Water Act 1989

Hoddles Creek
Water Supply Protection Area
Stream Flow Management Plan 2003

Melbourne Water®

Water Supply Protection Area
Stream Flow Management Plan 2003

Contents

Preface

Throughout Victoria stream flow management plans are being prepared to better manage the surface water resources of particular catchments. The plans are prepared for the benefit of water users and the general community and they aim to improve the environmental health of waterways in these catchments.

The preparation of this Stream Flow Management Plan commenced in October 1999 by an advisory committee established by Melbourne Water, which has the surface licensing responsibilities in the Yarra catchment.

The advisory committee, consisting of the following people, developed a draft Plan following extensive discussions, consideration of technical work and in response to public submissions.

The advisory committee members are:

Mr Ray Guerin	Licensed water user
Mr Rob Davis	Licensed water user
Mr David Finger	Licensed water user
Mr Owen Gooding	Shire of Yarra Ranges
Ms Sue Phillips	Environment Victoria
Mr Martin Hartigan	Port Phillip & Westernport CALP Board
Mr Paul Bennett	DSE (Catchment & Water Division)
Ms Susanna Finger	EPA Victoria
Ms Anne Dennis	DPI (Flora and Fauna)
Mr Peter Rankin	Melbourne Water
Mr Steve Nicol (Chair)	Melbourne Water

The Minister for Water subsequently approved the draft Plan.

The Water Act 1989 was amended on 4 April 2002 to allow stream flow management plans that were under development prior to the amendment to be given a legislative basis.

With the approval of this Plan the Hoddles Creek catchment was deemed to be a Water Supply Protection Area under the Water Act 1989.

This Plan is prepared in two parts. The first part is the Explanatory Memorandum, which provides the background for the development of the Plan and explains the reasons why the various management prescriptions were adopted. The second part is the Plan itself, which is written in a more legalistic way.

Glossary and Acronyms

All-year licence An annual diversion licence entitlement, which can be taken at any time of the year subject to rostering and restriction rules either by pumping from a waterway (direct), or collecting water in a dam.

Commercial use Water used for general commercial purposes other than irrigation, domestic or stock use, eg for industrial uses such as cooling, aquaculture, dairy washing, piggeries, feed lots and poultry.

Crown frontage A section of land adjacent to a waterway set aside for public purposes.

DSE Department of Sustainability and Environment. Formally part of the Department of Natural Resources and Environment.

Environmental flow requirements are the water regimes needed to sustain the ecological values of water-dependent ecosystems at a low level of risk. The environmental flow requirements are determined using best available scientific practice.

Environmental flow provisions are those water regimes that are provided as a result of the water allocation decision-making process taking into account ecological, social and economic impacts/implications. They meet in part or full the ecological water requirements.

Flow regime The volume, timing and duration of flows throughout the year which may include low flows, flood events, high flows, cease of flow.

Instantaneous flow The rate of flow at a given location at a given point in time.

Megalitre (ML) One million litres of water.

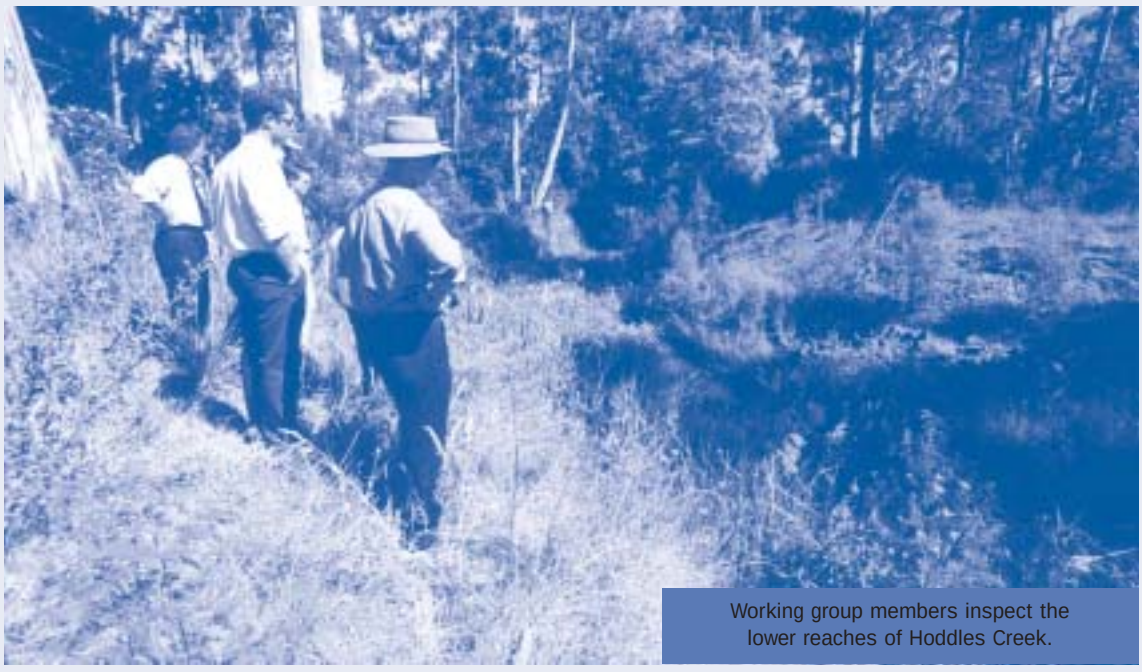
ML / day Megalitres per day.

Natural flow Estimated flow which would have occurred with current land use conditions if no water was harvested from the catchment or waterways by any use.

Permissible annual volume Means the volume specified by the Minister under Section 22 of the Water Act 1989. The PAV places a limit on the volume of water that can be harvested in a particular period.

Percentage exceedance flow A flow which is equalled or exceeded a certain percentage of the time.

Reliability of supply Is the probability of being able to obtain a specified extraction rate and volume of water. This is largely determined by the physical availability of water in the stream and rules under which the water can be assessed.



Working group members inspect the lower reaches of Hoddles Creek.

Explanatory Memorandum

1 Background

1.1 What is a stream flow management plan?

The object of a stream flow management plan (SFMP) is to manage the water resources of the relevant area in an equitable manner so as to ensure the long-term sustainability of those resources. It is developed by a committee, which represents all relevant interests in the area.

A SFMP defines the total amount of water in a Water Supply Protection Area and prescribes how it will be shared between water users and the environment. It aims to recognise the needs of existing and future water users whilst maintaining or improving waterway health by protecting minimum flows for the environment. Providing sufficient environmental flows to achieve healthy rivers is a key component of ensuring the long-term sustainability of the water resource.

In preparing a plan community involvement is necessary to ensure that community needs and aspirations are fully understood and that essential local knowledge is considered.

1.2 Stream flow management plans in the Yarra River basin

This SFMP has been prepared as part of Melbourne Water's program for managing priority catchments throughout the Yarra River basin. This program will see new SFMPs developed for other tributary catchments in the basin, and existing plans reviewed when required.

2 Development of the SFMP

2.1 How was this stream flow management plan developed?

Using advice from numerous scientific and other studies the advisory committee identified improvements that could be made in the management of licences to take and use water and made recommendations that aim to balance reliability for water users and environmental benefits.

These recommendations were published in a draft SFMP in June 2002 for the consideration of water users and the broader community. The advisory committee amended the Plan based on the submissions received.

2.2 Consultation and information available during the development of the SFMP

The development of the Hoddles Creek Stream Flow Management Plan (the Plan) involved significant consultation to ensure that the rules are relevant to local stakeholders and conditions. Stakeholders were informed and involved during the development of the plan through the membership of the advisory committee, numerous media articles, participation in a licence holder survey, letters to licence holders and community groups and through public meetings and presentations.

2.3 Submissions received on the draft plan

A total of nine submissions were received from water users, local landholders, environment groups and government agencies. These submissions generally supported the draft recommendations and highlighted the importance of actively seeking government assistance to reach the target environmental flows.

A number of submissions suggested that all-year licence holders should be encouraged to convert their licences to winter-fill in order to ameliorate flow stress during the summer period and help move towards the target environmental flow.

A number of submissions suggested that ongoing investigation is needed to ensure that measurement of stream flow at the Launching Place gauging station is adequate to reflect the impacts on the environmental flows throughout the Protection Area.

Following the consideration of submissions and the significant drought conditions which were experienced during the development of the Plan, the committee decided that the winter-fill environmental flow should be divided into two components. This will allow for a transition period between the high-flow and low-flow seasons. The two tiered provisions are suitable to protect both environmental and water user concerns.

Appendix 1 details how the advisory committee considered the comments in the submissions received during the 60-day consultation period.

3 The Protection Area

Hoddles Creek, a tributary of the upper Yarra River, is located on the north-western slopes of the Yarra ranges. The Protection Area includes Hoddles Creek and three main tributaries, Blackleather, Wombat and Wet Lead Creeks and the land that drains into these waterways. The Protection Area drains an area of 34 km^2 and is comprised of remnant eucalypt forest, cleared grazing land and areas of intensive horticulture (Zampatti & Raadik 1997).

Hoddles Creek rises on the southern side of Sale Hill and flows in a north-westerly direction past the townships of Hoddles Creek and Launching Place to its confluence with the Yarra River.

This Plan applies only to the surface waters of the Water Supply Protection Area. The Protection Area is shown in Schedule 1.

4 Water Usage and Management

4.1 Licensed water allocations

Licences are required to take and use water from a waterway for irrigation and commercial purposes and in some instances for domestic and stock use. Melbourne Water has the delegated responsibility under the Water Act 1989 to issue and manage licences.

Licences within the Protection Area may have conditions that allow:

> taking water from a waterway (direct), or collecting water in a dam, during any month of the year for irrigation, commercial, domestic or stock use (all-year licence)

> taking water from a waterway to fill off-stream dams, collecting water in a catchment dam, or collecting water in an on-stream dam, during a prescribed winter-fill period (winter-fill licence)

Amendments to the Water Act 1989 enable a person to obtain a registration licence for water taken from a spring, soak or dam that was used for irrigation or commercial purposes in any year within a 10-year period prior to 4 April 2002. Existing unlicensed dams can be registered up until 30 June 2003.

Table 1 **Summary of licences in the Protection Area, excluding registration licences**

	All-year Irrigation	Winter-fill	All-year Domestic and Stock licences	Total licensed allocation
Volume (ML)	419	68	38	525
Number of licences	7	10	14	31

There are 21 licences on Hoddles Creek and a further 10 on the Blackleather, Wombat and Wet Lead Creek tributaries. Of the 31 licences issued within the Protection Area, only 5 licences were found to be inactive during a survey of licence holders conducted in 1999. The majority of licences are located in the upper region of the Protection Area.

During the development of the Plan, the volume of dams within the Protection Area was estimated using aerial photographs and a known relationship between surface area and the volume. The estimated combined capacity of farm dams is 96 ML (Sinclair Knight Merz 2000b). Not all of these dams will have been used for irrigation and commercial purposes. Many are catchment dams that collect water from rainfall runoff.

4.2 Water use not requiring a take and use licence

Water for domestic and stock use can be taken from a waterway without a licence, if the waterway flows through a person's property or the waterway immediately borders a person's property. If a crown frontage exists between a person's land and the waterway, a licence for domestic and stock use is required. Water collected in catchment dams can be used for domestic and stock purposes without a licence.

Water can also be collected in a farm dam without a licence provided the water is not used for any irrigation or commercial purpose, for example, a farm dam used for aesthetic purposes. The collection of reuse water, within allowable volumes, and the collection of rainwater from a roof, are also exempt from any licensing requirements.

4.3 Management arrangements prior to the approval of the Plan

Historically, licence conditions have specified a maximum daily rate of diversion, an annual volume and for irrigation use, an area limitation (if not metered).

During periods of low flow within the Yarra River basin, licences are managed in accordance with the Yarra River Drought Response Plan for private diversions, unless a stream flow management plan is in place.

The Drought Response Plan has three restriction levels, with level 1 being the initial restrictions and level 3 being the most severe. Level 1 restrictions require some self-management by water users to carefully and responsibly manage their water, whilst levels 2 and 3 require various reductions in the volume of water that can be taken and rostering of pumping times. The Drought Response Plan operates by restricting diversions when flows in the Yarra River at Warrandyte reaches specified trigger levels. Restrictions are applied throughout the Yarra River basin, regardless of the flow in individual catchments.

Over the last three years level 2 restrictions have been applied in the Yarra River basin due to below-average stream flows.

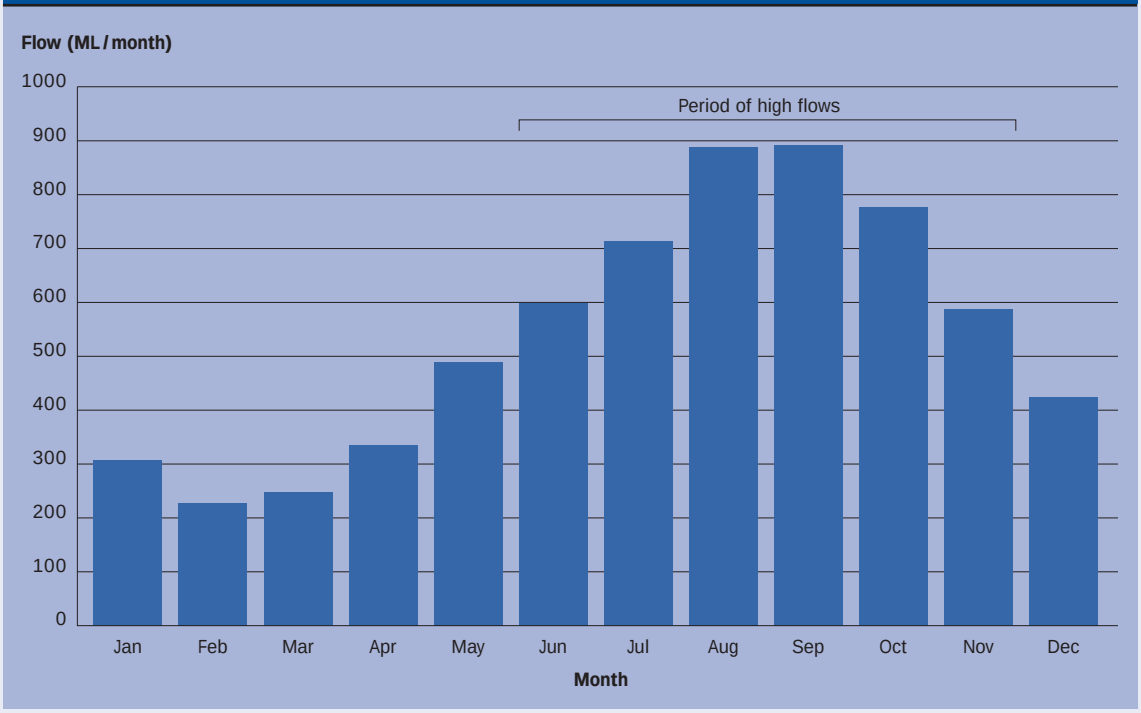
Melbourne Water has not issued all-year licences for many years, except for stock and domestic purposes or under a transfer arrangement. New winter-fill licences have been available and assessed on a case by case basis.

5 Determining Environmental Flows

5.1 Stream flow in Hoddles Creek

A hydrological computer model of the Hoddles Creek was used to assess the impacts on water user reliability of supply under various flow scenarios. The modelling of the local hydrology (flow patterns) in the Hoddles Creek showed that the high flow season extends from June through to November. This highlighted that the current management regime that permits a winter-fill period of May through to October should be adjusted. This is represented in Figure 1.

Figure 1 **Average natural monthly flows for Hoddles Creek**



5.2 Current flows compared to natural flows

The hydrological modelling enabled the change between current and natural flows to be considered. Table 2 shows the change to low, medium and high flows in the Hoddles Creek between natural conditions and with current water user demands. The modelling undertaken has found that the greatest impact of licensed diversions and farm dams is on the low flows, with an 11.5% reduction in low flows.

Table 2 **Impact of licensed and farm dam diversions on the range of flows in the Hoddles Creek catchment.**

	Low (ML/month)	Medium (ML/month)	High (ML/month)
Natural	246	477	1146
Current	218	470	1123
% Reduction In Flows	11.5%	1.5%	2%

Current flows are those which are recorded on stream flow gauges. The effect of water harvesting is included in the current flow figures. Natural flows are those which would have occurred if there were no water harvesting activities in the catchment with the current landuse practices and vegetation cover. Natural flows are not pre-European settlement flows. The pattern of stream flows is commonly described by the volume of high, medium and low flows over a year.

5.3 Environmental values

The fauna of the Hoddles Creek catchment is typical of that found in other small streams in the Upper Yarra catchment and, as such, represents a diverse biological community that is reliant upon the instream and riparian environment of the creek.

The environmental condition, or health, of a stream is a product of many factors. Land use within the catchment, the presence of native streamside vegetation, the level of disturbance, water quality and the harvesting of water for human uses all impact on stream health.

The flow regime is the component of river health within the scope of this stream flow management plan. The flow regime is the range of flows that occur within the waterway over all seasons. The flow components may include high flows such as floods, very low flows and no flow events and medium freshening flows that follow dry periods. All components of the flow regime are important to stream health. However, local flora and fauna have adapted to, and have become reliant on, particular flow components.

Top: Electrofishing in Hoddles Creek
Middle: Mountain Galaxias
Bottom: River Blackfish

Small native migratory fish within the Yarra River system (including Hoddles Creek) require flushing flows to trigger migrations. Sediment, which accumulates on the streambed during the dry periods, is flushed downstream by higher flows and deep pools are replenished by fresh water.

In the study by Zampatti and Raadik (1997) conducted in the Hoddles Creek catchment, six species of fish were collected, including four native species. A number of other native and exotic fish species are likely to occur in Hoddles Creek and have been found in other parts of the Upper Yarra River system. Since the construction of a fishway on the Yarra at Dights Falls, a number of other species of native fish have the potential to recolonise the Hoddles Creek system. These include the Spotted galaxias and the Australian grayling. Low numbers of the introduced Brown trout inhabit the mid to lower reaches of Hoddles Creek and may provide opportunities for recreational anglers.

Instream habitat values along Hoddles Creek vary markedly, with many areas showing evidence of disturbance including clearing and degradation of streamside vegetation, cattle access and associated trampling and the impacts of past mining activity. These activities have led to a significant build up of silt in sections of the stream. Zampatti and Raadik (1997) indicated that sedimentation might adversely affect fish and aquatic invertebrate numbers in the lower sections of Hoddles Creek.

Platypus, water rat and large-footed myotis are likely to be found in the Hoddles Creek catchment. Each depends on the instream and streamside environment for food, shelter and other habitat requirements.

The streamside zone throughout the catchment contains a mixture of indigenous and exotic plants. Heavy weed infestation particularly associated with road crossing points is evident, including willow infestation through the lower sections of the stream. Hoddles Creek flows through a mix of cleared farm land and remnant native vegetation that maintains important habitat for aquatic and terrestrial flora and fauna.

The lower floodplain section of Hoddles Creek has been cleared of large woody debris (snags) which provide critical habitat for instream fauna. The clearance of the snags may have altered the ability of the stream to form such important habitats as deep pools and undercut banks.

5.4 Environmental flows

The study by Zampatti and Raadik in 1997 assessed native fish populations and environmental flow requirements in the Hoddles Creek system. The study involved surveys of available habitat at flows of differing volumes. The available habitat is measured by assessing the extent that certain habitat components such as snags, boulders and instream vegetation are submerged under various flows.

Until recently in Victoria an environmental flow requirement was usually specified as a minimum flow recommendation. The minimum flow is only one component of a flow regime, or range of flows that could be experienced within a system. Increased awareness of the importance of other components of the flow regime has led to the need to recommend an environmental flow regime. The environmental flow regime will consider the timing, frequency and duration of flow events over all seasons.

It was determined that in the Hoddles Creek system, the biggest changes to the flow regime had occurred during the low flow summer irrigation period as shown in Table 2. Flushing flows and flood flows were still able to occur with the current level of water harvesting. The environmental flow study for the Hoddles Creek system, therefore, concentrated on recommendations for the minimum summer flows.

Minimum environmental flow requirements were recommended for the system at a number of sites, as shown in Table 3. The recommended environmental flow requirement at site 1 was the lowest flow recorded at that site during the study.

Table 3 **Recommended minimum environmental flow requirements for Hoddles Creek catchment December – May**

Site	Location	Environmental Flow (ML/d)
1	Gauging Station 22922A Launching Place near Warburton Hwy	6.9
2	Glenview Property	6.9
3	Bells Property	6.0
4	Immediately upstream of Blackleather Creek	6.0
5	Off Yellow Gum Road	4.3
6	Hazeldenes Road	3.5

A second environmental flow assessment study was undertaken to assess the amount of habitat available under flow conditions less than 6.9 ML/d. The second study was conducted in 2000 by Zampatti and Koster and confirmed that habitat availability declined when flows fell below 6.9 ML/d.

Over the most recent irrigation periods, water use has been managed to a flow of 4 ML/d.
The environmental flow study showed that the implementation of an environmental flow provision of 4 ML/d provides a high level of risk to instream inhabitants, particularly to juvenile River blackfish, which rely on the fringing habitats at the streamside. There is a further long-term risk to the health of aquatic populations with a flow of this level.

5.5 Issues associated with implementing environmental flows

December to May (Summer/Autumn low flow period)

Modelling was used to assess the impact of implementing the 6.9 ML/d environmental flow requirement on water user reliability of supply. A 4 ML/d flow option was also modelled as a comparison.
The relative impacts of the two flow options are presented in Table 4. The outcomes presented relate to reliability of supply if all licences were fully used.

Table 4 **Impacts of summer irrigation period flow options on water users' reliability of supply at two locations on Hoddles Creek**

Reach	Flow (ML/d)	Restriction and Ban Occurrences		
		No. of years in 35 where restriction would be required	Average shortfall (volume that is not available each year) (ML)	Median No. of weeks per year that restriction would be required
Between Glenview Rd and Warburton Highway	4 6.9	7 23	3 9	0 6
Between Wombat Creek (Yellowgum Rd)& Hazeldenes Rd, close to Yellow Gum Rd	4 6.9	26 30	18 26	4 7

The greatest impacts of implementing the 6.9 ML/d environmental flow requirement will occur in the section of Hoddles Creek close to Yellow Gum Road, where some form of restriction would be required in 30 out of 35 years. With a 4 ML/d environmental flow provision some form of restriction would be required in 26 out of 35 years.

These results indicate that the system is overcommitted during the low flow period. The reach above Yellow Gum Road would experience an estimated seven weeks per year on restrictions in approximately 50% of years if either environmental flow option were implemented.

Table 5 shows the number of ban periods per 100 years that would occur under both environmental flow scenarios. The number of bans is substantially higher for 6.9 ML/d than 4ML/d and this was taken into consideration when making environmental flow provisions under the Plan.

Table 5 **Number of bans per 100 years under 4 ML/d or 6.9 ML/d December – May environmental flow**

Environmental Flow ML/d	No. of Ban Periods Per 100 Years
4	84
6.9	172

June to November (Winter-fill/High flow period)

In order to ensure the continued protection of key flow processes in the winter-fill period, a number of winter-fill environmental flow regime scenarios were modelled. The winter-fill environmental flow regime consisted of a maximum daily extraction rate and a minimum environmental flow requirement. The impact of the environmental flow regime on water user reliability of supply of the winter-fill allocation limit, which is total volume of water that can be harvested in that period, is shown in table 6.

Table 6 **The impact of implementing the winter-fill allocation limit and environmental flow on water user reliability of supply**

Environmental Flow (ML day)	Maximum Extraction Rate (ML day)	Total Allocation Limit	Reliability of licences – No. of years when volume will not be fully available
10	10	750 ML	1 in 9 Years

A high reliability of supply is considered to be an 80% chance that water will be available in any year. In table 6 reliability of supply is represented as the number of years that full supply would not be available. For example with a 10 ML/d environmental flow, and a 10 ML/d maximum extraction rate and 750 ML allocation limit, the total winter-fill allocation could be supplied eight years out of nine (89% reliability). In other words the full volume of water would not be available one year in nine.

During the finalisation of the Plan, the winter-fill environmental flow provision was divided into two components, June to October (10 ML/d flow) and November (6.9 ML/d flow). The implementation of these winter-fill environmental flow provisions is likely to provide a slightly increased reliability of supply than outlined in table 6.

6 What the Plan contains

6.1 Object of the Plan (Clause 6)

The Water Act 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, additional objectives of the Plan as listed in Schedule 2. Objectives have been identified for stream flow management, environmental management, water use, recreation and cultural heritage.

The Plan is also consistent with the Victorian Biodiversity Strategy 1997, State environment protection policy, *(Waters of Victoria)* Schedule F7 *(Waters of the Yarra Catchment)* 1999, the Port Phillip and Westernport Catchment Regional Catchment Strategy 2002 and the Yarra Catchment Action Plan 1999.

6.2 Administration and enforcement (Clause 7)

Melbourne Water has the duty of enforcing and administering this Plan.

It is responsible for ensuring that:
> the metering and monitoring program is undertaken
> licence holders comply with rosters, restrictions and licence conditions;
> licences are issued with the appropriate licence conditions; and
> illegal water use does not occur.

6.3 Permissible Annual Volume (Clause 8)

The Water Act enables a draft management plan to recommend to the Minister the Permissible Annual Volume (PAV) for the area concerned.

A PAV is the total volume of water that may be taken under licence in the area during a 12-month period. When considering the issue, renewal or transfer of a licence, Melbourne Water must have regard to the permissible annual volume for the area. It is an allocation limit or "cap".

For new licence applications, the Water Act requires that Melbourne Water must refuse an application if the allocation or use of water under the licence will or may result in the PAV for the area for that year or a future year being exceeded.

The introduction of a PAV ensures reliability of supply to existing users and avoids further potential detrimental affects to waterway health.

This Plan recommends a PAV of 1207 ML plus the volume of farm dams registered or licensed under section 51 (1A) and 51A. The PAV comprises the all-year allocation limit and the winter-fill allocation limit. Licences issued under Section 51(1A) and 51A will be accounted for in the all-year allocation limit.

6.4 Prohibitions on granting new licences (Clause 9)

All-year licence allocation limit

An all-year licence allocation limit needed to be set, as additional allocations would affect the level of reliability of existing licences and potentially affect the environmental condition of Hoddles Creek, particularly when water is taken between December and May (summer/autumn low flow period).

Under Melbourne Water policy, no new all-year diversion licences have been issued in the Yarra River Basin for many years. The policy was put in place to protect waterways within the Yarra River system from further stress during the summer/autumn low flow period. The Plan is consistent with the established policy and effectively caps further allocations during the low flow period. All-year licences can, however, be transferred subject to the prescriptions in the Plan and normal licensing considerations.

If an all-year licence is relinquished or revoked, any volume under the allocation limit will not be issued as a new licence. This recognises that the environmental flow requirements are not currently being met. It also recognises the low reliability of supply of existing all-year licences.

A new all-year licence will only be issued when a water user:
> with an existing dam, spring or soak is eligible to obtain a registration licence; or
> surrenders a registration licence to obtain a standard all-year licence.

All licences, other than registration licences, are issued for a period of 12 months, and reissued annually.

There are number of low consumptive use licences in the area that have an individual allocation of 2 ML or less and are used for domestic, stock, aquaculture and other miscellaneous purposes. The cumulative impact of these licences is significant and the allocation limit also applies to these types of licences.

In future new low consumptive licences will only be issued as winter-fill licences and adequate storage will be required to ensure people have sufficient water for use during the summer time.

The Plan does not contain any requirements in relation to domestic and stock dams on multi lot subdivisions if these dams are not on waterways and do not take water from a waterway.

The allocation limit for all-year licences is set at the 2000 level of commitment being 457 ML. The volume of farm dams licensed or registered by 1 July 2003 will also be included in the all-year licence allocation limit, in addition to the 457 ML.

Existing farm dams must be included in this volume as:
> Their historic volume of use and operation is recognised under the *Water Act 1989*; and
> They have not been designed with the capacity to pass flows during prescriptive periods (i.e. they can not operate to winter-fill licence conditions) and therefore have historically collected water throughout the year.

Winter-fill licence allocation limit

The Plan amends the winter-fill period from May to October to June to November inclusive to align the winter-fill period with the actual high flow period. Winter-fill licences can harvest and store water during the high flow months for use throughout the year. Their licences will be amended accordingly.

The allocation limit for the winter-fill period has been set at 750 ML. Any application for a new licence must be assessed to determine if there will be any adverse impacts on an existing licence holder's reliability of supply or the environment. If a new winter-fill licence is approved, the dam will be required to be constructed with an adequate by-pass mechanism to ensure that flows outside of the winter-fill period are not collected in the dam.

Existing all-year licence holders could increase their reliability of supply by obtaining a winter-fill licence and constructing an off-stream storage.

The 750 ML allocation limit will allow a relatively high reliability of supply whilst also protecting instream values and processes during the winter-fill period. The importance of winter flush events, which are increases in stream flow following significant rainfall events have also been protected by the Plan. The hydrological modelling demonstrated that the winter-fill allocation limit and the winter-fill environmental flow regime allowed these flush events to occur.

6.5 Transferring licences (Clause 10)

The *Water Act 1989*, allows licences to be transferred following approval of an application by Melbourne Water. Licences can be transferred on the sale of the property to which the licence relates but they can also be transferred to the owners of other land within the catchment. Licences can be transferred permanently or temporarily.

Water transfers promote water use efficiency and will result in farmers moving water over time to its highest value use. It provides access to water in areas where no more new licences are being issued. However, water transfers also have the potential to increase the overall water use within the Protection Area, as unused licences become active.

Under this Plan, rules relating to transfer of licences from one location to another have been established to ensure that additional development can occur without adversely affecting existing users or the environment.

When considering an application to transfer a licence, Melbourne Water is required under the Water Act to have regard to any adverse effect that the allocation or use of water may have on existing users or on the environment.

The transfer rules are:

> Water may be transferred out of the Protection Area. This will result in both environmental and economic benefits.
> Water may not be transferred into the Protection Area until the target environmental flow has been reached.
> Licences above Yellow Gum Road may only be transferred downstream due to the stressed nature of the upper reaches of the Hoddles Creek system. This rule does not prevent the transfer of a licence as a result of the sale of a property where the licence entitlement continues to be used on that property.

As there is still water available to be allocated within the winter-fill allocation limit, frequent water transfers are unlikely until this limit has been reached.

6.6 New dams (Clause 11)

For many years it has been Melbourne Water's policy not to approve the construction of dams on waterways as they form barriers to native fish migration and there have been difficulties in ensuring that flows are passed downstream.

It is now a requirement of the Plan that Melbourne Water must not issue any licence under section 67 of the Act to construct a dam on a waterway within the Protection Area.

6.7 Rostering and restrictions (Clause 12)

Rostering and restriction arrangements need to be developed for the area to ensure that during times of low flow, the available water is shared equitably and used efficiently to ensure that environmental flows are maintained. Melbourne Water will develop the arrangements assisted by a local water user committee over the next 12 months. Rostering and restriction arrangements will be guided by the principles set out in Schedule 3. The arrangements will supersede the Yarra Drought Response Plan for the Hoddles Creek catchment.

The arrangements will involve the setting of trigger flow levels that will activate various stages of the roster and restrictions. Bans on diversions will be imposed when the flows at the Launching Place streamflow gauging station fall below the environmental flow level.

Due to the dynamic fluctuations in stream flows and the practicalities involved in communication of rostering and restrictions a seven-day rolling average will be used to monitor the environmental flow.

The trigger level for restrictions will be set to ensure that stress to water users' businesses and the environment is minimised by restricting the number of times that the flow drops to levels that would lead to a ban on diversions.

Farm dams that have been licensed or registered as a result of the passage of the *Water (Irrigation Farm Dams) Act 2002* will not be subject to rosters or restrictions due to the physical limitations of these dams which do not provide a mechanism to pass incoming flows.

6.8 Licence conditions (Clause 13)

With the approval of this Plan the conditions of licences have been amended to ensure that they reflect the requirements of the Plan.

New licence conditions include:

> restrictions on the taking of water to ensure that environmental flows are maintained;
> requirements to comply with rosters;
> amendments to the times when dams may be filled; and
> removal of the requirement to limit the area irrigated if a meter is installed

Schedule 4 outlines the additional conditions that will be placed on licences. New licence documents will be issued when the licences are renewed. Any new licence will be issued with the new conditions. The conditions will be applied in accordance with the relevant licence type.

6.9 Stream flow monitoring program (Clause 14)

The Plan requires Melbourne Water to maintain the monitoring gauge on the Hoddles Creek at Launching Place, which is used to monitor stream flows. Although environmental flow recommendations were made at a number of locations within the Protection Area, the Launching Place gauge, located at the mid-lower end of the catchment, is the most appropriate place to monitor stream flows to assess compliance with the Plan. Monitoring environmental flows at Launching Place assumes that the environmental flow recommendations at the other sites will also be met.

Some additional monitoring of the gauge-board only site located at Hazeldene Road will be undertaken to ensure that environmental flows in the upper catchment are sustained. Community and water user feedback on flows throughout the catchment as well as regular monitoring by the diversion inspector will also be used to assess if the assumptions on compliance with environmental flow throughout the catchment are correct.

6.10 Metering (Clause 15, 16)

The Plan requires that Melbourne Water installs meters for all irrigation and commercial use as soon as practicable. During 2000, meters were installed on all active irrigation, onstream and offstream dam licences to provide data to assist with the development of this Plan. Inactive licences will be metered at the time that they become active and the metering of water taken from licensed farm dams will begin after 1 July 2003. All new licences for irrigation or commercial use will be metered.

Melbourne Water is required to maintain each meter and keep records of any maintenance. Meters will be read at least once annually for all-year licences and at the start and end of the winter-fill season for winter-fill licences.

Historically, licence entitlements have been limited to an annual volume and also to the area allowed to be irrigated. Limiting the area irrigated was the means of controlling the volume of water used in absence of metering. Licence area constraints are no longer required after a meter has been installed and reference to the area allowed to be irrigated will be removed from licences. Licence holders who use efficient irrigation practices will be able to irrigate a larger area than previously allowed or may elect to transfer unused water. They may obtain significant benefits as a result.

6.11 Maintaining environmental flows (Clause 17)

When establishing the environmental flow provisions for the area the results of the environmental flow study, the environmental flow reassessment and the reliability of supply modelling studies were considered.

December to May (Summer/Autumn low flow period)

The advisory committee agreed that the summer/autumn environmental flow requirements resulting from the environmental flow study was the ultimate target flow during this period. However, due to the impacts on the reliability of supply of existing water users, it was considered that the environmental flow requirements could not be met in the short term.

In developing the environmental flow provisions, the potential economic impacts on users within the Protection Area from the introduction of allocation limits and the provision of environmental flows was thoroughly discussed. The environmental flow provisions are designed to ensure that such impacts will be minimised. While no formal economic impact analysis was undertaken, water user representatives provided valuable input regarding potential economic impacts to businesses within the catchment.

As past stream flow management had been based on the Yarra River Drought Response Plan, the implementation of the 4 ML/d interim environmental flow had already resulted in recent years in some adjustments to water use practices in the Hoddles Creek catchment.

Prior to the development of the stream flow management plan, some licensed water users within the Protection Area have been actively implementing best management practice irrigation techniques to reduce water consumption. In some cases, they were also developing winter-fill storages to increase reliability of supply and reduce dependence on the low flow season.

As discussed previously, implementation of the recommended environmental flow of 6.9ML/d would significantly reduce licence holder reliability of supply, which the advisory committee considered was unacceptable. However, the environmental flow studies indicate that there is a long-term risk to the health of aquatic populations in the Hoddles Creek if an environmental flow of less than 6.9 ML/d is provided.

The advisory committee reached the following conclusions in determining the environmental flow provisions:

> The environmental flow requirement of 6.9 ML/d was the 'real' target for implementation.
> Any flow below the environmental flow requirement may pose a long-term risk to the ecological health of the stream.
> Significant short-term reductions in reliability of supply were unacceptable.
> Licensed water users require time to implement on-farm changes to reduce water consumption during the low flow period.
> The cost of on-farm change required to manage the system to the target environmental flow should not be met solely by the licensed water users.
> Environmental flow provisions should be implemented incrementally.
> Environmental flows will be managed to a 7-day rolling average flow.

The following environmental flow provisions will apply for the period 1 December to 31 May.

1. The system will be managed to a 4ML/d environmental flow until 31 July 2004. This will allow water users time to implement on-farm water use efficiency improvements or other offset measures.
2. The system will be managed to a 5ML/d environmental flow after 31 July 2004.
3. The system will be managed to a 6.9 ML/d environmental flow as a 'real' target. The implementation of this environmental flow is subject to government assistance to assist water users to make on farm changes to reduce water consumption and/ or provide winter-fill storage.
4. Water users will be placed on ban when the seven-day rolling average flow falls below the minimum environmental flow. During the review of the Plan, managing the environmental flow to a seven-day rolling average flow will be reviewed to ensure that flows are not falling significantly below the minimum environmental flows.

June to November (Winter-fill/High flow period)

The winter-fill period will have two environmental flow components. An environmental flow requirement of 10 ML/d has been set during June to October. November will be treated as a transition month (winter-fill) and will have an environmental flow requirement of 6.9 ML/d, in line with the target environmental flow provision. This environmental flow regime will allow water users and the environment time to adapt to the difference in environmental flow levels between the high flow and low flow periods.

Water users taking water from the waterway or via a dam constructed after the approval of this Plan will be banned from taking water when the flow falls below these environmental flow levels. In order to ensure that flow in the waterway does not fall dramatically due to the activities of water users, a combined maximum extraction rate by all users of no more than 10 ML/d will be enforced for the entire winter-fill period.

6.12 Monitoring the implementation of the Plan (Clause 18)

During the implementation of the Plan, it is important that information is collected which will allow a meaningful review of the effectiveness of the Plan in meeting its objectives. Whilst it is important to measure the success of the Plan against its objectives, it is also important to keep in mind that environmental change may be incremental and cumulative. Therefore, short term monitoring may not identify any significant changes to stream health over the five- year period.

Melbourne Water currently monitors stream health across the Yarra Basin by undertaking water quality, macro invertebrate, fish and geomorphological studies. The State environmental protection policy Waters of the Yarra catchment (1999) outlines monitoring requirements and goals for river health and water quality. The recent Victorian River Health Strategy 2002 also recommends monitoring and rehabilitation activities to be undertaken by Melbourne Water. This Plan supports the implementation of these monitoring programs.

It is proposed to incorporate the data collection on stream health of the Hoddles Creek into the existing Melbourne Water program. Data collected by metering and stream flow gauging will also be an integral part of the review of the Plan.

It is important to collect data on both the environmental and water user outcomes as the plan is implemented. This is to ensure that the review of issues can be related to both water users and the environment. For example, reliability issues and environmental conditions during a very dry spell need to be assessed. Melbourne Water will prepare a monitoring plan within twelve months of the approval of the Plan to enable on-going evaluation of the implementation of the Plan.

6.13 Reporting (Clause 19)

In accordance with section 32C of the Water Act, Melbourne Water is required to prepare an annual report on the implementation of the plan.

As part of the annual report, Melbourne Water will make an assessment of the following matters:

> changes to the level and type of development within the area including:
  – activation of sleeper or dozer licences,
  – the extent of water usage resulting from transfers
  – location and impact of new take and use licences
  – development within the catchment as a result of subdivision
> the impact that any new development may have had on the reliability of existing users or on flows in the waterway
> water usage information
> the effectiveness of management prescriptions in meeting the objectives of the Plan including:
  – metering,
  – monitoring,
  – restrictions and rosters
> any difficulties associated with, and progress towards, meeting environmental flows specified in the Plan

The report will be provided to the Minister and the relevant Port Phillip and Westernport Catchment Management Authority on or before 30 September in each year. It will be made available to the public for inspection free of charge at the offices of the Authority and on the Internet. A notice will also be published in a local newspaper advising of the availability of the report at the time of its release.

Copies of the report will also be sent to the Department of Sustainability and Environment, Department of Primary Industries and the Yarra Ranges Shire.

6.14 Review of the Plan (Clause 20)

A review of the operation of the Plan is required within five years of the approval of the Plan to assess whether the Plan is meeting its objectives.

The annual reporting requirements specified under the Water Act will help to determine when this review should take place. Stakeholders may raise issues for investigation during the review.

If the review concludes that the Plan should be amended, the Water Act requires a consultative committee to be established to advise on the amendment. Public submissions on the amendment would also be called for and considered by the Minister before an amendment would be approved.

7 Compliance

The Water Act states that an approved management Plan is binding on every person including every statutory body.

Anyone who takes water without proper authorisation may be guilty of an offence under the Water Act and be liable to prosecution. This may include anyone who takes water without a licence or who takes more water than the licence allows.

Licence holders are also required to comply with their licence conditions and licences can be revoked if licence conditions are not complied with.

It should be noted that the requirement to comply with environmental flows does not alter the ability of Melbourne Water to exercise discretionary powers to apply rosters and restrictions to any part of the system, including individual tributaries or reaches, in times of water shortage.

8 Other Matters

8.1 Land use planning

There is a need to ensure that the licensing and land use planning system is clear and easily applied. The provision of concise information is important to ensure that development of the water resource within the Protection Area is sustainable and equitable. The provision of appropriate reference material for municipal planning staff, water users and the public in the form of simple brochures, training and process flow charts should be a short-term priority. Melbourne Water will work with the Shire of Yarra Ranges to develop resources designed to assist with understanding of the land use planning and referral process and the water allocation licensing and referral process.

It is crucial that proponents for new developments, which require the use of surface water from the Hoddles Creek Protection Area, identify their water requirements and contact Melbourne Water to determine if that water is available.

8.2 Catchment and waterway management issues

During the development of the Plan a number of key catchment management and stream health issues were examined. As the environmental flow requirements will not be implemented in the short term, a number of catchment and waterway management activities were recommended to offset any impacts of flow stress within the system.

Sedimentation of the streambed was identified as a major issue for River blackfish habitat. Two key sources of sediment entering the stream were identified as road materials from gravel and bridge crossovers and soil loss from farming properties. Nutrient management and on-farm water efficiency were considered important issues for landholders to address in the catchment.

Melbourne Water will encourage the Shire of Yarra Ranges to use best practice management for rural road construction and maintenance to minimise sediment runoff into Hoddles Creek

Melbourne Water will also encourage the Department of Primary Industries to continue and improve extension programs to increase awareness and the adoption of sustainable farming practices. The extension programs should be aimed at reducing soil loss, nutrient runoff and promoting efficient water use practices. The Department should specifically target the intensive farming industry groups in the catchment.

The lower reaches of Hoddles Creek are particularly degraded. Lack of native vegetation in the riparian zone, weeds and stock access are all impacting on the environmental condition of the stream. Historical snag removal in these reaches has resulted in a loss of instream habitat considered necessary for instream health.

The lower reaches of Hoddles Creek will be targeted by Melbourne Water's Stream Frontage Program over the next five years. Interested landholders within the Protection Area may be eligible to receive grants and other assistance to provide plants and fencing to protect the streamside environment.

The reinstatement of large woody debris (snags) in the lower reach of Hoddles Creek upstream of the Yarra confluence will be investigated as a priority, to offset flow related stress to instream aquatic life. The availability of large woody debris in the area will be assessed, together with impacts of removing the large woody debris from the terrestrial environment.

8.3 Establishment of a water user advisory committee

Melbourne Water will continue to consult local water users about water allocation issues and rules. To achieve this, a water users committee will be established. The committee will provide local input into the development of the rostering and restriction arrangements and other issues as they arise.

8.4 Groundwater management

Southern Rural Water is responsible for managing groundwater extractions within the Hoddles creek Water Supply Protection Area.

Small localised aquifers are prevalent across the Yarra Valley. During a licensed water user survey in 1999, anecdotal evidence was provided indicating that groundwater pumping has reduced stream base flows and in some instances stopped streamflows altogether.

A formal agreement between Melbourne Water, the Department of Sustainability and Environment and Southern Rural Water is suggested to facilitate the following.

Within two years of the approval of the Plan, the advisory committee recommends that an assessment of groundwater use is undertaken. The assessment should advise whether specific management arrangements for groundwater, other than those already in existence are required in the Protection Area. These arrangements may include the declaration of a Water Supply Protection Area and which will allow the development of a Groundwater Management Plan.

Melbourne Water will request Southern Rural Water to refer applications for new commercial groundwater licences within the Hoddles Creek Protection Area to Melbourne Water. Domestic and stock bores and replacement bores would not required to be referred.

9 References

Sinclair Knight Merz (2000a) *Stream Flow Management Plan for Hoddles Creek – Estimation of Streamflow and Demand Data and Development of REALM Model*. Prepared for Melbourne Water Corporation.

Sinclair Knight Merz (2000b) *The Impact of Farm Dams on Hoddles Creek and Diamond Creek Catchments.* Prepared for Melbourne Water Corporation.

Zampatti, B. and Koster, W. (2000) *Reassessment of Fish Habitat Availability and the Status of River Blackfish Populations in the Hoddles Creek Catchment*, Parks, Parks, Flora and Fauna Section, DNRE prepared for Melbourne Water Corporation

Zampatti, B. and Raadik, T.A. (1997) *An Assessment of Environmental Flow Requirements for Hoddles Creek*, Marine and Freshwater Resources Institute Freshwater Ecology Division, prepared for Melbourne Water Corporation

Farm dams harvest water in the Hoddles Creek catchment

10 Appendix 1: Summary of submissions on draft Plan

Respondant	Comment	Advisory Committee Comment
L Chattaway – Warburton Upper Yarra Conservation Society Hoddles Creek stream flow management Plan could be a model for other creeks, which flow into the Yarra.	Hoddles Creek Stream Flow Management Plan could be a model for other creeks, which flow into the Yarra. Protection of native fish is important and also Platypus. Logging in water catchments should not be allowed or pollution from vineyards.	Melbourne Water will continue to develop stream flow management plans for other streams in the Yarra Basin. Melbourne Water is currently developing a fish habitat management strategy. Logging will be discussed in the Governments "Our Forests Our Future" policy.
Department of Sustainability and Environment	Ensure that the Plan is consistent with the farm dams legislation.	Agree
Department of Sustainability and Environment	No need to put in legislative requirements.	Agree. As the Plan is for the community legislative requirements will be explained in the explanatory memorandum, where necessary.
EPA Victoria	Learning outcomes from the implementation of this Plan should be applied to other Melbourne Water stream flow management plans	Agree
G Bogle – Hoddles Creek Farm Dam owner	Metering. Impact of bores. Groundwater study. Pollution of the waterway by pump fuels.	All active licensed irrigation or commercial users are currently metered. Irrigation and commercial farm dam users will be metered following the moratorium period.
EPA Victoria	Why does the permissible annual volume include water for more development?	The permissible annual volume has been set at a level, which was shown to be sustainable.
Environment Victoria	Annual licences should be encouraged to move to winter-fill licences within the winter-fill cap.	Environment Victoria recognise that "encourage" would need to include financial assistance. The working group agreed that this would not be likely to occur even with assistance, as all-year licences are highly valued by water users in the Protection Area.
EPA Victoria	How can the Plan limit new Domestic & stock licences when Section 8 rights exist? Why limit domestic & stock but allow new irrigation licences?	The Plan prevents the issue of new all-year licences for any purpose, including stock and domestic use. Winter-fill licences may be issued for any use within the winter-fill allocation limit.
Department of Sustainability and Environment	Hoddles Creek is part of the Yarra Catchment and as such further allocations within the Hoddles Creek permissible annual volume need to be assessed for any impacts to the Yarra River.	Principle accepted. Melbourne Water has the responsibility of assessing any new licence applications for downstream impacts.
EPA Victoria	The winter-fill permissible annual volume is higher than the current allocations. Is there more water available?	As of 8 November 2002 there is currently more water available under the winter-fill cap. The amount of water available will change as new licences are issued, transfers occur or licences are not renewed by licensees.
Southern Rural Water	Winter-fill period is inconsistent with the statewide guidelines.	An assessment of the local hydrology has shown that June to November is an appropriate winter-fill period in this catchment.

Water Supply Protection Area
Stream Flow Management Plan 2003

Respondant	Comment	Advisory Committee Comment
EPA Victoria	Lowering the permissible annual volume as water is traded out of the catchment. How does this relate to the recommendation about trading water into the catchment?	Water will only be traded into the catchment once the 6.9 ML/d target environment flow has been reached, and only if there is room within the permissible annual volume for this to occur.
Environment Victoria & Department of Sustainability and Environment	Trading of annual licences within the catchment should be to/ or be encouraged to be to winter-fill licences	The working group agreed that this would not be likely to occur even with assistance.
Environment Victoria	Trading of all entitlements into the Hoddles Creek catchment should be as winter-fill.	This will occur as the Plan has recommended that no new all-year licences be allowed.
Environment Victoria	Licence holders who are using in excess of their entitlement should not be given time to adjust to meet environmental flows.	The compliance provisions of the Stream Flow Management Plan and Melbourne Water policy address this concern.
Environment Victoria, Friends of Hoddles Creek, Jennifer Seabrook & Ray Turner	6.9 ML/d is the real target. There should be real commitment to seeking and obtaining government assistance to reach the 6.9 ML/d environmental flow. Government assistance does not have to be only financial.	The advisory committee agrees with this principle, but emphasises the need for government assistance to help water users make appropriate changes to their businesses.
Department of Sustainability and Environment	If extractions reduce flows well below environmental flow (instantaneous) then measures to limit diversions may be needed.	This will be monitored during the implementation of the plan, decision on whether further protection for the environment is needed will be made when the Plan is reviewed.
Department of Sustainability and Environment	How will catchment dams be managed to conditions such as bans and passing flows?	Existing catchment dams will not be managed to this condition in line with legislation. New catchment dams will have by pass mechanisms in accordance with Melbourne Water policy.
EPA Victoria	Rostering Plan should be developed with local water users, and that once complete an education and notification process should occur	Agree.
Department of Sustainability and Environment, Jennifer Seabrook & Ray Turner	Need to monitor if environmental flows throughout system are being protecting by using the gauge at Launching Place. If not a gauge in the upper catchment should be installed.	Agree. Local water user and community feedback will be used to assess the assumptions of the modelling for the Stream Flow Management Plan. The diversions inspector will also check during routine visits.
Environment Victoria	Licence area constraints only removed following metering.	Agree. Add words “following metering”.
Environment Victoria	Wording changed to “That all licensed diversions used for irrigation or commercial purposes be metered”	Agree. Add word “diversions”.
EPA Victoria	Do meters collect the following information: Date & time of extraction; Duration of extraction; Flow rate; & Volume extracted?	The meters that are used balance cost with information needs. The current meters collect information on total extraction over either the whole year for all-year licences or the winter-fill period for winter-fill licences.
EPA Victoria	Melbourne Water should report on the following in addition to what is recommended in the draft plan: progress on recommendations, particularly the development of rostering policy.	As part of the data collection for the review Melbourne Water will sample water use patterns.

Respondant	Comment	Advisory Committee Comment
Jennifer Seabrook & Ray Turner	Monthly stream flow figures should be made available to the public.	This data is available on request. Annual report will be available to the public. Members of the community may read the flow gauge.
Environment Victoria	Change wording to: "That the Stream Flow Management Plan be reviewed in five years time as a minimum requirement, from the date of approval by Government." Also include that all materials pertinent to the Stream Flow Management Plan review should be made available to the reviewers.	Agree.
Environment Victoria	In any review, should read that "all stakeholders will be consulted…	Agree. "All" added.
EPA Victoria	Monitoring program has to focus on collection & evaluation of information to measure effectiveness of plan. Data should create capacity to audit the plan. Monitoring program should be developed in first year of plan.	A monitoring program will be submitted to the Minister/DSE within twelve months of the approval of the Plan and will address the aspects covered in this comment.
Southern Rural Water	Would like an agreement between Melbourne Water and Southern Rural Water rather than specific recommendation.	Advisory committee does not agree and would like this recommendation to be formally recognised in the Plan.
Department of Sustainability and Environment	NRE, within two years will assess groundwater use and advise whether specific management arrangements for groundwater, other than those already in existence, are required in the WSPA	Agree.
EPA Victoria, Jennifer Seabrook & Ray Turner	Extension programs should advocate methodology & practice, which are proven best practice & have been shown to deliver outcomes for the environment.	The advisory committee has recommended that extension programs be continued and further developed by DPI to encourage best practice management.
Environment Victoria	Original wording "That the lower reach of Hoddles Creek, upstream of the Yarra confluence, be reinstated with large woody debris (snags) to offset flow related stress to instream aquatic life"	Do not agree. Melbourne Water will need to investigate if the LWD is available, identify impacts of the removal of LWD from the terrestrial environment and will need to consult the adjacent landholders prior to approving this project. However Melbourne Water will implement the project if feasible. The feasibility study will be completed within twelve months of the approval of the Plan. Environment Victoria will be involved in the feasibility study.

STREAM FLOW MANAGEMENT PLAN 2003

1. INTERPRETATION

1.1 Definitions

The following definitions apply in this Plan.

"Act" means the *Water Act* 1989.

"all-year licence" means a licence issued under section 51(1)(a), (ba), 51(1A) or 51A of the Act to take and use water either:

(a) from a waterway; or

(b) from a dam, spring or soak

during any month of the year.

"average streamflow" means the mean daily average streamflow calculated over any consecutive 7 day period.

"Hoddles Creek Water Supply Protection Area" means the area referred to in clause 4.

"Launching Place gauging station" means the stream gauging station no 229224 located on Hoddles Creek at Launching Place.

"Melbourne Water" means Melbourne Water Corporation.

"Minister" means the Minister administering the Act.

"Protection Area" means the Hoddles Creek Water Supply Protection Area.

"registration licence" means a licence issued under section 51(1A) of the Act.

"winter-fill licence" means a licence issued under section 51(1)(a) or (ba) of the Act to take water from a waterway or dam during a winter-fill period.

"winter-fill period" means the period between 1 June and 30 November in any year.

1.2 Rules for interpreting this Plan

Headings are for convenience only and do not affect interpretation. The following rules also apply in interpreting this Plan, except where the context makes it clear that a rule is not intended to apply.

(a) Expressions defined in the Act have the same meaning as in the Act.

Note: Section 3(1) of the Act defines "dam", "person", "registration licence" and "waterway".

(b) A reference to:

(i) legislation (including subordinate legislation) is to that legislation as amended, re-enacted or replaced, and includes any subordinate legislation issued under it;

(ii) a document or agreement, or a provision of a document or agreement, is to that document, agreement or provision as amended, supplemented, replaced or novated;

(iii) a reference to a person includes a permitted substitute or a permitted assign of that person and that person's employees, officers, agents and contractors;

(iv) anything (including a right, obligation or concept) includes each part of it.

(c) A singular word includes the plural, and vice versa.

(d) If a word is defined, another part of speech has a corresponding meaning.

(e) If an example is given of anything (including a right, obligation or concept) such as by saying it includes something else, the example does not limit the scope of that thing.

2. AUTHORISING PROVISION

This Plan is approved by the Minister under section 32E of the Act.

3. COMMENCEMENT

This Plan commences on the day on which the Minister approves it.

4. WATER SUPPLY PROTECTION AREA

The area delineated in Plan No LGL./02-0152 held in the Office of Land and Survey Information Services, Department of Sustainability and Environment is:

(a) the particular area to which this Plan relates; and

(b) deemed to be a water supply protection area for the protection of surface water resources, within the meaning of section 32E(5)(a) of the Act.

5. SURFACE WATERS

This Plan applies to the surface waters of the Protection Area.

6. SPECIFIC OBJECTIVES

6.1 The general object of this Plan prescribed by section 32A(1) of the Act is "to make sure that the water resources of the "Protection Area" are managed in an equitable manner and so as to ensure the long-term sustainability of those resources".

6.2 For the purpose of achieving that general object, Melbourne Water must have regard to specific objectives proposed by the Hoddles Creek Streamflow Management Plan Advisory Committee and set out in Schedule 2.

7. ADMINISTRATION AND ENFORCEMENT

Melbourne Water has the duty of enforcing and administering this Plan.

8. PERMISSIBLE ANNUAL VOLUME

8.1 The recommended permissible annual volume of surface water in the Protection Area is 1207 ML plus the volume of registration licences and any licences issued under section 51A.

8.2 Melbourne Water may, from time to time, request the Minister to declare a new permissible annual volume which reflects the volume of all-year licences surrendered or cancelled in, or transferred out of, the Protection Area since the Minister last declared a permissible annual volume.

Note: Section 22A gives the Minister power to declare a permissible annual volume from time to time by Order published in the Government Gazette.

Section 51(1A) allows a person to apply for a registration licence during the period 1 July 2002 and 30 June 2003. Section 51A allows a person to surrender a registration licence and apply for a licence under section 51(1)(a) or (ba) and Melbourne Water must within 14 days issue a licence for the same annual volume as the registration licence.

9. PROHIBITIONS ON GRANTING NEW LICENCES

9.1 Melbourne Water must refuse an application under section 51(1)(a) or (ba) of the Act in the Protection Area, if in its opinion, the approval of the application will or may cause:

(a) subject to clause 9.3, the total volume of water taken and used in the Protection Area in any year under all-year licences to exceed 457 ML plus the volume of registration licences and any licence issued under section 51A; or

(b) the total volume of water taken from waterways or collected in dams in the Protection Area under any winter-fill licences during a winter-fill period, to exceed 750 ML.

Note: Section 55(2B) of the Act also prevents Melbourne Water from granting a licence if, in its opinion, the allocation or use of water under the licence will or may result in the permissible annual volume for that year or a future year, being exceeded.

9.2 By 1 October 2003, Melbourne Water must determine and notify the Minister of, the total volume of water for which:

(a) licences have been issued under section 51A; and

(b) registration licences have been issued under section 51(1A),

of the Act within the Protection Area.

9.3 The volume referred to in 9.1(a) will reduce to reflect the volume of all-year licence, other than a registration licence, surrendered, cancelled or transferred out of the Protection Area.

10. TRANSFERRING LICENCES

Note: Section 62 of the Act empowers Melbourne Water to approve an application temporarily or permanently to transfer a licence.

10.1 Subject to clause 10.2, Melbourne Water must not approve an application to transfer a licence, to take water from a waterway, or to collect water in a dam at a location:

(a) upstream of Yellow Gum Road, unless the proposed transferee will take or collect water under the transferred licence downstream of that location; or

(b) outside the Protection Area to a location within the Protection Area unless the target stream flow at the Launching Place gauging station of 6.9 ML per day in the period from 1 December to 31 May in any year can be achieved.

10.2 Melbourne Water may approve the transfer of a licence resulting from the transfer or conveyance of land providing the location at which water is taken or collected will not, change.

11. NEW DAMS

After the commencement of this Plan, Melbourne Water must not issue any licence under section 67 of the Act to construct a dam on a waterway within the Protection Area.

12. ROSTERS AND RESTRICTIONS

12.1 Melbourne Water may, from time to time, prepare and implement rosters or restrictions or other arrangements for taking and using water, in accordance with the principles specified in Schedule 3.

13. LICENCE CONDITIONS

For the purposes of section 32A(12) of the Act, a licence granted under section 51(1)(a) or (ba) or renewed under section 58 of the Act for a purpose specified in Schedule 4 is subject to each condition set out in that Schedule, in relation to that purpose.

14. STREAM FLOW MONITORING PROGRAM

Melbourne Water must:

(a) continuously record the flows at the Launching Place gauging station; and

(b) periodically record flows at the gauge-board at Hazeldene Road when it considers it appropriate to do so; and

(c) periodically inspect the condition of the Launching Place gauging station; and

(d) maintain the Launching Place gauging station in good condition; and

(e) keep a record of each inspection and all work undertaken under paragraph (a), (b), (c) or (d).

15. INSTALLING METERS

15.1 After the commencement of this Plan, Melbourne Water must, as soon as practicable, ensure that a flow meter is installed to measure water taken for irrigation or commercial purposes under any licence which has been or is thereafter granted within the Protection Area under section 51(1)(a) or (ba) or 51(1A) of the Act.

15.2 Melbourne Water must:

(a) periodically inspect the condition of each flow meter installed under sub-clause 15.1; and

(b) maintain each flow meter in good condition; and

(c) replace any damaged flow meter; and

(d) keep a record of all work done under paragraph (b) and (c).

16. READING METERS

Melbourne Water must:

(a) read each meter referred to in sub-clause 15.1 at least:

(i) once in every year in the case of an all-year licence; and

(ii) shortly after the beginning and end of the winter-fill period in every year, in the case of a winter-fill licence; and

(b) record, for each meter:

(i) the reading obtained; and

(ii) the number of the relevant licence; and

(iii) the date on which the meter is read; and

(iv) any information about the accuracy of the meter which Melbourne Water considers relevant; and

(c) if a meter becomes defective, registers incorrectly or is removed for any reason, estimate the correct registration in any of the following ways:

(i) by comparison with the quantity of water taken under similar conditions during some other period; or

(ii) by comparison with the quantity of water taken after the meter has been restored to proper order; or

(iii) by comparison with the registration of a substitute meter used temporarily in place of the defective meter; or

(iv) by applying a correction factor if the meter is found to have a consistent error of registration.

17. MAINTAINING ENVIRONMENTAL FLOWS

17.1 For the purposes of this clause, a licensee is the holder of a licence issued under section 51(1)(a) of the Act for any purpose other than domestic and stock use.

17.2 1 December to 31 May

(a) Melbourne Water must do its best to ensure that, during the period 1 December to 31 May in any year, a licensee does not take any water from a waterway when the average streamflow at Launching Place gauging station:

(i) is 4ML or less per day, at any time before 31 July 2004; or

(ii) is 5ML or less per day, at any time after 31 July 2004.

(b) Melbourne Water must, from time to time, when circumstances permit, propose achievable amendments to sub-paragraph 17.2 (a)(i) and (ii), until a target of 6.9 ML per day is attained.

17.3 1 June to 30 November

Melbourne Water must do its best to ensure that, a licensee does not take any water from a waterway when the average streamflow at Launching Place gauging station is:

(a) 10 ML or less per day, at any time during the period of 1 June to 31 October; and

(b) 6.9 ML or less per day, at any time during the month of November.

18. MONITORING THE IMPLEMENTATION OF THE PLAN

18.1 Within 12 months after the commencement of this Plan, Melbourne Water must propose to the Minister a program to monitor the implementation of the Plan.

18.2 A program proposed under sub-clause 18.1 must include arrangements to monitor:

(a) the effects of the Plan on the reliability of supply to licensees within the Protection Area; and

(b) the ability of the provisions to maintain environmental flows set out in clause 17; and

(c) in-stream environmental indicators within the Protection Area; and

(d) indicators against which Melbourne Water's performance in implementing this Plan can be measured.

18.3 The Minister may:

(a) approve a plan proposed under sub-clause 18.1; or

(b) approve that plan, subject to amendments made by the Minister; or

(c) refuse to approve the plan.

18.4 Melbourne Water must implement a plan in the form approved by the Minister under sub-clause 18.3.

19. REPORTING

Note: Section 32C and 32D of the Act requires Melbourne Water to report on its activities in carrying out its duties in relation to this Plan in each financial year and to:

(a) give the report to the Minister and the Port Phillip Catchment Management Authority by 30 September in each year; and

(b) make a copy available for public inspection at its offices.

20. REVIEW OF PLAN

Melbourne Water must:

(a) review the operation of this Plan:

(i) not more than 5 years after it commences; and

(ii) thereafter, at intervals of no more than 5 years; and

(b) propose any consequential amendment (if any) to the Minister.

Note: Sections 29, 31 and 32G of the Act provide for the constitution and convening of a consultative committee to develop any proposed amendment and the process to be followed by the Minister before approving it

21. APPROVAL

I, John Thwaites, Minister for Water, approve this Plan in accordance with section 32E of the Water Act 1989.

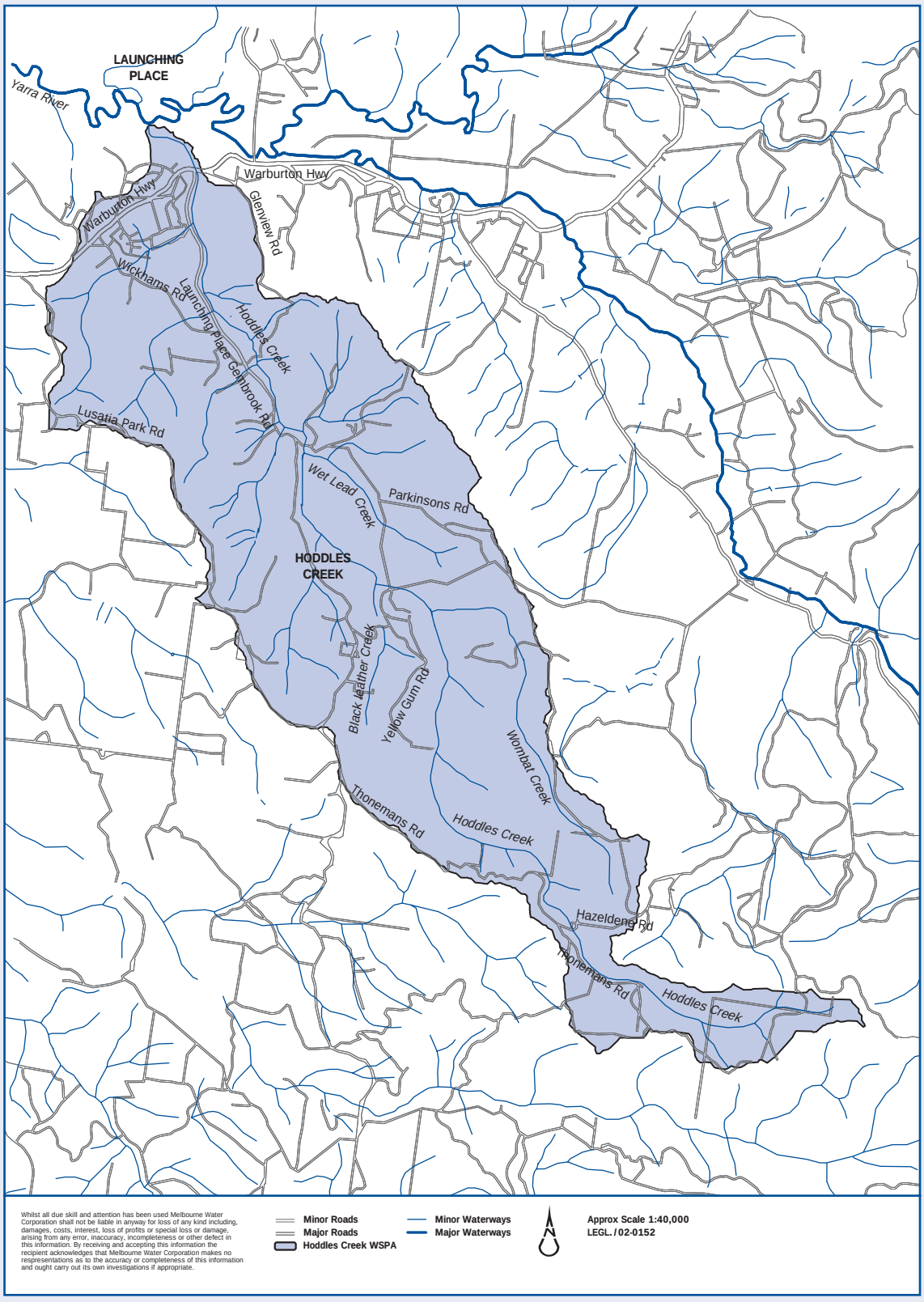
JOHN THWAITES MP
Minister for Water

Date 27/11/03

Water Supply Protection Area
Stream Flow Management Plan 2003

SCHEDULE 1

HODDLES CREEK WATER SUPPLY PROTECTION AREA



SCHEDULE 2

SPECIFIC OBJECTIVES PROPOSED BY THE HODDLES CREEK ADVISORY COMMITTEE

Streamflow Management

To manage the stream to achieve agreed environmental flows, or to maintain natural flows as appropriate.

To manage future developments to not adversely impact on existing stream users and the environmental health of the system.

To allocate water in the future in accordance with the total available water resources in the catchment, having regard for available surface water and groundwater resources.

To set environmental benchmarks and develop a monitoring and review program to determine the effectiveness of the agreed environmental flows

Environmental Management

To maintain the existing species diversity and populations of aquatic fauna and, where possible, provide conditions that will encourage recolonisation of Hoddles Creek by fish species that can now utilise the upper Yarra system because of the Dights Falls fishway.

To meet environmental management objectives in accordance with *SEPP (Waters of Victoria)*- Schedule F7 *(Waters of the Yarra Catchment)(EPA VICTORIA 1999)*, while decreasing the sediment load entering the system, particularly from sources such as roads, secondary stream crossings (eg stock crossings) and onstream dams.

To maintain, and where possible, restore diverse and complex instream habitat (eg. woody debris).

To maintain remnants and rehabilitate degraded areas, of indigenous riparian vegetation along the banks of Hoddles Creek and its tributaries, and ensure adequate buffer strips between cleared land and the creeks.

To maintain suitable River blackfish and Mountain galaxias habitat over the summer/autumn low flow period through the provision of environmental flows. These flows should also be suitable for macro-invertebrates, instream flora and other vertebrates that are dependent on instream processes

Water Use

To encourage the sustainable and efficient use of the available water resources.

To ensure the equitable sharing of the available water resources between consumptive water users.

To ensure that consumptive use does not degrade the environmental objectives of the system.

To quantify total water use within the catchment including all streamflow, surface water

Recreational

To provide recreational and aesthetic enjoyment opportunities in the Hoddles Creek system that are not in conflict with the conservation objectives of the system or the consumptive use of water.

Cultural and Heritage

To ensure that water use developments do not adversely impact on identified sites of cultural and heritage significance.

SCHEDULE 3

ROSTERS, RESTRICTIONS AND OTHER ARRANGEMENTS

1. In developing rosters, restrictions or other arrangements referred to in clause 10 of the Plan, Melbourne Water must have regard to the need to:

   (a) maintain flows above the minimum levels specified or determined under clause 17 of the Plan, for as long as possible in every year; and

   (b) limit the number of days upon which licensees are unable to take water because of the effect of clause 17; and

   (c) take account of:

      (i) the relative requirements of different crops and other uses of land for water; and

      (ii) differences between types of licence, maximum volumes which may be taken under licences, and pumping capacities; and

      (iii) the need for all licensees to have fair and reasonable access to available water, given the matters referred to in sub-paragraphs (i) and (ii); and

   (d) develop trigger levels, which can precipitate changes to rosters, restrictions or other arrangements.

2. Melbourne Water may specify a maximum volume or percentage of allocation of water that a licensee may take or use on any rostered day (or lesser roster period).

SCHEDULE 4

LICENCE CONDITIONS

1. Licence to take and use water from a waterway for any purpose: *[section 51(1)(a)]*

1.1 The Licensee must not:

(a) take any water from a waterway when the average streamflow at Launching Place gauging station:

(i) before 31 July 2004, is 4ML per day or less, at any time between 1 December and 31 May ; or

(ii) after 31 July 2004, is 5ML per day or less, at any time between 1 December and 31 May, in any year; or

(iii) is 10ML per day or less, at any time between 1 June and 31 October, in any year;

(iv) is 6.9 ML per day or less, at any time in the month of November.

1.2 The Licensee must comply with any roster, restriction or other arrangement prepared and implemented by Melbourne Water under clause 10 of the Hoddles Creek Water Supply Protection Area Streamflow Management Plan 2003.

2. Licence to take water from a waterway to fill a dam: *[section 51(1)(a)]*

The Licensee must not take water from a waterway or collect water to fill a dam, whether the dam is built on or off a waterway, between 1 December and 31 May in the following year.

3. Licence to use water from a dam constructed after the commencement of Hoddles Creek Water Supply Protection Area Streamflow Management Plan 2002: *[section 51(1)(ba)]*

The Licensee must not allow water (other than rain water supplied to a dam from the roof of a building, or a bore or for use other than domestic and stock use) to collect in the dam between 1 December and 31 May in the following year.

4. Licence for a purpose referred to in section 51(1)(a) or (ba)

From the date upon which Melbourne Water installs a flow meter to measure water taken, used, collected, stored or concentrated for commercial or irrigation purposes, the Licensee is not required to comply with the condition describing the area to be irrigated in the First Schedule of this Licence.

Note: These conditions are additional to, or replace, existing licence conditions where appropriate.

Melbourne Water®

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Melbourne Water is owned by the Victorian Government. We manage Melbourne's water supply catchments, remove and treat most of Melbourne's sewage, and manage waterways and major drainage systems in and around Melbourne.

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