

Memorandum of Understanding for Irrigation Drainage Management and Water Quality Annual Report for Year 3 – 2006/07

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 2006/07 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, North Central CMA and GB CMA) within the North Central and Goulburn-Broken CMA areas. The 2006/07 financial year represents the third 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 and trial the application of 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.

The application of the Rapid Resource Condition Decision Support System (RRC DSS) for the entire Broken Creek Catchment was completed and endorsed by the IDMOU Steering Committee in November 2006.

A trial of the RRC DSS has now been completed and endorsed by the IDMOU Steering Committee for the Barr Creek Catchment.

A list of prioritised catchments for the application of RRC DSS in the Shepparton Irrigation Region (SIR) and the Loddon-Murray Irrigation Region was also established in 2006/07 and are shown in **Attachment 1**.

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 in 2005/06, 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 has now been completed and endorsed by the IDMOU Steering Committee for the Barr Creek Catchment and the Lower Broken Creek Catchment.

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 Goulburn-Broken CMA area and the finalisation of the application of those relationships to the Loddon-Murray Irrigation Region.

Catchment and Asset Operation Plans

The framework for the Catchment and Asset Operation Plan at a catchment and regional scale was finalised. This included agreeing on IDMOU reporting boundaries.

The first catchment and asset operation plan has been completed and endorsed by the IDMOU Steering Committee for the Lower Stanhope Depression in the Goulburn-Broken CMA area.

The regional catchment and asset operation plan for the Goulburn-Broken CMA area is currently being prepared. The plan will cover each of the irrigation areas in the Goulburn-Broken CMA area and be used as a reference for each of the catchment specific plans. This plan is being prepared in conjunction with the Barmah-Nathalia catchment and asset operation plan to ensure that the regional catchment and asset operation plan and catchment specific plans complement each other.

It is envisaged that the regional catchment and asset operation plan and the Barmah-Nathalia catchment and asset operation plan be completed by July 2008.

5.0 COMMITTEE MEETINGS HELD

Two IDMOU Steering Committee meetings were held during the 2006/07 financial year (November 2006, April 2007). A high level of commitment was shown by each agency with representatives from each agency in attendance.

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

6.0 DELIVERY AGAINST IDMOU REQUIREMENTS

In the original IDMOU, a set of implementation targets were documented. Some of these implementation targets have since been revised due to:

- delays in acquiring data
- significant repetition between the Catchment and Asset Operation Plans. As a result the contents of both plans have been integrated into a single Catchment and Asset Operation Plan which addresses the specific objectives of both plans
- delays in documenting the relationship between Management Action and Resource Condition outcomes

Items deliverable in the 2006/07 financial year have been listed in **Table 1**, along with a summary of their implementation progress.

7.0 KEY MILESTONES FOR 2007/08

The key milestones 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 (RRC DSS) for receiving waterways and irrigation drains using the decision process developed, with the primary focus being the Barr Creek Catchment in the Loddon-Murray Irrigation Region and the Deakin Catchment in the SIR
- continue with the setting of targets for the implementation of management actions using the decision support system (RMA DSS), with the primary focus in 2007/08 being the Barr Creek Catchment in the Loddon-Murray Irrigation Region and the entire Broken Creek Catchment in the SIR
- finalising the Regional Catchment and Asset Operation Plan for the Goulburn-Broken CMA area
- finalising the Barmah-Nathalia Catchment and Asset Operation Plan
- finalising the Regional Catchment and Asset Operation Plan for the North Central CMA area.

8.0 KEY CHALLENGES FOR 2007/08

The key challenges over the next 12 month period are:

- resourcing issues relating to IDMOU implementation
- determining the impacts of modernisation on IDMOU implementation
- acquiring data for DSS applications and the Catchment and Asset Operation Plans
- determining climate change/variability impacts/requirements
- determining whether implementing the IDMOU works program is still a high priority for 2007/08 given the ongoing effects of the drought.

9.0 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.

It has been decided by participating agencies that the more detailed decision support system for setting monitoring requirements had been superseded by the RMA DSS and RRC DSS process, and is therefore no longer required.

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

- documenting the assumed relationships between management action implementation and resource condition outcomes for the Goulburn-Broken and North Central CMA areas
- undertaking a successful trial of the management action target setting decision process (RMA DSS) for the Barr Creek Catchment and Lower Broken Creek Catchment

- finalising the Catchment and Asset Operation Plan framework and format
- development of the Stanhope Catchment and Asset Operation Plan.

A number of significant milestones should be achieved during the 2007/08 period, including:

- the continued setting of irrigation drainage related water quality and management action targets for prioritised catchments in the SIR and Loddon-Murray Irrigation Region
- finalising the Regional Catchment and Asset Operation Plan for the Goulburn-Broken CMA area
- finalising the Barmah-Nathalia Catchment and Asset Operation Plan
- finalising the Regional Catchment and Asset Operation Plan for the North Central CMA area.

A number of significant challenges face the participating agencies, including:

- resourcing issues relating to IDMOU implementation
- acquiring data for DSS applications and the Catchment and Asset Operation Plans
- determining the impacts of modernisation on IDMOU implementation
- determining climate change/variability impacts/requirements
- determining whether implementing the IDMOU works program is still a high priority for 2007/08 given the ongoing effects of the drought.

Table 1: Progress Against Original Work Program in IDMOU

IDMOU Implementation Action		Timing		% Complete	Prime Responsibility	Other Parties Involved
		Original	Current			
General Issues						
1	Management, review and ensuring delivery of actions required under this Memorandum	Ongoing	Ongoing		DSE	ALL
2	Development of detailed guidelines for reviews and reporting processes based on DSE principles	Dec 2004	Dec 2007	80%	CMA, EPA	G-MW & DSE
3	Develop and advise each Party of the detail of existing water quality incident reporting and management procedures and systems for SWMS Receiving Waterways	Aug 2004	Completed	100%	ALL	ALL
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	85%	ALL	ALL
5	Document assumed cause and effect relationships between Resource Condition outcomes and Management Actions	Oct 2004	Mar 2007	100%	CMA	G-MW
	Short Term Interim Processes					
6a	Development of initial rapid decision support system for setting monitoring requirement guidelines (stations, parameters, type and analysis)	Jan 2005	Completed	100%	DSE	EPA/ G-MW/ CMA
6b	Setting of monitoring requirements using initial rapid decision support system (Five highest priority catchments)	May 2005	June 2008	25%	CMA	EPA/ G-MW/ DSE
	(All catchments)		June 2009			
7a	Development of initial rapid appraisal risk based system for Resource Condition KPI target setting guidelines	Mar 2005	Completed	100%	DSE	EPA/ G-MW/ CMA
7b	Setting of Resource Condition KPI targets using initial rapid appraisal process and current regional water quality strategies (Five highest priority catchments) (All catchments)	July 2005	June 2008 June 2009	10%	CMA	EPA/ G-MW
8a	Development of initial rapid decision support systems and guidelines for PI Management Action target setting	Oct 2005	Dec 2006	100%	DSE	EPA/ G-MW/ CMA
8b	Setting of Management Action PI targets using initial rapid decision support guidelines (Five highest priority catchments) (All catchments)	Jan 2006	June 2008 June 2009	0%	CMA	EPA/ G-MW
9	Monitoring will be upgraded such that it is adequate to meet support and measure the KPI targets in Clause 7.3.1 (8)	June 2006	Dec 2009	0%	CMA & GMW	CMA

IDMOU Implementation Action		Timing		% Complete	Prime Responsibility	Other Parties Involved
		Original	Current			
	Long Term Final Processes					
10a	Development of detailed decision support system for setting monitoring requirement guidelines (stations, parameters, type and analysis)	Dec 2006	No longer required	0%	DSE	EPA/ G-MW/ CMA
10b	Setting of monitoring requirement guidelines using detailed decision support system	May 2006	No longer required	0%	DSE	EPA/ G-MW/ CMA
11	Monitoring will be further upgraded in the NCCMA such that it is adequate to meet the KPI targets in Clause 7.3.1 (9)	June 2009	June 2009	0%	CMA & GMW	CMA
12a	Developing longer term detailed risk assessment processes and decision support system and guidelines for Resource Condition KPI target setting	Dec 2005	No longer required	0%	DSE	EPA/ G-MW/ CMA
12b	Set Resource Condition KPI targets using the longer term detailed risk assessment processes and Decision Support Systems	Feb 2007	No longer required	0%	CMA	EPA/ G-MW
13a	Developing longer term detailed decision support systems for PI Management Action target setting	June 2006	No longer required	0%	DSE	EPA/ G-MW/ CMA
13b	Set PI Management Action targets using longer term detailed decision support systems	June 2007	No longer required	0%	CMA	EPA/ G-MW
14	Developing Surface Water Management System Catchment Operation Plan for whole of CMA region scale as specified in Clause 10.3.1. (3)	Jan 2005	June 2007	0%	CMA	*G-MW
15	Developing Surface Water Management System Catchment Operation Plans for Planning Catchments to achieve target coverage as specified in Clause 10.3.1. (4)	Progressively 2005-2009	Progressively 2005-2010	0%	CMA	*G-MW
16	Developing Surface Water Management System Asset Operation Plan for whole of CMA region scale as specified in Clause 10.3.2. (4)	June 2005	June 2007	0%	CMA & G-MW	-
17	Where appropriate developing Surface Water Management System Asset Operation Plans for each G-MW Water Service Committee area as specified in Clause 10.3.2.(5)	June 2009	No longer required	0%	CMA & G-MW	-
18	Developing Surface Water Management System Asset Operation Plans at a Planning Catchment scale to achieve targets coverage as specified in Clause 10.3.2.(6)	Progressively 2006-2009	No longer required	0%	CMA & G-MW	G-MW/ CMA
	New Items Not Included in IDMOU					
19/ 20	Development of Catchment and Asset Operation Plan for Stanhope Drain	-	Completed July 2007	100%	G-MW/ GBCMA	-

IDMOU Implementation Action		Timing		% Complete	Prime Responsibility	Other Parties Involved
		Original	Current			
21/22	Ensure that MV Drain 11 is incorporated into the development of Catchment and Asset Operation Plan for the Broken Creek Catchment	-	August 2008	2%	G-MW/ GBCMA	
23/24	Ensure that Benwell Drain is incorporated into the development of Catchment and Asset Operation Plan for Koondrook-Benjeroop Catchment	-	June 2009	0%	G-MW/ NCCMA	-
25/26	Ensure that Mosquito Drain Stage 10 is incorporated in the development of Catchment and Asset Operation Plan for Deakin Catchment	-	June 2009	0%	G-MW/ GBCMA	-

ATTACHMENT 1

Attachment 1: Prioritised catchment in the SIR and Loddon-Murray Irrigation Region

The Shepparton Irrigation Region's 24 sub-catchments (SIR) are grouped into 10 catchments, and the 11 Loddon-Murray Irrigation Region sub-catchments are grouped into 6.

Of these 16 defined catchments it is proposed that the RRC DSS and RMA DSS be applied to only those that have SWMS. The priority will then be placed on those catchments that have a significant number of Primary SWMS. The proposed program is outlined in **Table 1A** and **Table 1B** for the SIR and Loddon-Murray Irrigation Region respectively.

Table 1A: Prioritised catchment in the SIR

Priority	Catchment	Comment
1	(B) – Broken Creek	- Rapid Resource Condition DSS completed - Rapid Management Action DSS underway - Trial of Rapid Management Action DSS completed on Lower Broken Creek Catchment - Trial of Rapid Resource Condition DSS completed on Lower Broken Creek Catchment (2005/06)
2	(E) - Deakin	- Rapid Resource Condition DSS proposed
3	(I) – Mid Goulburn	
4	(A) – Strathmerton	
5	(F) - Lockington	
6	(C) – Broken River	
7	(H) – Lower Goulburn	
8	(G) - Campaspe	
9	(D) – Upper Goulburn	- some formal drainage, no PSWMS proposed
10	(J) – Kaarimba	- no formal drainage at present, no PSWMS proposed

Table 1B: Prioritised catchment in the Loddon-Murray Irrigation Region

Priority	Catchment	Comment
1	(D) – Barr Creek	- Trial of Rapid Resource Condition DSS completed - Trial of Rapid Management Action DSS completed
2	(E) - Pyramid	
3	(A) – Swan Hill	- Tyntynder area
4	(F) – Loddon	- No formal drainage
5	(B) - Koondrook	- No formal drainage
6	(C) - Gunbower	- No formal drainage