Jordan River Catchment
Water Management Statement

June 2016

Water and Marine Resources Division
Department of Primary Industries, Parks, Water and Environment

Tasmanian Government

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The Department of Primary Industries, Parks, Water and Environment (DPIPWE)

The Department of Primary Industries, Parks, Water and Environment provides leadership in the sustainable management and development of Tasmania's natural resources. The Mission of the Department is to support Tasmania's development by ensuring effective management of our natural resources.

The Water and Marine Resources Division provides a focus for water management and water development in Tasmania through a diverse range of functions, including implementing the *Water Management Act 1999* and the National Water Initiative; design of policy and regulatory frameworks to ensure sustainable use of surface water and groundwater resources; monitoring, assessment and reporting on the condition of the State's freshwater resources; and providing regulatory and policy support for water infrastructure development projects.

CONTENTS

1 INTRODUCTION

The Jordan River Catchment Water Management Statement (this Statement) sets out how water resources in the Jordan River catchment (this catchment) are allocated and the rules for taking water.

This Statement describes a water regime that supports the objectives of the Tasmanian *Water Management Act 1999* (hereafter 'the Act') and is consistent with the planning principles of the National Water Initiative (NWI).

Water Management Statements are being developed for a number of river catchments around Tasmania. The document 'Water Management Statements – Background Information' (DPIPWE 2016) provides generic information supporting these statements including links to relevant information and government policies that describe how the Tasmanian Government applies policies to make decisions and administer water resources in these catchments.

Management policies and guidelines are underpinned by the rationale that key characteristics of the natural flow regime should be retained as far as possible, even in situations where river systems are highly regulated or modified. While it is likely there will be a departure from the natural flow regime in such systems, the aim is to recognise their current management context and maintain key components of their flow regimes to sustain ecological function and structure of the system.

The outcomes sought though the implementation of the described water management arrangements in this Statement are:

- certainty in water availability for commercial users (i.e. for consumptive use), while ensuring town water supply, stock and domestic, and environmental water needs are met
- maintenance of riverine flows throughout the entire catchment, including, where possible, provision of flow components comparable to the natural flow regime (i.e. frequency, timing, duration, magnitude and rate of change in flows)

This Statement draws on information and data from a range of assessments including freshwater-dependent ecosystem values, hydrology and water allocations (refer to Appendix A for details).

All surface water flow thresholds referred to in this Statement are measured at the relevant streamflow gauging stations and management point (Figure 1; Appendix B).

2 WATER MANAGEMENT ENVIRONMENT

2.1 Water Management Roles and Responsibilities

All rights to the taking of water from the water resources of Tasmania are vested in the Crown, with the exception of those rights provided under Part 5 of the Act.

Appendix C outlines the key roles and responsibilities regarding water management in the Jordan River catchment.

3 DESCRIPTION OF WATER RESOURCES IN THIS CATCHMENT

3.1 Catchment Overview

The Jordan River catchment is located in south-eastern Tasmania and has an area of 1,253 km² (Figure 1). The main watercourse is the Jordan River, which emerges from Lake Tiberias, 15 km south of the town of Oatlands, and winds its way through one of the driest regions of Tasmania before its confluence with the Derwent Estuary at Bridgewater. The Jordan River and its tributaries are ephemeral and generally cease to flow during the summer months. Lake Tiberias and Lake Dulverton are the main waterbodies in the catchment. These lakes frequently dry up during drought periods.

The main land use in this catchment is agricultural, with a large portion cleared for grazing and some areas are used for intensive cropping and dairy farming. Other land uses include forestry and some industrial and rural development. The main water use in this catchment is irrigation. Direct takes and farm dam storages have traditionally provided the major irrigation and stock water supply during dry summer-autumn periods.

Recently Tasmanian Irrigation Pty Ltd (TI) commissioned the Midlands Water Scheme, which commenced operations during the 2014/15 irrigation season. The scheme services agricultural land throughout the Midlands Irrigation District (see Figure 1) by transferring water to the area using pipelines from Arthurs Lake. Irrigation water is distributed in the district via pipelines and the natural watercourse of the Jordan River.

This catchment is predominantly within the Southern Midlands Municipality but also encroaches into the Northern Midlands Municipality to the West and the Brighton Municipality to the South. This catchment encompasses many towns, including Oatlands, Melton Mowbray, Kempton, Bagdad, Pontville, Brighton and Bridgewater.

3.2 Groundwater and Surface Water Resources

This Statement recognises the connectivity between surface water and groundwater resources. According to the Groundwater Dependent Ecosystem (GDE) Atlas, most streams and wetlands in the catchment have some degree of reliance on groundwater.

3.3 Freshwater-Dependent Ecosystem Values

The Jordan River catchment comprises many important freshwater-dependant ecosystem values. A detailed assessment of the relevant ecosystem values is provided in the Assessment of Freshwater Ecosystem Values in the Jordan River Catchment report (DPIPWE 2015). Areas of high and very high Integrated Conservation Value (ICV) include:

- streams and waterbodies (Lake Dulverton and Lake Tiberias) in the upper part of the catchment
- riverine sections of Bagdad Rivulet, Brown Caves Creek and Grahams Creek, and parts of the main stem, in the lower part of the catchment

Most of the main stem of the Jordan River and its major tributaries has been modified from the pre-European state and therefore have low naturalness. Most wetlands and waterbodies in the catchment also have low naturalness. Headwater streams of the Jordan River have medium to high naturalness, as these areas are typically less disturbed by agricultural land use and flow regime alterations.

Ecosystem components that drive the high conservation value of some ecosystems in the catchment include different types of riparian vegetation assemblages, river channels of unique geomorphological character and different types of wetlands.

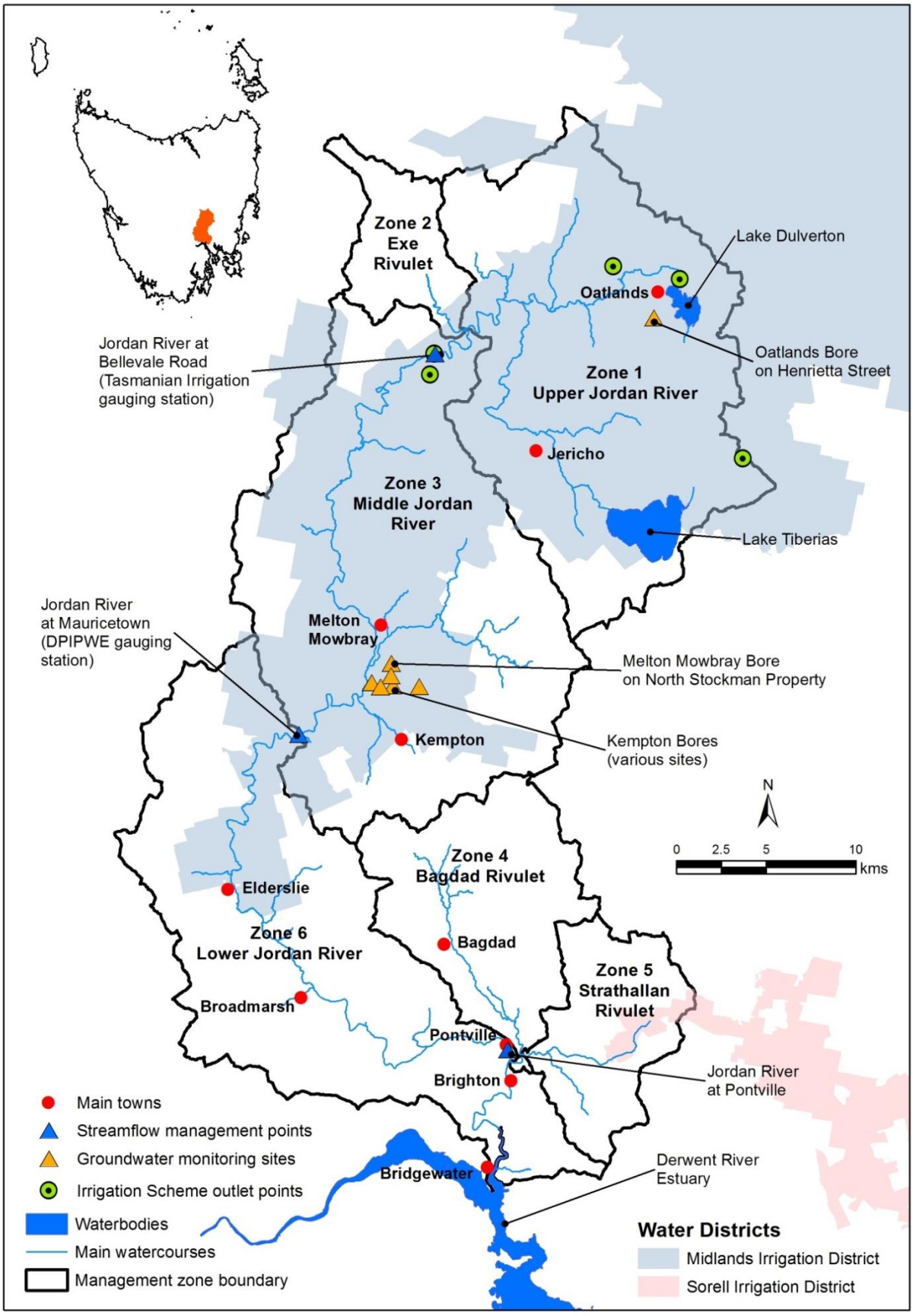

Figure 1: Jordan River catchment showing water management zones, streamflow and groundwater monitoring stations, and irrigation districts.

Special values identified in the Jordan River include a significant number of threatened riparian and wetland flora species and communities (e.g. curly sedge (*Carex tasmanica*), alpine winter bent (*Agrostis propinqua*) and ribbon weed (*Vallisnaria americana*)) (DPIPWE 2015). Lake Dulverton and Lake Tiberias are listed as important bird sites. The great crested grebe (*Podiceps cristatus*), white-bellied sea eagle (*Haliaeetus leucogaster*), southern toadlet (*Pseudophryne semimarmorata*), phylogenetically distinct platypus (*Ornithorynchus anatinus*) and whitebait (Derwent stock) (*Lovettia sealii* sp. nov.) are also listed as special values and are present in parts of the catchment.

3.4 Hydrological Characteristics

The Jordan River has a highly variable and ephemeral natural flow regime (see Figure 2). The moderate levels of water extraction in its catchment (22% of median annual discharge; Section 4.4) have not significantly altered the natural characteristics of its flow regime, but the magnitude of flows <180 ML/day has been reduced and the occurrence of near-zero to zero flows has increased by 2.0-3.5% (Davies et al 2005). Overall, cease-to-flow events frequently occur in summer and autumn, and to a lesser extent in winter and spring when baseflows are often elevated due to runoff in the catchment. The occurrence of brief freshes and floods in the river is seasonally unpredictable, although they are more likely in winter and spring.

Figure 2 clearly illustrates these hydrological characteristics. Between 2000 and 2015, the river has experienced extended periods of zero flow at the Mauriceton gauging station, with mean daily flows of <0.1 ML/day accounting for 33% of record for this period. Occasional periods of moderate to high flows (~1000-7000 ML/day) have also occurred between 2000 and 2015 (Figure 2a). Figure 2b shows flow duration curves for the full long-term record and seasons record at this gauging station, which provide a visual representation of the range of flows present in the system and their relative occurrence. Comparison of seasonal flow duration curves indicates that flows during winter and spring are typically greater than those in summer and autumn, with, for example, flows >10 ML/day occurring 60% of the time in winter and spring and flows <1 ML/day occurring 60% of the time in summer and autumn.

3.5 Surface Water Management Zones

This Statement divides the Jordan catchment's water resources into the following six management zones (Figure 1):

1. Upper Jordan River
2. Exe Rivulet
3. Middle Jordan River
4. Bagdad Rivulet
5. Strathallan Rivulet
6. Lower Jordan River

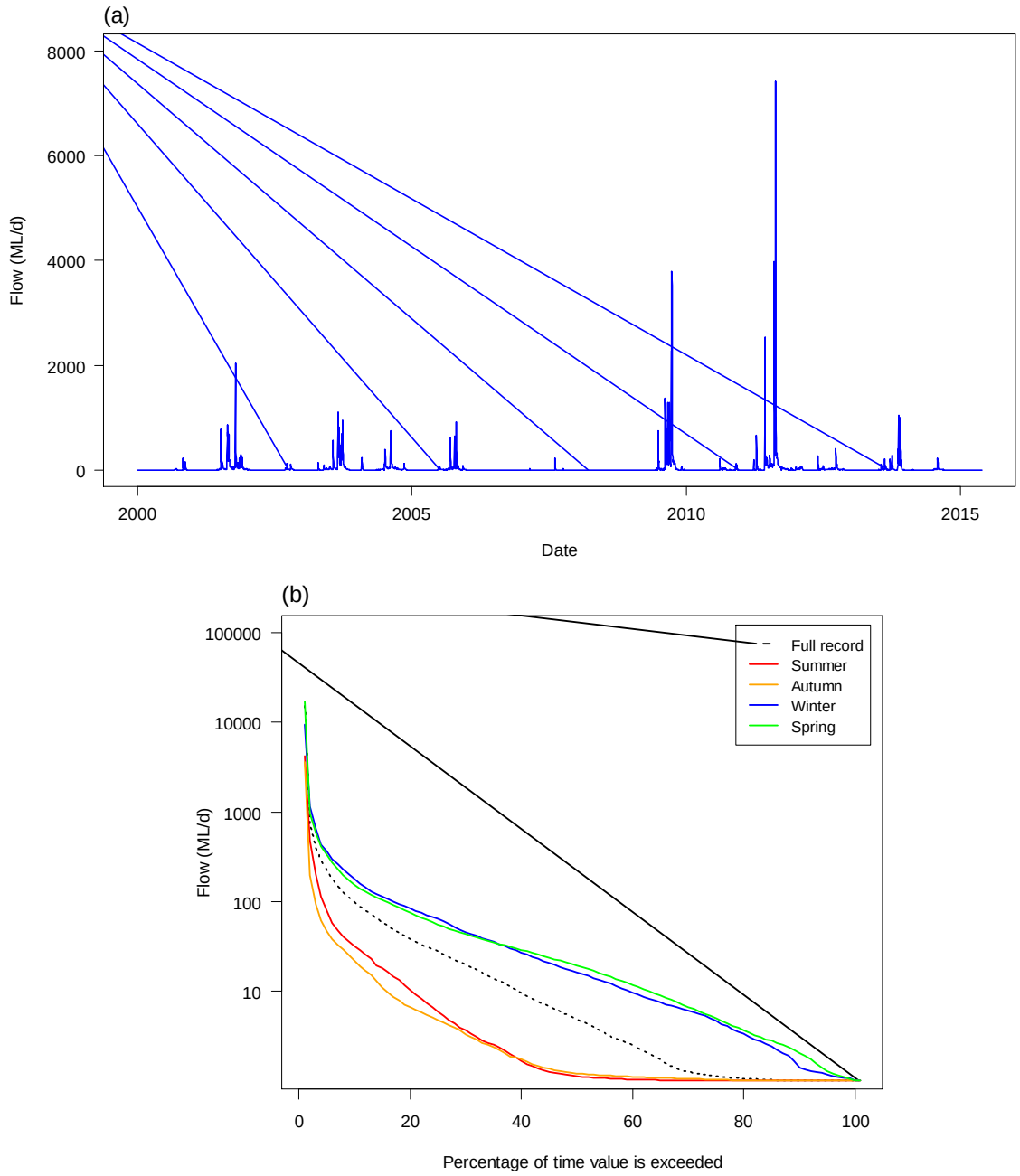

Figure 2: (a) Flow in the Jordan River, 1 January 2000 to 25 May 2015 and (b) full record and seasonal flow duration curves for the Jordan River derived from long-term (1965-2015) flow data. Plots are based on mean daily gauged flow data from the streamflow gauging station at Mauriceton.

3.6 Surface Water Yield

The median natural yield at the outlet of the Jordan River catchment is 9,232 ML during summer and 15,489 ML during winter (Table 1), while on an annual basis, the median natural yield at the catchment outlet is 24,573 ML.

Table 1: Modelled natural surface water yield[1].

Management Zone	Median Yield (ML)	
	Summer[2]	Winter[3]
1. Upper Jordan River	2,394	4,631
2. Exe Rivulet	478	2,240
3. Middle Jordan River	2,439	5,347
4. Bagdad Rivulet	1,079	2,264
5. Strathallan Rivulet	616	1,058
6. Lower Jordan River	2,404	5,126
Jordan River Catchment (at outlet)	**9,232**	**15,489**

Caution should be used when considering the statistical assessment of historic and modelled yields presented in this Statement (Table 1) because these statistics are derived from a long-term period of modelled flow (37 years). The highly variable and ephemeral nature of flows in the Jordan River catchment may mean that historical statistics may not reliably represent future yields over shorter periods or future yields considering the effects of climate change on streamflows. In addition, in wet years, high flows can provide yields that are orders of magnitude in excess of those that occur in dry years. Because of this inter-annual variability in yields, median yields are unlikely to occur regularly. For further explanation, refer to Hydrological Modelling of Tasmanian Catchments and Hydro Tasmania (2005).

3.7 Environmental Water Requirements

Davies et al (2005) undertook an environmental flows assessment for the Jordan River (see full report on the DPIPWE website). The Jordan River is a very degraded system and flow regime alteration is only one of several issues which are effecting the condition of rivers in the catchment; with stressors associated with agricultural land use being of particular concern (Davies et al 2005). Davies et al (2005) suggested that environmental flow management should focus on preventing further degradation of the remaining freshwater-dependent values and processes in the river system, including instream habitat features. Based on their assessment, they suggested that this could be achieved by protecting low-moderate flows (<1.5-2.0 cumecs) from further abstraction and maintaining a minimum set of high flow/flood events (Table 2).

[1] Data is from the TascatchSIM models using SILO rainfall and evaporation data over the period 1969-2007. The model output shown here is for the "natural" scenario i.e. no dams, diversions or extractions are included.
[2] Median yield is calculated based on summer period of 1 December to 30 April.
[3] Median yield is calculated based on winter period of 1 May to 30 November.

Table 2: Minimum set of high/flood flow events recommended by Davies et al (2005) for maintenance of ecological values in the Jordan River catchment at the Mauriceton streamflow gauging station.

Flow event type	Timing	Duration (days)	Flow magnitude (cumecs)
Biennial	1 per 2 years, winter	1	5.5-10.0
Annual	1 per year, anytime	1	1.0-3.3
Trigger	2 per year, spring and autumn	1	0.2-1.1
Freshes	8 per year, anytime	-	1.0

The environmental flow recommendations of Davies et al (2005) have been implemented by placing a moratorium on any new high surety (Sureties 5 & 6) allocations in the Jordan catchment and by developing flow extraction rules to manage new opportunistic flood take allocations from the Jordan River (Sections 4.5 and 5.2).

Analysis of gauged flows in Jordan River at Mauriceton streamflow gauging station between 2005 and 2014 indicates that several of the recommended environmental flow events of Davies et al (2005) have occurred in the river during this period. For example, 14 biennial high flow events (>5.5 cumecs) during this period, with flow events of this magnitude occurring in four of 10 years. Furthermore, annual high flow events (>1.0 cumecs) have occurred in eight of the 10 years. However, climate in the catchment (i.e. rainfall and runoff) largely dictates the occurrence of the moderate-high flow events in the unregulated (i.e. free-flowing) main stem of the Jordan River.

4 SURFACE WATER ALLOCATIONS

4.1 Allocations Overview

As of 1 May 2016, there were 68 licensed water users in the Jordan catchment, holding 76 water licenses containing 157 allocations with a combined takeable volume of 12,786 ML (excluding Surety 1 water allocations). Most of the water for consumptive users (~96%) is allocated during winter 12,317 ML, with only 469 ML allocated in summer. This reflects a flow regime of predominantly winter flows and low to no summer flows. The water is almost entirely allocated for irrigation purposes.

The water in the Jordan catchment is allocated at five surety levels:

- Surety 1 7 ML, (<0.1%)
- Surety 3 8 ML (<0.1%)
- Surety 5 5,062 ML (39.6%)
- Surety 6 292 ML (2.3%)
- Surety 7 7,417 ML (58.0%)

Surety 1 comprises a small volume of water (7 ML) allocated for essential town water supplies under Part 6 of the Act. However, water for essential purposes including stock and domestic, fire fighting and other specified purposes can be taken without a licence as Part 5 water rights under the Act.

Surety 2 water pertains to water retained in the river system to provide for environmental water needs. This water (along with Surety 1 allocations) is protected by access rules that regulate extraction of water by lower surety users.

Surety 3 comprises a small volume of water (8 ML), where access entitlements have replaced prescriptive rights established under previous Acts.

Surety 5 & 6 comprises reliable water (i.e. >50% reliability), allocated for commercial purposes.

Surety 7 comprises unreliable water (i.e. <50% reliability) allocated for opportunistic taking during the winter take period. This water is only available above a high flow trigger that is based on a 1 in 2-year flood threshold.

4.2 Take Periods

Most water licences in the Jordan River catchment authorise taking of water in two take periods that coincide with periods of low (summer) or high (winter) flows (see Figure 2). The summer take period for the majority of licences in the Jordan River catchment is between 1 November and 30 April and the winter take period is between 1 May and 31 October.

4.3 Allocations on an Annual Basis

On an annual basis (according to a water year of 1 May to 30 April), a total volume of 12,786 ML of water is allocated in the Jordan River catchment. For the same period, the total volume of existing allocations at greater than 50% reliability (annual takeable volume at Surety 3, 5 & 6, as at August 2014) is 5,363 ML excluding Surety 1 allocations. A further 7,417 ML of Surety 7 allocations (at less than 50% reliability) is available to be taken under opportunistic flood triggers.

4.4 Allocation Limits

The 'Water Management Statements – Background Information' (DPIPWE 2016) explains allocation policies, and the methods for setting allocation limits in non-ephemeral systems. However, due to the ephemeral flow regime in the Jordan River it is not appropriate to apply the standard method. For example, if the allocation policy method is applied in the Jordan River, up to 44% of the natural median yield is calculated to be available for allocation. This result is not valid and is due to the effects of zero flow days and periods of low flows.

In the absence of detailed environmental flows assessments, the allocation policy objective is to retain 80% of a rivers median annual discharge. This is considered to be a reasonable "rule of thumb" that is considered likely to preserve key elements of the natural flow regime, and hence ensure that the water needs of freshwater ecosystems are met. Furthermore, providing such a limit also ensures that the reliability of existing allocations is maintained, given that increasing levels of allocation reduce reliability for all water users.

As at May 2016, the total volume of existing allocations with a reasonable level of reliability (i.e. reliability of greater than 50%; sureties 3, 5 and 6), in the Jordan River catchment is 5,363 ML. This volume represents 22% of the natural median annual yield. Under the current level of allocation, 78% of the annual median yield is retained (excluding the volume extracted under opportunistic flood takes at Surety 7; refer to Section 4.5). Therefore, based on maintaining the allocation policy's objective to retain 80% of the median annual yield, it is apparent that no more water is available for allocation in the Jordan River without more detailed resource assessment and/or a formal planning process (refer to Section 6).

4.4.1 Summer Take Allocations

As at May 2016, the total volume of existing allocations taken in the summer take period is 470 ML (3 ML at Surety 1, 3 ML at Surety 3, 461 ML at Surety 5 and 3 ML at Surety 6) representing 5% of the median yield for the summer take period (1 December – 30 April) (Table 3). However, in considering this allocation volume it should be noted that there are several months in the summer period where the river frequently ceases to flow. The ephemeral nature of this system means that water for summer allocations is often not available throughout the summer take period. Summer take allocations are most likely to be taken early in the summer take period (November-December) when demand is greatest and water is more likely to be available for direct extraction from the river (refer to Figure 2).

Considering that, 22% of the median annual yield of the Jordan River is already allocated as well as the ephemeral nature of summer flows and the importance of streamflows to maintain river condition during summer, no further water is available for allocation in the Jordan River catchment during the summer take period.

Table 3: Summer period water allocation limits and existing allocations.

Management Zone	Volume (ML)	
	Existing Allocations	Available For Further Allocation
1. Upper Jordan River	0	0
2. Exe Rivulet	0	0
3. Middle Jordan River	50	0
4. Bagdad Rivulet	4	0
5. Strathallan Rivulet	0	0
6. Lower Jordan River	416	0
Jordan River Catchment (at outlet)	**470**	**0**

4.4.2 Winter Take Allocations

The total volume of existing allocations during the winter take period is 4,892 ML (4,602 ML at Surety 5 and 290 ML at Surety 6) (Table 4). At the catchment outlet, this allocation volume represents 32% of the median yield for the winter period (15,489 ML; 1 May – 30 November).

Table 4: Winter period water allocation limits and existing allocations.

Management Zone	Volume (ML)	
	Existing Allocations	Available For Further Allocation
1. Upper Jordan	1,023	0
2. Exe Rivulet	0	0
3. Middle Jordan	1,508	0
4. Bagdad Rivulet	167	0
5. Strathallan Rivulet	334	0
6. Lower Jordan	1,859	0
Jordan River Catchment (at outlet)	**4,892**	**0**

Under the Department's current allocation policy, the Jordan River catchment is considered to be fully allocated at sureties 5 and 6 (at reliability of greater than 50%). Therefore, no further allocations will be available during the winter period at sureties 5 or 6. However, very low reliability (Surety 7) opportunistic flood take allocations may be considered (refer to Section 4.5).

4.5 Surety 7 Water Allocations – Opportunistic Flood Take

A total volume of 7,417 ML of water is allocated in the winter take period at Surety 7 (Table 5). Water allocated at Surety 7 is highly unreliable and is only available opportunistically during major flood events (refer to Section 5.2). A typical Surety 7 allocation may only be available in full between 2 to 3 years out of every 10; access may depend upon the specific details of the flow (magnitude and duration of flood), availability at the offtake location, the volume taken, and, the offtake capacity of diversion infrastructure.

Under the Department's current allocation policy for the Jordan River, new allocations at Surety 7 will only be considered for the winter take period and will be assessed based on the availability of the water resource at the proposed extraction point. Allocations will only be approved where it can be demonstrated that the proposed take is consistent with the objectives of the Act, will not cause material environmental harm or serious environmental harm, and will not adversely affect the taking of water by other persons with existing rights to take water.

Table 5: Existing Surety 7 Allocations.

Management Zone	Volume (ML)
1. Upper Jordan	1,140
2. Exe Rivulet	3,500
3. Middle Jordan	2,543
4. Bagdad Rivulet	0
5. Strathallan Rivulet	49
6. Lower Jordan	185
Jordan River Catchment (at outlet)	**7,417**

5 WATER ACCESS RULES

This section describes the rules that apply to the taking of water on a daily basis in the Jordan River catchment. In addition to these rules, water licences also specify conditions that apply to the taking of water at offtake locations.

5.1 Restriction Management

When the measured flow at the Department's stream flow gauging station and or the other management points drops to the thresholds set out in Table 6, the taking of water, other than for specified purposes through rights under Part 5 of the Act, is restricted (see DPIPWE - Water Restrictions for current restriction notices that are in place). Flow thresholds for surface water are measured at the relevant streamflow gauging station and management points shown in Figure 1 and Appendix B (refer to the DPIPWE - Water Data for information on current and historic river flow conditions).

It should be noted that the cease-to-take thresholds set out in Table 6 do not account for water that is conveyed via the Jordan River. Any conveyance volume registering at a relevant stream gauging station is factored into the application of restrictions.

Table 6: Daily restrictions management thresholds in the Jordan River catchment.

Site Location	ML/day	Stage	Restriction
Jordan River at Bellevale Road management point	0.86	1	100% Ban on Surety 3, 5 & 6 takes downstream of Mauriceton gauge to Green Valley Rivulet (TI district boundary)
Jordan River at Pontville management point	0.86	1	100% Ban on Surety 3, 5 & 6 takes downstream of TI district boundary
Jordan River at Mauriceton stream flow gauging station (DPIPWE Site No. 4201)	0.86	1	100% Ban on Surety 3, 5 & 6 takes downstream of Mauriceton gauge to Green Valley Rivulet (TI district boundary)

5.2 Surety 7 - Opportunistic Flood Takes

Low reliability water is available opportunistically in the winter take period during flood events (Table 7). The flood take trigger is set at 173 ML/day, which is based on the environmental flows assessment of Davies et al., (2005). This extraction rule ensures that the patterns of flushing flows below this threshold in the river are protected from impacts associated with flood water extraction. Once the Surety 7 flood trigger is met and formal notification authorising flood takes is provided, licensed water users may take Surety 7 allocations in accordance with their licence conditions. Refer to current irrigation restrictions and other notifications for information on current flood take notices.

Table 7: The sub-catchment trigger flow that must be exceeded before opportunistic flood takes (Surety 7 takes) may be authorised in the Jordan River catchment.

Site Location	Winter Trigger (1 August - 31 October)	
	ML/day	cumecs
Jordan River at Mauriceton (Site Number 4201)	173	2

5.3 Groundwater Management

Any extraction of groundwater in the Jordan River catchment must comply with the relevant statutory instruments, as set out in Part 7 of the Act, and the Department's regulations and policies pertaining to groundwater abstraction, licensing and management (DPIPWE - Groundwater).

Currently, groundwater can be taken in the Jordan River catchment without a licence under Part 5 of the Act. Levels of groundwater development in the catchment are being monitored, and if necessary, policy and management measures may be implemented commensurate with the level of risk. Management of groundwater extraction may include, but not be limited to, the applying of restrictions to commercial groundwater extraction under Part 5 water rights at the same time as those applied to licenced surface water allocations.

6 ADAPTIVE MANAGEMENT FOR THIS CATCHMENT

Given the unreliable nature of the water resource in the Jordan River catchment, future demand for water in the catchment is likely to be low and depend on the economic viability of further development of its natural water resources compared to accessing more reliable water from other sources (e.g. TI-managed Midlands Water Scheme).

Periodic reviews of the effectiveness of access rules and management approaches may be used to inform adaptive management. If verified and balanced evidence can be provided to support improved management approaches, then changes may be considered so long as they are consistent with, and further, the environmental and water use and development objectives of the Act.

If there is strong demand for additional water from the Jordan River system, then more detailed resource assessment and/or a formal statutory water management planning process, in accordance with Part 4 of the Act, may be required. Statutory planning processes ensure that water allocation decisions that are outside the default policy frameworks are undertaken using detailed social, environmental and economic assessments, and include

transparent community consultation. Statutory planning processes ensure that water management decisions that are outside the water policy framework are consistent with the *Water Management Act 1999* and NWI policy objectives.

If demand for water resource use and levels of risk to water users and the environment increase in the future, DPIPWE, in consultation with the community, may consider the need to review and adaptively manage water management arrangements. This Statement will be amended on an ongoing basis, to reflect periodic changes to relevant Departmental policies and other management arrangements.

The Department's statewide water monitoring program informs ongoing water management decisions in the Jordan River catchment (refer to Water Management Statements – Background Information (DPIPWE 2016) for details). The relevant stream flow gauging sites for the catchment are listed in Appendix B.

7 REFERENCES

Davies, P., Koehnken, L., Barker, P. and Cook, L. (2005). *Jordan River: Environmental Flow Regime Assessment.* Report for the Department of Primary Industries, Water and Environment. Hobart.

DPIPWE. (2015). *Assessment of Freshwater Ecosystem Values in the Jordan River Catchment.* WMP 15/03. Department of Primary Industries, Parks, Water and Environment, Hobart.

DPIPWE. (2016). Water Management Statements: Background Information, Department of Primary Industries, Water and Environment, Hobart.

Hydro Tasmania. (2005). *NAP Region Hydrological Model Jordan Catchment.* Report for the Department of Primary Industries, Water and Environment, Hobart.

APPENDIX A – ASSESSMENTS SUPPORTING THIS STATEMENT

Freshwater-dependent ecosystem values in this catchment were assessed using the Conservation of Freshwater Ecosystems Values (CFEV) assessment framework (CFEV Program).

Hydrological character assessment for this catchment uses hydrological modelling of the historic flow period (1970-2007) for the Jordan River (Hydrological Modelling Reports). Data is from the TascatchSIM models using SILO rainfall and evaporation data over the period 1970-2007. The model output is for the "natural" flow scenario, i.e. no dams, diversions or extractions are included.

Assessment of existing entitlements and water available for allocation were extracted from the Water Information Management System (WIMS) for the Jordan River catchment in August 2014. Data were assessed to identify the volume, timing and distribution of licensed water entitlements from the Jordan River Catchment. WIMS is the Department's official register of water licences and entitlements. Information on water entitlements can be accesses via the Water Information System of Tasmania (WIST).

APPENDIX B – STREAMFLOW GAUGING AND GROUNDWATER MONITORING STATIONS

Flow data is only publically available for the DPIPWE stream flow gauging station where flow is measured at 15-min intervals.

Site Location	Gauging station	Easting	Northing
Jordan River at Bellevale Road - management point	Tasmanian Irrigation gauging station	517710	5312882
Jordan River at Pontville - management point (gauge board, visual assessment only)	N/A	521770	5274066
Jordan River at Mauriceton (DPIPWE)	4201	510147	5291652

Groundwater monitoring stations where standing water depth is measured hourly or when a change in water level occurs.

Water resource	Monitoring station	Easting	Northing
Kempton 1 Bore at Castle Hill Home Midland Highway	41436	516832	5294328
Kempton 3 Bore at Belgrove Entrance, Midland Highway	41438	515375	5294373
Kempton 4 Bore at Belgrove Home, Midland Highway	41439	514690	5294314
Kempton 5 Bore West of Belgrove, Midland Highway (Deep)	41441	514180	5294531
Kempton 5 Bore West of Belgrove, Midland Highway (Shallow)	41440	514180	5294532
Kempton 6 Bore Midland Highway north Belgrove	41442	515275	5294924
Melton Mowbray Bore on North Stockman property, north Belgrove	5518	515281	5295615
Oatlands Bore on Henrietta Street	41429	529920	5314895

APPENDIX C – WATER MANAGEMENT ROLES AND RESPONSIBILITIES

Key persons responsible for water management under the *Water Management Act, 1999* in the Jordan River catchment.

Person	Role	Responsibility
The Minister	Administration of water under the Act	Administration of the water resources of Tasmania in accordance with the Act and other relevant national water policy commitments.
Department of Primary Industries Parks, Water & Environment (DPIPWE)	Delegated authority to implement administration of the Act where provided by the Minister	Administration of the Act where devolved to DPIPWE. This includes administration, licensing and allocation of water in accordance with policies and guidelines approved by the Minister.
Water Licensees and Part 5 Right holders	Authority to take water under the Act	Taking of water in accordance with water licence conditions and other relevant provisions under the Act.
Water Entity - Tasmanian Irrigation Pty. Ltd.	Administration and management of supply of irrigation rights in accordance with the relevant provisions of the Act and the *Irrigation Clauses Act, 1973*	Administration of the supply of irrigation rights (in addition to responsibilities as a water licence holder) in the following Water Districts: • Midlands Irrigation District • Sorell Irrigation District (Note, water supplied to the Sorell Irrigation District is taken from Derwent via pipelines and supplied to this district which lies in the Jordan catchment)