statement 2006/07 submitted to LWA 		<p><i>30/09/2007: Final Financial Statement 2006/07</i></p> <ul style="list-style-type: none"> • Final Financial Statement 2006/07 submitted to LWA 	<ul style="list-style-type: none"> • Final Financial Statement approved by LWA

** Generic Deliverables are:*

- All project reports and communications in electronic and hard copy formats as specified by Land & Water Australia Communications
- Photographic record depicting project milestones in a digital format suitable for web and PowerPoint presentations
- At least one media release and updates supplied to Land & Water Australia Communications and copied to Program Coordinator
- What knowledge assets the project has generated in the milestone period (if any).

If appropriate, the following Special Conditions will also be addressed in Milestone Reports:

- All project team presentations / communications to recognize the Sustainable Irrigation Program and use logos and format agreed with LWA Communications.
- Confirm research team membership and time commitment (Note that all team members should have a greater than 10% time allocation, with significant time allocation of principal and core investigators).
- No changes to principal and core investigators time allocation without the written approval of the Program Coordinator
- Participation of Principal Investigator in one science and/or end user panel per annum as required by Program Coordinator
- Participate in one peer review of other Sustainable Irrigation research as coordinated by Program Coordinator
- Participate in Sustainable Irrigation evaluation as required from time to time
- Research provider web site linked to Sustainable Irrigation web site
- Research Project Milestone Reports (full or summary to be determined with Project Coordinator) to be published on Sustainable Irrigation web site
- Media releases and updates to be published on Sustainable irrigation web site.

**CSIRO Land and Water and CRC Irrigation Futures
Sustainability Specialist – Northern Australia Irrigation Futures (NAIF)**

Duty Statement

The appointee to this position will work closely with the project leader and other team members to ensure the project's success through delivery of a sustainability framework, effective liaison with governments and communities, implementation of high level engagement and communication strategies and effective contract management

Key duties will include:

1. Develop, test, deliver and apply an Irrigation Sustainability Framework
 - Establish and integrate the key elements of the framework covering visioning, planning and assessment and monitoring and reporting.
 - Provide input on its fitness for purpose and ensure it meets stakeholder needs
 - Develop pathways to foster application of the framework by stakeholders
 - Identify and document risks regarding irrigation in northern Australia
 - Work with the project team in ongoing testing and application of the framework

2. Community and Government Liaison
 - Assist the project leader in building and maintaining effective engagement and communication with various Australian, WA, NT and QLD Government Departments, key local Governments, and various environment and community groups, including regional NRM bodies (include design and implementation of a project engagement and communication strategy)
 - Establish links with key organisations to design and implement appropriate indigenous engagement and communication strategies

3. Project communications
 - Maintain a broad stakeholder network across northern Australia using various forms of communication including phone, email, video link, and site visits
 - Organise and help facilitate various project workshops and seminars
 - Produce regular brochures and other project documentation for a range of stakeholders
 - Help profile the project and its outputs at the local, regional, state, national and international levels
 - Identify needs and opportunities for building capacity to understand and utilise the framework at the local, regional, state, national and international level

4. Support for the Stakeholder Reference Group (SRG)
 - Facilitate effective operation of the SRG involving members from local Government, indigenous groups, community groups, the environment sector, NRM regional bodies, agricultural industries, other industries (eg mining, tourism, fisheries) and media

5. Project management
 - Assist the project leader in delivering project outcomes through effective management of contracts and timely delivery of high quality milestone and other reports
 - Develop and implement an effective project monitoring and evaluation strategy
 - Further development of the project concept for application in other areas and sectors