Securing Low Flows Implementation Ecological Prioritisation

DEWNR Technical note 2016/14

Government of South Australia
Department of Environment, Water and Natural Resources

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Douglas Green
Department of Environment, Water and Natural Resources

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Government of South Australia
Department of Environment,
Water and Natural Resources

Department of Environment, Water and Natural Resources

GPO Box 1047, Adelaide SA 5001

Telephone National (08) 8463 6946

International +61 8 8463 6946

Fax National (08) 8463 6999

International +61 8 8463 6999

Website www.environment.sa.gov.au

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Use of this technical note

This Technical note seeks to provide the primary environmental evidence to inform the prioritisation of catchments for roll-out of the securing Low Flows (SLFs) Project. As such, this Technical Note is not intended to solely inform SLF Project roll-out prioritisation, rather, it is intended that this work be considered alongside social and economic considerations (by others) to arrive at the roll-out order.

This Technical Note does not form part of the body of evidence used to support the policy decision to implement low flows across the Mount Lofty Ranges. Rather, this Technical Note is based on the securing low flow policies enacted across the Mount Lofty Ranges, as described in the Water Allocation Plans and Existing User Processes.

The scope of this Technical Note does not extend into informing the SLF Project roll-out, beyond identifying the highest priority catchments for program roll-out (from an environmental risk perspective). Stepping down further in scale to zone-by-zone or dam-by-dam requires further interpretation, for which some superficial examples have been provide in section 4 of this technical note.

Summary

Under the NRM Act (2004) a water allocation plan (WAP) is required to achieve an equitable balance between environmental, social and economic needs when setting out the principles for the take and use of a water resource. In order to achieve this, there is a requirement to undertake an assessment of the quantity and quality of water needed by the ecosystems that depend on the water resource and the times at which, or the periods during which, those ecosystems will need that water and an assessment as to whether the taking or use of water from the resource will have a detrimental effect on the quantity or quality of water that is available from any other water resource (NRM Act 2004, 76(4)(a)). The needs of the water dependent ecosystems (WDEs) are collectively referred to as environmental water requirements (EWRs). Once these EWRs are balanced against social and economic needs, the WAP describes environmental water provisions (EWPs), water that is protected for environmental use.

Previous published work that has informed current WAPs in the Mount Lofty Ranges has demonstrated that, through the provision of low flows, risks to water dependent ecosystems (WDEs) can be significantly reduced while maintaining consumptive use levels similar to that of current consumptive use across much of the areas (Savadamuthu 2007, VanLaarhoven 2012, VanLaarhoven and van der Wielen, 2012). Based on the understanding that environmental risk is reduced while allowing for continued consumptive use, both the existing user licensing processes and the water allocation plans for the prescribed areas in the Mount Lofty Ranges are built on the premise that low flows will be returned to the system from both existing and new dams and diversions. For example, the Marne Saunders (MS) WAP (SAMDB NRMB, 2010), the Eastern Mount Lofty Ranges (EMLR) WAP (SAMDB NRMB, 2013) and the Western Mount Lofty Ranges (WMLR) WAP (AMLR NRMB, 2013) all have policies to ensure the return of low flows to the system from new dams and watercourse diversion; and the extraction limits for surface water and watercourses in these plans are based on an assumption that low flows will be returned at relevant existing dams and watercourse diversions. In addition, the Adelaide and Mount Lofty Ranges (AMLR) and South Australian Murray–Darling Basin (SAMBD) NRM Boards and the Department of Environment, Water and Natural Resources (DEWNR) have a commitment to a program to secure low flows from relevant existing dams and diversions, coordinated by the Government of South Australia under the Securing Low Flows (SLF) Program.

One of the early priorities of the SLF project is to identify the areas where the provision of low flows is most urgent. Across the three prescribed areas there are over 3200 dams and watercourse extractions that could be required to return low flows to the system. The full implementation of the SLF project is expected to take several years, and therefore it is prudent to implement low flows in areas of greatest needs/benefit first. This prioritisation will incorporate several factors including social, economic and environmental drivers and risks. The purpose of this technical note is to identify the priority management zones for low flow provision, based on the level of risk to the WDEs posed by water use within the three PWRAs. It is assumed that the ecosystems at higher levels of risk are those that will degrade soonest and furthest. There are other risks that will need to be considered in the prioritisation process, including social and economic risks. These are not within the scope of this technical note.

Several previous investigations have been undertaken in the three PWRAs examining risks to WDEs, as well as prioritisations for the implementation of low flows. These reports formed the basis for the current work, but their findings were reviewed in light of more recent data and investigations, and the specific needs of the SLF project. For example, this technical note examines the risk at a smaller scale in the Fleurieu Peninsula when compared to the sub-catchment scale used in the WMLR WAP, identifies consequence criteria for the low demand zones of the EMLR PWRA, collates unpublished data for the MS PWRA and uses the resultant updates datasets to complete the assessment of priority areas for low flow provision in each PWRA.

Likelihood and consequence criteria were adopted from previous risk assessments for consistency and applied to the updated datasets. Using a risk matrix, the likelihood and consequence scores were multiplied to provide a priority rating based on the level of risk to the WDEs present. This priority rating provided a coarse rating on a scale of 1 (lowest) to 4 (highest). Further resolution was provided by the risk score (Likelihood score X Consequence score) on a scale of 1 (lowest) to 25 (highest). A final ranking of each zone was provided by ranking the zones within each of the priority ratings by the level of demand within the zone.

The results from the WMLR PWRA showed that from a WDE perspective, the highest priorities for low flow provision are in the Fleurieu Peninsula and in particular in areas of the Inman River, Deep Creek and Carrickalinga Creek. In the EMLR the assessment showed that the highest priority areas are the Angas River and Bremer River Catchments. The results from the MS PWRA illustrate that the highest priority is the M1 region of the Marne River.

The prioritisation presented in this technical note is based solely on the levels of demand in a zone and the value of the WDEs that this demand will impact upon. Rivers are a hierarchical system and downstream zones do not operate in isolation from their headwaters. Considering this when interpreting the results presented is important, as providing low flows in a receiving zone will be dependent on low flows being provided in all upstream zones as well. In order to demonstrate this, several example catchments have been assessed to illustrate possible interpretation of the results.

1 Context

1.1 Water management and securing low flows

The Marne Saunders, Eastern Mount Lofty Ranges and Western Mount Lofty Ranges are all declared under the *Natural Resources Management Act 2004* (the Act) as prescribed water resources areas (PWRA). Under the Act, a water allocation plan (WAP) is required to provide for the effective management of prescribed water resources (Section 76 (4)). As part of the development of a WAP, managers are required to undertake an assessment of the needs of the different users of the water resource, including social, economic and environmental needs (Section 76 (4)(a) and (b)).

In each of the three PWRAs, both the existing user licensing process and the WAP use the same allocation framework to balance social, economic and environmental water needs. In order to minimize the risk to water dependent ecosystems (WDEs) all three PWRA WAPs have policies that relate to the release of low flows. Work undertaken by Savadamuthu (2007), VanLaarhoven (2012) and VanLaarhoven and van der Wielen (2012) and more recently supported by Green et al. (2014) have illustrated that the provision of low flows through the system can result in the significant reduction in the risk to WDEs without compromising the consumptive use.

In the WMLR WAP the surface water extraction limits have been set *at 25% of long-term average annual surface water resource capacity with provision of threshold flows*. In committing to these extraction limits there has been a commitment made to secure low flows from existing dams and diversions across the area. The modelling behind this position assumes low flows are secured from all licensed dams, however there is some potential for more strategic solutions to be explored as part of the Securing Low Flows project. In addition to this, principles 182, 183 and 184 set out that all new dams, walls or structures must not capture, or return as soon as reasonably practical, flows at or below the threshold flow rate with the exception of new dams for non-licensed use under 2 megalitres (ML). (AMLR NRMB, 2013).

In the EMLR WAP the surface water consumptive use limits were set at 20% of long-term average annual surface water resource capacity on the basis that provision would be made for existing licensed dams and diversion structures, and existing non licensed dams with a capacity of 5 ML or greater, to return or not capture flows at or below an identified threshold flow rate. The modelling behind this position assumes low flows are secured from dams and watercourse diversions as above, but as for the WMLR, there may be some potential for more strategic solutions to be explored as part of the Securing Low Flows project. Additionally, principles 207–209 identify that all new dams and watercourse diversions are required to allow flow at or below the threshold flow rate to either pass or be returned downstream as soon as reasonably practical (SAMDB NRMB, 2013).

In the MS WAP the surface water consumptive use limits were set at 30% of long-term average wet season (May–November) resource capacity on the basis that provision would be made for existing licensed dams and diversions to return or not capture flows at or below an identified threshold flow rate. Alternative rules for returning flows can apply in cases where the threshold flow rate is less than 1 L/s. In addition, principles 155–158 requires that all new dams and watercourse extractions must provide threshold flow rates to the system with the exception of sites where the threshold flow rate is less than 1 l/s. In this case other rules apply (SAMDB NRMB, 2010).

As part of the process of implementing threshold flow rates across the Mount Lofty Ranges a joint program was setup called 'Securing Low Flows' (SLFs). This program's goal is to oversee the effective implementation of low flows across the Mount Lofty Ranges.

1.2 This paper

This technical note describes the process that was undertaken to identify the areas where the provision of low flows is most urgent from an ecological perspective. The objective was to prioritise areas within the three WAPs based on existing risk assessments. The final outputs of this technical note are prioritised lists of zones for each of the three PWRAs with notes on the interpretation of the results. This technical note does not examine the social or economic prioritisation of the management zones.

2 Methodology

2.1 Updating previous risk assessments

Risk assessments have been completed on two of the three of the PWRAs in the past. These risk assessments have been designed to establish the risks to WDEs due to existing user demand (EMLR – DEWNR, 2014; WMLR – Wilson and Lovering, in prep.). An unpublished risk assessment has also been done for the Marne Saunders PWRA as part of an earlier project exploring strategic location options for securing low flows (final report, not including risk assessment, published in Alcorn et al. (2012).

All three risk assessments followed broadly similar methodology, using likelihood informed by cumulative potential demand for surface water and watercourse water, and consequence informed by water dependent assets in the area. These were combined using a risk matrix (Table 1). For a more detailed discussion on the likelihood and consequence values, refer to the original risk assessment reports on which this work is based (EMLR – DEWNR, 2014; WMLR – Wilson and Lovering, in prep, MS – Alcorn et al. 2012).

Table 1: Risk assessment matrix used in the risk assessments for the Mount Lofty Ranges

		Consequence				
Likelihood		1	2	3	4	5
Almost Certain	5	**M** (5)	**M** (10)	**H** (15)	**E** (20)	**E** (25)
Likely	4	**L** (4)	**M** (8)	**H** (12)	**H** (16)	**E** (20)
Possible	3	**L** (3)	**M** (6)	**M** (9)	**H** (12)	**H** (15)
Unlikely	2	**L** (2)	**L** (4)	**M** (6)	**M** (8)	**M** (10)
Rare	1	**L** (1)	**L** (2)	**L** (3)	**L** (4)	**M** (5)

Key differences do exist between the methodologies employed between the different PWRAs. One of the key differences between the assessments is how each assessment describes consequence. The risk assessment process for the EMLR and the MS defined the consequence as the presence of an asset/assets within the surface water management zone only. Assets were defined using the criteria presented in section 2.3.2 of the EMLR risk assessment report (DEWNR, 2014). As described in the risk assessment report, the three sets of criteria were based around the presence of fish species (Table 2), the condition of the macroinvertebrate community (Table 3) and the presence of dry season pools and wetlands. The highest consequence from those three was used as the consequence rating.

Table 2: Example consequence criteria for the fish present in the EMLR (taken from DEWNR 2014)

Rating		Examples
5	Catastrophic	River Blackfish, Pygmy Perch
4	Major	Mountain Galaxias, Diadromous species with conservation status above rare (Lampreys, Congolli)
3	Moderate	Freshwater generalist species (Carp Gudgeon, Flathead Gudgeon). Diadromous species (Shortfin Eel, Common Galaxias, Climbing Galaxias). Other migratory species (Murray-Darling Golden Perch). Wetland species with conservation status (Murray Hardyhead, Yarra Pygmy Perch, Chanda Perch, Silver Perch, Freshwater Catfish, Purple-Spotted Gudgeon, Murray Cod)
2	Minor	Euryhaline species (Smallmouth Hardyhead, Gobie). Wetland species (Unspecked Hardyhead, Murray River Rainbow Fish, Bony Bream, Australian Smelt)
1	Insignificant	Exotics only

Table 3: Macroinvertebrate consequence criteria used for the low demand zones for the updates to the EMLR risk assessment based on ratings from the Environment Protection Authority's (EPA) aquatic ecosystem monitoring (EPA, 2014)

Rating		Description
5	Catastrophic	Excellent condition macroinvertebrate community present within the management zone
4	Major	Very good condition macroinvertebrate community present within the management zone
3	Moderate	Good condition macroinvertebrate community present within the management zone
2	Minor	Fair condition macroinvertebrate community present within the management zone
1	Insignificant	Poor or very poor condition macroinvertebrate community present within the management zone

The assessment process in the WMLR assessed demand in the same manner as the EMLR, however, consequence for a management zone was based on the assets it contains, as well as the downstream assets the management zone generates runoff towards, with the final consequence value based upon the highest value achieved. For example, zone A contains assets of minor consequence, and also contributes runoff to a downstream zone that contains assets with major consequence. Zone A would be given a major consequence rating (i.e. takes the same consequence rating of the downstream zone). Alternatively, zone B contains assets of moderate consequence and only contributes runoff to downstream zones that contain assets of minor consequence. Zone B would be given a moderate consequence rating.

The final WMLR consequence score also differed from the method used in the EMLR as multiple high value assets were required to achieve the highest consequence level (Table 4). These criteria were based on three underpinning criteria, the presences of fish species, the condition of the macroinvertebrate community and the presence of wetlands (for details see Wilson and Lovering, in prep.).

Table 4: Consequence criteria used in the WMLR risk assessment drawing on underpinning criteria (wetlands, macroinvertebrate community and fish species) (taken from DEWNR, in prep.)

Consequence	Rating	Description
Very high	5	Generates runoff for multiple assets of high value across different indicator types
High	4	Generates runoff for multiple assets of high value within an indicator type
Moderate	3	Generates runoff for a high value asset
Low	2	Generates runoff for an asset of value
Insignificant or unknown	1	Generates runoff for an asset, although condition is unknown, degraded or not strongly reliant upon runoff OR Generates runoff for no known asset

This project provides priority listings within each PWRA. It is expected that implementation of the program to secure low flows will proceed side-by-side within each NRM region (AMLR and SAMDB), so it isn't necessary to prioritise across all three prescribed areas. The risk assessment process within the two SAMDB prescribed areas (EMLR and MS) is similar enough that the results are comparable across those regions however, the results are intended to produce a relative comparison of priority within each region only. It is important to note that the difference in risk assessment methodology between WMLR and the other regions means that a priority rating of 3 in the WMLR may not necessarily be equivalent to a priority rating of 3 in the EMLR.

2.2 Data gaps

In order to use the existing risk assessments there were some gaps within the data that needed to be filled. These were gaps intentionally left by the original methods as the data were not required at the time.

2.2.1 EMLR

2.2.1.1 Consequence rating for low demand zones

For the EMLR risk assessment, the object was to look at the risk level to WDEs in management zones with demand above the 20% limit set in the WAP and used for existing user licensing. Consequence criteria for the zones with less than 20% demand were not identified in the original report. As part of this technical note it was required that the consequence criteria be applied to these zones.

The consequence criteria were applied as set out in the original report (DEWNR, 2014). In the original report, some of the criteria used for establishing consequence criteria for water dependent assets were not recorded. After discussions with the authors the following criteria was applied (Table 5).

Table 5: Criteria applied to the EMLR water dependent assets for the low demand zones inferred from discussions with the authors

Rating		Examples
5	Catastrophic	Not applied
4	Major	Swamps and/or Wetlands
3	Moderate	Not applied
2	Minor	Permanent Pools (or possible permanent pools based on unmapped 3rd order streams)
1	Insignificant	No assets of concern

2.2.1.2 *Likelihood rating for zones with negligible runoff*

For all of the risk assessments, the likelihood rating is based on the volume of potential surface/watercourse water demand as a percentage of the volume of runoff. Some management zones in the EMLR are considered to produce negligible runoff over the long term, but contain existing water demand (e.g. licensed use or stock and domestic dams). This means a positive demand is an infinite percentage of zero runoff. For the purposes of this project, the likelihood rating was set at a value of 2 in these cases (i.e. as if demand is the same as the limit), in order to give a more realistic prioritisation rating for these cases where water capture is likely to be localised and opportunistic.

2.2.1.3 *Likelihood rating for zones dominated by forestry*

The current project is aimed at identifying areas where returning low flows will have the most benefit first. Low flows can be returned at dams and watercourse diversions, but it isn't practical (or possible) to modify a forest to return low flows. This means that a zone with a high level of demand dominated by forestry may end up with an unrealistically high priority rating for returning low flows, because despite the high demand for water, there is limited ability to return low flows there.

The original EMLR risk assessment work was done to inform the management of high demand for water, and considered different types of surface/watercourse water demand when assigning likelihood ratings, including licensed volumes from dams and watercourses allocated against the consumptive use limit[1], stock and domestic use and assumed evaporation from dams, and interception by commercial forestry. Therefore, for the purposes of this project, forestry water demand was not included as part of the total water demand used to set the likelihood rating for cases where forestry demand made up 75% or more of the total cumulative water demand at the management zone being considered. For the calculations for the Fleurieu Peninsula, forestry demands were removed from the calculations.

2.2.2 Marne Saunders

A risk assessment for the Marne Saunders PWRA had been undertaken but not published as part of an earlier project exploring strategic location options for securing low flows (final report, not including risk assessment work, published as Alcorn et al. 2012). This work has been collated and used in the current project.

The approach follows that used for the EMLR, except that the likelihood rating has been assigned differently to reflect the different consumptive use limits used in the Marne Saunders WAP, as per Table 6.

Table 6: Likelihood categories applied to the data from the MS PWRA

Likelihood	% Demand
Rare	0-4.99
Unlikely	5-19.99
Possible	20-29.99
Likely	30-49.99
Almost Certain	50+

[1] Excluding allocations for opportunistic flood diversions from the lower Angas and Bremer that are allocated from a separate limit

2.2.4 WMLR Fleurieu Peninsula

For the purposes of the WMLR WAP many of the management zones for the Fleurieu Peninsula were set at the catchment level while the larger catchments were split into two zones. For the purposes of prioritizing the location of implementing low flows, the catchment level is too broad and a finer scale was required. This decision was based on current evidence that suggests that the fish populations in some of the Fleurieu Peninsula rivers are currently declining, and the current catchment management zone does not give enough resolution to adequately identify sources of risk. The catchments of the Fleurieu Peninsula were previously divided into smaller zones in the initial draft of the WMLR WAP consulted on in 2010 using the same process as applied across the rest of the WMLR PWRA.

The existing risk assessment (Wilson and Lovering, in prep.) assessed risks to WDEs at the larger management zone scale, while for the purposes of this prioritisation, the smaller zones were used. The most-recent demand data was gathered from regional staff for use for the likelihood criteria. Consequence criteria were derived from updating unpublished work undertaken by the department in 2009 (Retroactive Mount Lofty Ranges Farm Dam Low Flow Bypass Implementation – Priority Zones, Mark Walter, unpublished). This work had the consequence criteria for the smaller Fleurieu Peninsula zones, undertaken before the decision to upscale to catchment zones was made. This information was updated using the most recent fish data and applied using the same approach at the rest of the WMLR risk assessment.

The results of the gap filling process are illustrated in Figure 1 for the WMLR and Figure 2 for the EMLR and Figure 3 for the MS.

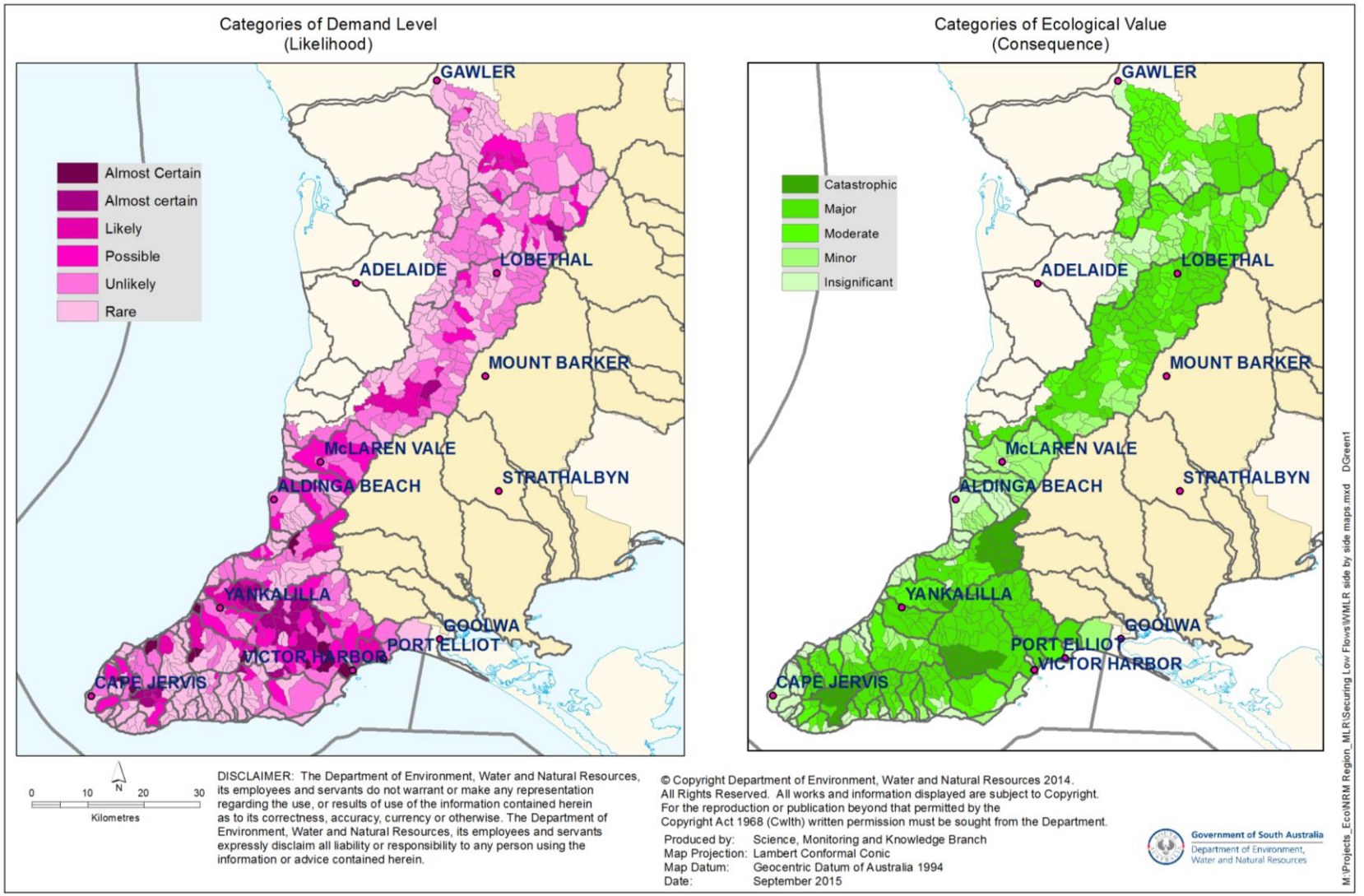

Figure 1: Likelihood and consequence data used to underpin the prioritisation of the implementation of the SLF project in the WMLR PWRA

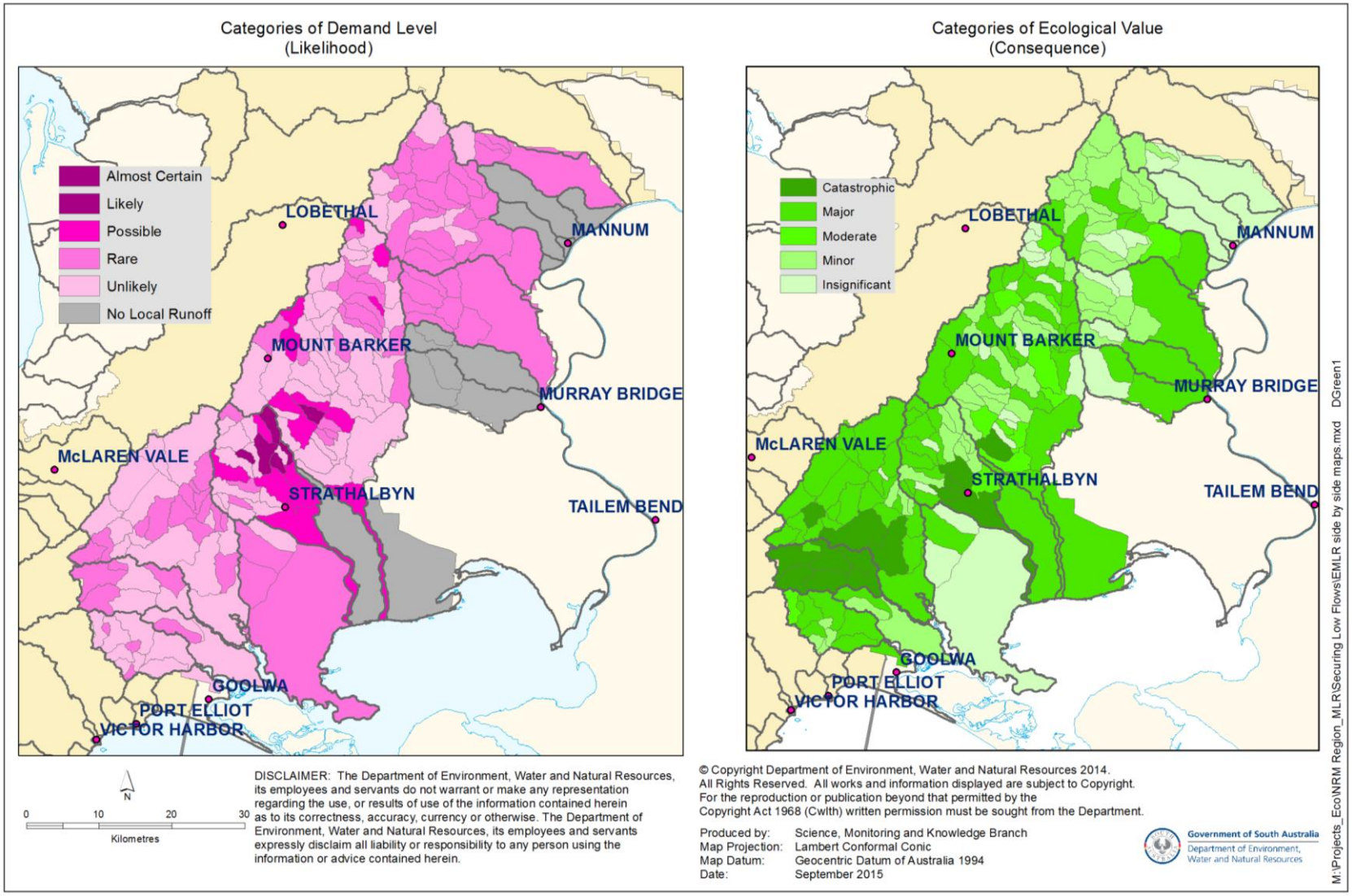

Figure 2: Likelihood and consequence data used to underpin the prioritisation of the implementation of the SLF project in the EMLR PWRA

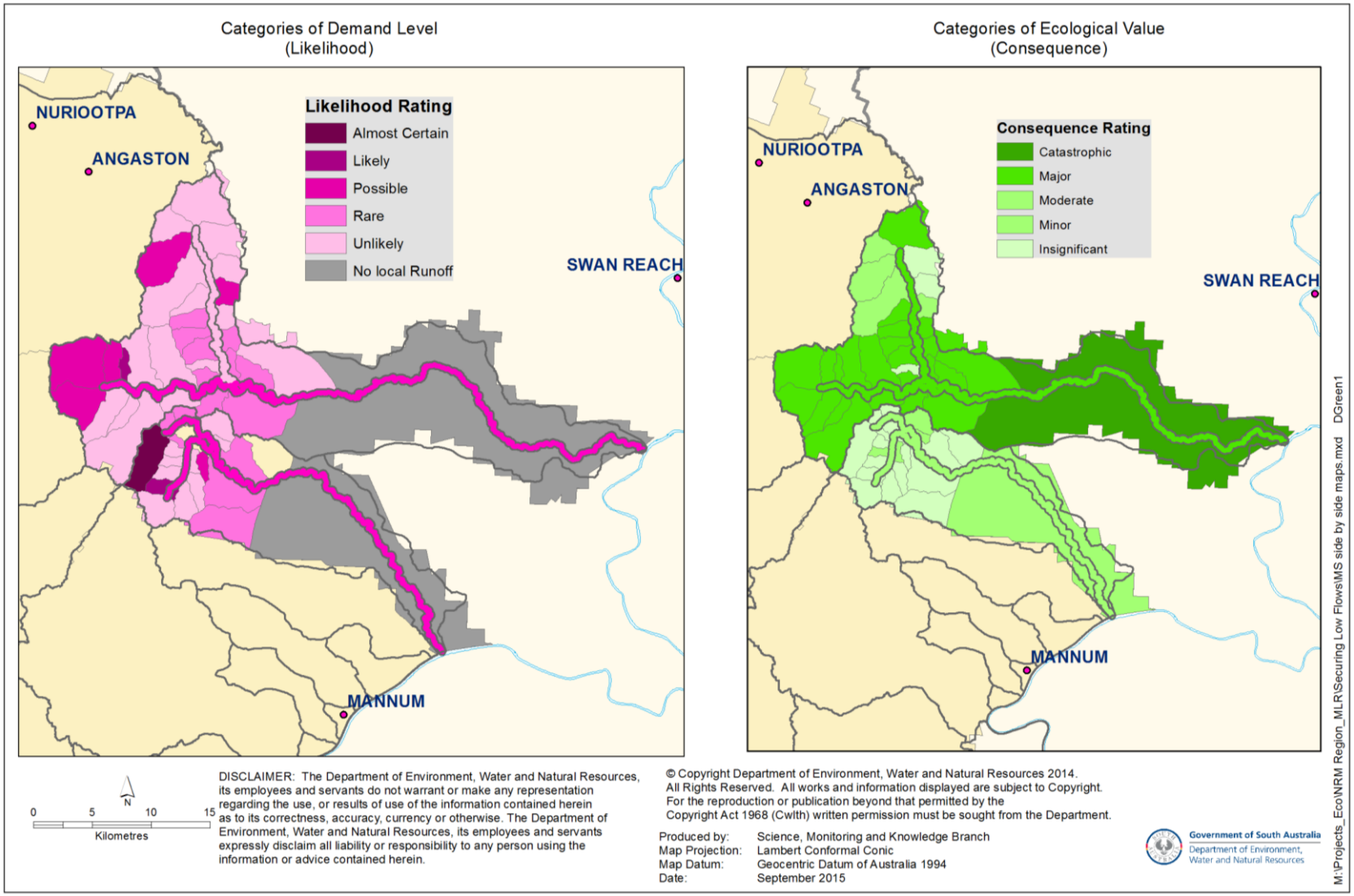

Figure 3: Likelihood and consequence data used to underpin the prioritisation of the implementation of the SLF project in the MA PWRA

2.3 Prioritisation method

The prioritisation was done using three levels. The first was based on the highest level of the risk assessments. In the original documents these were termed low-extreme. For the purposes of this document they were labeled 1 (lowest) – 4 (highest). The second level was based on the risk score that underpinned the risk level. This was found by multiplying the likelihood score (1-5) and the consequence score (1–5). The resulting score was used to break the larger risk categories into smaller categories (Table 7).

Table 7: Risk scores associated with each risk level derived from multiplying the likelihood and consequence criteria scores

Priority rating	Priority score
4	20, 25
3	12, 15, 16
2	5, 6, 8, 10
1	1, 2, 3, 4

The final ordering of the zones was done using the demand percentage as the SLFs project is providing a treatment option to lower the risk based on the likelihood of a loss happening, which is based on the demand level. Overall this process provided a three leveled prioritisation ranging from broad categories to zone by zone prioritisation.

3 Prioritisation results

Overall, 797 management zones were assessed in order to provide an ecological prioritisation for the implementation of the SLF project, being 553 from the WMLR, 194 from the EMLR and 55 from the MS.

The current levels of demand ranged from over 500% down to 0% with 15 zones over 100% demand. The WMLR PWRA had the highest levels of development and the highest number of zones in the highest priority rating. There are 25 zones that were given a priority rating of 4, of these, five were given a priority score of 25, indicating the highest categories of both demand and consequence. A further 48 zones were given a rating of 3.

The EMLR only has one zone with a priority rating of 4, the lowest zone on the Angas River, with a priority score of 20. There are a further 18 zones that are classed as a level 3 priority. These represent the majority of the High Demand Zones presented in DEWNR (2014).

There were no priority 4 zones in the MS PWRA. There were six priority 3 zones.

The results of the prioritisation is presented in figures 4 through 6.

Spatially, there are several areas that stand out as being priority areas for the implementation of the SLFs project. The Fleurieu Peninsula has several catchments that show high priority areas including Deep Creek, Inman River, Carrickalinga Creek and Myponga River. The Marne River in the MS PWRA also shows several zones of high priority in the headwaters. In the EMLR PWRA there is a collection of high priority zones in the Angas River, with some localized areas of high priority in the Bremer Catchment (Rodwell Creek).

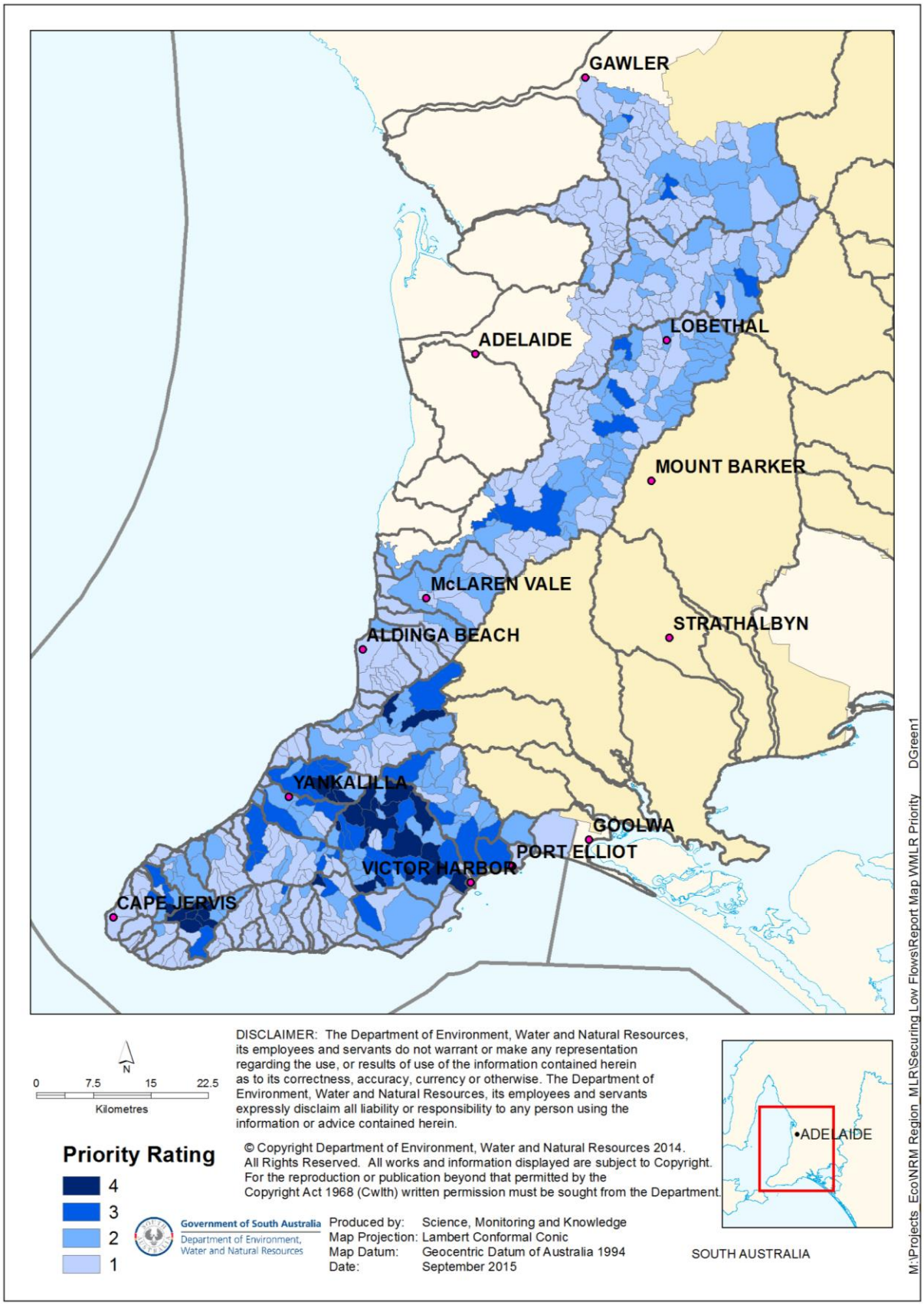

Figure 4: Prioritisation results across the WMLR PWRA

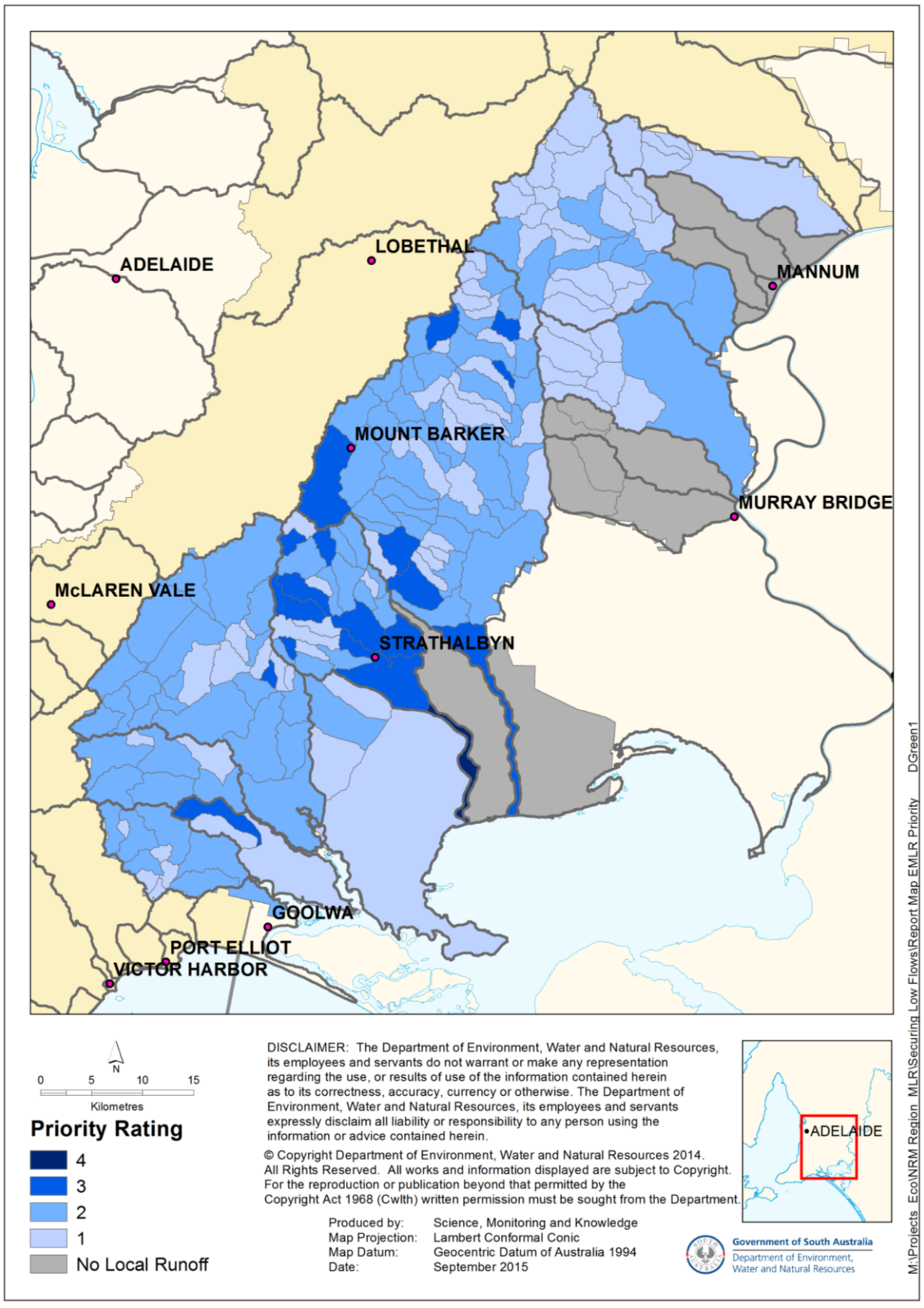

Figure 5: Prioritisation results across the EMLR PWRA

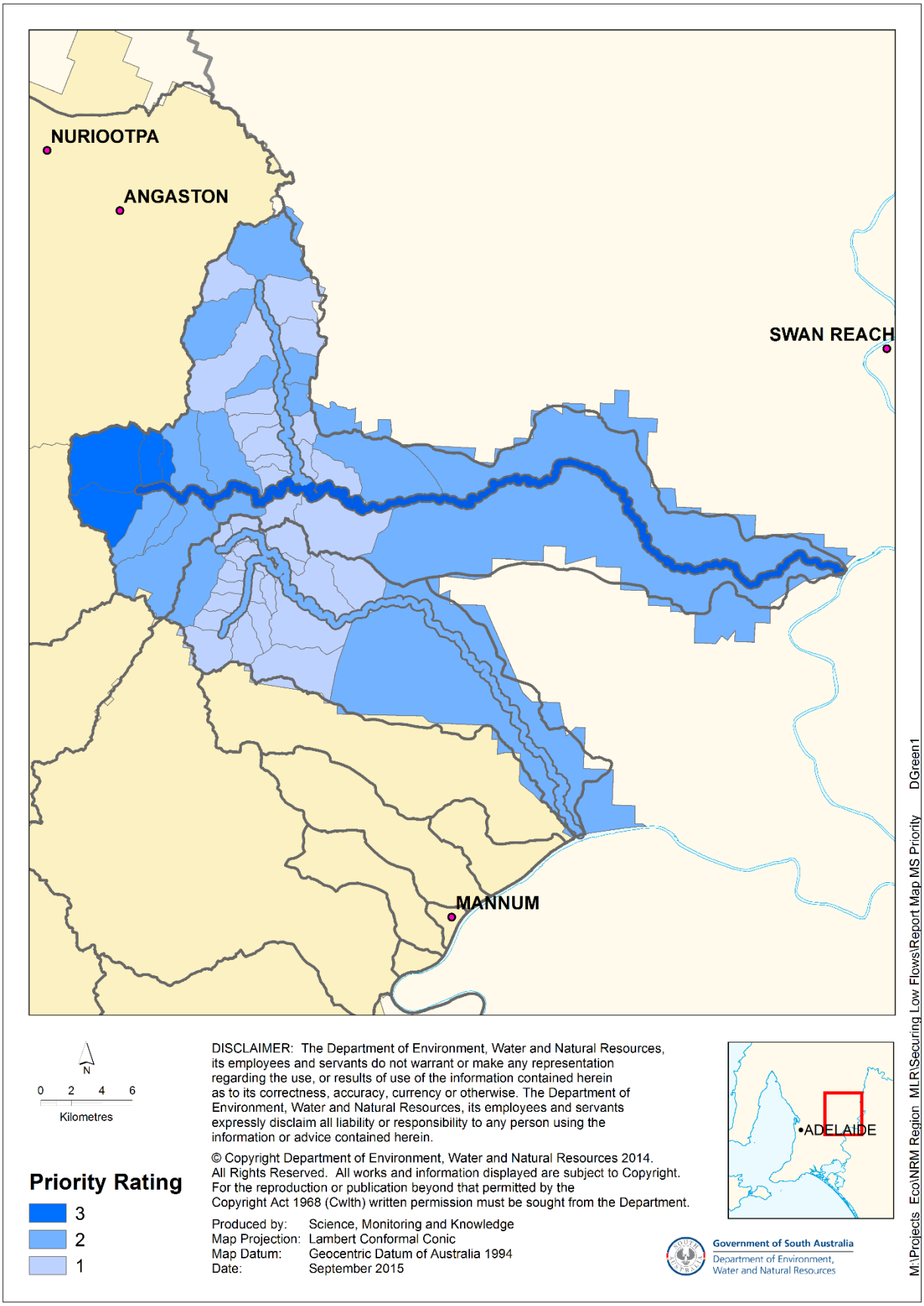

Figure 6: Prioritisation results across the MS PWRA

4 Prioritisation Interpretation

4.1 General result interpretation

The prioritisation presented above requires interpretation as there are elements that differ between the methods used in the WMLR, EMLR and MS risk assessments that underpin this current assessment. In particular, the source of risk to WDEs represented by the prioritisation differs from the WMLR PWRA and the EMLR/MS PWRAs.

In the EMLR and MS PWRAs, the priority rating is based on the cumulative demand and the WDEs present in the zone only. The result of this is that the source of risk represented by the rating may be due to demand upstream of the management zone, demand within the management zone, or both. For this reason it is important to consider upstream demand and priority ratings when considering implementation options. For example, the lowest reach of the Angas River has the highest priority rating (4) as the cumulative demand as a percentage of runoff is high (33.66%) and there are several species of fish of conservation concern leading to the highest consequence rating (refer Table 2). The source of risk to the WDEs in this zone however, is partly from demand within the zone itself, but mostly generated by the cumulative effects of multiple high demand zones upstream.

In the WMLR PWRA, the consequence rating for each zone is based on the highest consequence of that zone plus all downstream zones. This means that the level of priority for that zone may be based on an asset that is further down the catchment. However, the likelihood is calculated based on cumulated demand from upstream zones. For this reason the implementation of the SLFs project needs to be considered to ensure that the implementation of securing low flows represents the source of the risk, rather than where it is realised.

The outcome of this interpretation is that the program to secure low flows needs to consider where action needs to be taken to secure low flows to ensure they flow to the highest priority zones. In addition to this, the process of implementing low flows dictates that the starting point is the headwater catchments to ensure that when low flows are implemented in mid-catchment zones there are flows from upstream to be returned. This may mean that in order to secure low flows in a high priority mid-catchment zone, the first areas to be implemented are zones that represent a lower priority in their own right.

4.2 High priority catchments

Based on the prioritisation presented above there are several catchments that contain a higher proportion of high priority zones than others. These catchments include Deep Creek, Inman River, Carrickalinga Creek, Yohoe Creek and Myponga River in the WMLR and Angas River and Bremer River in the EMLR. For some of these catchments (e.g. Yohoe Creek and Myponga River) the location of the high priority zones are in the headwaters of the systems and the process for securing low flows in these zones is simply to secure low flows within the zone. In other catchments, the high priority zones are towards the lower part of the catchment and the process of securing low flows in these reaches involves implementing low flows higher up the catchment. In the sections below, some of these catchments are examined to illustrate the sources of risk leading to the high priority ratings.

4.2.1 Angas River

The most downstream zone of the Angas River is the highest priority zone in the EMLR PWRA. However, as mentioned above, the reason that this zone is classed as a high priority is due to the cumulative demand from upstream together with local demand, and the ecological assets present in the zone. Securing low flows within this zone alone will not do much to reduce the risk to WDEs as the majority of the risk is from upstream zones. Looking at the priority scores and demand values from the upstream catchment it is apparent that there are two key sources of risk to the downstream zones, the Doctors Creek/Gould Creek sub-catchment and Paris Creek and Middle Creek sub-catchment, represented in the hashed zones of Figure 7. Of these, Paris Creek shows higher demand levels as well as higher ecological value so by securing low flows in these zones would not only lower the risk to the WDEs in these zones but contribute to the lowering of the risk at the bottom of the catchment. Once the low flows have been secured in these areas, the lower zones of the Angas River will be at lower risk allowing for the next priority zone to be addressed.

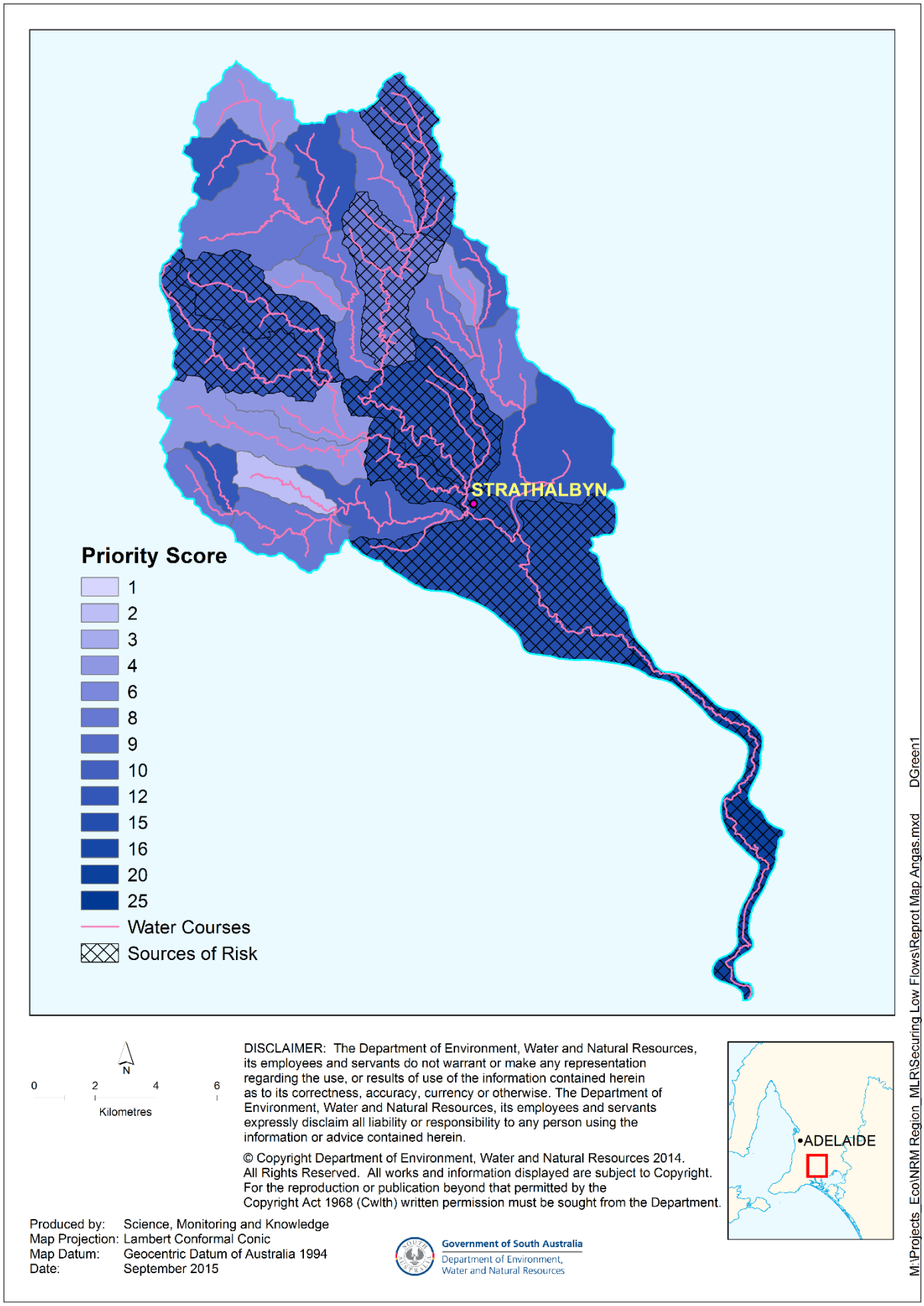

Figure 7: Angas River Catchment illustrating the management zone priorities as well as the sources of risk to the high priority zones, represented by the hatched zones

4.2.2 Bremer River Catchment

The Bremer River Catchment has several zones that are contributing to the high level of risk observed at the end of the catchment. Almost a third of the total cumulative demand comes from within the zone at the end of the catchment. There is only one semi-connected chain of high priority zones linking from headwaters to the bottom of the catchment, Rodwell Creek (Figure 8). Rodwell Creek is an area of high ecological value supporting a population of River Blackfish, it is also an area of moderate demand. There are other areas of high priority in the Bremer Catchment. Western Flat Creek, a tributary of Mt Barker Creek, is noted a zone with important assets as well as high levels of demand. As a headwater zone, the source of risk is contained within the zone. Implementing the SLFs project in this zone will contribute to reducing the risk to WDEs. The demand in this zone is still over the 20% limit and would be subject to the High Demand Zone strategy.

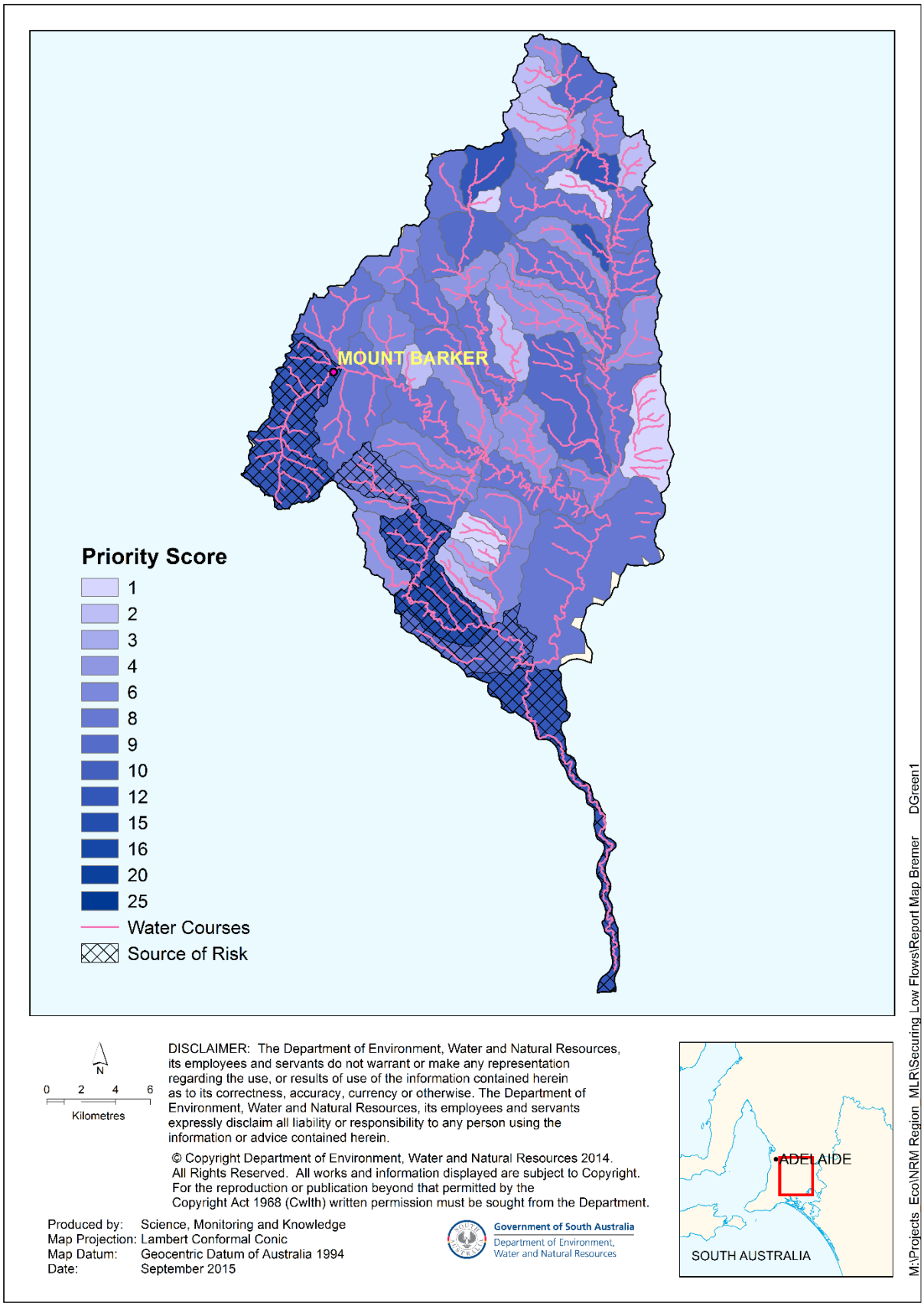

Figure 8: Bremer River Catchment illustrating the management zone priorities as well as the sources of risk to the high priority zones, represented by the hatched zones

4.2.3 Inman River Catchment

The Inman River Catchment has high priority zones in lower, middle and upper areas of the catchment. This is primarily driven by the level of demand within the catchment. There are populations of listed species of fish, as well as wetlands through the catchment, though these areas are generally of lower demand level, reducing their overall priority. This is particularly evident in Back Valley Creek, which has the highest consequence rating for the whole catchment due to a population of Pygmy Perch in the lower reaches of Back Valley Creek but there are only two zones that have demand high enough to cause the priority to be high. Securing low flows for the most downstream zones of the Inman River will require the implementation of low flows through much of the upper Inman River. It is quite apparent that there is a high level of demand in the upper Inman River that perpetuates down the river, causing each of the downstream zones to also be deemed a high likelihood of impact (Figure 9). The presence of wetlands throughout this area provides a high consequence, leading to high risk.

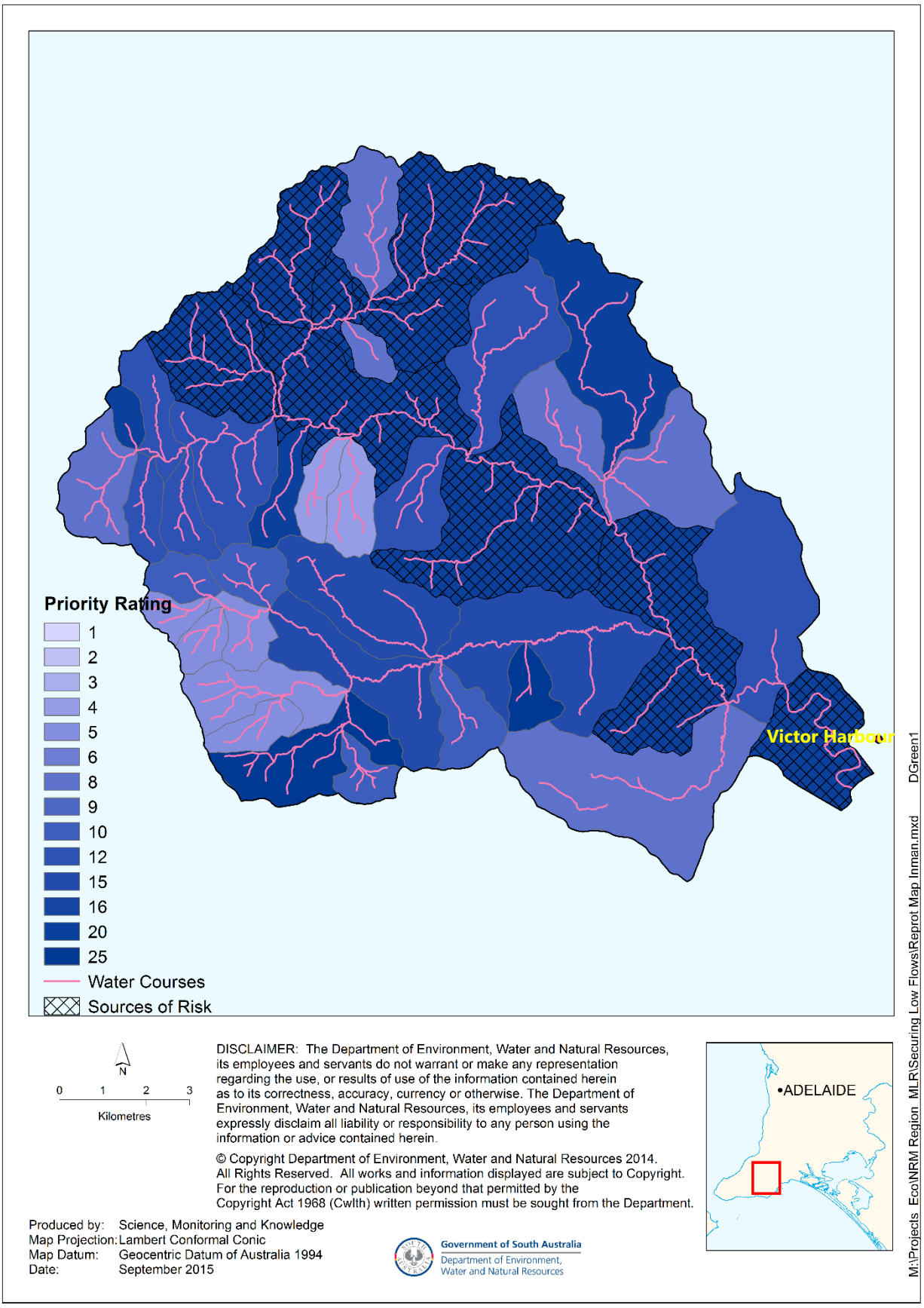

Figure 9: Inman River Catchment illustrating the management zone priorities as well as the sources of risk to the high priority zones, represented by the hatched zones

4.2.4 Carrickalinga Creek Catchment

The majority of Carrickalinga Creek Catchment is shown to be a high priority with three zones given the highest priority rating. The level of demand in these three zones (Figure 10) is in the highest category which is driving the level of likelihood downstream higher. These three zones receive a higher consequence rating due to the presence of wetlands in these zones. By implementing low flows in the southern arm of Carrickalinga Creek shown in Figure 10 the level of risk to these WDEs as well as the high priority zones downstream should be reduced.

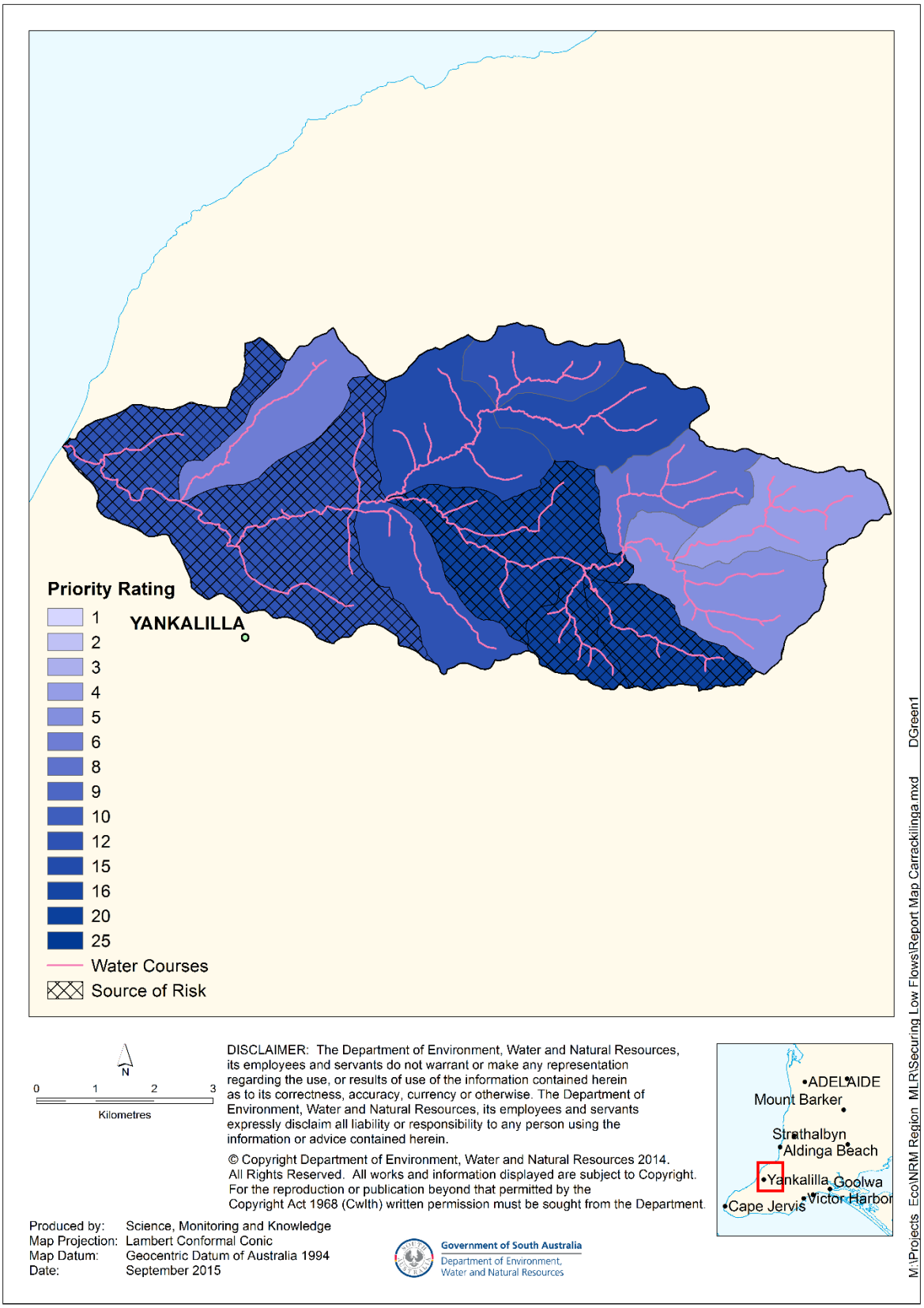

Figure 10: Carrickalinga River Catchment illustrating the management zone priorities as well as the sources of risk to the high priority zones, represented by the hatched zones

4.2.5 Deep Creek Catchment

The high priority level of the lowest zone in Deep Creek Catchment, and the highest level in some of the upstream zones is being driven by a combination of very high levels of demand in the western headwaters and the presence of high value WDEs (Figure 11). To secure low flows in the lowest zone of Deep Creek, low flows need to be implemented in the western headwaters. This will also have the added benefit of addressing the risks to WDEs in these zones.

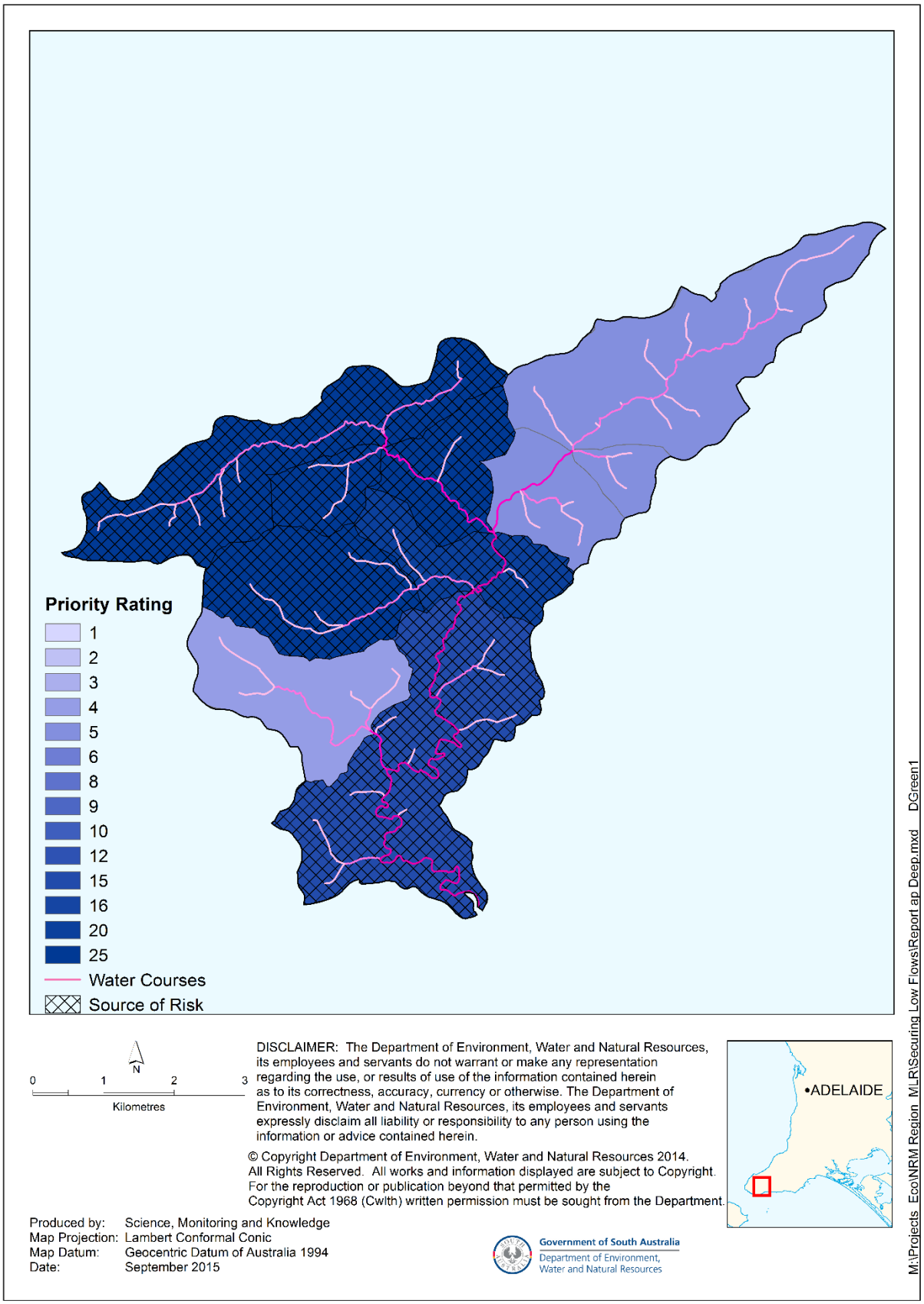

Figure 11: Deep Creek Catchment illustrating the management zone priorities as well as the sources of risk to the high priority zones, represented by the hatched zones

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6 Appendices

6.1 Western Mount Lofty Ranges Management Zone Prioritisation Table

Table 8: Data underpinning the prioritisation process for the WMLR PWRA

Management Zone	Development Level	Likelihood Score	Consequence Score	Likelihood Rating	Consequence Rating	Priority Score	Priority Rating
F_Deep05	192.1	5	5	Almost certain	Catastrophic	25	4
F_Deep08	86.2	5	5	Almost certain	Catastrophic	25	4
F_Deep04	83.9	5	5	Almost certain	Catastrophic	25	4
F_Deep06	79.9	5	5	Almost certain	Catastrophic	25	4
F_Inman37	75.8	5	5	Almost Certain	Catastrophic	25	4
F_Inman32	66.3	5	5	Almost certain	Catastrophic	25	4
F_Inman03	435.1	5	4	Almost certain	Major	20	4
F_CarC02	188.0	5	4	Almost certain	Major	20	4
F_CarC01	167.4	5	4	Almost certain	Major	20	4
F_Inman01	164.1	5	4	Almost certain	Major	20	4
F_Inman05	160.4	5	4	Almost certain	Major	20	4
F_Yoho03	153.1	5	4	Almost Certain	Major	20	4
F_Inman15	114.6	5	4	Almost certain	Major	20	4
F_Inman10	107.9	5	4	Almost certain	Major	20	4
F_Inman07	90.9	5	4	Almost certain	Major	20	4
F_Inman08	85.0	5	4	Almost certain	Major	20	4
F_Inman23	79.3	5	4	Almost certain	Major	20	4
F_Inman06	79.0	5	4	Almost certain	Major	20	4
F_Mypo04	74.4	5	4	Almost Certain	Major	20	4
F_Inman38	70.7	5	4	Almost Certain	Major	20	4
F_Inman20	68.9	5	4	Almost certain	Major	20	4
F_Cool03	65.0	5	4	Almost certain	Major	20	4
F_CarC06	56.8	5	4	Almost certain	Major	20	4
F_Inman41	55.0	5	4	Almost Certain	Major	20	4
F_Deep07	49.9	4	5	Likely	Catastrophic	20	4
F_Mypo09	44.9	4	5	Likely	Catastrophic	20	4
F_Yoho04	52.2	4	4	Likely	Major	16	3
O_OM08	47.7	4	4	Likely	Major	16	3
O_OM09	45.6	4	4	Likely	Major	16	3
F_Yank23	514.4	5	3	Almost Certain	Moderate	15	3
F_Yank24	209.6	5	3	Almost Certain	Moderate	15	3
F_Salt01	171.1	5	3	Almost Certain	Moderate	15	3
F_Yank02	136.4	5	3	Almost Certain	Moderate	15	3
F_Yank06	111.7	5	3	Almost Certain	Moderate	15	3
F_CarC08	72.5	5	3	Almost certain	Moderate	15	3
T_Cud06	68.2	5	3	Almost certain	Moderate	15	3
F_CarC09	66.9	5	3	Almost certain	Moderate	15	3

F_Deep10	37.6	3	5	Possible	Catastrophic	15	3
F_Inman36	36.0	3	5	Possible	Catastrophic	15	3
F_Inman34	27.2	3	5	Possible	Catastrophic	15	3
F_Inman29	26.8	3	5	Possible	Catastrophic	15	3
F_Mypo01	25.7	3	5	Possible	Catastrophic	15	3
F_Yank25	53.4	4	3	Likely	Moderate	12	3
S_MC02	52.2	4	3	Likely	Moderate	12	3
F_CarC12	51.2	4	3	Likely	Moderate	12	3
S_UC03	46.7	4	3	Likely	Moderate	12	3
F_Yank08	45.2	4	3	Likely	Moderate	12	3
F_CarC10	45.2	4	3	Likely	Moderate	12	3
F_Brow01	41.9	4	3	Likely	Moderate	12	3
F_CarC07	41.9	4	3	Likely	Moderate	12	3
F_Hind20	38.6	3	4	Possible	Major	12	3
F_Yoho05	37.1	3	4	Possible	Major	12	3
O_WB07	36.3	3	4	Possible	Major	12	3
F_Inman12	33.2	3	4	Possible	Major	12	3
F_Inman40	32.7	3	4	Possible	Major	12	3
F_Bung09	32.7	3	4	Possible	Major	12	3
F_Cool05	31.9	3	4	Possible	Major	12	3
F_Bung06	30.9	3	4	Possible	Major	12	3
F_Wait02	30.2	3	4	Possible	Major	12	3
F_Inman18	29.8	3	4	Possible	Major	12	3
F_Hind19	29.0	3	4	Possible	Major	12	3
F_Inman11	28.9	3	4	Possible	Major	12	3
O_LW04	28.3	3	4	Possible	Major	12	3
T_MP01	28.3	3	4	Possible	Major	12	3
F_Yoho07	28.1	3	4	Possible	Major	12	3
O_WB02	28.0	3	4	Possible	Major	12	3
F_Hind15	27.6	3	4	Possible	Major	12	3
F_TunC02	27.5	3	4	Possible	Major	12	3
F_Hind02	26.5	3	4	Possible	Major	12	3
F_Inman13	25.9	3	4	Possible	Major	12	3
O_UP04	25.3	3	4	Possible	Major	12	3
F_Inman19	25.1	3	4	Possible	Major	12	3
F_Inman14	25.0	3	4	Possible	Major	12	3
F_Bung01	24.2	3	4	Possible	Major	12	3
F_Link01	202.1	5	2	Almost Certain	Minor	10	2
F_Para02	71.1	5	2	Almost Certain	Minor	10	2
O_EC07	59.7	5	2	Almost certain	Minor	10	2
F_Mypo03	23.8	2	5	Unlikely	Catastrophic	10	2
F_Mypo08	19.7	2	5	Unlikely	Catastrophic	10	2
F_Inman35	18.6	2	5	Unlikely	Catastrophic	10	2
F_Mypo02	17.7	2	5	Unlikely	Catastrophic	10	2
F_Inman24	13.9	2	5	Unlikely	Catastrophic	10	2
F_Inman28	11.5	2	5	Unlikely	Catastrophic	10	2

F_Inman33	11.5	2	5	Unlikely	Catastrophic	10	2
F_Yank07	38.9	3	3	Possible	Moderate	9	2
S_UC01	38.3	3	3	Possible	Moderate	9	2
S_UC04	36.8	3	3	Possible	Moderate	9	2
S_UC06	35.7	3	3	Possible	Moderate	9	2
T_Cud07	32.8	3	3	Possible	Moderate	9	2
F_Yank05	26.0	3	3	Possible	Moderate	9	2
F_AnaC11	52.3	4	2	Likely	Minor	8	2
O_BK01	46.4	4	2	Likely	Minor	8	2
S_MC14	41.1	4	2	Likely	Minor	8	2
O_EC08	40.2	4	2	Likely	Minor	8	2
F_Mypo10	24.4	2	4	Unlikely	Major	8	2
O_IV02	24.3	2	4	Unlikely	Major	8	2
F_Bung04	24.3	2	4	Unlikely	Major	8	2
F_Inman09	23.9	2	4	Unlikely	Major	8	2
O_WB06	22.5	2	4	Unlikely	Major	8	2
F_Hind12	21.1	2	4	Unlikely	Major	8	2
F_Yank16	20.5	2	4	Unlikely	Major	8	2
F_Yatt01	20.5	2	4	Unlikely	Major	8	2
T_MP03	20.3	2	4	Unlikely	Major	8	2
F_Hind17	20.2	2	4	Unlikely	Major	8	2
F_Mypo24	20.1	2	4	Unlikely	Major	8	2
F_Bung08	20.0	2	4	Unlikely	Major	8	2
F_Hind05	19.5	2	4	Unlikely	Major	8	2
O_WB08	19.2	2	4	Unlikely	Major	8	2
F_Hind18	19.2	2	4	Unlikely	Major	8	2
F_CarC05	19.0	2	4	Unlikely	Major	8	2
O_LW06	18.8	2	4	Unlikely	Major	8	2
T_Bir04	18.6	2	4	Unlikely	Major	8	2
F_Bung07	18.5	2	4	Unlikely	Major	8	2
O_LW05	18.3	2	4	Unlikely	Major	8	2
O_CH03	18.3	2	4	Unlikely	Major	8	2
O_LW03	17.7	2	4	Unlikely	Major	8	2
O_LW01	17.6	2	4	Unlikely	Major	8	2
O_UP02	17.5	2	4	Unlikely	Major	8	2
F_Hind13	17.2	2	4	Unlikely	Major	8	2
F_Bung05	17.2	2	4	Unlikely	Major	8	2
O_BH01	16.7	2	4	Unlikely	Major	8	2
O_LW02	16.7	2	4	Unlikely	Major	8	2
F_Yoho01	16.3	2	4	Unlikely	Major	8	2
O_IV04	15.9	2	4	Unlikely	Major	8	2
F_Inman22	15.8	2	4	Unlikely	Major	8	2
F_Hind04	15.8	2	4	Unlikely	Major	8	2
O_UP03	15.7	2	4	Unlikely	Major	8	2
F_Inman02	15.7	2	4	Unlikely	Major	8	2
T_MP02	15.6	2	4	Unlikely	Major	8	2

F_Cool06	14.9	2	4	Unlikely	Major	8	2
O_CH02	14.8	2	4	Unlikely	Major	8	2
O_UP09	14.8	2	4	Unlikely	Major	8	2
F_Call01	14.7	2	4	Unlikely	Major	8	2
T_Bir05	14.6	2	4	Unlikely	Major	8	2
F_Hind06	14.5	2	4	Unlikely	Major	8	2
O_MT03	14.4	2	4	Unlikely	Major	8	2
O_CH07	14.4	2	4	Unlikely	Major	8	2
T_Bir01	14.3	2	4	Unlikely	Major	8	2
F_Yank17	14.3	2	4	Unlikely	Major	8	2
O_IV03	14.1	2	4	Unlikely	Major	8	2
F_Inman39	13.9	2	4	Unlikely	Major	8	2
F_Inman04	13.3	2	4	Unlikely	Major	8	2
F_Hind07	13.2	2	4	Unlikely	Major	8	2
O_MT01	13.1	2	4	Unlikely	Major	8	2
O_WB05	12.6	2	4	Unlikely	Major	8	2
O_HD01	12.5	2	4	Unlikely	Major	8	2
O_UP01	12.3	2	4	Unlikely	Major	8	2
T_Bir03	12.2	2	4	Unlikely	Major	8	2
F_Inman21	12.1	2	4	Unlikely	Major	8	2
F_Yoho02	11.9	2	4	Unlikely	Major	8	2
F_Hind16	11.8	2	4	Unlikely	Major	8	2
O_CH08	11.7	2	4	Unlikely	Major	8	2
F_TunC04	11.6	2	4	Unlikely	Major	8	2
O_IV01	11.3	2	4	Unlikely	Major	8	2
O_CH06	11.3	2	4	Unlikely	Major	8	2
F_Midd01	11.1	2	4	Unlikely	Major	8	2
O_HD02	10.7	2	4	Unlikely	Major	8	2
O_CH09	10.6	2	4	Unlikely	Major	8	2
F_Hind03	10.3	2	4	Unlikely	Major	8	2
F_Hind08	10.2	2	4	Unlikely	Major	8	2
T_Six02	10.1	2	4	Unlikely	Major	8	2
O_WB03	10.1	2	4	Unlikely	Major	8	2
W_Ingl06	39.4	3	2	Possible	Minor	6	2
W_Pedl01	37.8	3	2	Possible	Minor	6	2
W_Pedl08	37.4	3	2	Possible	Minor	6	2
W_Pedl09	35.5	3	2	Possible	Minor	6	2
W_Ingl07	34.0	3	2	Possible	Minor	6	2
W_Pedl13	32.4	3	2	Possible	Minor	6	2
T_Kan01	31.7	3	2	Possible	Minor	6	2
W_Robs01	31.6	3	2	Possible	Minor	6	2
W_Pedl12	30.0	3	2	Possible	Minor	6	2
W_Ingl04	28.8	3	2	Possible	Minor	6	2
F_Yank13	27.2	3	2	Possible	Minor	6	2
S_MC18	26.6	3	2	Possible	Minor	6	2
T_Cud01	26.5	3	2	Possible	Minor	6	2

T_Kan04	25.5	3	2	Possible	Minor	6	2
F_Mypo12	23.7	2	3	Unlikely	Moderate	6	2
S_UC02	23.6	2	3	Unlikely	Moderate	6	2
T_Mil02	23.5	2	3	Unlikely	Moderate	6	2
S_LC25	21.3	2	3	Unlikely	Moderate	6	2
F_CarC11	21.2	2	3	Unlikely	Moderate	6	2
O_OM01	20.7	2	3	Unlikely	Moderate	6	2
S_MC01	19.5	2	3	Unlikely	Moderate	6	2
F_Yatt02	19.0	2	3	Unlikely	Moderate	6	2
S_MC03	17.3	2	3	Unlikely	Moderate	6	2
L_ULP04	16.1	2	3	Unlikely	Moderate	6	2
T_Cud05	15.4	2	3	Unlikely	Moderate	6	2
F_Wait04	15.2	2	3	Unlikely	Moderate	6	2
F_Yatt06	14.7	2	3	Unlikely	Moderate	6	2
F_Yatt04	14.6	2	3	Unlikely	Moderate	6	2
S_MC04	14.5	2	3	Unlikely	Moderate	6	2
F_Mypo11	14.3	2	3	Unlikely	Moderate	6	2
O_OM03	14.2	2	3	Unlikely	Moderate	6	2
O_BF03	14.1	2	3	Unlikely	Moderate	6	2
S_MC06	13.9	2	3	Unlikely	Moderate	6	2
S_MC09	13.8	2	3	Unlikely	Moderate	6	2
T_Han01	13.7	2	3	Unlikely	Moderate	6	2
O_BF06	13.5	2	3	Unlikely	Moderate	6	2
O_OM07	13.3	2	3	Unlikely	Moderate	6	2
F_Yatt03	13.0	2	3	Unlikely	Moderate	6	2
O_BF04	12.9	2	3	Unlikely	Moderate	6	2
F_Para01	12.8	2	3	Unlikely	Moderate	6	2
O_OM02	12.5	2	3	Unlikely	Moderate	6	2
T_Bir07	12.1	2	3	Unlikely	Moderate	6	2
F_Blow02	12.0	2	3	Unlikely	Moderate	6	2
O_OM04	11.1	2	3	Unlikely	Moderate	6	2
S_LC07	11.1	2	3	Unlikely	Moderate	6	2
T_Mil03	11.1	2	3	Unlikely	Moderate	6	2
F_Wait03	10.7	2	3	Unlikely	Moderate	6	2
O_OM06	10.7	2	3	Unlikely	Moderate	6	2
O_BF01	10.6	2	3	Unlikely	Moderate	6	2
F_Inman30	9.3	1	5	Rare	Catastrophic	5	2
F_Inman31	8.8	1	5	Rare	Catastrophic	5	2
F_Inman27	7.4	1	5	Rare	Catastrophic	5	2
F_Inman25	7.2	1	5	Rare	Catastrophic	5	2
F_Mypo05	6.3	1	5	Rare	Catastrophic	5	2
F_CarC04	6.0	1	5	Rare	Catastrophic	5	2
F_Deep03	4.9	1	5	Rare	Catastrophic	5	2
F_Deep01	4.6	1	5	Rare	Catastrophic	5	2
O_SC01	4.5	1	5	Rare	Catastrophic	5	2
O_SC02	3.8	1	5	Rare	Catastrophic	5	2

F_Deep02	3.5	1	5	Rare	Catastrophic	5	2
O_SC03	3.1	1	5	Rare	Catastrophic	5	2
F_Mypo07	2.7	1	5	Rare	Catastrophic	5	2
F_Mypo06	2.0	1	5	Rare	Catastrophic	5	2
F_Inman26	0.7	1	5	Rare	Catastrophic	5	2
F_Salt03	50.2	4	1	Likely	Insignificant	4	1
S_UC05	49.9	4	1	Likely	Insignificant	4	1
W_Ingl05	25.0	2	2	Unlikely	Minor	4	1
W_Pedl06	23.7	2	2	Unlikely	Minor	4	1
F_Yatt07	23.0	2	2	Unlikely	Minor	4	1
F_Yank15	22.1	2	2	Unlikely	Minor	4	1
W_Pedl10	22.0	2	2	Unlikely	Minor	4	1
S_MC08	21.9	2	2	Unlikely	Minor	4	1
O_BK04	21.4	2	2	Unlikely	Minor	4	1
O_OM11	20.8	2	2	Unlikely	Minor	4	1
O_OM12	20.4	2	2	Unlikely	Minor	4	1
S_MC19	20.1	2	2	Unlikely	Minor	4	1
T_Cud08	20.1	2	2	Unlikely	Minor	4	1
O_BK07	19.9	2	2	Unlikely	Minor	4	1
O_BK08	19.5	2	2	Unlikely	Minor	4	1
O_OM08a	19.2	2	2	Unlikely	Minor	4	1
T_Cud02	19.1	2	2	Unlikely	Minor	4	1
O_EC02	18.5	2	2	Unlikely	Minor	4	1
F_Yank21	18.3	2	2	Unlikely	Minor	4	1
O_BK06	18.3	2	2	Unlikely	Minor	4	1
T_Cud04	16.7	2	2	Unlikely	Minor	4	1
T_Ker05	15.6	2	2	Unlikely	Minor	4	1
O_EC04	15.6	2	2	Unlikely	Minor	4	1
O_BK03	15.0	2	2	Unlikely	Minor	4	1
W_Ingl01	14.7	2	2	Unlikely	Minor	4	1
O_EC06	14.5	2	2	Unlikely	Minor	4	1
S_MC20	14.3	2	2	Unlikely	Minor	4	1
S_MC16	14.1	2	2	Unlikely	Minor	4	1
L_ULP06	14.1	2	2	Unlikely	Minor	4	1
T_Foo02	12.9	2	2	Unlikely	Minor	4	1
O_EC03	12.8	2	2	Unlikely	Minor	4	1
O_EC05	12.7	2	2	Unlikely	Minor	4	1
S_MC17	12.3	2	2	Unlikely	Minor	4	1
F_Yank20	12.3	2	2	Unlikely	Minor	4	1
T_Kan02	11.9	2	2	Unlikely	Minor	4	1
W_Pedl11	11.7	2	2	Unlikely	Minor	4	1
S_MC10	11.7	2	2	Unlikely	Minor	4	1
T_Gum03	11.2	2	2	Unlikely	Minor	4	1
T_Gum04	11.1	2	2	Unlikely	Minor	4	1
T_Gum01	10.6	2	2	Unlikely	Minor	4	1
W_Pedl07	10.2	2	2	Unlikely	Minor	4	1

T_Gum02	10.2	2	2	Unlikely	Minor	4	1
F_Cool04	10.0	1	4	Rare	Major	4	1
F_Inman16	9.9	1	4	Rare	Major	4	1
F_Blow01	9.8	1	4	Rare	Major	4	1
O_CH05	9.8	1	4	Rare	Major	4	1
F_Mypo17	9.7	1	4	Rare	Major	4	1
O_HD04	9.2	1	4	Rare	Major	4	1
O_UP06	9.0	1	4	Rare	Major	4	1
T_Six01	9.0	1	4	Rare	Major	4	1
F_Wait01	8.9	1	4	Rare	Major	4	1
T_Six08	8.8	1	4	Rare	Major	4	1
O_MT02	8.5	1	4	Rare	Major	4	1
O_CH04	8.4	1	4	Rare	Major	4	1
T_Six06	8.3	1	4	Rare	Major	4	1
F_AnaC01	8.3	1	4	Rare	Major	4	1
F_Hind09	8.2	1	4	Rare	Major	4	1
F_Yoho06	8.1	1	4	Rare	Major	4	1
F_TunC03	8.0	1	4	Rare	Major	4	1
T_Six03	7.6	1	4	Rare	Major	4	1
O_HD03	7.6	1	4	Rare	Major	4	1
F_Yank14	7.4	1	4	Rare	Major	4	1
F_Hind10	7.4	1	4	Rare	Major	4	1
F_Bung02	7.1	1	4	Rare	Major	4	1
T_Bir02	7.1	1	4	Rare	Major	4	1
F_Bung03	7.0	1	4	Rare	Major	4	1
O_CX02	6.8	1	4	Rare	Major	4	1
O_WB04	6.3	1	4	Rare	Major	4	1
F_Inman17	6.1	1	4	Rare	Major	4	1
F_Mypo18	6.0	1	4	Rare	Major	4	1
F_TunC07	5.7	1	4	Rare	Major	4	1
O_UP07	5.7	1	4	Rare	Major	4	1
F_Call02	5.6	1	4	Rare	Major	4	1
F_CarC03	5.5	1	4	Rare	Major	4	1
F_Hind14	5.4	1	4	Rare	Major	4	1
O_WB01	5.3	1	4	Rare	Major	4	1
T_Six05	5.3	1	4	Rare	Major	4	1
O_CX05	5.2	1	4	Rare	Major	4	1
F_Cool02	5.2	1	4	Rare	Major	4	1
F_TunC09	4.9	1	4	Rare	Major	4	1
O_CH01	4.9	1	4	Rare	Major	4	1
F_Mypo23	4.9	1	4	Rare	Major	4	1
F_Yank18	4.8	1	4	Rare	Major	4	1
F_AarT04	4.8	1	4	Rare	Major	4	1
O_UP05	4.6	1	4	Rare	Major	4	1
F_TunC01	4.5	1	4	Rare	Major	4	1
O_CX04	4.1	1	4	Rare	Major	4	1

F_TunB01	3.9	1	4	Rare	Major	4	1
O_UP08	3.9	1	4	Rare	Major	4	1
F_Cool08	3.7	1	4	Rare	Major	4	1
F_First01	3.7	1	4	Rare	Major	4	1
O_CX03	3.6	1	4	Rare	Major	4	1
F_Yank01	3.4	1	4	Rare	Major	4	1
F_Hind11	3.4	1	4	Rare	Major	4	1
F_Yank19	3.3	1	4	Rare	Major	4	1
F_Cool09	3.2	1	4	Rare	Major	4	1
F_Ball02	3.2	1	4	Rare	Major	4	1
O_CX07	3.2	1	4	Rare	Major	4	1
F_Cool01	3.1	1	4	Rare	Major	4	1
F_BoHC03	2.6	1	4	Rare	Major	4	1
F_Hind01	2.6	1	4	Rare	Major	4	1
F_BoHC01	2.5	1	4	Rare	Major	4	1
F_Yank09	2.4	1	4	Rare	Major	4	1
F_TunC06	2.3	1	4	Rare	Major	4	1
T_Six07	2.3	1	4	Rare	Major	4	1
F_Ball01	2.2	1	4	Rare	Major	4	1
F_BoHC04	2.1	1	4	Rare	Major	4	1
F_BoHC02	2.1	1	4	Rare	Major	4	1
O_CX06	1.8	1	4	Rare	Major	4	1
F_Call03	1.6	1	4	Rare	Major	4	1
F_Yank10	1.6	1	4	Rare	Major	4	1
F_Deep09	1.4	1	4	Rare	Major	4	1
F_Tapa01	1.4	1	4	Rare	Major	4	1
O_AG03	1.4	1	4	Rare	Major	4	1
F_Yank11	1.0	1	4	Rare	Major	4	1
F_AnaC04	1.0	1	4	Rare	Major	4	1
F_TunC05	1.0	1	4	Rare	Major	4	1
O_AG02	0.9	1	4	Rare	Major	4	1
F_AnaC02	0.9	1	4	Rare	Major	4	1
O_CX01	0.8	1	4	Rare	Major	4	1
O_AG01	0.6	1	4	Rare	Major	4	1
T_Six04	0.5	1	4	Rare	Major	4	1
F_AnaC03	0.0	1	4	Rare	Major	4	1
F_Link02	0.0	1	4	Rare	Major	4	1
F_Fish01	33.6	3	1	Possible	Insignificant	3	1
W_Will01	32.7	3	1	Possible	Insignificant	3	1
F_Mypo19	28.7	3	1	Possible	Insignificant	3	1
S_MC23	27.6	3	1	Possible	Insignificant	3	1
F_Salt05	27.5	3	1	Possible	Insignificant	3	1
W_Will06	27.2	3	1	Possible	Insignificant	3	1
W_Will07	26.7	3	1	Possible	Insignificant	3	1
W_Will08	26.7	3	1	Possible	Insignificant	3	1
F_Mypo13	9.7	1	3	Rare	Moderate	3	1

T_Ang02	9.7	1	3	Rare	Moderate	3	1
O_BF02	9.4	1	3	Rare	Moderate	3	1
F_Yatt05	9.2	1	3	Rare	Moderate	3	1
S_LC14	9.2	1	3	Rare	Moderate	3	1
T_Mil04	9.1	1	3	Rare	Moderate	3	1
T_Mil05	9.0	1	3	Rare	Moderate	3	1
T_Han02	8.7	1	3	Rare	Moderate	3	1
S_LC09	8.4	1	3	Rare	Moderate	3	1
F_Mypo15	8.2	1	3	Rare	Moderate	3	1
T_Six09	8.2	1	3	Rare	Moderate	3	1
O_BF05	7.9	1	3	Rare	Moderate	3	1
F_Yank12	7.8	1	3	Rare	Moderate	3	1
F_Blow03	7.6	1	3	Rare	Moderate	3	1
O_AN02	7.3	1	3	Rare	Moderate	3	1
L_ULP03	7.1	1	3	Rare	Moderate	3	1
S_LC02	6.8	1	3	Rare	Moderate	3	1
S_LC08	6.5	1	3	Rare	Moderate	3	1
T_Ang01	6.2	1	3	Rare	Moderate	3	1
F_Cool07	6.0	1	3	Rare	Moderate	3	1
S_LC03	5.6	1	3	Rare	Moderate	3	1
S_LC12	5.6	1	3	Rare	Moderate	3	1
F_Mypo16	5.5	1	3	Rare	Moderate	3	1
S_LC05	5.5	1	3	Rare	Moderate	3	1
T_Bir06	5.4	1	3	Rare	Moderate	3	1
F_AarT01	5.3	1	3	Rare	Moderate	3	1
T_Ken01	5.3	1	3	Rare	Moderate	3	1
S_LC26	4.9	1	3	Rare	Moderate	3	1
T_McC02	4.8	1	3	Rare	Moderate	3	1
S_LC10	4.7	1	3	Rare	Moderate	3	1
F_Call04	4.6	1	3	Rare	Moderate	3	1
T_Mil01	4.5	1	3	Rare	Moderate	3	1
S_LC22	4.5	1	3	Rare	Moderate	3	1
T_McC03	4.5	1	3	Rare	Moderate	3	1
S_LC01	4.4	1	3	Rare	Moderate	3	1
S_LC06	4.3	1	3	Rare	Moderate	3	1
S_LC24	4.2	1	3	Rare	Moderate	3	1
T_Cud03	4.0	1	3	Rare	Moderate	3	1
O_AN01	3.9	1	3	Rare	Moderate	3	1
S_LC20	3.8	1	3	Rare	Moderate	3	1
O_AN04	3.7	1	3	Rare	Moderate	3	1
S_LC04	3.6	1	3	Rare	Moderate	3	1
F_TunC08	3.6	1	3	Rare	Moderate	3	1
F_AnaC07	3.2	1	3	Rare	Moderate	3	1
S_LC19	3.2	1	3	Rare	Moderate	3	1
O_AN03	2.8	1	3	Rare	Moderate	3	1
F_Yank04	2.7	1	3	Rare	Moderate	3	1

F_Mypo14	2.4	1	3	Rare	Moderate	3	1
F_TunB02	2.4	1	3	Rare	Moderate	3	1
T_McC01	2.3	1	3	Rare	Moderate	3	1
F_Yank03	2.2	1	3	Rare	Moderate	3	1
S_LC11	1.6	1	3	Rare	Moderate	3	1
F_Cool11	1.5	1	3	Rare	Moderate	3	1
S_LC15	0.9	1	3	Rare	Moderate	3	1
F_Tapa02	0.8	1	3	Rare	Moderate	3	1
S_MC05	0.4	1	3	Rare	Moderate	3	1
S_LC13	0.0	1	3	Rare	Moderate	3	1
S_LC16	0.0	1	3	Rare	Moderate	3	1
S_LC17	0.0	1	3	Rare	Moderate	3	1
S_LC18	0.0	1	3	Rare	Moderate	3	1
S_LC21	0.0	1	3	Rare	Moderate	3	1
S_LC23	0.0	1	3	Rare	Moderate	3	1
W_Will05	21.1	2	1	Unlikely	Insignificant	2	1
W_Will03	20.3	2	1	Unlikely	Insignificant	2	1
T_Ker03	17.8	2	1	Unlikely	Insignificant	2	1
F_AnaC10	17.7	2	1	Unlikely	Insignificant	2	1
T_Ker01	14.3	2	1	Unlikely	Insignificant	2	1
F_Mypo21	12.5	2	1	Unlikely	Insignificant	2	1
W_Pedl14	12.2	2	1	Unlikely	Insignificant	2	1
F_CapJ02	11.9	2	1	Unlikely	Insignificant	2	1
W_Will02	11.1	2	1	Unlikely	Insignificant	2	1
F_Cool12	10.6	2	1	Unlikely	Insignificant	2	1
T_Ker02	10.6	2	1	Unlikely	Insignificant	2	1
F_CarH03	10.5	2	1	Unlikely	Insignificant	2	1
F_CarH02	10.5	2	1	Unlikely	Insignificant	2	1
T_Kan03	10.4	2	1	Unlikely	Insignificant	2	1
F_PortE01	10.2	2	1	Unlikely	Insignificant	2	1
L_ULP14	9.2	1	2	Rare	Minor	2	1
T_Kan06	9.1	1	2	Rare	Minor	2	1
W_Silv08	8.9	1	2	Rare	Minor	2	1
O_BK02	8.9	1	2	Rare	Minor	2	1
W_Pedl04	8.8	1	2	Rare	Minor	2	1
F_Yank22	8.7	1	2	Rare	Minor	2	1
T_Foo01	8.6	1	2	Rare	Minor	2	1
W_Pedl03	8.2	1	2	Rare	Minor	2	1
W_Silv07	7.5	1	2	Rare	Minor	2	1
W_Pedl02	7.3	1	2	Rare	Minor	2	1
W_Silv06	7.1	1	2	Rare	Minor	2	1
W_Silv05	6.9	1	2	Rare	Minor	2	1
S_MC13	6.7	1	2	Rare	Minor	2	1
F_NewH02	6.4	1	2	Rare	Minor	2	1
W_Silv04	6.4	1	2	Rare	Minor	2	1
S_MC12	6.3	1	2	Rare	Minor	2	1

S_MC15	5.7	1	2	Rare	Minor	2	1
L_ULP05	5.3	1	2	Rare	Minor	2	1
S_MC11	5.2	1	2	Rare	Minor	2	1
L_LLP01	5.0	1	2	Rare	Minor	2	1
L_ULP08	4.9	1	2	Rare	Minor	2	1
F_AnaC05	4.7	1	2	Rare	Minor	2	1
L_ULP11	4.7	1	2	Rare	Minor	2	1
F_TunC11	4.7	1	2	Rare	Minor	2	1
W_Ingl02	4.4	1	2	Rare	Minor	2	1
L_LLP02	3.9	1	2	Rare	Minor	2	1
L_ULP13	3.8	1	2	Rare	Minor	2	1
W_Silv01	3.5	1	2	Rare	Minor	2	1
L_ULP10	3.5	1	2	Rare	Minor	2	1
F_TunC10	3.4	1	2	Rare	Minor	2	1
O_EC01	3.1	1	2	Rare	Minor	2	1
L_ULP12	3.1	1	2	Rare	Minor	2	1
W_Silv02	2.8	1	2	Rare	Minor	2	1
L_ULP09	2.8	1	2	Rare	Minor	2	1
L_ULP15	2.7	1	2	Rare	Minor	2	1
F_Yank27	2.7	1	2	Rare	Minor	2	1
F_Ball03	2.6	1	2	Rare	Minor	2	1
F_Ball04	2.6	1	2	Rare	Minor	2	1
F_Gool01	2.6	1	2	Rare	Minor	2	1
L_LPR01	2.3	1	2	Rare	Minor	2	1
W_Pedl05	2.3	1	2	Rare	Minor	2	1
O_BK05	1.9	1	2	Rare	Minor	2	1
L_LPR02	1.9	1	2	Rare	Minor	2	1
W_Ingl03	1.9	1	2	Rare	Minor	2	1
L_ULP07	1.7	1	2	Rare	Minor	2	1
L_GC01	1.4	1	2	Rare	Minor	2	1
F_AnaC06	1.4	1	2	Rare	Minor	2	1
W_Silv03	0.8	1	2	Rare	Minor	2	1
T_Kan05	0.0	1	2	Rare	Minor	2	1
F_NewH01	9.5	1	1	Rare	Insignificant	1	1
W_Sell02	9.2	1	1	Rare	Insignificant	1	1
S_MC22	8.6	1	1	Rare	Insignificant	1	1
S_MC21	8.2	1	1	Rare	Insignificant	1	1
F_NewH03	7.3	1	1	Rare	Insignificant	1	1
F_Salt02	7.1	1	1	Rare	Insignificant	1	1
T_Ker04	6.9	1	1	Rare	Insignificant	1	1
L_ULP02	6.8	1	1	Rare	Insignificant	1	1
F_Tunk03	5.6	1	1	Rare	Insignificant	1	1
F_Salt04	5.4	1	1	Rare	Insignificant	1	1
F_CapJ03	4.8	1	1	Rare	Insignificant	1	1
F_Cooa01	4.7	1	1	Rare	Insignificant	1	1
F_Litt01	4.5	1	1	Rare	Insignificant	1	1

F_AnaC09	4.2	1	1	Rare	Insignificant	1	1
F_Mypo20	4.0	1	1	Rare	Insignificant	1	1
F_TunB03	3.8	1	1	Rare	Insignificant	1	1
F_First02	3.4	1	1	Rare	Insignificant	1	1
F_VicH01	2.9	1	1	Rare	Insignificant	1	1
T_Ker06	2.8	1	1	Rare	Insignificant	1	1
F_CarH06	2.4	1	1	Rare	Insignificant	1	1
F_Salt06	2.4	1	1	Rare	Insignificant	1	1
F_Cool10	2.3	1	1	Rare	Insignificant	1	1
F_Wirr01	2.2	1	1	Rare	Insignificant	1	1
F_Pars01	2.1	1	1	Rare	Insignificant	1	1
L_GC02	2.0	1	1	Rare	Insignificant	1	1
F_AnaC08	2.0	1	1	Rare	Insignificant	1	1
L_GC03	1.9	1	1	Rare	Insignificant	1	1
W_Silv09	1.9	1	1	Rare	Insignificant	1	1
F_Tunk02	1.8	1	1	Rare	Insignificant	1	1
W_Sell04	1.8	1	1	Rare	Insignificant	1	1
F_Balq01	1.8	1	1	Rare	Insignificant	1	1
L_ULP01	1.8	1	1	Rare	Insignificant	1	1
W_Blac01	1.8	1	1	Rare	Insignificant	1	1
F_Tunk01	1.6	1	1	Rare	Insignificant	1	1
F_Tali01	1.3	1	1	Rare	Insignificant	1	1
F_AarT05	1.2	1	1	Rare	Insignificant	1	1
W_Blan01	1.2	1	1	Rare	Insignificant	1	1
F_Tapa03	1.0	1	1	Rare	Insignificant	1	1
W_Sell01	0.8	1	1	Rare	Insignificant	1	1
F_CapJ01	0.8	1	1	Rare	Insignificant	1	1
F_Star01	0.7	1	1	Rare	Insignificant	1	1
F_RapH01	0.6	1	1	Rare	Insignificant	1	1
W_Blac03	0.6	1	1	Rare	Insignificant	1	1
O_OM05	0.6	1	1	Rare	Insignificant	1	1
S_MC07	0.6	1	1	Rare	Insignificant	1	1
S_MC24	0.4	1	1	Rare	Insignificant	1	1
F_Tapa04	0.4	1	1	Rare	Insignificant	1	1
W_Sell03	0.4	1	1	Rare	Insignificant	1	1
F_CarH01	0.2	1	1	Rare	Insignificant	1	1
F_VicW01	0.1	1	1	Rare	Insignificant	1	1
F_AarT02	0.0	1	1	Rare	Insignificant	1	1
F_AarT03	0.0	1	1	Rare	Insignificant	1	1
F_AarT06	0.0	1	1	Rare	Insignificant	1	1
F_Bare01	0.0	1	1	Rare	Insignificant	1	1
F_BoHH01	0.0	1	1	Rare	Insignificant	1	1
F_CarH04	0.0	1	1	Rare	Insignificant	1	1
F_CarH05	0.0	1	1	Rare	Insignificant	1	1
F_Dump01	0.0	1	1	Rare	Insignificant	1	1
F_Lady01	0.0	1	1	Rare	Insignificant	1	1

F_Mypo22	0.0	1	1	Rare	Insignificant	1	1
F_Naik01	0.0	1	1	Rare	Insignificant	1	1
F_Norm01	0.0	1	1	Rare	Insignificant	1	1
F_RapB01	0.0	1	1	Rare	Insignificant	1	1
F_RapH02	0.0	1	1	Rare	Insignificant	1	1
F_RapH03	0.0	1	1	Rare	Insignificant	1	1
F_Tali02	0.0	1	1	Rare	Insignificant	1	1
F_Tunk04	0.0	1	1	Rare	Insignificant	1	1
W_Blac02	0.0	1	1	Rare	Insignificant	1	1
W_Sell05	0.0	1	1	Rare	Insignificant	1	1

6.2 Eastern Mount Lofty Ranges Management Zone Prioritisation Table

Table 9: Data underpinning the prioritisation process for the EMLR PWRA

Management Zone	Development Level	Likelihood Score	Consequence Score	Likelihood Rating	Consequence Rating	Priority Score	Priority Rating
426AR026	33.7	4	5	Likely	Catastrophic	20	4
426AR009	29.2	3	5	Possible	Catastrophic	15	3
426AR025	26.4	3	5	Possible	Catastrophic	15	3
426BR054	24.9	3	5	Possible	Catastrophic	15	3
426AR014	20.3	3	5	Possible	Catastrophic	15	3
426AR024	34.3	4	3	Likely	Moderate	12	3
426BR014	33.1	4	3	Likely	Moderate	12	3
426BR052	30.2	4	3	Likely	Moderate	12	3
426BR062	27.6	3	4	Possible	Major	12	3
426AR011	25.5	3	4	Possible	Major	12	3
426DC001	24.7	3	4	Possible	Major	12	3
426AR002	24.7	3	4	Possible	Major	12	3
426BR026	24.5	3	4	Possible	Major	12	3
426AR010	22.8	3	4	Possible	Major	12	3
426BR038	22.2	3	4	Possible	Major	12	3
426AR016	20.4	3	4	Possible	Major	12	3
426BR008	20.4	3	4	Possible	Major	12	3
426FR020	20.4	3	4	Possible	Major	12	3
426AR004	20.2	3	4	Possible	Major	12	3
426AR006	62.6	5	2	Almost Certain	Minor	10	2
426AR020	59.5	5	2	Almost Certain	Minor	10	2
426FR008	19.9	2	5	Unlikely	Catastrophic	10	2
426AR019	16.6	2	5	Unlikely	Catastrophic	10	2
426FR013	16.5	2	5	Unlikely	Catastrophic	10	2
426TC005	16.3	2	5	Unlikely	Catastrophic	10	2
426FR022	15.0	2	5	Unlikely	Catastrophic	10	2
426TC009	14.5	2	5	Unlikely	Catastrophic	10	2

426TC008	14.2	2	5	Unlikely	Catastrophic	10	2
426TC007	13.7	2	5	Unlikely	Catastrophic	10	2
426TC003	10.7	2	5	Unlikely	Catastrophic	10	2
426TC001	9.3	2	5	Unlikely	Catastrophic	10	2
426TC004	9.3	2	5	Unlikely	Catastrophic	10	2
426BR024	21.9	3	3	Possible	Moderate	9	2
426BR061	20.9	3	3	Possible	Moderate	9	2
426BR003	20.6	3	3	Possible	Moderate	9	2
426BR029	20.1	3	3	Possible	Moderate	9	2
426AR008	46.9	4	2	Likely	Minor	8	2
426BR045	43.6	4	2	Likely	Minor	8	2
426AR022	42.9	4	2	Likely	Minor	8	2
426BR050	35.7	4	2	Likely	Minor	8	2
426AR007	33.7	4	2	Likely	Minor	8	2
426AR023	32.2	4	2	Likely	Minor	8	2
426FR002	19.2	2	4	Unlikely	Major	8	2
426BR037	19.0	2	4	Unlikely	Major	8	2
426BR049	18.8	2	4	Unlikely	Major	8	2
426CC008	18.8	2	4	Unlikely	Major	8	2
426AR015	18.8	2	4	Unlikely	Major	8	2
426BR028	18.8	2	4	Unlikely	Major	8	2
426BR013	18.7	2	4	Unlikely	Major	8	2
426BR048	18.3	2	4	Unlikely	Major	8	2
426BR036	18.2	2	4	Unlikely	Major	8	2
426FR009	18.1	2	4	Unlikely	Major	8	2
426BR043	17.5	2	4	Unlikely	Major	8	2
426BR039	17.3	2	4	Unlikely	Major	8	2
426AR017	16.2	2	4	Unlikely	Major	8	2
426AR005	16.2	2	4	Unlikely	Major	8	2
426BR032	16.2	2	4	Unlikely	Major	8	2
426BR015	16.0	2	4	Unlikely	Major	8	2
426FR003	16.0	2	4	Unlikely	Major	8	2

426FR027	15.1	2	4	Unlikely	Major	8	2
426RC005	15.0	2	4	Unlikely	Major	8	2
426BR016	14.8	2	4	Unlikely	Major	8	2
426CC003	14.4	2	4	Unlikely	Major	8	2
426BR022	14.2	2	4	Unlikely	Major	8	2
426FR001	14.0	2	4	Unlikely	Major	8	2
426CC011	12.7	2	4	Unlikely	Major	8	2
426FR005	12.5	2	4	Unlikely	Major	8	2
426CC010	12.4	2	4	Unlikely	Major	8	2
426CC012	12.2	2	4	Unlikely	Major	8	2
426FR012	11.9	2	4	Unlikely	Major	8	2
426AR003	11.8	2	4	Unlikely	Major	8	2
426CC004	11.7	2	4	Unlikely	Major	8	2
426BR030	11.3	2	4	Unlikely	Major	8	2
426FR025	11.1	2	4	Unlikely	Major	8	2
426RC016	10.3	2	4	Unlikely	Major	8	2
426FR026	8.9	2	4	Unlikely	Major	8	2
426RC021	8.7	2	4	Unlikely	Major	8	2
426RC028	8.6	2	4	Unlikely	Major	8	2
426BR018	8.2	2	4	Unlikely	Major	8	2
426FR006	8.1	2	4	Unlikely	Major	8	2
426FR014	7.8	2	4	Unlikely	Major	8	2
426RC007	7.5	2	4	Unlikely	Major	8	2
426BR007	7.4	2	4	Unlikely	Major	8	2
426SP002	7.3	2	4	Unlikely	Major	8	2
426FR016	7.3	2	4	Unlikely	Major	8	2
426FR007	6.9	2	4	Unlikely	Major	8	2
426BR040	6.7	2	4	Unlikely	Major	8	2
426RC004	6.6	2	4	Unlikely	Major	8	2
426FR021	6.1	2	4	Unlikely	Major	8	2
426FR011	6.1	2	4	Unlikely	Major	8	2
426SC008	5.1	2	4	Unlikely	Major	8	2

426FR004	5.1	2	4	Unlikely	Major	8	2
426BR011	5.0	2	4	Unlikely	Major	8	2
426AB001	-1.0	2	4	No Local Runoff	Major	8	2
426AB002	-1.0	2	4	No Local Runoff	Major	8	2
426PC003	-1.0	2	4	No Local Runoff	Major	8	2
426RG002	-1.0	2	4	No Local Runoff	Major	8	2
426RG003	-1.0	2	4	No Local Runoff	Major	8	2
426BR046	29.7	3	2	Possible	Minor	6	2
426BR035	28.4	3	2	Possible	Minor	6	2
426BR041	27.4	3	2	Possible	Minor	6	2
426BR009	27.1	3	2	Possible	Minor	6	2
426BR055	26.0	3	2	Possible	Minor	6	2
426RC009	21.3	3	2	Possible	Minor	6	2
426BR051	20.6	3	2	Possible	Minor	6	2
426BR047	20.2	3	2	Possible	Minor	6	2
426BR025	15.5	2	3	Unlikely	Moderate	6	2
426CC001	12.9	2	3	Unlikely	Moderate	6	2
426BR060	10.3	2	3	Unlikely	Moderate	6	2
426RC027	8.6	2	3	Unlikely	Moderate	6	2
426TC006	3.0	1	5	Rare	Catastrophic	5	1
426AR027	42.4	4	1	Likely	Insignificant	4	1
426BR001	33.4	4	1	Likely	Insignificant	4	1
426BR053	18.2	2	2	Unlikely	Minor	4	1
426BR031	17.6	2	2	Unlikely	Minor	4	1
426BR034	17.3	2	2	Unlikely	Minor	4	1
426DC003	17.1	2	2	Unlikely	Minor	4	1
426CC007	14.9	2	2	Unlikely	Minor	4	1
426RC006	14.8	2	2	Unlikely	Minor	4	1
426CC009	13.6	2	2	Unlikely	Minor	4	1
426RC001	12.8	2	2	Unlikely	Minor	4	1
426BR044	12.4	2	2	Unlikely	Minor	4	1
426AR013	11.1	2	2	Unlikely	Minor	4	1

426AR021	11.0	2	2	Unlikely	Minor	4	1
426BR020	10.9	2	2	Unlikely	Minor	4	1
426RC010	10.4	2	2	Unlikely	Minor	4	1
426MC001	10.3	2	2	Unlikely	Minor	4	1
426RC008	10.0	2	2	Unlikely	Minor	4	1
426CC006	9.8	2	2	Unlikely	Minor	4	1
426RC011	9.3	2	2	Unlikely	Minor	4	1
426RC013	8.8	2	2	Unlikely	Minor	4	1
426SC002	8.7	2	2	Unlikely	Minor	4	1
426RC012	8.6	2	2	Unlikely	Minor	4	1
426RC019	8.3	2	2	Unlikely	Minor	4	1
426RC002	8.3	2	2	Unlikely	Minor	4	1
426BR019	8.2	2	2	Unlikely	Minor	4	1
426FR023	7.9	2	2	Unlikely	Minor	4	1
426DC002	7.7	2	2	Unlikely	Minor	4	1
426RC015	7.6	2	2	Unlikely	Minor	4	1
426RC003	7.3	2	2	Unlikely	Minor	4	1
426RC025	7.2	2	2	Unlikely	Minor	4	1
426CC005	6.8	2	2	Unlikely	Minor	4	1
426RC022	6.7	2	2	Unlikely	Minor	4	1
426BR017	6.5	2	2	Unlikely	Minor	4	1
426FR019	6.0	2	2	Unlikely	Minor	4	1
426SC003	5.8	2	2	Unlikely	Minor	4	1
426FR024	5.3	2	2	Unlikely	Minor	4	1
426SC006	5.2	2	2	Unlikely	Minor	4	1
426RC023	5.0	2	2	Unlikely	Minor	4	1
426BR021	4.5	1	4	Rare	Major	4	1
426TC002	4.4	1	4	Rare	Major	4	1
426AR001	3.8	1	4	Rare	Major	4	1
426FR017	3.3	1	4	Rare	Major	4	1
426FR010	3.3	1	4	Rare	Major	4	1
426FR018	2.0	1	4	Rare	Major	4	1

426CC002	0.4	1	4	Rare	Major	4	1
426AR012	0.4	1	4	Rare	Major	4	1
426PC001	-1.0	2	2	No Local Runoff	Minor	4	1
426RC026	22.4	3	1	Possible	Insignificant	3	1
426BR006	20.0	3	1	Possible	Insignificant	3	1
426BR058	2.9	1	3	Rare	Moderate	3	1
426BR005	18.2	2	1	Unlikely	Insignificant	2	1
426BR059	11.8	2	1	Unlikely	Insignificant	2	1
426BR004	11.5	2	1	Unlikely	Insignificant	2	1
426SP001	10.5	2	1	Unlikely	Insignificant	2	1
426SP004	9.3	2	1	Unlikely	Insignificant	2	1
426MC002	8.7	2	1	Unlikely	Insignificant	2	1
426BR042	8.6	2	1	Unlikely	Insignificant	2	1
426AR018	7.7	2	1	Unlikely	Insignificant	2	1
426MC005	7.6	2	1	Unlikely	Insignificant	2	1
426BR033	7.4	2	1	Unlikely	Insignificant	2	1
426RC024	6.8	2	1	Unlikely	Insignificant	2	1
426BR002	6.6	2	1	Unlikely	Insignificant	2	1
426SP003	6.3	2	1	Unlikely	Insignificant	2	1
426SC007	5.0	1	2	Rare	Minor	2	1
426BR010	4.8	1	2	Rare	Minor	2	1
426RC020	4.0	1	2	Rare	Minor	2	1
426SC004	3.4	1	2	Rare	Minor	2	1
426RC014	2.9	1	2	Rare	Minor	2	1
426RC017	2.5	1	2	Rare	Minor	2	1
426RC018	1.0	1	2	Rare	Minor	2	1
426MC003	0.0	1	2	Rare	Minor	2	1
426LG001	-1.0	2	1	No Local Runoff	Insignificant	2	1
426PC002	-1.0	2	1	No Local Runoff	Insignificant	2	1
426RG001	-1.0	2	1	No Local Runoff	Insignificant	2	1
426FR015	3.9	1	1	Rare	Insignificant	1	1
426BR056	3.8	1	1	Rare	Insignificant	1	1

426BR027	3.6	1	1	Rare	Insignificant	1	1
426SC001	2.8	1	1	Rare	Insignificant	1	1
426BR012	2.3	1	1	Rare	Insignificant	1	1
426SC005	2.1	1	1	Rare	Insignificant	1	1
426BR023	0.0	1	1	Rare	Insignificant	1	1
426BR057	0.0	1	1	Rare	Insignificant	1	1
426MC004	0.0	1	1	Rare	Insignificant	1	1

6.3 Marne Saunders Prescribed Water Resources Area Management Zone Prioritisation Table

Table 10: Data underpinning the prioritisation process for the MS PWRA

Management Zone	Development Level	Likelihood Score	Consequence Score	Likelihood Rating	Consequence Rating	Priority Score	Priority Rating
M1-08	49.11917	4	4	Likely	Major	16	3
M1-01	29.66893	3	4	Possible	Major	12	3
M1-07	29.64226	3	4	Possible	Major	12	3
M1-02	23.36655	3	4	Possible	Major	12	3
M6	21.8547	3	4	Possible	Major	12	3
M7	21.00194	3	4	Possible	Major	12	3
M5	No local Runoff	2	5	No local Runoff	Catastrophic	10	2
S6	No local Runoff	2	5	No local Runoff	Catastrophic	10	2
M2-12	22.39714	3	3	Possible	Moderate	9	2
M1-10	18.90193	2	4	Unlikely	Major	8	2
M2-01	18.77	2	4	Unlikely	Major	8	2
M1-09	17.51275	2	4	Unlikely	Major	8	2
M8	15.63785	2	4	Unlikely	Major	8	2
M1-05	13.11967	2	4	Unlikely	Major	8	2
M1-03	11.66084	2	4	Unlikely	Major	8	2
M2-13	9.670909	2	4	Unlikely	Major	8	2
M1-04	9.135918	2	4	Unlikely	Major	8	2
M4	8.352857	2	4	Unlikely	Major	8	2
M1-06	7.339355	2	4	Unlikely	Major	8	2
M2-05	5.011071	2	4	Unlikely	Major	8	2
M2-03	24.76445	3	2	Possible	Minor	6	2
S7	24.62084	3	2	Possible	Minor	6	2
S8	20.05425	3	2	Possible	Minor	6	2
S1-01	52.17584	5	1	Almost Certain	Insignificant	5	2
S2-02	44.61789	4	1	Likely	Insignificant	4	1
M2-02	15.91691	2	2	Unlikely	Minor	4	1
M2-04	15.28747	2	2	Unlikely	Minor	4	1
S2-09	12.58714	2	2	Unlikely	Minor	4	1
S1-06	6.84	2	2	Unlikely	Minor	4	1
S2-04	5.91	2	2	Unlikely	Minor	4	1
S1-05	5.46	2	2	Unlikely	Minor	4	1
M2-07	4.065	1	4	Rare	Major	4	1
M2-06	3.166667	1	4	Rare	Major	4	1
M2-14	2.9	1	4	Rare	Major	4	1
M2-08	2.151818	1	4	Rare	Major	4	1
M1-11	0.744231	1	4	Rare	Major	4	1
M3	0.28125	1	4	Rare	Major	4	1

M2-15	0	1	4	Rare	Major	4	1
S2-10	25.614	3	1	Possible	Insignificant	3	1
M2-10	17.58316	2	1	Unlikely	Insignificant	2	1
S2-08	16.335	2	1	Unlikely	Insignificant	2	1
S2-01	16.24737	2	1	Unlikely	Insignificant	2	1
S2-05	16.24	2	1	Unlikely	Insignificant	2	1
S2-03	14.44846	2	1	Unlikely	Insignificant	2	1
M2-11	12.10737	2	1	Unlikely	Insignificant	2	1
S2-07	7.38	2	1	Unlikely	Insignificant	2	1
M2-09	6.45	2	1	Unlikely	Insignificant	2	1
S4	4.7	1	1	Rare	Insignificant	1	1
S2-06	3.114	1	1	Rare	Insignificant	1	1
S1-02	2.914615	1	1	Rare	Insignificant	1	1
S3	1.364595	1	1	Rare	Insignificant	1	1
S1-03	0.823846	1	1	Rare	Insignificant	1	1
S1-04	0	1	1	rare	Insignificant	1	1
S2-11	0	1	1	rare	Insignificant	1	1
S5	0	1	1	rare	Insignificant	1	1

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