

## **Memorandum of Understanding for Irrigation Drainage Management and Water Quality Annual Report for year 2 – 2005/06**

### **1.0 PURPOSE**

The purpose of this report is to present a summary of the achievements of Memorandum of Understanding for Irrigation Drainage Management and Water Quality (IDMOU) implementation over the 2005/06 period.

### **2.0 BACKGROUND**

The IDMOU was signed on 22 June 2004. This agreement details the irrigation drainage related roles and responsibilities of the signatory agencies (DSE, EPA, G-MW, NCCMA and GBCMA) within the North Central and Goulburn-Broken CMA areas. The 2005/06 financial year represents the second year of IDMOU implementation.

### **3.0 OVERALL**

Since the IDMOU was signed there has been an improved level of coordination, understanding and cooperation between the signatory agencies. This increased level of interaction and cooperation can be attributed to the IDMOU imparting a greater level of obligation and understanding as well as a shared common desire to achieve the underlying outcomes to be achieved by the IDMOU.

### **4.0 KEY MILESTONES ACHIEVED**

#### **Setting of Water Quality Targets**

A major requirement of the IDMOU was to develop a process to enable water quality related targets to be set within receiving waterways and within irrigation drainage systems at their outfall point. This includes processes for setting monitoring requirements, and setting targets for the implementation of management actions within catchments. Significant progress has been made with respect to these requirements.

Last financial year, a Decision Support System, based upon the use of Ecological Risk Assessment principles, was developed to facilitate target setting. This system is referred to as the Rapid Resource Condition Decision Support System (RRC DSS). A trial of the RRC DSS was undertaken on the Lower Broken Creek Catchment to ensure that it is implementable and produces the desired outputs.

This financial year, a trial of the RRC DSS was also undertaken in the Lower Loddon River Catchment to ensure that the system could be applied to an area with different management systems and water quality issues. Following the successful completion of this trial, the application of the RRC DSS to the Broken Creek Catchment commenced in late 2005/06.

It is anticipated that this project will be completed early in the 2006/7 financial year. The RRC DSS is also planned to be applied to the Lower Loddon River Catchment in the North Central CMA. This will result in interim drainage related water quality targets being set for parts of the area within the North-Central and Goulburn-Broken CMA areas.

### **Setting of Management Action Targets**

The development of a process to set targets for the implementation of management actions within catchments to support the achievement of water quality outcomes was completed this financial year, and is referred to as the Rapid Management Action Decision Support System (RMA DSS).

Both the management action and resource condition target setting systems will facilitate the setting of Aspirational (i.e. 50 year), and shorter term (i.e. 5 year and 20-30 year) targets, and align with existing CMA data capture and planning processes.

A trial of the RMA DSS is currently underway in the Barr Creek Catchment and Broken Creek Catchment to apply the methodology in practice and identify the data gaps. It is anticipated that both of these trials will be completed in the 2006/7 financial year.

### **Relationships between Management Action Implementation and Resource Condition Outcomes**

An integral component in the application of the RMA DSS is knowing the relationships between management action implementation and resource condition outcomes. A key output of the IDMOU implementation this financial year was the draft documentation of the assumed relationships between management action implementation and resource condition outcomes for the North Central CMA area. An equivalent document is currently being prepared for the Goulburn Broken CMA area.

### **Catchment Definition for the Purpose of Setting Water Quality and Management Action Targets**

The Goulburn Broken CMA irrigation area comprises 23 defined irrigation drainage catchments and the North Central CMA comprises 11. It was agreed that irrigation drainage catchments be grouped together for the purpose of setting water quality and management action targets. This resulted in nine catchments in the Goulburn Broken CMA area and six in the North Central CMA area for the purpose of setting water quality and management action targets. The defined IDMOU drainage catchments for the Goulburn Broken CMA and North Central CMA irrigation areas are presented in **Figure 1** and **Figure 2**, respectively.

### **Revised Reporting Strategies**

It was agreed that IDMOU reporting by the EPA and CMAs be undertaken annually in February and be submitted to the CEO's of IDMOU signatories. The first report will be produced in February 2007.

### **Catchment and Asset Operation Plans**

The first catchment and asset operation plan is currently being prepared for the Stanhope Depression in the Goulburn-Broken CMA area. This will lay the foundations for the next step which is to prepare general catchment and asset operation plans to cover each of the irrigation areas across the Goulburn Broken and North Central CMA areas. This plan is well advanced, and it is anticipated that it will be completed early next financial year. It has been agreed that the catchment operation plan and asset operation plan become combined for efficiency reasons.

## **5.0 COMMITTEE MEETINGS HELD**

Three IDMOU Steering Committee meetings were held during the 2005/06 financial year. A high level of commitment was shown by each agency with only one agency missing one meeting during the 12 month period.

These committee meetings have provided a successful communication forum for senior agency staff to reach agreement on irrigation drainage related issues.

Figure 1: Goulburn Broken CMA – Defined IDMOU Irrigation Drainage Catchments

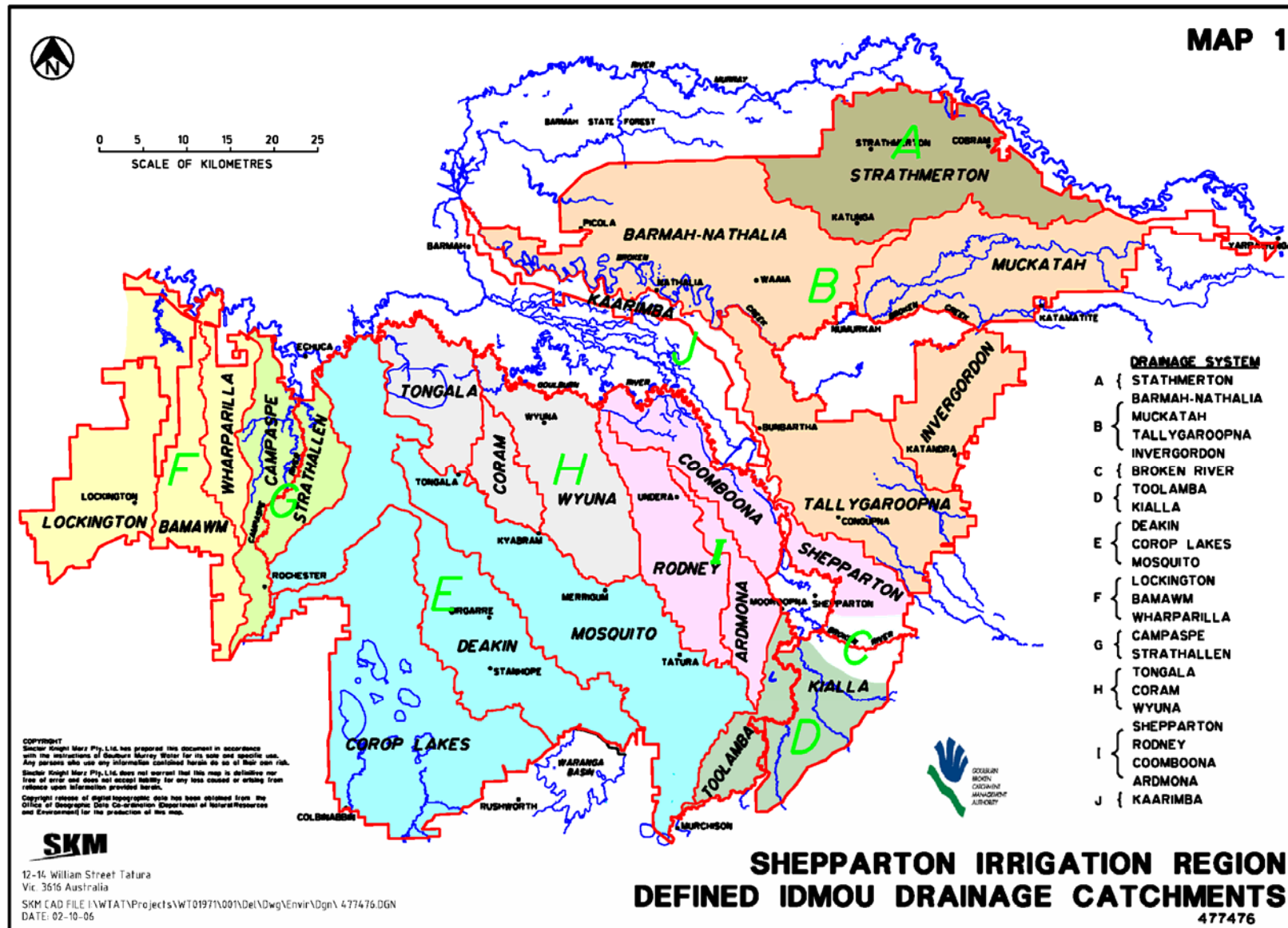
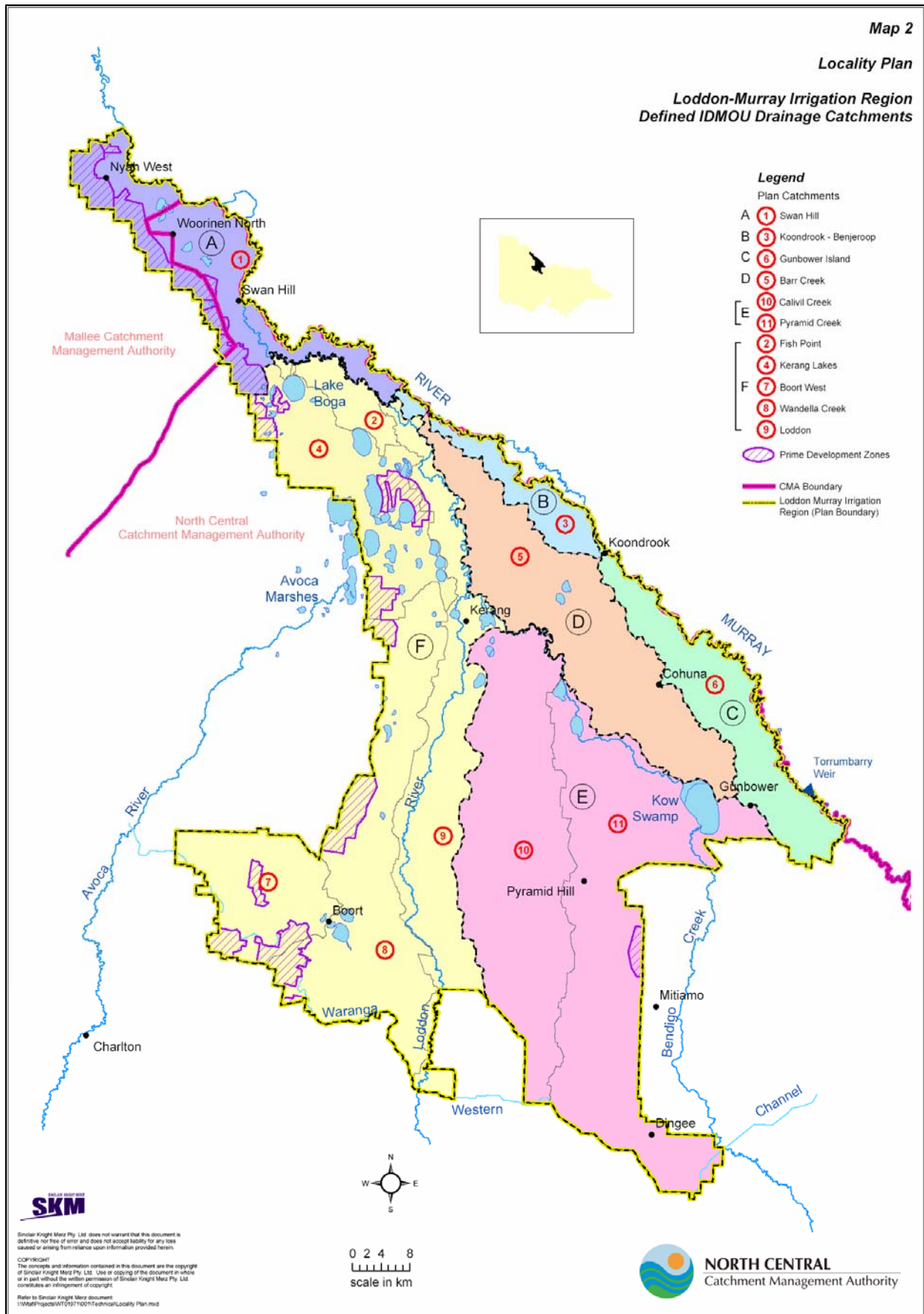


Figure 2: North Central CMA – Defined IDMOU Irrigation Drainage Catchments





## 6.0 DELIVERY AGAINST IDMOU REQUIREMENTS

In the original IDMOU, a set of implementation targets was documented. Items deliverable in the 2005/06 financial year have been listed in **Table 1**, along with a summary of their implementation progress.

## 7.0 KEY CHALLENGES FOR 2006/07

The key challenges over the next 12 month period are to:

- Continue to progressively set monitoring requirements using the decision process developed
- Continue with the setting of irrigation drainage related water quality targets for receiving waterways and irrigation drains using the decision process developed (RRC DSS)
- Finalise the documentation of the relationships between management action implementation and resource condition outcomes within the Goulburn-Broken CMA area
- Finalising the trials of the decision process developed to set management action targets (RMA DSS)
- Finalising the Stanhope Depression Asset and Catchment Operation Plan
- Determining the appropriate scale of the generic Asset and Catchment Operation plans for the North Central and Goulburn Broken CMA irrigation areas.

## 8.0 Conclusion

The IDMOU has been successful in providing a forum for senior agency representatives to more efficiently and effectively reach agreement on irrigation drainage related issues.

The implementation of the IDMOU has been progressing smoothly and facilitates a forum with the cooperation of all the signatory agencies.

Significant milestones have been achieved in the second year of implementation, including:

- undertaking a successful trial of the decision process (RRC DSS) to set irrigation drainage water quality targets
- development of an agreed process in which to set management action targets to achieve irrigation drainage water quality targets
- determining the relationships between management action implementation and resource condition outcome for the North Central CMA area.

A number of significant challenges face the participating agencies in the 2006/7 period, including:

- the setting of irrigation drainage related water quality and management action targets
- finalising the relationships between management action implementation and resource condition outcome for the Goulburn-Broken CMA area
- refining the application of the RMA DSS
- finalising the Asset and Catchment Operation Plan Format.

Table 1: Progress Against Original Work Program in IDMOU

IDMOU Implementation Action	Timing		Prime Responsibility	Other Parties Involved	Progress	
	Original	Current				
<b>General Issues</b>						
1	Management, review and ensuring delivery of actions required under this Memorandum	Ongoing	Ongoing	DSE	ALL	Three IDMOU Steering Committee Meetings were held
2	Development of detailed guidelines for reviews and reporting processes based on DSE principles	Dec 2004	December 2006	CMA, EPA	G-MW & DSE	Drafts completed. Progress delayed due to the need to blend the IDMOU process with the new CMA reporting. First reports will be prepared in February 2007
4	Develop and advise each Party of the detail of new water quality incident reporting and management procedures and systems for SWMS Receiving Waterways	June 2006 and then ongoing	June 2006 and then ongoing	ALL	ALL	Details of each reporting requirement held by DSE. No amendments were reported in 2005/06
5	Document assumed cause and effect relationships between Resource Condition outcomes and Management Actions	Oct 2004	December 2006	CMA	G-MW	Draft prepared for North Central CMA area. Currently underway in the Goulburn Broken CMA area is in progress but is delayed due to the difficulties in finding or developing these complex relationships
<b>Short Term Interim Processes</b>						
6b	Setting of monitoring requirements using initial rapid decision support system	May 2005	December 2007	CMA	EPA/ G-MW/ DSE	Delayed (planned). Progress was delayed because the Technical Reference Group and Steering Committee believed it was important to first trial the technique (in progress)

	IDMOU Implementation Action	Timing		Prime Responsibility	Other Parties Involved	Progress
		Original	Current			
7b	Setting of Resource Condition KPI targets using initial rapid appraisal process and current regional water quality strategies	July 2005	December 2007	CMA	EPA/ G-MW	Process well advanced in Broken Creek catchment and about to commence in Barr Creek
8a	Development of initial rapid decision support systems and guidelines for PI Management Action target setting	Oct 2005	Oct 2005	DSE	EPA/ G-MW/ CMA	Completed
8b	Setting of Management Action PI targets using initial rapid decision support guidelines	Jan 2006	Dec 2007	CMA	EPA/ G-MW	Barr Creek Catchment trial is well advanced. Data collection commenced for trial in Broken Creek Catchment
9	Monitoring will be upgraded such that it is adequate to meet support and measure the KPI targets in <b>Clause 7.3.1 ( 8)</b>	June 2006	Dec 2008	CMA & GMW	CMA	Specification almost finalised for Broken Creek
<b>Long Term Final Processes</b>						
10b	Setting of monitoring requirement guidelines using detailed decision support system	May 2006	Dec 2012	DSE	EPA/ G-MW/ CMA	No progress was anticipated this financial year. Development of detailed is dependent upon application Rapid Decision Support Systems over all of the northern irrigation areas
12a	Developing longer term detailed risk assessment processes and decision support system and guidelines for Resource Condition KPI target setting	Dec 2005	Dec 2011	DSE	EPA/ G-MW/ CMA	
13a	Developing longer term detailed decision support systems for PI Management Action target setting	June 2006	June 2009	DSE	EPA/ G-MW/ CMA	
14	Developing Surface Water Management System Catchment Operation Plan for whole of CMA (Irrigation) area scale as specified in <b>Clause 10.3.1. (3)</b>	Jan 2005	April 2007	CMA	*G-MW	Re-scheduled because the improved efficiencies resulting from first developing the Catchment and Asset Operation Plan for the Stanhope Depression

	IDMOU Implementation Action	Timing		Prime Responsibility	Other Parties Involved	Progress
		Original	Current			
15	Developing Surface Water Management System Catchment Operation Plans for Planning Catchments to achieve target coverage as specified in <b>Clause 10.3.1. (4)</b>	Progressively 2005-2010	Progressively 2005-2010	CMA	*G-MW	Ongoing
16	Developing Surface Water Management System Asset Operation Plan for whole of CMA area scale as specified in <b>Clause 10.3.2. (4)</b>	June 2005	April 2007	CMA & G-MW	-	Re-scheduled because the improved efficiencies resulting from first developing the Asset Operation Plan for the Stanhope Drain.
17	Where appropriate developing Surface Water Management System Asset Operation Plans for each G-MW Water Service Committee area as specified in <b>Clause 10.3.2.(5)</b>	June 2009	June 2010	CMA & G-MW	-	No progress was anticipated
18	Developing Surface Water Management System Asset Operation Plans at a Planning Catchment scale to achieve targets coverage as specified in <b>Clause 10.3.2.(6)</b>	Progressively 2006-2009	Progressively 2006-2009	CMA & G-MW	G-MW/ CMA	No progress was anticipated
<b>New Items Not Included in IDMOU</b>						
19	Development of Asset Operation Plan for Stanhope Drain	-	Jan 2006	G-MW	-	Nearing completion. Delayed until November 2006
20	Development of Catchment Operation Plan for Stanhope Drain	-	Jan 2006	GBCMA	-	Nearing completion. Delayed until November 2006