

## **SIR REGIONAL CATCHMENT STRATEGY**

### **Annual Report 2002/2003**

**PROGRAM: SIALM**

**PROJECT NO: 14998**

**PROJECT TITLE: Increasing Water Use Efficiency Through Strategic Water Harvesting – Shepparton Irrigation Region (Drainage Nutrient Removal Incentive Scheme)**

#### **SCHEME BACKGROUND:**

The Drainage Nutrient Removal Incentive Scheme was introduced in April of 1998 to encourage landowners to construct strategically located storages (drainage nutrient removal systems) to collect and use regional drainage water. The water and nutrients collected can be used productively, and are not lost to areas of the catchment where they may cause problems such as blue green algae blooms. These storages can increase the volume of water available to the irrigator and reduce the amount of nutrient rich water entering our catchments.

#### **PROJECT TARGETS:**

##### **Long term:**

1. Increase the amount of nutrient-rich water diverted from regional drains and used productively on farm by 25%.
2. Capture 10,000 ML of water savings from regional and farm drainage to be used for maximum public benefit.
3. Improve irrigation management across 50% of the newly drained SIR in the next 5 years.
4. Contribute significantly to the Goulburn Broken Water Quality Strategy goal of reducing phosphorous and nitrogen drain loads by 50% by 2016 through decreasing the amount of poor quality (high nutrient/salt) water leaving the catchment and flowing into environmentally sensitive waterways.

##### **Short term:**

1. Construct 6 storages per year providing a storage capacity of approximately 3,600 ML.
2. Divert 7,200 ML of water from the regional drainage system to prevent flows into the River Murray and improve water use efficiency on 4,500 hectares of irrigated land.
3. Retain 3.5t of Phosphorous and 14.0t of Nitrogen within the catchment.

4. Improve water use efficiency on individual properties, save irrigation water for other uses such as environmental flows and protect the catchment from poor quality drainage water

#### **PROGRESS AGAINST TARGETS:**

For the past couple of years the SIR has suffered dry conditions and the low rainfall and low irrigation water allocations has resulted in a reduced occurrence of high flow conditions in drains.

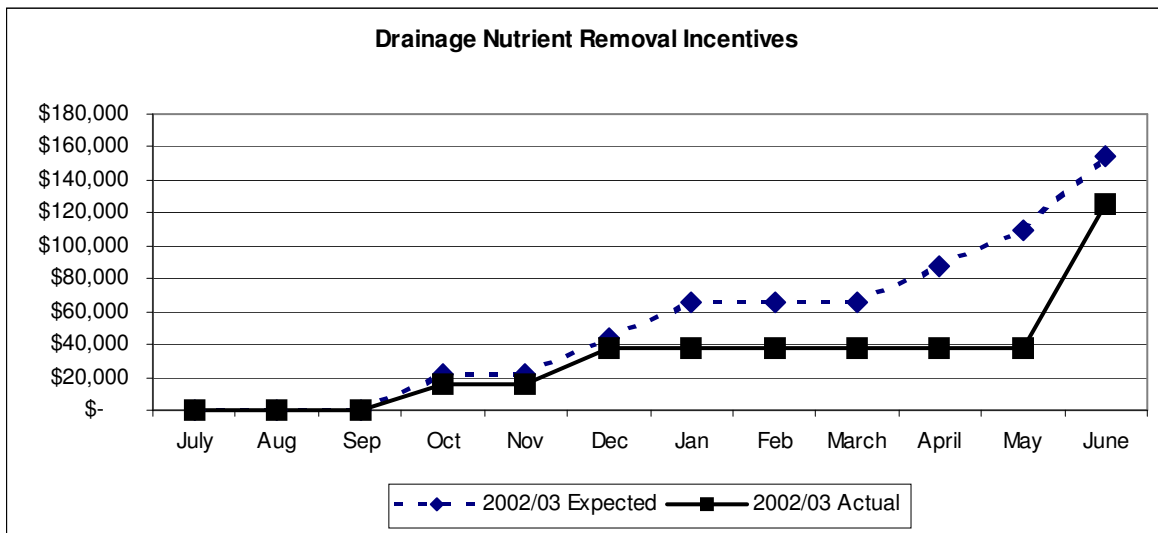
Even with the low rainfall, 6 storages were constructed this year and this was a record number of storages constructed in one year through the incentive scheme. The largest storage built through the scheme was constructed this year. This was a 500 ML storage at Wunghnu which is also incorporating an aquaculture enterprise within the storage. The other storages were spaced around the SIR with 2 storages at Bearii; a 400 ML and a 250 ML storage, a 150 ML storage at Invergordon, a 60ML storage at Numurkah and a 60 ML at Tallygaroopna.

There were 5 new applications this year and all were approved at the Surface Water Management Working Group. These were for 2 200ML storages at Wunghnu, a 120 ML at Tallygaroopna, a 100 ML storage at Strathmerton and a 65 ML storage at Invergordon. Unfortunately the 65 ML storage at Invergordon will not go ahead as there will be no high flow licence given. The other 4 applications have all indicated they will construct in 2003/2004. There are currently a further 2 approved applications waiting to construct.

Since the scheme commenced the total number of high flow storages built in the SIR with assistance from the incentive scheme is 21, with a storage capacity of 4,043 ML.

## GRANT EXPENDITURE 2002/2003

	Expected			Actual				
	No Const	Grants	Total(Inc GST)	No const	Grants Paid	GST	Total Grants Paid	Total Cost - Landowner (estimates)
<b>July</b>	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ -
<b>Aug</b>	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ -
<b>Sep</b>	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ -
<b>Oct</b>	1	\$ 20,000	\$ 22,000	1	\$ 13,851.51	\$ 1,385.15	\$15,236.66	\$56,630.40
<b>Nov</b>	0	\$ -	\$ 22,000	0	\$ -	\$ -	\$15,236.66	\$ -
<b>Dec</b>	1	\$ 20,000	\$ 44,000	1	\$ 20,000.00	\$ 2,000.00	\$37,236.66	\$93, 066.27
<b>Jan</b>	1	\$ 20,000	\$ 66,000	0	\$ -	\$ -	\$37,236.66	\$ -
<b>Feb</b>	0	\$ -	\$ 66,000	0	\$ -	\$ -	\$37,236.66	\$ -
<b>March</b>	0	\$ -	\$ 66,000	0	\$ -	\$ -	\$37,236.66	\$ -
<b>April</b>	1	\$ 20,000	\$ 88,000	0	\$ -	\$ -	\$37,236.66	\$ -
<b>May</b>	1	\$ 20,000	\$ 110,000	0	\$ -	\$ -	\$37,236.66	\$ -
<b>June</b>	2	\$ 40,000	\$ 154,000	4	\$ 79,561.69	\$ 7,956.17	\$ 124,754.52	\$ 836,071.99
<b>Totals</b>	<b>7</b>	<b>\$ 140,000</b>	<b>\$ 154,000</b>	<b>6</b>	<b>\$113,413.20</b>	<b>\$11,341.32</b>	<b>\$ 124,754.52</b>	<b>\$ 985,768.66</b>



## PROJECT SALARY AND OPERATING EXPENDITURE 2002/2003

		BUDGET	EXPENDITURE	CARRY FORWARD
14998	Strategic Water Manag	\$36,700	\$36,670	\$30
12923	Strategic Water Manag	\$25,000	\$25,000	\$0
	NAP			
	<b>TOTAL</b>	<b>\$61,700</b>	<b>\$61,670</b>	<b>\$30</b>

## **RESULTS FROM DNRIS 2002/2003:**

During July 2003, all landholders with systems constructed were contacted to determine the volumes of water collected and used for irrigation. Samples of the water were taken and tested for salinity and phosphorous levels.

<b>Water Service Area</b>	<b>ML Capacity Constructed</b>	<b>Volume Diverted (ML)</b>	<b>Phosphorous Saved (kg)</b>	<b>Salt Saved (kg)</b>
Central Goulburn	1,658	945	630	123
Murray Valley	1115	1130	581	133.8
City of Greater Shepparton	1120	1310	580	118.1
Rochester (GBCMA Section)	150	0	0	0
<b>Total</b>	<b>4043</b>	<b>3385</b>	<b>1791</b>	<b>375</b>

Due to a very dry year and low rainfall the volume of water diverted was quite low compared to previous years but relatively the same as 2001/2002.

Only 16 out of 21 storages were able to divert and store water in the storage during 2002/2003. The majority of the storages have water stored in them going into the 2003/2004 season due to the rain that fell during July 2003.

With a lower volume of water stored, the phosphorous and salt loads saved are down on previous years totals.

## **Other Works Carried out by the Project Team:**

- Project staff were involved in the organisation and running of the DPI site at Stanhope Field Days informing landowners of incentives available in the SIR.
- Project staff conducted Saltwatch activities with Tongala Primary Schools.
- Project staff were involved in a tour with Lockington Primary School dealing with water quality.
- Project staff were involved in Careers Day Out informing high school students on careers in DPI/DSE.
- Project staff undertook a short presentation to Murray Irrigation staff on our programs/incentives.
- Project staff drafted an abstract to be presented at ANCID conference to be held in October 2003.

## **PRESENTATIONS TO CONFERENCES/WORKSHOPS:**

No major presentations were delivered this year.

## **GROUPS HOSTED BY PROJECT STAFF:**

- Project staff were involved in a visit by Department of Treasury staff
- Project staff were involved in a tour of area showcasing our programs/incentives with EPA staff

**PUBLICATIONS:**

An article was submitted for inclusion in Pumpers Trumpet (targeting groundwater users)

**Geographic Information Systems:**

This year has seen the continued use of Geographic Information Systems (GIS) to map where storages have been constructed and where storages are planned for the future. All Local Area Plan (LAP) boundaries have been added to the map to indicate any storages which fall into these areas. At present 8 constructed storages fall into a LAP boundaries, and there are currently 7 approved storages of which 2 fall into a LAP boundary (Nathalia and District and Bunbartha/Karimba/Zeerust).

	<b>Actual – since 1998</b>		
<b>LAP AREA</b>	<b>No</b>	<b>ML of storage</b>	<b>TOTAL COST (incl GST)</b>
Bunbartha/ Karimba/Zeerust	1	60	\$15,236.66
Nathalia & District	4	1050	\$66,000
Cornella	0	-	-
Dhurringile	0	-	-
Invergordon	1	150	\$22,000
Nanneella	0	-	-
Muckatah/ Naring	1	65	\$19,561.69
Wyuna	1	250	\$21,517.86
<b>TOTAL</b>	<b>8</b>	<b>1575</b>	<b>\$144,316.21</b>

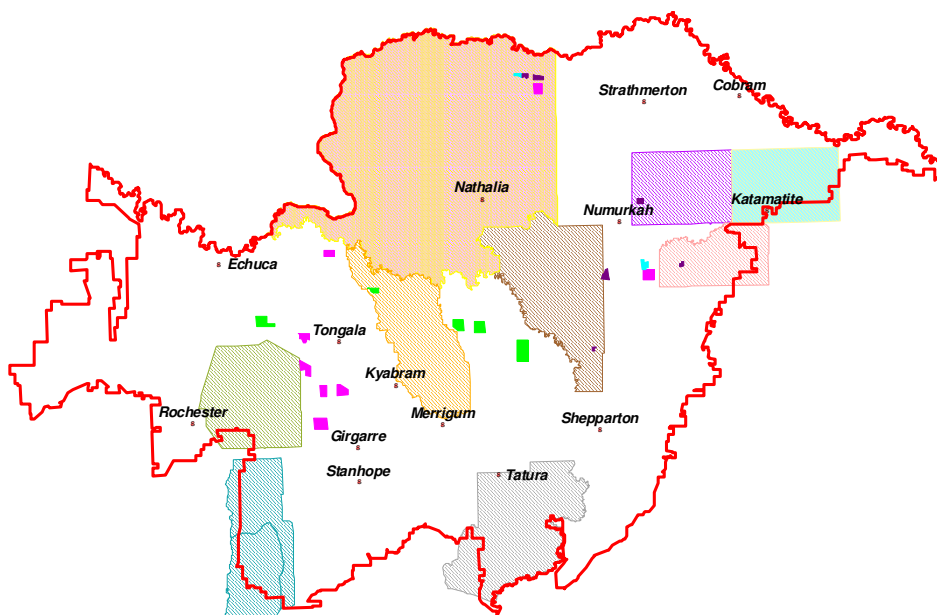
**CONCLUSION:**

Despite the drought and resulting conditions ie, low water allocations, low rainfall, construction of storages in 2002/2003 was a record year.



**A 400ML storage built 2001/2002 at Bearii.**

# **HIGH FLOW STORAGES CONSTRUCTED IN THE SIR WITH ASSISTANCE FROM THE DNRIS.**



- 02/03 Drainage Nutrient Removal Systems
- 01/02 Drainage Nutrient Removal Systems
- 00/01 Drainage Nutrient Removal Systems
- 99/00 Drainage Nutrient Removal Systems
- 98/99 Drainage Nutrient Removal Systems
- SIR Boundary
- Main Towns
- LAP Boundaries
- Broken Creek
- Bunbartha
- Cornella
- Dhurrangile
- Invergordon
- Muckatah
- Nanneella
- Naring
- Wyuna

20 0 20 40 Kilometers



Produced by:  
Kym Ockerby  
DPI - Echuca  
PH 03 54821922  
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Disclaimer:  
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