

Annual report for Steels, Pauls and Dixons Creeks Water Supply Protection Area Stream Flow Management Plan 2007

Reporting period 1st July 2009 to 30th June 2010

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Foreword

This report is submitted to the Minister for Water and the Port Phillip and Westernport Catchment Management Authority in accordance with s32C of the *Water Act 1989*. A copy of this report is available for inspection at the offices of Melbourne Water and notice of report availability will be published as required by s32D of the *Water Act 1989*.

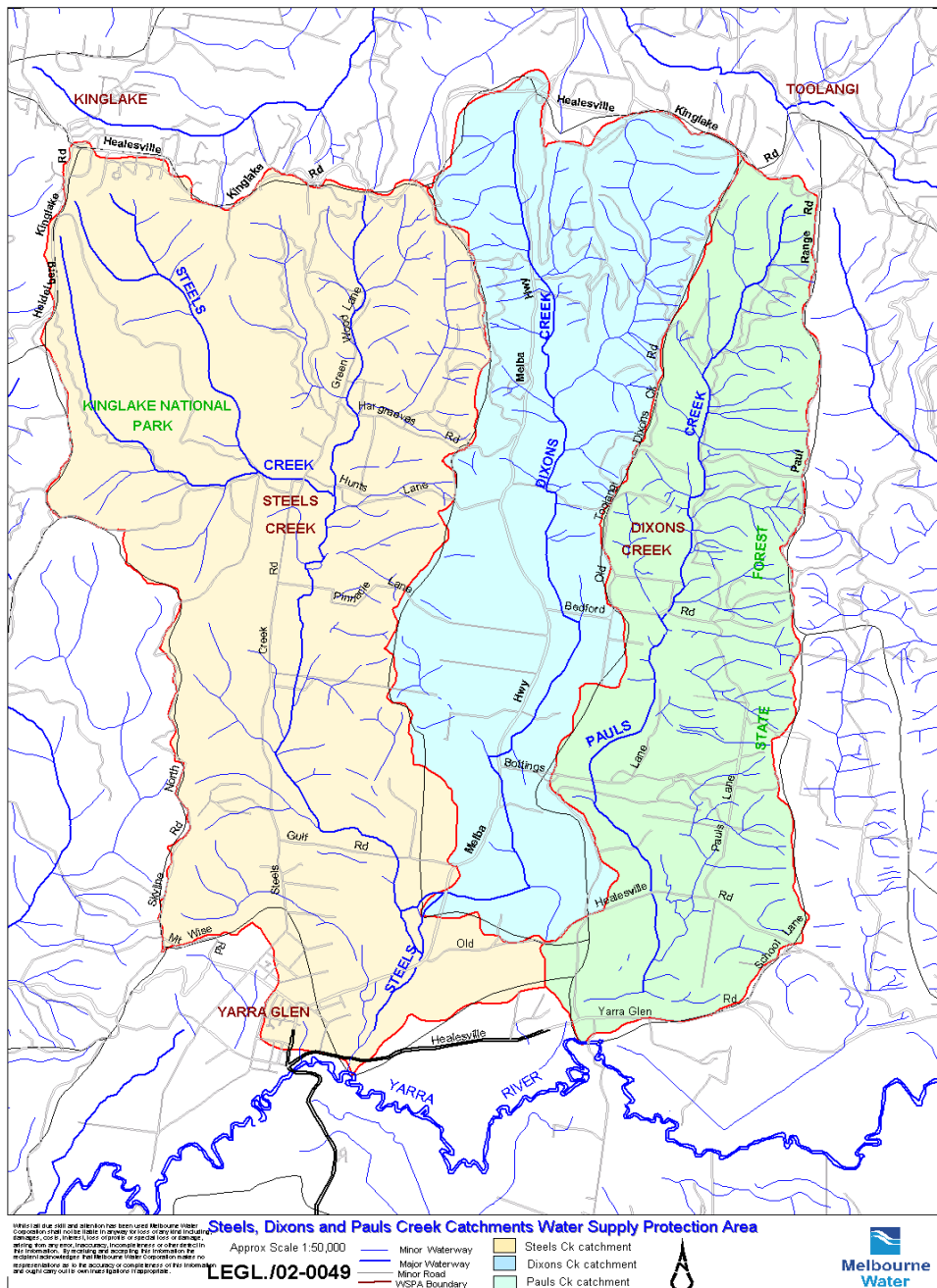
The purpose of this report is to detail Melbourne Water's activities administering and enforcing the management plan, and provide information that is required to be reported under the plan.

Area	Steels, Pauls and Dixons Creeks Water Supply Protection Area
Segment	Surface water
Area Declared	December 2002
Plan Approved	7 th January 2008
Allocation Limit	1,684 ML
Scheduled Plan Review	2013
Implementation Authority	Melbourne Water
Relevant CMA	Port Phillip and Westernport Catchment Management Authority
Report Period	1 st July 2009 – 30 th June 2010
Report Prepared by	Melbourne Water

1 Introduction

This is a report on Melbourne Water's activities in carrying out its duties relating to the Steels, Pauls and Dixons Stream Flow Management Plan. This plan applies to the Steels, Pauls and Dixons Creek Water Supply Protection Area (Figure 1). This report is produced to comply with the plan and the *Water Act 1989*.

Figure 1: The Steels, Pauls and Dixons Creek Water Supply Protection Area.



1.1 Objective of the plan

The objectives of the plan were set by the Stream Flow Management Plan Committee. The *Water Act 1989* states:

"The object of a management plan is to make sure that the water resources of the relevant water supply protection area are managed in an equitable manner and so as to ensure the long-term sustainability of those resources."

In addition to this general objective, the committee has identified further objectives specific for the Steels, Pauls and Dixons Catchment. These objectives were developed following an analysis of the specific flow related issues facing the catchment including the ephemeral nature of the streams, the current water use, land use practices, and fish populations expected to be present:

- a) Recommend stream flows that follow natural seasonal flow patterns and do not dry up any more frequently than would reasonably occur
- b) Establish simple local trading rules
- c) Adopt rules that adapt to longer term changes in water availability
- d) Recommend suitable monitoring of stream flows and water usage
- e) Set water access conditions that allow fair sharing of water between users
- f) Prohibit new development that would diminish water availability beyond cap levels
- g) Set caps on water allocation
- h) Water allocations in the Steels, Pauls and Dixon Creeks Catchments to be managed such that beneficial uses of these waterways and their tributaries are protected.

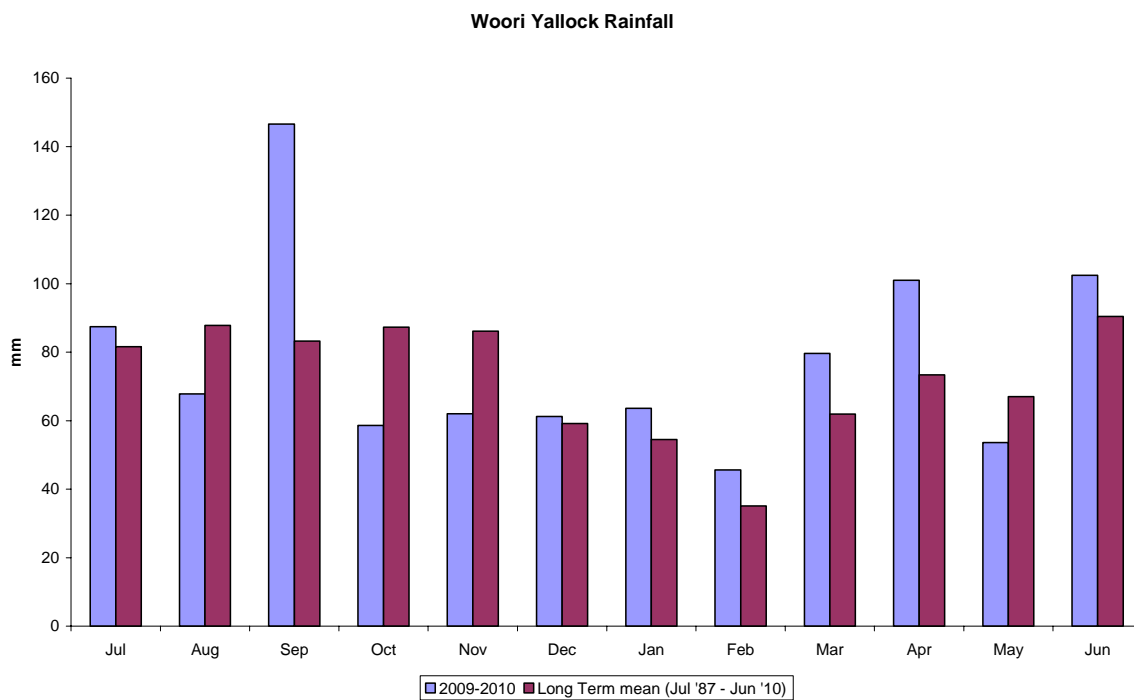
The SFMP objectives and targets are consistent with broad objectives set for the catchment by the Victorian Government and the Port Phillip Catchment and Land Protection Board including the State Environment Protection Policy, (Waters of Victoria) Schedule F7 (Waters of the Yarra Catchment) 1999, and the Port Phillip and Westernport Regional Catchment Strategy 2002.

2 Key Observations

2.1 Rainfall

Rainfall is measured at a variety of sites in the catchment but the most representative site with long term data is Woori Yallock (586085). The total annual rainfall for the year was 929.4mm and this compares with a long term average (July 1978 to June 2010) of 867.5mm, making the reporting year slightly wetter than the long term average.

Figure 2– Monthly rainfall compared to long term average for Woori Yallock raingauge



2.2 Water levels/flows

Stream flows are measured at three locations in the catchment: -

- Pauls Creek Gauge at Tarrawarra (229245)
- Steels Creek at Yarra Glen (229246)
- Dixons Creek at Melba Highway Yarra Glen (229290).

Only Steels Creek and Pauls Creek are used as compliance gauges for the catchment. Stream flows are recorded 24 hours a day, 365 days of the year and archived on the Melbourne Water Hydstra system. Each morning the flow data in the creek is monitored to determine whether bans should be introduced or lifted for that day. A hydrograph for each site is presented in figure 3 and 5

along with a flow duration curve covering the reporting period for each site in figure 4 and 6. The hydrograph shows the periods when bans were implemented in accordance with the requirements of the plan and when stream flows fell below the environmental flow level.

The hydrographs show both the minimum flow threshold (red line) and the periods when bans were actually implemented (green periods). It must be noted that bans are applied on the basis of changes in seven day average flows rather than the daily flows shown here. This is also discussed in Section 3.5.

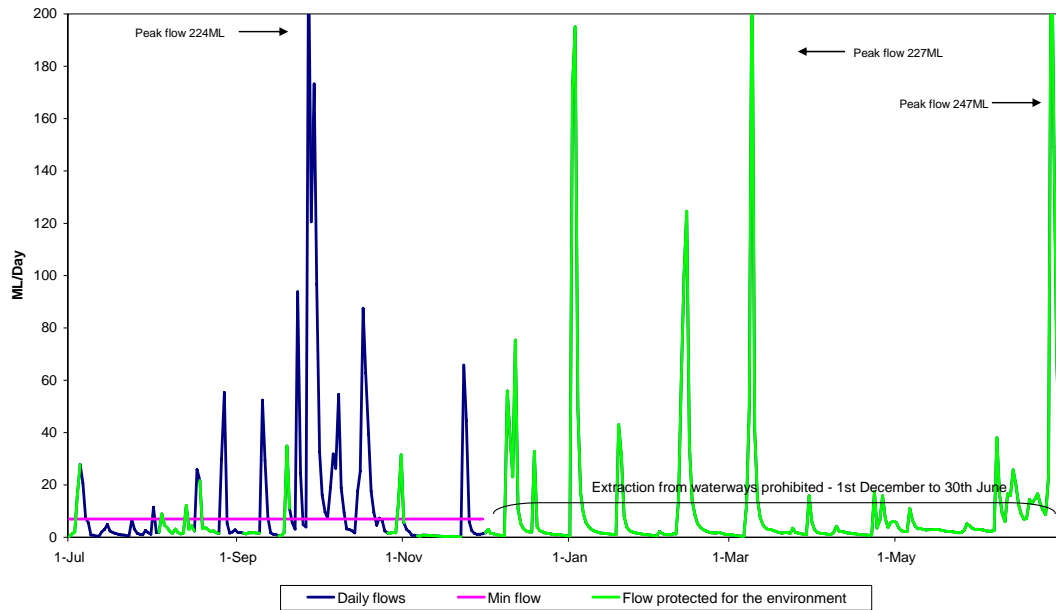
The compliance gauge for Steels and Dixons Creek is the Steels Creek gauging station. In this catchment there are no all-year commercial or irrigation licences, therefore summer bans do not apply. During the period 1st July to 30th November a trigger level of 7 ML/d is applied to ban license holders from taking water from the catchment (see table 1). The creek is ephemeral hence the little or no flow data at times. Bans were in place for most of the season in the catchments, including the condition of taking water from a waterway between 1st December and 30th June to fill a dam.

Table 1: Flow compliance triggers on Steels and Dixons Creek

Low-Flow Period			High-Flow Period (Winter-fill)		
Applicable Dates	BAN Trigger (ML/day)	RELIEF Trigger (ML/day)	Applicable Dates	BAN Trigger (ML/day)	RELIEF Trigger (ML/day)
01 Dec - 30 Jun	n/a	n/a	01 Jul - 30 Nov	7.0	7.0

Figure 3 – Hydrograph of mean daily flows at Steels Creek gauging station, 1 July 2009 to 30 June 2010. This is shown over the full range of flows (a) and focusing on lower flows (b). Flows that were protected for the environment are shown in green.

(a)



(b)

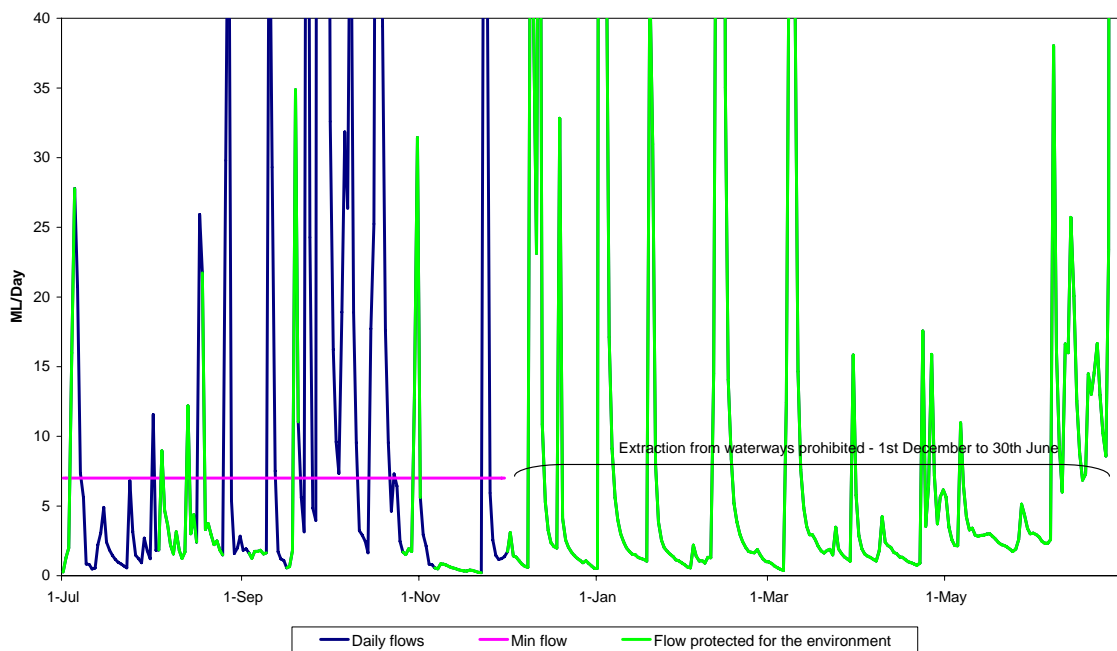
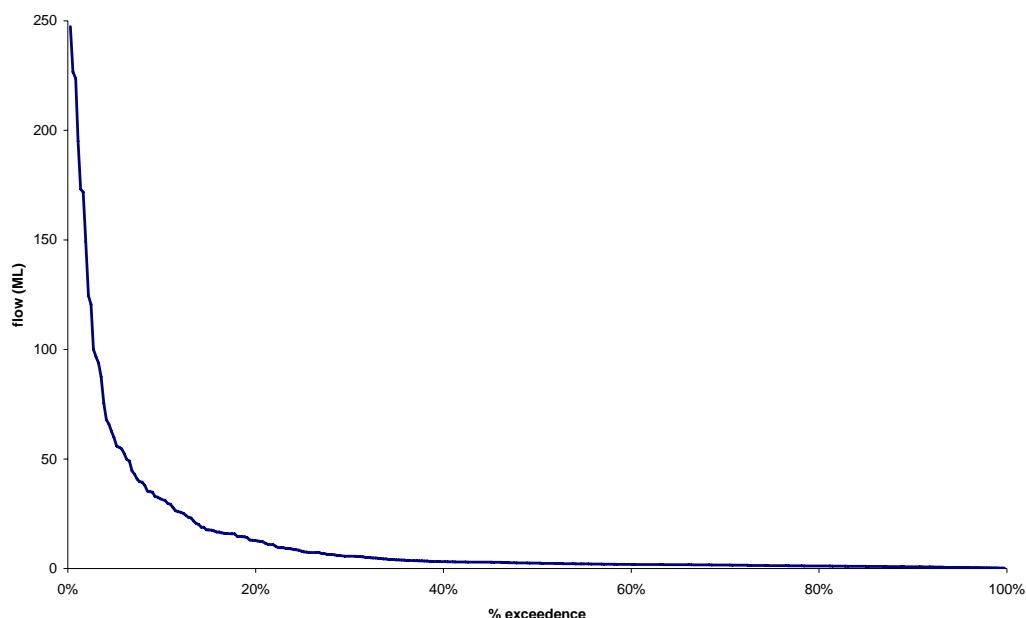


Figure 4 – Flow duration curve of mean daily flows at Steels Creek gauging station between 1 July 2009 to 30 June 2010.



The compliance gauge for Pauls Creek is the Pauls Creek gauging station at Tarrawarra. In this catchment there are no all-year commercial or irrigation licences, therefore summer bans do not apply. During the period 1st July to 30th November a trigger level of 5 ML/d is applied to ban licence holders from taking water from the catchment (see table 2). The creek is ephemeral hence the low flow data at times.

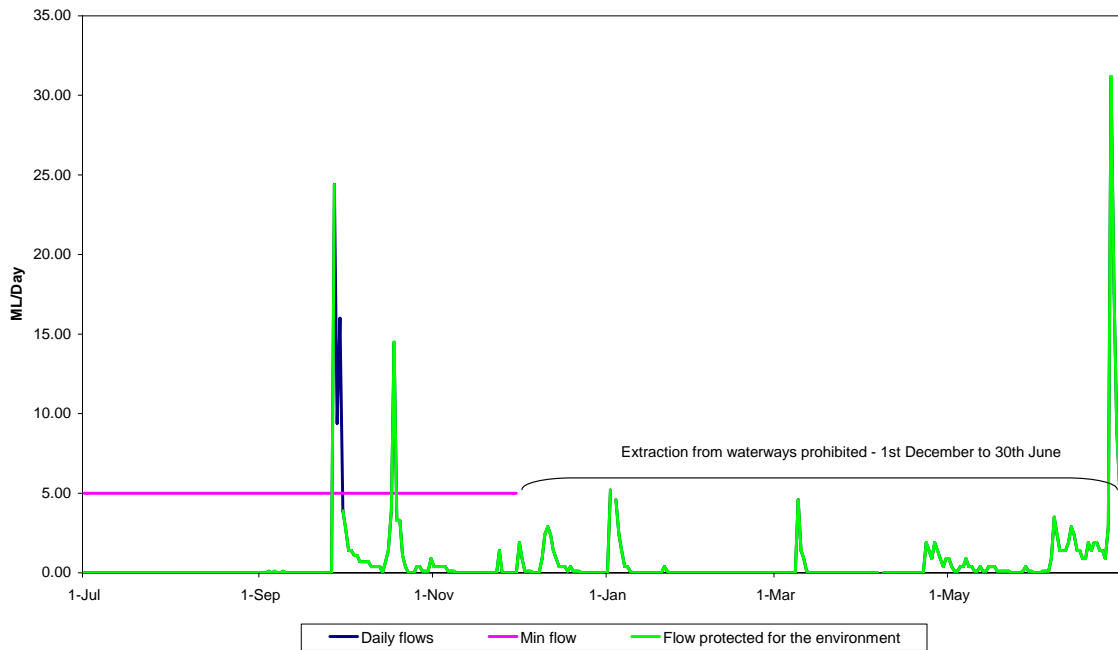
Table 2: Flow compliance triggers on Pauls Creek

Ban And Relief Triggers - Pauls Creek

Low-Flow Period			High-Flow Period (Winter-fill)		
Applicable Dates	BAN Trigger (ML/day)	RELIEF Trigger (ML/day)	Applicable Dates	BAN Trigger (ML/day)	RELIEF Trigger (ML/day)
01 Dec - 30 Jun	n/a	n/a	01 Jul - 30 Nov	5.0	5.0

Figure 5 – Hydrograph of mean daily flows at Pauls Creek gauging station, 1 July 2009 to 30 June 2010. This is shown over the full range of flows (a) and focusing on lower flows (b). Flows that were protected for the environment are shown in green.

(a)



(b)

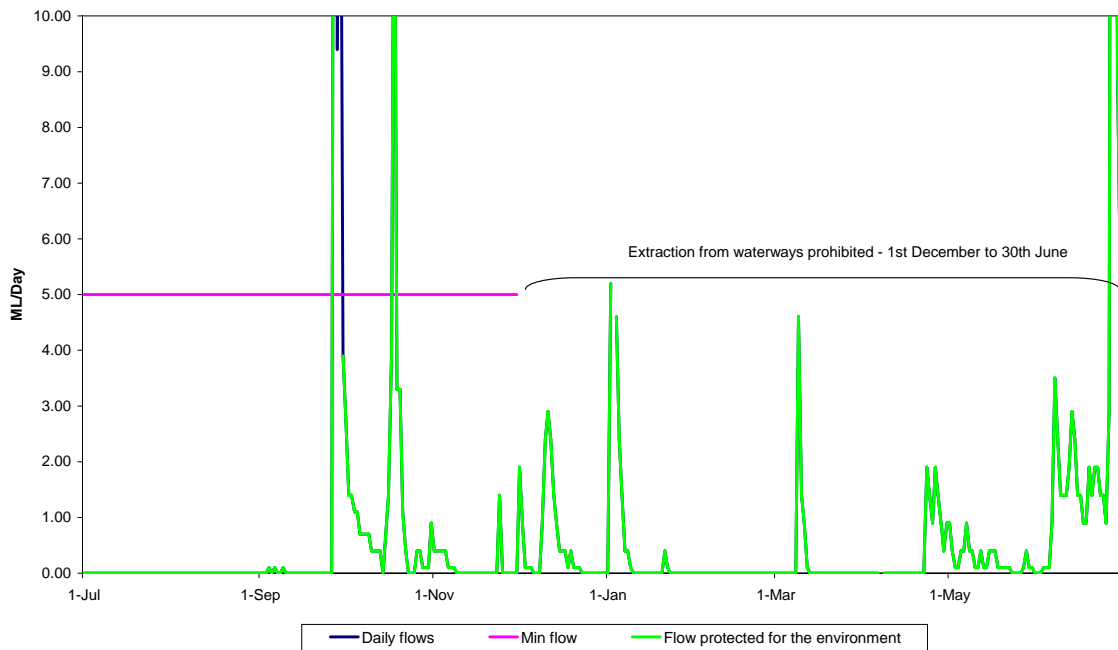
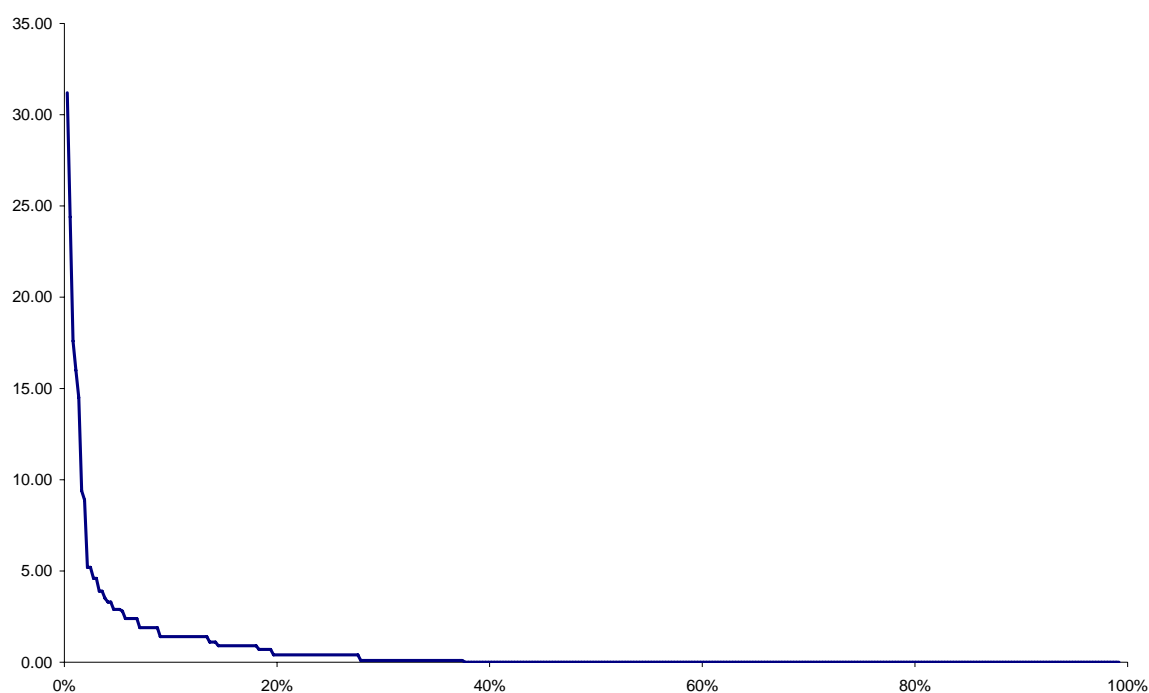


Figure 6 – Flow duration curve of mean daily flows at Pauls Creek gauging station between 1 July 2009 to 30 June 2010.



2.3 Bans and restrictions on taking and using water

Bans were in place for most of the season in the catchments, including the condition of taking water from a waterway between 1st December and 30th June to fill a dam. In this catchment there are no all-year commercial or irrigation licences, therefore summer bans do not apply. Specifically, during the winterfill months, bans were applied between:

Pauls Creek

- 1st July to 27th September 2009
- 30th September to 30th June 2009/10

Steels/Dixons Creek

- 1st July to 5th July 2009
- 13th July to 30th July 2009
- 3rd August to 16th August 2009

- 18th August to 25th August 2009
- 3rd September to 9th September 2009
- 16th September to 20th September 2009
- 26th October to 1st November 2009
- 6th November to 22nd November 2009
- 1st December to 30th June 2010

Table 3 shows a summary of the water available within the catchment. In effect, there were 71 days of pumping available within Steels and Pauls and 2 days within Dixons Creek.

Table 3: Summary of water availability in Steels, Pauls and Dixons from 1st July 2009 to 30th June 2010

Catchment	No of days on ban	No of days water available
Steels & Dixons	294	71
Pauls	363	2

2.4 Water Use during 2009/10

The tables below detail the water use in the catchments as at 30th June 2010.

Table 4 – Detail on water use during the year – Pauls Creek

Pauls Creek	2009-10
PCV (ML/year) or WSPA Allocation Limit	405
No. of licences	20 (including 14 farm dam registrations)
Total allocated volume (ML)	452
No. of metered licences	4
Total metered volume (ML)	82
Actual metered used (ML)	10.80
Total use	10.80
Metered use as % of allocation	2.39%
Metered use as % of PCV or WSPA allocation limit	2.67%
No. of licences with use greater than allocation	nil
Number of days on ban	363
Number of days on restriction	N/A
Number of non-compliance incidents	1
Permanent transfers within WSPA (ML)	None in the reporting period
Temporary transfers within WSPA (ML)	None in the reporting period
Permanent transfers out of WSPA (ML)	None in the reporting period
Temporary transfers out of WSPA (ML)	None in the reporting period

Table 5 – Detail on water use during the year – Steels/Dixons Creek

Steels and Dixons Creek	2009-10
PCV (ML/year) or WSPA Allocation Limit	1279
No. of licences	72 (including 58 farm dam registrations)
Total allocated volume (ML)	1346.7
No. of metered licences	11
Total metered volume (ML)	544
Actual metered used (ML)	297.05
Total use	297.05
Metered use as % of allocation	22.06%
Metered use as % of PCV or WSPA allocation limit	23.23%
No. of licences with use greater than allocation	nil
Number of days on ban	294
Number of days on restriction	N/A
Number of non-compliance incidents	2
Permanent transfers within WSPA (ML)	None in the reporting period
Temporary transfers within WSPA (ML)	None in the reporting period
Permanent transfers out of WSPA (ML)	None in the reporting period
Temporary transfers out of WSPA (ML)	None in the reporting period

2.5 Water use since introduction of plan

A summary of the water used in the catchment since the start of the plan is detailed in table 6 for Pauls Creek and table 7 for Steels and Dixons Creek. A summary of actual use compared to total allocated is presented in figure 7 for Pauls Creek and Figure 8 for Steels and Dixons Creek.

Table 6 – Summary of water use since the plan implementation – Pauls Creek

Pauls Creek	2008-09	2009-10
PCV (ML/year) or WSPA Allocation Limit	405 ML	405
No. of licences	20 (including 14 farm dam registrations)	20 (including 14 farm dam registrations)
Total allocated volume (ML)	527 ML (including 360 ML farm dams registrations)	452
No. of metered licences	9	4
Total metered volume (ML)		82
Actual metered used (ML)	2007/08 – 0 ML (plus winter fill), 2008/09 – 0 ML	10.80
Total use	2007/08 – 0 ML (plus winter fill), 2008/09 – 0 ML	10.80
Metered use as % of allocation	0%	2.39%
Metered use as % of PCV or WSPA allocation limit	2007/08 – 0 %; 2008/09 – 0 %	2.67%
No. of licences with use greater than allocation	nil	nil
Number of days on ban		363
Number of days on restriction		N/A

Figure 7: Summary of actual use compared to total allocation for Pauls Creek

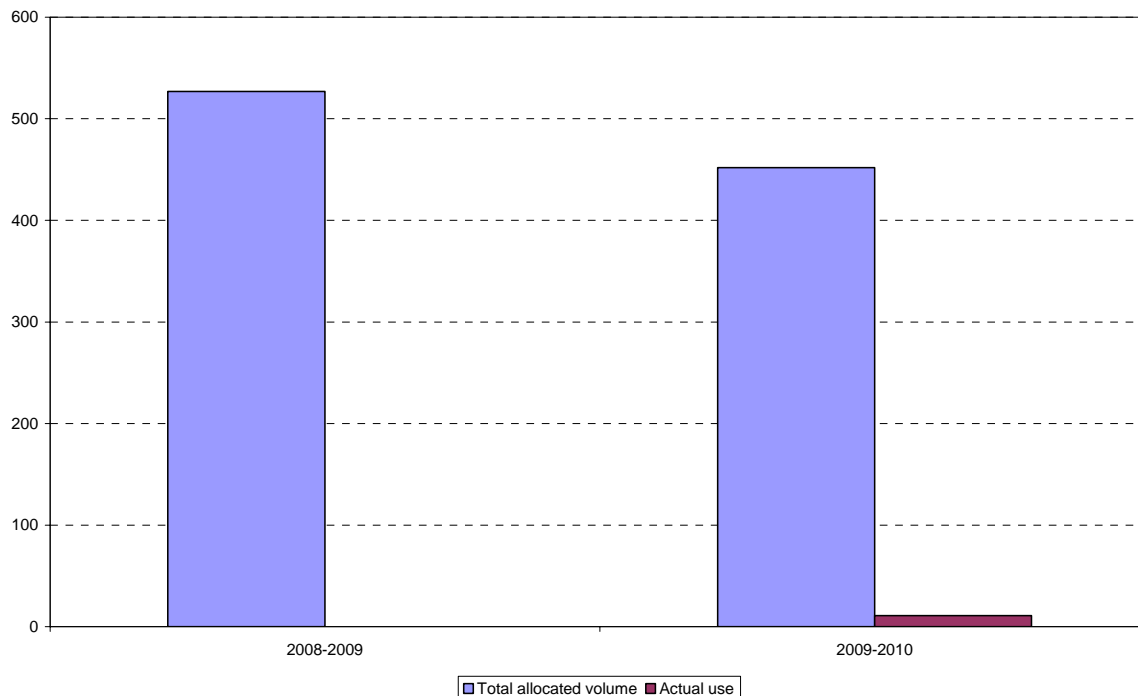
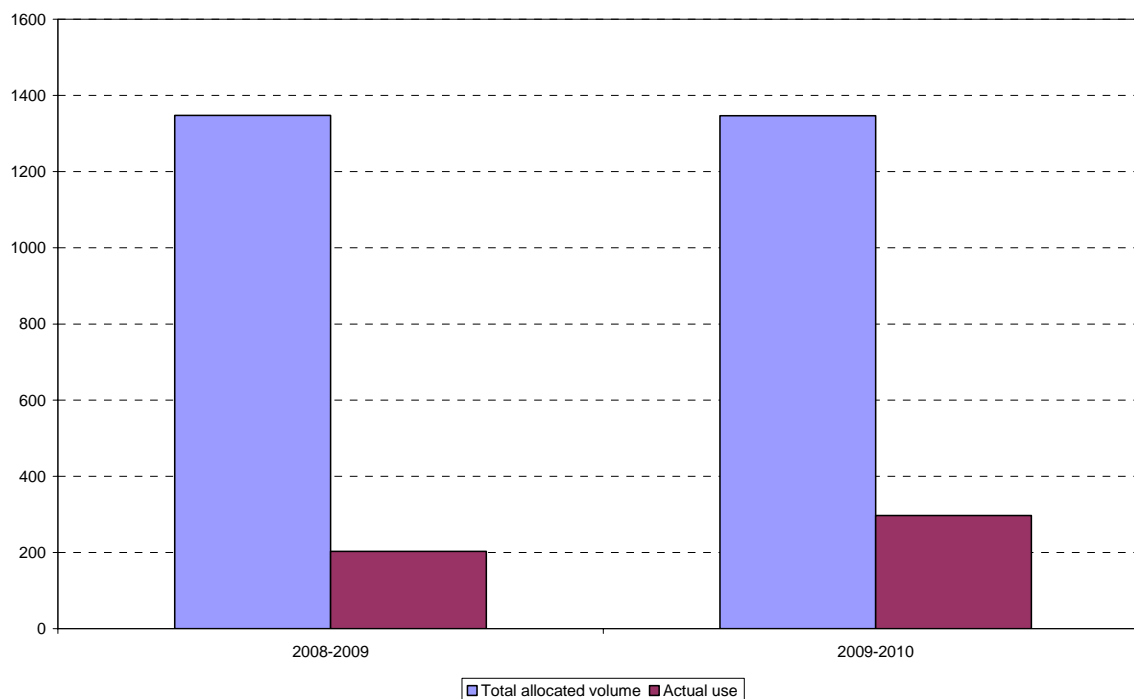


Table 7 – Summary of water use since the plan implementation – Steels and Dixons Creek

Steels and Dixons Creek	2008-09	2009-10
PCV (ML/year) or WSPA Allocation Limit	1279 ML	1279
No. of licences	72 (including 59 farm dam registrations and 2 farm dam licences)	72 (including 58 farm dam registrations)
Total allocated volume (ML)	1347.7 ML (including 769 ML farm dams registrations and 47 ML farm dam licence)	1346.7
No. of metered licences	11	11
Total metered volume (ML)		544
Actual metered used (ML)	2007/08 ^[1] - 20.2 ML - All year licences ^[2] ; 2008/09 - 25.9 ML - All year licences and farm dam licences	297.05
Total use	2007/08 - 30.6 ML (plus winter fill); 2008/09 - 203.2 ML (plus winter fill)	297.05
Metered use as % of allocation	2007/08 -1.5 %; 2008/09 - 15.1 %	22.06%
Metered use as % of PCV or WSPA allocation limit	2007/08 - 2.3 %; 2008/09 - 15.9 %	23.23%
No. of licences with use greater than allocation	nil	nil
Number of days on ban		294
Number of days on restriction		N/A

Figure 8: Summary of actual use compared to total allocation for Steels & Dixons Creek



2.6 Non compliance of Diverters

Melbourne Water is aware of three non-compliance issues in Steels, Pauls and Dixons Creek catchments including: -

- Formal warning letter issued to occupier at 268B Steels Creek Road, Yarra Glen for taking water without a licence. Owner directed to remove pump.
- Formal warning letter issued to owner of licence 465/640/5000 Gulf Rd, Yarra Glen for taking water outside authorised period.
- Formal warning letter issued to owner of licence 465/660/0002 Tarrawarra Rd, Yarra Glen for taking water outside authorised period.

Further monitoring will be carried out to detect any additional breaches.

Melbourne Water has reviewed the process for implementing and recording of bans and restrictions. This process has been undertaken manually in the past requiring daily assessment and there had been occasions when bans were not correctly applied.

Melbourne Water has now automated the system for setting of bans and restrictions, which has overcome the problems associated with resourcing and human error. Automating the system involved converting existing 'dial up' flow gauges to radio telemetry and incorporating them into the Melbourne Water

“SCADA system”. Now this work has been completed, the process for determining and updating ban and restriction status has been automated for both the internet and telephone messaging service.

3 Plan Implementation

3.1 Stream flow gauge maintenance and operation

There are three operational gauges in the Steels, Paul’s and Dixons Creek Catchments as detailed in table 8. The gauge on Steels Creek was moved in 2007 as it was too close to the Yarra resulting in high flows on the Yarra backing up to impact the measurement on Steels Creek. It was also located downstream on the confluence with Dixons Creek. The new gauge, installed in October 2007, is also located downstream of the confluence with Dixons Creek but away from the influence of the Yarra. A new gauge was installed on the Dixons Creek in 2007. All of the sites are connected into Melbourne Water’s SCARDA system to monitor the flows continuously.

Table 8: Summary of gauge information.

River	Site name	Site Number	Start of record	End of record
Pauls Creek Gauge	Tarrowarra	229245A	31/03/1998	Current
Steels Creek	Healesville Road, Yarra Glen	229246A	31/03/1998	09/10/2007
Steels Creek	Melba Highway, Yarra Glen	229246B	1/10/2007	Current
Dixons Creek	Melba Highway Yarra Glen	229290A	1/10/2007	Current

Melbourne Water contractors, ALS, visited the stream flow gauges regularly during the year. No issues were reported with the gauges. New ratings are being developed for both the Steels Creek and Dixons Creek sites.

The Steels Creek site does drown out on occasion and investigations are underway how to improve flow monitoring at this site. During 2009/10 the control was lifted by about 300mm. Generally the low flow data is of an acceptable level but high flow data is poor hence the work to assess improvements to measure a full range of flows with more accuracy.

A record of gauged flows is shown in Figure 2 and Figure 4 for the compliance gauges.

3.2 Meter installation and reading

Meters have been fitted to all active commercial or irrigation licensees' equipment. This does not include registered farm dams or domestic and stock licences, which are not required to be metered. Meters were read and checked on or around July and December each year.

Meters were read and checked on or around July 2009. In addition, fourteen "SMART" meters have been fitted to the largest and most active diverters in the catchment. There are four meters on Steels Creek, four on Pauls Creek and six on Dixons creek. SMART meters have been fitted through a joint venture with the Department of Sustainability and Environment. The meters have data loggers linked via communications, allowing the data to be downloaded in the office and the information viewed over a secure web link. Data collected can be used for improved hydrological modelling and enhanced water resource management decisions e.g. rostering, compliance, improving environmental flows.

Automating meter readings allows Melbourne Water to increase the number of meter readings during drought conditions to ensure compliance with the Stream Flow Management Plan and protect environmental flows. Increased number of readings will provide our customers better information on their water usage patterns.

The data loggers feed information into a central internet portal via email through existing communications networks. Customers could potentially securely access this up to date information from anywhere at anytime via the internet. Recorded data is instantly viewable via trends, tables and other graphical display measures, simplifying the process of information sharing. Using this innovative method, historical comparisons can be achieved and operational decisions can be made faster and more accurately.

3.3 New or cancelled licences

There were no new licenses issued or cancelled during the 2009-10 financial year. A list of licences in the Water Supply Protection Area at 30 June 2009 is shown in Appendix 1.

3.4 Licence trades

There were no temporary or permanent licences traded during the 2009-10 financial year.

3.5 Maintaining environmental flows

To maintain environmental flows, bans on taking of water were implemented as listed in section 2.2. As bans to protect the environmental flows are implemented using seven-day average flows, there is a small lag between the dropping or rising of flows across the environmental flow threshold and the introduction or lifting of a ban. This favours the water users before bans are implemented, but favours the environment before bans are lifted. This effect can be seen in Figure 9 and 10 which shows the comparison of daily flow and 7 day rolling average flows.

Figure 9: Comparison of daily flows and 7 day rolling average flows for Steels Creek between 1 July 2009 and 30 June 2010.

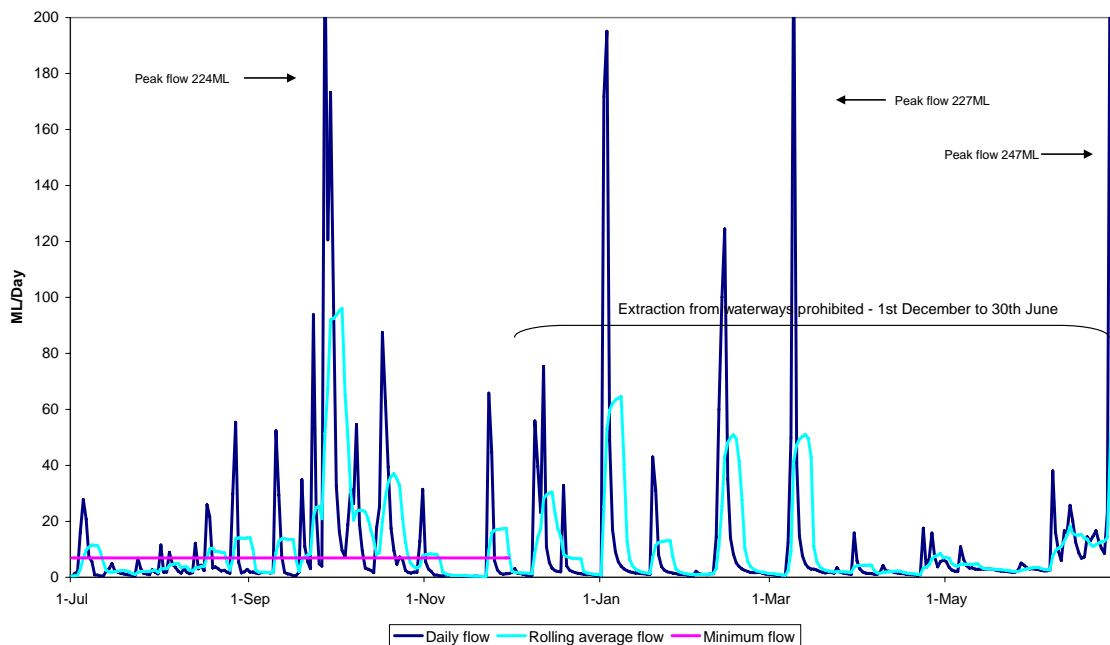
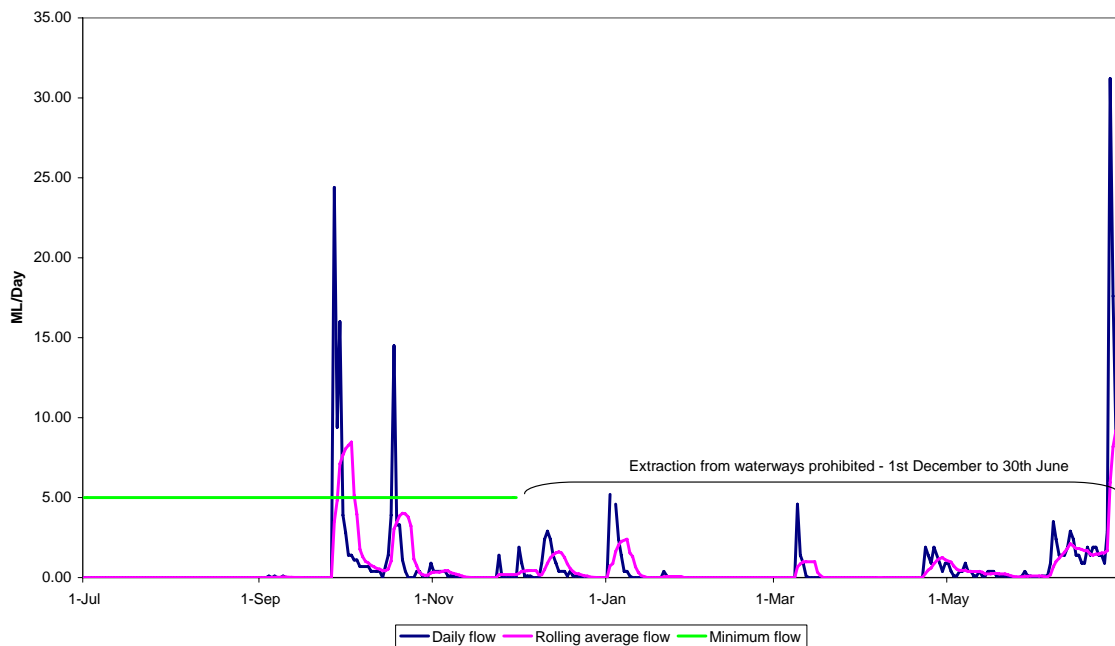


Figure 10: Comparison of daily flows and 7 day rolling average flows for Pauls Creek between 1 July 2009 and 30 June 2010.



3.6 Monitoring the effect of the plan

Section 18 of the Steels, Pauls and Dixon's Creek Stream Flow Management Plan stipulates that Melbourne Water must develop a program to monitor the implementation of the Plan. This monitoring program was developed in 2007 and is part of a larger Yarra Catchment Stream Flow Monitoring Plan. The Monitoring Plan will be submitted for approval by the Minister. The Monitoring Program is in addition to other general monitoring activities undertaken by Melbourne Water such as collecting stream flow and water usage data and ecological monitoring programs.

Under Section 12 of the SFMP, Melbourne Water must as soon as practical review the existing gauging arrangements. This work was undertaken and the Steels Creek gauge moved, and a new gauge installed on Dixons Creek. As reported in Section 3.1 these are operational. On going work is assessing the best option to measure the full range of flows on Steels Creek.

Section 16 of the SFMP states that Melbourne Water must, within 18 months of the completion of the plan, develop a roster for the equitable sharing of available water under low flow conditions. This work has not been undertaken due to

- lack of flow in the creeks (particularly Pauls Creek), and
- the ongoing impacts of fires in the catchments.

3.7 Other reporting requirements

A summary of the additional reporting requirements required for the annual report provided by Melbourne Water is in table 9.

Table 9: Summary of other reporting requirements

Reporting requirement	2009/10 Report
Activation of sleeper or dozer licences	None that MW is aware of.
The extent of water usage resulting from transfers	None
Location and impact of new take and use licences	None
Development within the catchment as a result of subdivision	Not known – Melbourne Water is not the authority responsible for approval of subdivisions.
The impact that any new development may have on the security of existing users or on flows in the waterway	To Melbourne Water's knowledge no new irrigation development has occurred.

Other work undertaken in the Steels, Pauls Dixons Catchment in 2009-10 include:

- Steels Creek – a post-bushfire fluvial geomorphology investigation (report due Aug/Sep) to predict what geomorphic impacts can be expected post bushfire, and the duration of these impacts. The project will further identify intervention options at erosion and management hotspots.

4 Plan compliance

The annual report documents all plan prescriptions and discuss compliance against each prescription. A summary of the prescriptions and compliance is set out in table 10.

Table 10: Summary of activities and compliance with plan prescriptions in 2009-10

Prescription no	Plan requirement	Activity/Reference	Complies (Y/N)
1-7	Plan administration	Activity undertaken as part of normal business operation.	Yes
8	Prohibitions on Granting New Licences	No new licenses were granted or licenses cancelled. Please see <i>Section 3.3 New or Cancelled Licences</i> for more information.	Yes
9	Transferring Licences	No trading occurred. Please see <i>Section 3.4 License Trades/Transfers</i> for more information.	Yes
10	New Dams	No new dams were licensed.	Yes
11	Licence conditions	Licenses granted have been subject to the conditions as set out in Schedule 4. Melbourne Water is aware of three non-compliance issues. Please see <i>Section 2.6 Non Compliance</i> for more information.	Yes

Prescription no	Plan requirement	Activity/Reference	Complies (Y/N)
12	Stream Flow Monitoring Program	<p>Gauge on Steels Creek moved in 2007.</p> <p>Gauge installed on Dixons Creek in 2007 (non compliance gauge).</p> <p>Gauge has been upgraded to improve monitoring.</p> <p>Flow continuously monitored and gauges maintained as part of normal business operation.</p> <p>Please see <i>Section 3.1 Stream Flow Gauge Maintenance and Operation</i> for more information.</p>	Yes
13	Installing Meters	<p>'Smart Meters' have also been installed in the catchment.</p> <p>Please see <i>Section 3.2 Meter Installation and Reading</i> for more information.</p>	Yes
14	Reading Meters	<p>The use of 'smart meters' has enabled increased meter readings and data availability.</p> <p>Please see <i>Section 3.2 Meter Installation and Reading</i> for more information.</p>	Yes
15	Maintaining environmental flows	<p>Environmental Flows were maintained for a very small portion of the year as demonstrated by Figures 3a and 3b.</p> <p>For more information please see:</p> <ul style="list-style-type: none"> • <i>Section 3.5 Maintaining Environmental Flows</i> • <i>Section 2.3 Bans and Restrictions</i> • <i>Section 2.2 Water Levels and Flows</i> 	Yes

Prescription no	Plan requirement	Activity/Reference	Complies (Y/N)
16	Rosters and Restrictions	Rosters were not undertaken due to low flow conditions limiting access to water. Monitoring requirement for roster implementation. Bans were in place for most of the season (294 days on Steels and Pauls and 363 days on Dixons). Please see <i>Section 2.3 Bans and Restrictions</i> for more information.	Yes
17	Aesthetic Dams	Melbourne Water is not aware of any new aesthetic dams.	Yes
18	Monitoring the effects of the plan	This monitoring program was developed in 2007 and is part of a larger <i>Yarra Catchment Stream Flow Monitoring Program</i> . Please see <i>Section 3.6 Monitoring the Plan</i> for more information.	Yes
19	Reporting	2009-10 Annual Report submitted to Minister and Port Phillip and Westernport CMA. Copy available at MWC Offices and on MWC website www.melbournewater.com.au	Yes
20	Review of the Plan	Review due in 2012	N/A
Schedule 1	Map of area	N/A	N/A
Schedule 2	Specific objectives	N/A	N/A
Schedule 3	Licence conditions	Section 1.1 should refer to 5MI/d on Pauls Creek and & MI/d on Dixons Creek as per 15.2. Restrictions, licences and webpage refer to values in 15.2 therefore flows being maintained.	Yes

Appendix One – Diversion Licence Database as at 03/09/2010

<u>Licence no</u>	<u>Waterway</u>	<u>Total ML</u>	<u>Purpose</u>	<u>Licence type</u>
465/643/0002	Dixons Creek	2.00	Domestic & Stock	Diversion
465/643/5002	Dixons Creek	6.00	Off-Stream Dam Filling	Diversion
465/643/5000	Dixons Creek	80.00	Off-Stream Dam Filling	Diversion
465/643/0005	Dixons Creek	7.00	Off-Stream Dam Filling	Diversion
465/643/0004	Dixons Creek	45.00	Off-Stream Dam Filling	Diversion
465/643/0003	Dixons Creek (SFMP)	35.00	Off-Stream Dam Filling	Diversion
465/640/0002	Steels Creek	115.00	Off-Stream Dam Filling	Diversion
465/640/0001	Steels Creek	80.00	Off-Stream Dam Filling	Diversion
465/640/5000	Steels Creek	15.00	Off-Stream Dam Filling	Diversion
465/647/0001	Dixons Creek - Tributary	36.00	On-Stream Dam Filling	Diversion
465/640/5001	Steels Creek - Tributary 5908	110.00	On-Stream Dam Filling	Diversion
465/647/5000	Dixons Creek - Tributary	32.00	Irrigation	Farm Dam Licence
465/643/5040	Dixons Creek	15.00	Irrigation	Farm Dam Licence
465/643/5037	Dixons Creek	2.00	Commercial	Farm Dam Registration
465/643/5038	Dixons Creek	8.00	Irrigation	Farm Dam Registration
465/643/5024	Dixons Creek	3.00	Irrigation	Farm Dam Registration
465/643/5035	Dixons Creek	4.00	Irrigation	Farm Dam Registration
465/643/5014	Dixons Creek	18.00	Irrigation	Farm Dam Registration
465/643/5025	Dixons Creek	6.00	Irrigation	Farm Dam Registration
465/643/5032	Dixons Creek	7.00	Irrigation	Farm Dam Registration
465/643/5039	Dixons Creek	31.00	Irrigation	Farm Dam Registration
465/643/0006	Dixons Creek	31.00	Irrigation	Farm Dam Registration
465/643/5005	Dixons Creek	3.00	Irrigation	Farm Dam Registration
465/640/5004	Steels Creek	5.00	Irrigation	Farm Dam Registration
465/640/5010	Steels Creek	5.00	Irrigation	Farm Dam Registration
465/640/5024	Steels Creek	2.00	Irrigation	Farm Dam Registration
465/640/5005	Steels Creek	4.00	Irrigation	Farm Dam Registration
465/640/5003	Steels Creek	7.00	Irrigation	Farm Dam Registration
465/643/5020	Dixons Creek - Tributary 5937	2.00	Irrigation	Farm Dam Registration
465/643/5041	Dixons Creek	5.00	Irrigation	Farm Dam Registration
465/640/5025	Steels Creek	2.00	Irrigation	Farm Dam Registration
465/640/5028	Steels Creek	3.00	Irrigation	Farm Dam Registration
465/640/5011	Steels Creek	5.00	Irrigation	Farm Dam Registration
465/640/5012	Steels Creek	8.00	Irrigation	Farm Dam Registration
465/640/5007	Steels Creek	3.00	Irrigation	Farm Dam Registration
465/640/5014	Steels Creek	15.00	Irrigation	Farm Dam Registration
465/640/5029	Steels Creek	3.00	Irrigation	Farm Dam Registration
465/640/5032	Steels Creek	4.00	Irrigation	Farm Dam Registration
465/640/5018	Steels Creek	2.50	Irrigation	Farm Dam Registration
465/640/5031	Steels Creek	2.00	Irrigation	Farm Dam Registration
465/640/5016	Steels Creek	3.00	Irrigation	Farm Dam Registration
465/640/5021	Steels Creek	3.00	Irrigation	Farm Dam Registration
465/640/5030	Steels Creek	4.00	Irrigation	Farm Dam Registration
465/640/5020	Steels Creek	66.00	Irrigation	Farm Dam Registration
465/640/5015	Steels Creek	4.00	Irrigation	Farm Dam Registration

465/640/5002	Steels Creek	4.00	Irrigation	Farm Dam Registration
465/643/5009	Dixons Creek	8.50	Irrigation	Farm Dam Registration
465/600/5013	Henderson Road Drain	50.00	Irrigation	Farm Dam Registration
465/643/5018	Dixons Creek	6.50	Irrigation	Farm Dam Registration
465/643/5031	Dixons Creek	2.00	Irrigation	Farm Dam Registration
465/643/5019	Dixons Creek	3.00	Irrigation	Farm Dam Registration
465/643/0007	Dixons Creek	30.00	Irrigation	Farm Dam Registration
465/643/5042	Dixons Creek	7.00	Irrigation	Farm Dam Registration
465/643/5008	Dixons Creek	0.50	Irrigation	Farm Dam Registration
465/643/5006	Dixons Creek	27.50	Irrigation	Farm Dam Registration
465/643/5016	Dixons Creek	35.00	Irrigation	Farm Dam Registration
465/643/5036	Dixons Creek	8.00	Irrigation	Farm Dam Registration
465/643/5034	Dixons Creek	194.50	Irrigation	Farm Dam Registration
465/643/5023	Dixons Creek	25.00	Irrigation	Farm Dam Registration
465/643/5004	Dixons Creek	3.00	Irrigation	Farm Dam Registration
465/643/5026	Dixons Creek	4.50	Irrigation	Farm Dam Registration
465/643/5030	Dixons Creek	1.00	Irrigation	Farm Dam Registration
465/643/5028	Dixons Creek	14.50	Irrigation	Farm Dam Registration
465/643/5013	Dixons Creek	3.00	Irrigation	Farm Dam Registration
465/643/5027	Dixons Creek	13.50	Irrigation	Farm Dam Registration
465/643/5022	Dixons Creek	2.50	Irrigation	Farm Dam Registration
465/643/5021	Dixons Creek	16.00	Irrigation	Farm Dam Registration
465/643/5011	Dixons Creek	5.00	Irrigation	Farm Dam Registration
465/643/5007	Dixons Creek	8.00	Irrigation	Farm Dam Registration
465/643/5012	Dixons Creek	2.50	Irrigation	Farm Dam Registration
465/643/5017	Dixons Creek	3.20	Irrigation	Farm Dam Registration
465/643/5043	Dixons Creek	20.00	Irrigation	Farm Dam Registration
		1,346.70		

<u>Licence_no</u>	<u>Waterway</u>	<u>Total ML</u>	<u>Purpose</u>	<u>Licence_type</u>
465/660/0002	Pauls Creek	27.00	Off-Stream Dam Filling	Diversion
465/660/5000	Pauls Creek	30.00	Off-Stream Dam Filling	Diversion
465/660/5001	Pauls Creek	10.00	Off-Stream Dam Filling	Diversion
465/660/0005	Pauls Creek	7.00	Off-Stream Dam Filling	Diversion
465/660/5002	Pauls Creek	15.00	Off-Stream Dam Filling	Diversion
465/660/0004	Pauls Creek	3.00	On-Stream Dam Filling	Diversion
465/660/5012	Pauls Creek	5.00	Industrial	Farm Dam Registration
465/660/5011	Pauls Creek	21.00	Irrigation	Farm Dam Registration
465/660/5003	Pauls Creek	5.00	Irrigation	Farm Dam Registration
465/660/5009	Pauls Creek	8.00	Irrigation	Farm Dam Registration
465/660/5008	Pauls Creek	90.00	Irrigation	Farm Dam Registration
465/660/5010	Pauls Creek	6.00	Irrigation	Farm Dam Registration
465/660/5013	Pauls Creek	35.00	Irrigation	Farm Dam Registration
465/660/5005	Pauls Creek	2.00	Irrigation	Farm Dam Registration
465/660/5015	Pauls Creek	25.00	Irrigation	Farm Dam Registration
465/660/5004	Pauls Creek	20.00	Irrigation	Farm Dam Registration
465/660/5014	Pauls Creek	65.00	Irrigation	Farm Dam Registration
465/660/5006	Pauls Creek	8.00	Irrigation	Farm Dam Registration

465/660/5016	Pauls Creek	16.00	Irrigation	Farm Dam Registration
465/660/5007	Pauls Creek	54.00	Irrigation	Farm Dam Registration
		452.00		