

Draft Victorian Rural Drainage Strategy



Aboriginal acknowledgement

The Victorian Government proudly acknowledges Victoria's Aboriginal community and their rich culture, and pays respect to their Elders past and present.

We acknowledge Aboriginal people as Australia's first peoples and as the Traditional Owners and custodians of the land and water on which we rely. We recognise and value the ongoing contribution of Aboriginal people and communities to Victorian life, and how this enriches us. We embrace the spirit of reconciliation, working towards equality of outcomes and ensuring an equal voice for Aboriginal Victorians.

Front cover image:

David Fletcher

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Minister's foreword



I am pleased to release this draft Victorian Rural Drainage Strategy, marking a significant milestone in simplifying the complex management arrangements for rural drainage.

This draft Strategy is an important step in clarifying rural drainage management for landholders, the choices available to them, and about how they will be supported.

This draft Strategy also supports the commitment we made in *Water for Victoria* to develop a rural drainage strategy through an open and consultative process.

In developing this draft Strategy, the project team has drawn on the consultation findings presented in the Environment and Natural Resource Committee Inquiry into rural drainage, and sought to address its key recommendations through discussions with the reference group and broad consultation with stakeholders and the community.

Deliberations between the reference group and the project team over the last 18 months have been detailed and extensive, reflecting the complexity of the rural drainage arrangements. The result is a draft Strategy that reflects the range of views discussed by the reference group members and the broader stakeholder consultation.

It provides a way forward to improve rural drainage management by:

1. Supporting landholders to make choices about how they want to manage rural drainage
2. Clarifying the roles, responsibilities and obligations for landholders and agencies in rural drainage
3. Rebuilding the capability for agencies and landholders to manage rural drainage to support agricultural productivity in their local regions
4. Streamlining the environmental and cultural approvals processes to help landholders manage rural drainage, while providing the additional benefits of protecting and improving environmental and cultural values
5. Promoting opportunities for landholders and Traditional Owners to collaborate in the ways they manage rural drainage.

I would like to thank the reference group and everyone who has contributed to the development of the draft Strategy – particularly the stakeholders and community members who met with the project team to clarify the issues and opportunities they wanted addressed in a state-wide rural drainage strategy.

The government is committed to developing the new arrangements for rural drainage through an open and consultative process. This draft Strategy provides an opportunity for community members to consider how well their views are reflected in the proposed arrangements for rural drainage.

We encourage you to get involved in the consultation process, share your views and help shape a final Strategy.

A handwritten signature in blue ink, which appears to read 'Lisa Neville'.

Hon Lisa Neville
Minister for Water

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Executive summary

In 2016, as part of a comprehensive plan for the future management of Victoria's precious water resources, the Victorian Government highlighted rural drainage in dryland areas as a key problem requiring further investigation and review. With its *Water for Victoria* plan, the government committed to developing a rural drainage strategy through an open and consultative process.

This draft Victorian Rural Drainage Strategy (draft Strategy) proposes a series of policies and actions designed to enable landholders to choose how to manage their drainage and their drainage systems into the future.

Rural drainage management is defined as the act of directing excess water away from dryland agricultural areas for the purposes of improved farm productivity. It is inherently complex, often involving multiple landholders, who often depend on interactions between private drainage assets and public assets such as roads, table drains, culverts and bridges. This draft Strategy seeks in large part to ease this complexity and to clarify the roles and responsibilities around managing rural drainage.

A range of stakeholders contributed to the development of this draft Strategy. Through an open and consultative process, they helped a minister-appointed Reference Group and its independent Chair Peta Maddy to navigate the complexities of the existing arrangements, and to ensure that the proposed new arrangements will be workable. Four consistent themes that emerged from those consultations were the need for:

- Clear responsibilities for rural drainage, and clearly defined roles for individual landholders, the Victorian Government, councils, catchment management authorities, Melbourne Water and other rural water corporations
- Clear legislative and policy arrangements that will enable rural drainage to be managed sustainably into the future
- Support to develop pathways through environmental and cultural approval processes
- Clear funding arrangements for rural drainage that reflect the distribution of costs and benefits.

This draft Strategy proposes a series of policies and actions to address these themes. The public release of the draft Strategy now provides an opportunity for the broader community to contribute to the final arrangements.

The draft Strategy outlines four sets of arrangements that landholders might choose to use in managing rural drainage. They will be able to manage drainage:

1. Individually
2. Collectively through amicable agreements
3. Collectively through written agreements
4. Collectively through written agreements with support from government agencies, and with councils offering administrative support where landholders are prepared to pay for that service.

Where the existing arrangements are still working and landholders are meeting their obligations to protect environmental and cultural values, the existing arrangements for rural drainage can continue. Where the existing arrangements are not working, this draft Strategy aims to clarify the issues, remove stumbling blocks and help to set up contemporary arrangements where landholders are able to choose to manage drainage in a different way. For example, under the proposed arrangements, they may seek administrative support in managing drainage systems.

Landholders should always discuss any proposed drainage works with their neighbours before carrying them out. After discussing the plans with neighbours they can choose how they want to manage rural drainage. This draft Strategy proposes that key agencies with roles and responsibilities in drainage management will provide landholders with access to a drainage resource kit that will include the relevant information they need to make decisions about how they want to manage rural drainage.

Landholders may choose to work together informally to manage drainage, but the risk is that when properties change hands those arrangements will break down. When that happens there is very little that councils or government agencies can do to help – other than to direct the affected landholders to the Dispute Settlement Centre of Victoria.

Formal written agreements are more likely to survive changes in property ownership. Provisions in the *Water Act 1989* enable the outcomes of written agreements to be recorded on property titles.

If landholders choose to do so, they can form a drainage committee and request administrative support from their local council.



Under the draft Strategy, councils would provide administrative support to help drainage committees establish and administer management arrangements for rural drainage systems. They would do this where the landholders approaching them to seek support could demonstrate that:

- Landholders within the drainage area support the need to manage the drainage system.
- Landholders benefiting from the drainage system agree to pay for the maintenance and administrative costs of the system.
- Landholders are willing to participate in a local drainage management committee in the form of an incorporated association (or other legal entity).
- The legal entity holds appropriate insurance.

Where landholders demonstrate they can meet the criteria, councils will also ensure that other government agencies are available to provide technical support at drainage committee meetings. This draft Strategy proposes formal commitments at the regional level from all relevant agencies to provide that support.

Landholders who provided feedback during the preparation of this draft Strategy indicated that attaining the environmental and cultural approvals necessary for rural drainage management has become increasingly difficult, and that the approvals processes appear ad-hoc. To overcome these issues, the draft Strategy proposes a commitment from the Department of Environment, Land, Water and Planning (the Department) to work with organisations with regulatory responsibilities to develop a risk-based framework for environmental approvals. Under such a framework, the approvals process will be easier to navigate in instances where the risks to the environment are low. For example, the draft Strategy proposes that the Department explore opportunities to provide exemptions from some requirements where the risks to the environment are low.

Where the risks are higher, there will be a consistent, streamlined approach to minimising the risks, and landholders agreeing to manage drainage collectively will be supported to prepare rural drainage management plans that will outline how drainage

works will be undertaken. These plans will streamline the approval process for drainage works, while also providing confidence to decision makers that works will be completed in a sensitive manner, meeting cultural and environmental obligations. With agency support for the development of rural drainage management plans, the cost and administrative burden currently involved in gaining approvals will be reduced. This approach will also provide increased certainty for landholders about the likelihood of gaining approvals.

The draft Strategy recognises the impacts of rural drainage on cultural heritage, and proposes to support landholders to understand and deal with these issues through the establishment of clear guidelines for them to follow. In this context, the draft Strategy highlights the collaborative relationships over cultural heritage forged by the Taungurung Corporation and local landholders and where restoration activities have occurred at Long Swamp in northern Victorian and Lake Condah in the south west of the state. The draft Strategy proposes to apply these arrangements more broadly, supporting Traditional Owners to work collaboratively with landholders across Victoria to encourage restoration works and to manage ongoing impacts of drainage on cultural heritage.

This draft Strategy proposes shared arrangements to manage rural drainage, underpinned by partnership arrangements between agencies. In keeping with *The Victorian State and Local Government Agreement*, the draft Strategy demonstrates the Victorian Government's commitment to work closely with local government to support landholders as they make their decisions. Under the partnership arrangements, the roles outlined in Table one are critical to the future management of rural drainage.

Government has a significant role in supporting change management for the new arrangements.

The State Government is committed to re-building capability for organisations and landholders to manage rural drainage. It is also committed to investigating the level of interest among landholders in moving to new arrangements for seven large-scale drainage systems that Victorian catchment management authorities have had some role in managing.

Table 1 Summary of the roles and responsibilities proposed in this draft Strategy

Who	Roles and responsibilities
The Department of Environment, Land, Water and Planning	<ul style="list-style-type: none"> Investment to prepare tools and templates to support rural drainage (including the proposed drainage resource kit), and identify opportunities to streamline environmental approvals Set the policy direction for rural drainage Set the policy direction for state-wide partnership arrangements
Forest, Fire and Regions Group (Department of Environment, Land, Water and Planning)	<ul style="list-style-type: none"> Regulate native vegetation removal Provide pathways for rural drainage approvals and lead a program to identify opportunities to streamline environmental approvals
Landholders	<ul style="list-style-type: none"> Make choices about how they want to manage rural drainage Agree to fund all the costs of management and maintenance of rural drainage Comply with regulations and obligations
Catchment management authorities	<ul style="list-style-type: none"> Support landholders to manage environmental and cultural benefits Build capability and skills in rural drainage Invest in environmental works and measures to improve the management of rural drainage areas on a priority basis Feasibility work to understand priority works for the rural drainage systems they manage Drive partnership arrangements in the regions
Councils	<ul style="list-style-type: none"> Provide point of contact and administrative support to landholders Manage drainage assets vested in them and infrastructure such as table drains, bridges and culverts in line with their existing obligations
Melbourne Water	<ul style="list-style-type: none"> Provide regional drainage services within its waterway management district Develop and implement plans or schemes related to rural drainage
Rural water corporations	<ul style="list-style-type: none"> Share lessons from community arrangements in northern Victoria Regulate the take and use of water Manage drainage infrastructure in irrigation districts where it interacts with dryland rural drainage
The Department of Economic Development, Jobs, Transport and Resources	<ul style="list-style-type: none"> Continue to support agricultural productivity in Victoria
VicRoads and Victrack	<ul style="list-style-type: none"> Continue to manage infrastructure that interacts with rural drainage (except where the infrastructure is licensed to third parties)

A guide to the draft Strategy

This report is divided into five parts:

Part 1 – How the draft Strategy was developed (Chapters 1 and 2)

This part outlines the purpose and context of the draft Strategy. It identifies opportunities to support agricultural productivity and reduce the impacts of rural drainage on the environment and on cultural values. It also recognises there might be opportunities to support improvements for environmental and cultural benefit. It outlines changes in the arrangements for how we manage drainage, and emphasises the need to work in partnerships to support these new arrangements. These aspects are set up in the vision and outcomes sections in Chapter 1.

Part 1 also acknowledges the contributions and commitments provided by key stakeholders involved in developing the draft Strategy. It outlines the key drivers for the directions set up in this draft Strategy, it responds to the 2013 state parliamentary inquiry into rural drainage, and it makes a commitment to respond to challenges set out in the 2016 Victorian Government plan *Water for Victoria* (Chapter 2).

Part 2 – How you can contribute to the final Strategy (Chapter 3)

Stakeholders and the community can choose to contribute directly to the future directions for rural drainage management in Victoria in a range of ways. Chapter 3 (Part 2) highlights the government's commitment to an open and consultative process in developing a state-wide rural drainage Strategy.

Part 3 – What improved management of rural drainage will mean (Chapters 4 -6)

Part 3 outlines the policies and actions for specific stakeholders – particularly landholders, environmental managers, Aboriginal Victorians and Traditional Owner groups.

It details how landholders are empowered through this Strategy to make choices about how they want to manage rural drainage. It also outlines landholders' obligations in managing rural drainage, and the support that will be provided to help them meet those obligations (Chapter 4)

The draft Strategy recognises the potential to achieve positive environmental and cultural benefits by helping landholders to find pathways through environmental and cultural approvals. It also provides increased certainty to landholders about how rural drainage can be managed in environmentally sustainable and culturally sensitive ways (Chapter 5).

In its 2016 *Water for Victoria* plan, the Victorian Government recognised the value that water has for Traditional Owners and Aboriginal Victorians in the context of rural drainage. This draft Strategy reflects a commitment to consult with Aboriginal Victorians in a way that addresses the rights and interests of Traditional Owners. It also proposes to promote opportunities for landholders and Traditional Owners to work collaboratively to consider cultural heritage in drainage management (Chapter 6).

Part 4 – How rural drainage will be supported in Victoria (Chapter 7)

Part 4 details the institutional arrangements that will underpin the future management of rural drainage in Victoria, including the roles and responsibilities of key stakeholders. It focuses on the process for streamlining approvals, and clarifies how costs can be equitably distributed among landholders (Chapter 7).

Part 5 – How the strategy will be implemented (Chapters 8 and 9)

To give effect to the clarified roles and responsibilities, the draft Strategy proposes the establishment of supporting arrangements to help implement the proposed policies and actions. It first explores how to build the skills and capabilities of landholders and agencies to help them in their roles in future rural drainage management. It then considers what landholders will need to know to make informed choices about rural drainage in the context of the proposed streamlined approvals process and in the face of climate change (Chapter 8).

Part 5 also includes a timeline for delivery of the Strategy, and details a proposal to review the arrangements in a final Strategy (Chapter 9).

Part 1 – How the draft Strategy was developed





(Chapters 1 –2)

This part outlines the purpose and context of the draft Strategy. It identifies opportunities to support agricultural productivity and reduce the impacts of rural drainage on the environment and on cultural values. It also recognises there might be opportunities to support improvements for environmental and cultural benefit. It outlines changes in the arrangements for how we manage drainage, and emphasises the need to work in partnerships to support these new arrangements. These aspects are set up in the vision and outcomes sections in Chapter 1.

Part 1 also acknowledges the contributions and commitments provided by key stakeholders involved in developing the draft Strategy. It outlines the key drivers for the directions set up in this draft Strategy, it responds to the 2013 state parliamentary inquiry into rural drainage, and it makes a commitment to respond to challenges set out in the 2016 Victorian Government plan *Water for Victoria* (Chapter 2).

1 Introduction

This chapter sets out the vision and proposed outcomes for dryland rural drainage in Victoria. It clarifies the scope of the draft Strategy, and provides a brief policy context and history of the arrangements for rural drainage across the state.

Vision statement

Landholders and community partners are empowered to work together to improve management of rural drainage, while driving the agricultural sector's contribution to the Victorian economy and supporting positive cultural and environmental outcomes.

1.1 Proposed outcomes of this Strategy

1. Landholders understand the various ways they can manage rural drainage.
2. Cultural and environmental values are protected with increased efficiency.
3. Priority waterways impacted by rural drainage are managed to provide cultural and environmental benefits.
4. Key agencies have clear roles and responsibilities, and are aware of opportunities to work in partnerships to support landholders managing rural drainage.
5. Catchment partners work together with landholders to re-build capability and support ongoing arrangements for drainage management.



1.2 Scope

This draft Strategy focuses on the maintenance of on-farm drains in dryland agriculture, the management of Crown land and waterways, the movement of drainage water across property boundaries and the outfall from drainage into waterways. These are complex issues, requiring a very specific and targeted policy focus. For this reason, the draft Strategy does not include consideration of other rural water issues such as general waterlogging, irrigation drainage, or flooding that involves potential risk to life and safety.

The draft Strategy is essentially about providing pathways for landholders who choose to try to improve the management of drainage and drainage systems, and providing clarity for landholders about how they will be supported to do this.

What is rural drainage?

For the purposes of this Strategy, rural drainage is defined as the works and functions related to the collection, and timely removal, of excess water generated by high rainfall to support agriculture production. It involves enhancing the hydraulic capacity of drainage lines and soils, and increasing the rate at which water will flow off (or through) and away from land, to support increased agricultural production in dryland areas.

1.3 Background

Drainage of rural land in Victoria began in the mid-1800s. It expanded significantly at the start of the 20th century, and again after World War II. Historically, large-scale drainage systems were established to bring into agricultural production land that was previously unable to be farmed due to it being under water for some or all of the year.

The majority of these drainage areas were previously wetlands and lakes, such as the Koo Wee Rup Swamp, the Eumeralla Drainage Scheme and the Yatchaw Drainage Scheme. After the successive periods of expansion, Victoria ended up with about 130 dryland rural drainage areas, draining approximately 1.5 million hectares of agricultural land and servicing about 5000 landholders. There is known historical information for about 100 of these areas, most of which are located south of the Great Dividing Range. They vary markedly in their complexity and size.

In recent decades, particularly during the extended dry period around the turn of the century, there has been a decline in the effective functioning of rural drainage systems. This decline has coincided with some significant changes in legislative arrangements for environmental and cultural approvals, such as the introduction of the Commonwealth's *Environment Protection and Biodiversity Conversation Act 1999*. During the drought, drainage systems deteriorated as farmers did not have as much need for drainage services. After the dry period, when the need for drainage services increased, landholders and agencies were confused about roles and responsibilities for managing rural drainage and the required environmental and cultural approvals.

With this Strategy, the Victorian Government proposes a series of policies and actions to clarify future management arrangements so that landholders can make their own choices about how to manage rural drainage. In keeping with *The Victorian State and Local Government Agreement*, the draft Strategy also demonstrates the government's commitment to partner with councils to consider how they will support landholders in making those decisions.

Unfortunately, the historical construction of rural drainage in Victoria has damaged some culturally significant sites for Traditional Owners, and reduced the environmental values of wetlands and waterways. Since the 1970s, with the advent of greater understanding of the potential harmful impacts of rural drainage, there has been very little expansion of rural drainage in Victoria, and a shift away from significant government investment in rural drainage infrastructure.

This draft Strategy recognises the historical loss of environmental and cultural values associated with rural drainage. While supporting landholders to maintain and enhance the productivity of their farms, the draft Strategy also promotes the restoration of wetlands and the improvement of flows to provide environmental or cultural benefits. It supports the adoption of rural drainage management practices that minimise or avoid environmental or cultural impacts, and it proposes a streamlined approach to increase the efficiency of the regulations designed to support that adoption.

The scale of drainage works in Victoria may change with the new arrangements. It is quite likely there will be a move away from major drainage systems to agreements between smaller groups of landholders or individuals managing their own drainage works. Under

these new arrangements, landholders will need to know the rules for managing the movement of drainage water across property boundaries. Rural drainage also often interacts with public infrastructure and, where this occurs, the draft Strategy proposes ways to clarify procedures. It also emphasises the opportunities for councils and government agencies to work in partnership to support landholders in the choices they make.

1.4 Policy context

This draft Strategy proposes new arrangements that clarify the responsibilities of various stakeholders for rural drainage management. The arrangements also seek to manage interactions between rural drainage and other rural infrastructure such as roads, bridges and floodplain management structures.

The draft Strategy interacts with a range of other Victorian Government strategies and policies and arrangements at the regional and local level. The government's *Water for Victoria plan*, released in October 2016, is the key driver for the development of this draft Strategy.

This draft Strategy also directly aligns with the state policy set out in the *Victorian Floodplain Management Strategy* and the *Victorian Waterway Management Strategy*. The draft Strategy does not duplicate these policies, but references the relevant actions in a rural drainage context. Rural drainage, and the opportunities to support management of rural drainage, are enabled under legislative instruments such as the *Water Act 1989* and *Local Government Act 1989*, and links to other areas such as the state-wide planning framework, road management arrangements and the government's climate change framework.



*Roadside drainage,
southwestern Victoria
(Department of
Environment, Land, Water
and Planning)*

2 Development of the draft Strategy

This chapter sets out how this draft Strategy was developed, and acknowledges the work, ideas and commitments provided by the key agencies, farmers, directly-affected landholders, and Aboriginal Victorians, including Traditional Owners, involved in developing it.

2.1 Overview

In the *Water for Victoria* plan, the government committed to developing a rural drainage strategy through an open and consultative process by the end of 2017.

Environment and Natural Resource Committee Inquiry into Rural Drainage in Victoria

This draft Strategy responds to the findings of the 2013 Environment and Natural Resource Committee Inquiry into Rural Drainage in Victoria. Importantly, it also builds on the extensive public consultation conducted for that inquiry, which revealed significant community concern about the management, performance and maintenance of Victoria's rural drainage.

The inquiry involved three public hearings, consulted 51 representatives in regional Victoria and Melbourne, conducted site inspections, and received briefings from the then Department of Sustainability and Environment and the Victorian Farmers Federation.

In all, 74 submissions were received from community members, representative groups, councils and government agencies. The key themes to emerge from the submissions were the need for:

- Recognition of the social, economic and environmental benefits of managing rural drainage
- A responsible rural drainage authority with clear funding guidelines
- Community acceptance of landholders' ongoing need to manage and maintain rural drains.

The inquiry into rural drainage followed significant floods in Victoria from 2010 through to 2012. Two initial inquiries relating to floodplain management culminated in the development of the *Victorian Floodplain Management Strategy*, which sets out revised arrangements for floodplain management across the state. Those inquiries also highlighted landholder concerns about prolonged waterlogging of land due to inadequately maintained drains, rather than flooding per se. This prompted moves for the separate inquiry into rural drainage.

This draft Strategy has a singular focus on drainage issues. Where flooding and drainage issues overlap at the local level, the flooding issues will be resolved through regional floodplain management strategies.

2.2 Who contributed to the draft Strategy?

Many different stakeholders have shaped the development of this draft Strategy.

Farmers and directly-affected landholders

Directly-affected landholders were approached to collaborate in developing the draft Strategy. Through one-on-one engagement with landholders, a greater understanding of the challenges individuals are facing was built, and these insights directly shaped the proposed policies and actions in the draft Strategy. The Victorian Farmers Federation provided a landholder perspective and offered further insights in its role as a member of the Reference Group that guided the draft Strategy.

Government agencies

Key government agencies such as councils and catchment management authorities, along with other bodies including the Victorian Catchment Management Council and the Municipal Association of Victoria, were engaged through Reference Group meetings and targeted working groups. They provided expertise to test the practicality of the policies proposed in this draft Strategy.

Aboriginal Victorians and Traditional Owners

The government has partnered with Aboriginal Victorians and Traditional Owners, including peak bodies, to support the development of this draft Strategy. Their feedback will continue to be sought through targeted consultation in the development of the final Strategy (See section 6.2).

Table 2.1 Members of the Reference Group

- Independent Chair – Peta Maddy, and Interim Chair – Tamara Boyd (22 May – 21 July 2017)
- Department of Environment, Land, Water and Planning
- Municipal Association of Victoria
- Baw Baw Shire Council
- Moyne Shire Council
- West Gippsland Catchment Management Authority
- Glenelg Hopkins Catchment Management Authority
- Victorian Farmers Federation
- Victorian Catchment Management Council
- Department of Economic Development, Jobs, Transport and Resources
- Melbourne Water

2.3 The strategy process

A Reference Group, independently chaired by Peta Maddy, was established in 2016 to collaborate in developing this draft Strategy (Table 2.1). The Reference Group was appointed to involve, consult and inform a range of other stakeholders in the development of a rural drainage strategy.

Local government provided ongoing input through consultation with council representatives, the Municipal Association of Victoria and one-on-one discussions with senior representatives from councils. The issues and opportunities identified by councils during regional forums were also considered.

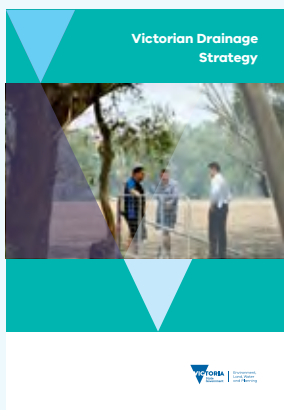
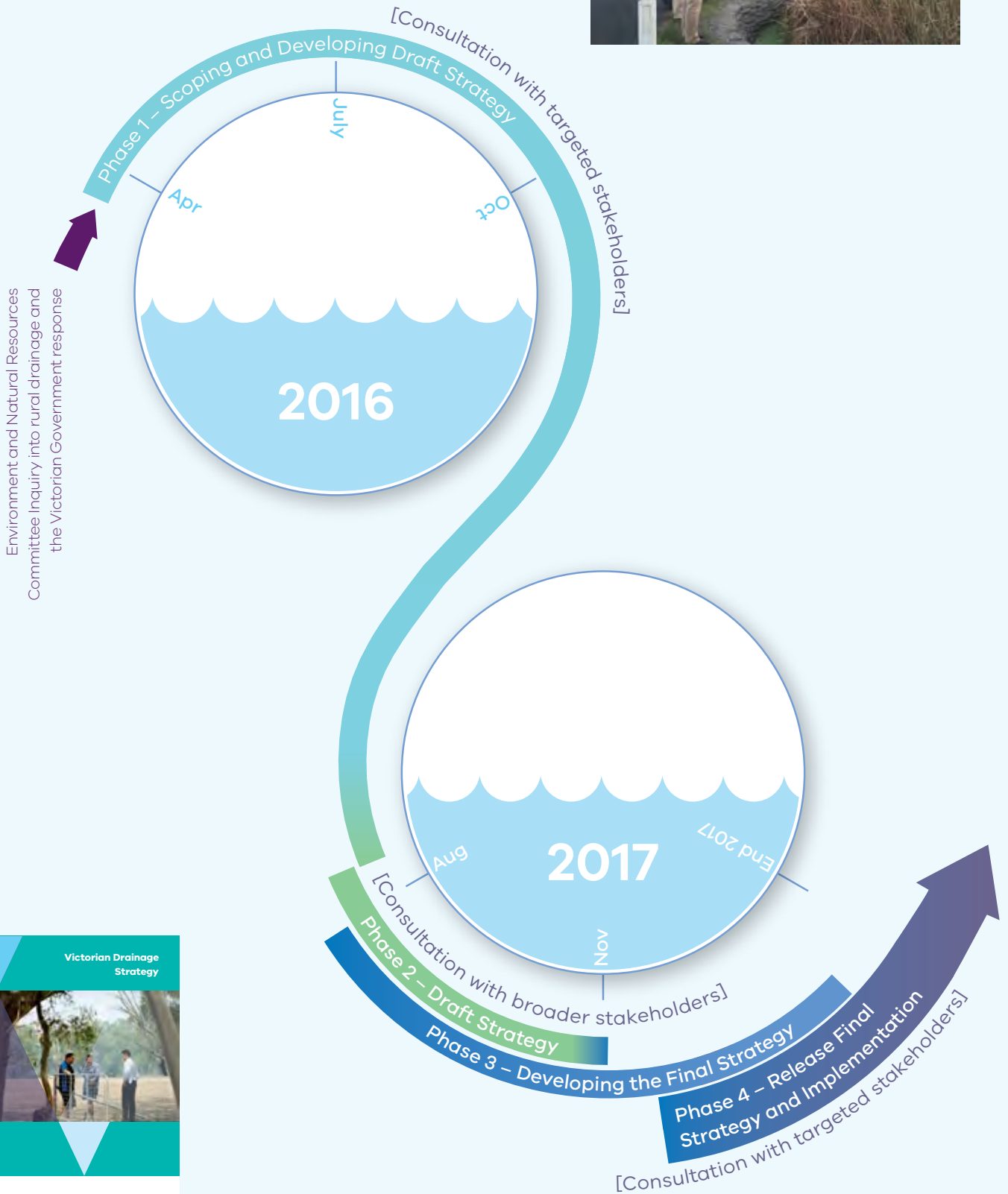
Engagement with catchment management authorities helped to shape and strengthen the partnership approach proposed in this draft Strategy. Working groups were established between catchment management authorities and the Department to provide technical support in the consideration of policy matters.

Consistent with the government's commitment to increasing the involvement of Traditional Owners and Aboriginal Victorians in the development of future water policy and management arrangements, Aboriginal Victorians and Traditional Owner groups were contacted to support the development of this draft Strategy. The Federation of Victorian Traditional Owner Corporations was commissioned, with input from key Aboriginal Victorians and Traditional Owner groups, to prepare a discussion paper that informed the proposed directions relating to Aboriginal values in Chapter 6.

This draft Strategy also includes collective input from the Reference Group, which has shaped the proposed policies and actions for managing and maintaining rural drainage into the future.

The Victorian Rural Drainage Strategy is being developed in a four-phase process (see figure 2.1). With the publication of this draft Strategy, broader feedback is now being sought to help inform the development of the final Strategy.

Figure 2.1 Process for developing the Strategy



**Part 2 –
How you can
contribute to the
final Strategy**



Stakeholders and the community can choose to contribute directly to the future directions for rural drainage management in Victoria in a range of ways. Chapter 3 (Part 2) highlights the government's commitment to an open and consultative process in developing a state-wide rural drainage Strategy.

3 Have your say

The Victorian Government is now seeking broad community input and feedback to inform the final Victorian Rural Drainage Strategy. This draft Strategy provides an opportunity for the community to help determine what needs to be done to support the ongoing management of rural drainage in Victoria. The government welcomes and encourages the involvement of as many Victorians as possible in helping to shape a final Strategy. The draft Strategy will be open for an eight-week public consultation period and, subject to the feedback received, the aim is to release a final Strategy in late 2017.

There are various ways for the community and stakeholders to get involved. You are welcome to:

- Attend a regional forum or workshop
- Make a submission online at www.engage.vic.gov.au/ruraldrainage
- Have informal but structured one-on-one discussions with the project team as part of the consultation program.

Submissions will be made public unless confidentiality is requested. Submissions that are defamatory or offensive will not be published.

Public consultation will close eight weeks following the release of this draft Strategy.

Please visit the website for details on how you can get involved. The website includes information on when the project team will be in your area and information on the public consultation period, including dates for public submissions.

www.engage.vic.gov.au/ruraldrainage

**Part 3 –
What improved
management of
rural drainage
will mean**





(Chapters 4–6)

Part 3 outlines the policies and actions for specific stakeholders – particularly landholders, environmental managers, Aboriginal Victorians and Traditional Owner groups.

It details how landholders are empowered through this Strategy to make choices about how they want to manage rural drainage. It also outlines landholders' obligations in managing rural drainage, and the support that will be provided to help them meet those obligations (Chapter 4)

The draft Strategy recognises the potential to achieve positive environmental and cultural benefits by helping landholders to find pathways through environmental and cultural approvals. It also provides increased certainty to landholders about how rural drainage can be managed in environmentally sustainable and culturally sensitive ways (Chapter 5).

In its 2016 *Water for Victoria* plan, the Victorian Government recognised the value that water has for Traditional Owners and Aboriginal Victorians in the context of rural drainage. This draft Strategy reflects a commitment to consult with Aboriginal Victorians in a way that addresses the rights and interests of Traditional Owners. It also proposes to promote opportunities for landholders and Traditional Owners to work collaboratively to consider cultural heritage in drainage management (Chapter 6).

4 Landholders making informed choices

This chapter outlines the information that landholders will need to help them make informed choices about their management of rural drainage into the future. It looks at the different management arrangements open to them, either individually or collectively.

Where landholders can agree to manage drains collectively, they can do so through:

- Amicable non-written agreements;
- Written agreements; or
- Written agreements with administrative support from councils, which can partner with other agencies to ensure the right technical considerations are built in to any drainage arrangements (Figure 4.1).

This chapter also emphasises that drainage services will only be improved where landholders agree to pay for those improvements.

The arrangements outlined in this chapter aim to provide information for landholders to help them make choices about how to manage their drainage and drainage systems into the future.

Proposed outcome 1

Landholders understand the various ways they can manage rural drainage



*Working together
(Craig Moodie)*



4.1 Making informed choices about management arrangements

Landholders need the means to make informed choices about their management arrangements for rural drainage. If landholders are happy with their existing drainage arrangements and are meeting their relevant obligations they can continue with the current arrangements. For those landholders that are seeking clarity about management arrangements, or support to manage rural drainage, this draft Strategy will clarify the ways that they can manage rural drainage. (Figure 4.1)

The draft Strategy proposes that the Department of Environment, Land, Water and Planning (the Department) will set out the proposed policy directions for rural drainage and develop the tools and information to help landholders make choices about how they manage rural drainage.

Proposed action 4a

Prepare tools and information to help landholders understand their options for managing rural drainage

The Department of Environment, Land, Water and Planning will work with landholders, councils, catchment management authorities and Traditional Owners to develop a resource kit for landholders who choose to invest in managing rural drainage. The proposed drainage resource kit will include:

- A technical tool to help landholders consider the likely costs and benefits of investing in improved rural drainage
- Information about landholders' obligations to obtain approvals for drainage works (including investigating opportunities for exemptions and for streamlining approvals, as well as provision of certainty around where approvals may not be granted)
- Guidance for landholders to help establish any works that return the best value for money, while also minimising third party impacts and taking into account the possible impacts of climate change (best-practice guidelines for rural drainage)
- Information about governance structures and relevant legal arrangements to establish drainage committees

Information on rural drainage and access to the drainage resource kit will be available on relevant agency websites, including those of catchment management authorities, councils, the Department of Environment, Land, Water and Planning and the Department of Economic Development, Jobs, Transport and Resources.

Figure 4.1 Four ways landholders can manage rural drainage

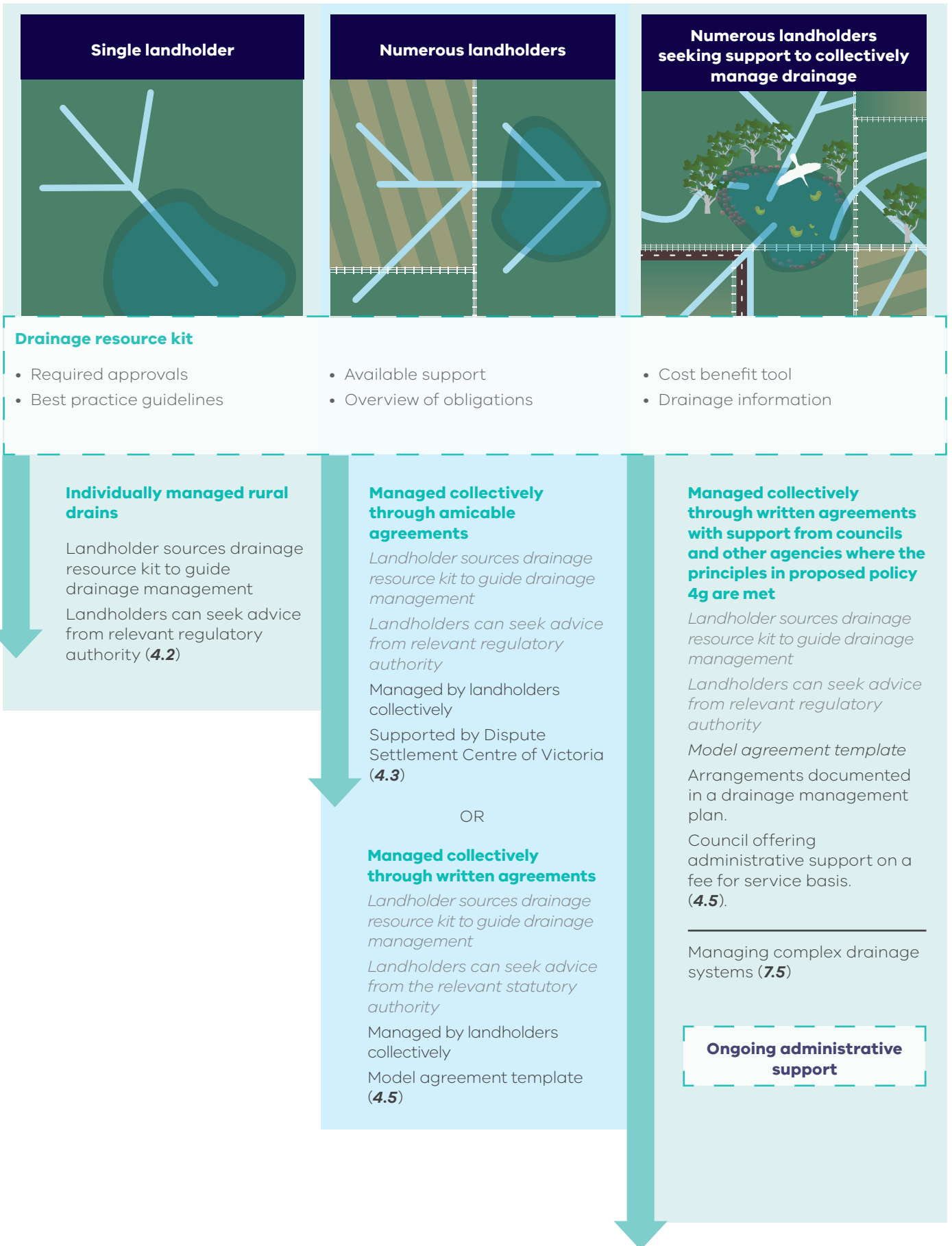
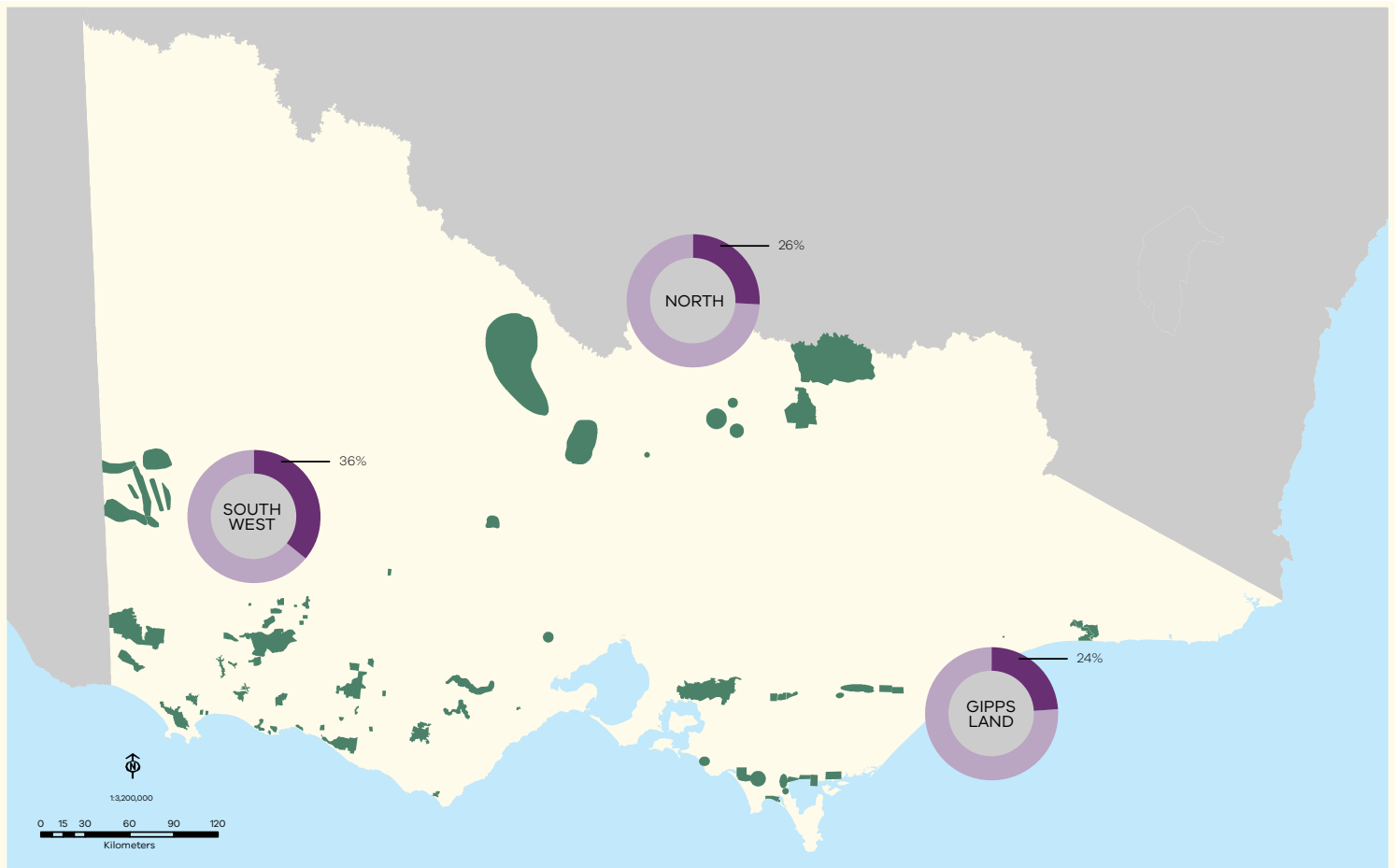


Figure 4.2 Preliminary assessments of the potential loss of productivity (as a percentage of total gross profit) due to poorly functioning drainage systems in the three key regions for dryland rural drainage in Victoria



Legend

■ Historic drainage areas

Considering the costs and benefits of improving rural drainage

Before landholders can choose to improve the management of their rural drainage, they need to understand whether the benefits of doing so will outweigh the costs. In some cases rural drainage can enhance productivity by reducing the extent, severity and duration of inundation after rainfall. If all the historical drainage systems were fully functioning, the gross annual returns from farming in these areas would be expected to be in the order of \$350 million. Because they are not fully functioning, it is possible that current gross annual returns for landholders are in the order of only \$175 million¹, noting that these figures are indicative.

These estimates demonstrate the potential benefits to be achieved where landholders decide to invest in management of rural drainage. The return from investing in dryland drainage varies greatly, depending on a range of factors (such as climate, topography, soil and type of agriculture). However, estimates can be made based on known profit margins and cost estimates of the potential impacts of

waterlogging in historical large-scale drainage systems. Both benefits and costs are expected to vary significantly between drainage areas, depending variously on land use, each area’s susceptibility to waterlogging, and the current effectiveness of drains. Figure 4.2 shows how poorly functioning drainage infrastructure can potentially reduce landholder profit margins by 30 per cent.

Future changes in dryland agricultural production and in land use, both of which are largely driven by market demand for agricultural commodities, may affect the benefits derived from rural drains. The potential for reducing the effects of inundation of agricultural land is heavily dependent on the condition and subsequent performance of existing drainage infrastructure. A detailed assessment of the condition of infrastructure has not been undertaken at the individual property level, so these costs are indicative.

In addition, climate change is expected to produce generally hotter and drier conditions, which would tend to decrease the average annual impacts of inundation. Although drier conditions are expected, the intensity of some extreme rainfall events may

increase. The benefits of well-maintained drains would be most evident following these events. The overall net effect of climate change on the cost-benefit equation for maintaining rural drains is thus uncertain² and may not be evident in the short term.

Affected landholders must ultimately be the ones to assess the benefits and costs of improving the management of any drainage. To this end, the Department of Environment, Land, Water and Planning is keen to work more closely with landholders to develop a technical tool to assess the potential benefits and costs of improving their drainage services.

Guidance material to support the use of that tool will be developed. The material will enable landholders to consider the costs and benefits of rural drainage in a range of scenarios, including key climate scenarios, based on the *Guidelines for assessing the impacts of climate change on water supplies in Victoria*, which considers the vulnerability of supply systems to climate variability and climate change.³

The guidance material can support landholders to consider the vulnerability of drainage works to climate variability and climate change. It can help landholders understand their options to consider climate change, and the costs of refurbishing and managing rural drainage infrastructure. It can also support landholders to consider the costs of environmental offsets and approvals for works, which in turn will help them to choose the best options for investing in rural drainage over the short and longer-term.

Proposed action 4b

Help landholders understand the potential costs and benefits of rural drainage

The Department of Environment, Land, Water and Planning, in partnership with the Department of Economic Development, Jobs, Transport and Resources, will work with landholders, councils and catchment management authorities to prepare a generic technical tool that can be used by individual landholders to understand the potential costs and benefits of them investing in rural drainage management.

The tool will be supported by guidance material to help landholders, when they are using the tool, to consider the potential impacts on costs and benefits of a range of variables such as climate change.

Proposed policy 4a

Landholders can access a technical tool that they can use to consider the potential costs and benefits of rural drainage.

A generic technical tool will be available for landholders to access and use to understand the potential costs and benefits of rural drainage based on their business needs. The tool will be available in an accessible form on relevant agency websites, including those of catchment management authorities, councils, the Department of Environment, Land, Water and Planning and the Department of Economic Development, Jobs, Transport and Resources.

Pathways to meeting environmental and cultural approvals

Currently, individual landholders may need to apply to a range of agencies to obtain the necessary approvals to drain water from their land. For example, in areas deemed to have environmental significance, they would need to apply to their council for a planning permit for earthworks and to a catchment management authority for approval to carry out works on waterways. Landholders would also need to apply to a water corporation to ensure third party impacts are considered if proposed works involve taking and using water.

These approvals remain important because, as discussed in more detail in chapter 5 and chapter 6, rural drainage has had a significant impact on Victoria's waterways, and it is important to avoid or minimise any further cultural or environmental impacts.

Approvals, for both new and existing drainage works, where required, enable landholders to drain water in ways that avoid:

- Impacts on Aboriginal heritage sites
- Impacts on rare and threatened flora or fauna (including all matters of national environmental significance)
- Impacts on native vegetation
- Changes in water flow across property boundaries, and potentially across catchment boundaries, that are not reasonable or cause damage or injury to people or property
- Environmental harm from discharging wastewater into waterways
- Third party impacts associated with taking and using water from the drainage works (Section 67 works licence and Section 51 take-and-use licence under the *Water Act 1989*)
- Environmental impacts when carrying out works on waterways.

It is not always clear to landholders when and where approvals are required, and which agency is responsible for considering approvals. In some cases, there may be confusion about whether a permit is required at all, which can result in landholders being fined because they are not aware of their obligations.

This draft Strategy proposes to build awareness and understanding of approvals and identify opportunities to reduce the regulatory burden on landholders. There are opportunities to build capability for landholders and agencies to manage rural drainage in environmentally and culturally sensitive ways (see proposed action 8a). There are also opportunities to create greater efficiencies in the various approval processes, and to make use of specific exemptions to the approvals process where the risks to cultural and environmental values are low (Proposed action 5b).

It is a standard requirement that a permit be obtained for earthworks that relate to management of rural drainage, unless controls say otherwise. For example, a local schedule may state that a planning permit is not required up to a certain volume of earthworks.

In circumstances where a particular land use planning overlay is in place (such as an environmental significance overlay, or an overlay for land subject to inundation), an application for earthworks (or works) must be referred to the relevant planning referral authority, and a permit obtained for works. Works in these cases may be supported, or supported with conditions, where the regulators have assurance that the works will be undertaken in environmentally and culturally sensitive ways.

Although a permit from a catchment management authority will almost always be required to undertake works on a waterway, there are some exceptions, including where a drain is not listed as a designated waterway – as is the case in the Strathdownie drainage area.³

Land owner and/or public land manager consent will be required where works are proposed on land managed by the government. A landholder can seek advice and apply for consent from the Department's regional offices.

Where approvals are required, they sometimes appear to landholders to be ad-hoc and unnecessarily stringent.⁴ Landholders need to have confidence that they will be supported within a regulatory framework that can be applied consistently across the state. This draft Strategy identifies opportunities to streamline approvals with the support of agencies (proposed policy 4f) and, in some cases, clarify opportunities for exemptions from approvals (Proposed action 5b).

In some cases, drainage of new areas will not be permitted if it is likely to result in significant environmental or cultural impact. Under the proposals in this draft Strategy, landholders will be provided with increased certainty about where works are unlikely to be granted (Proposed action 5a). Landholders will also be supported to incorporate cultural heritage management in the context of rural drainage (proposed action 6b).

Proposed action 4c

Streamline environmental and cultural approvals

The Forest, Fire and Regions Group of the Department of Environment, Land, Water and Planning will identify opportunities to streamline environmental and cultural approvals. It will be risk based and provide a consistent approach to considering permit applications across the State.

The draft Strategy identifies opportunities to streamline approvals with the support of agencies. Catchment management authorities need to understand where there are opportunities to improve management of drainage areas for environmental and cultural values and will guide landholders through approvals in the more complex drainage systems when requested. This will help to lift impediments for landholders to managing rural drainage systems while meeting obligations (Proposed policy 4f).

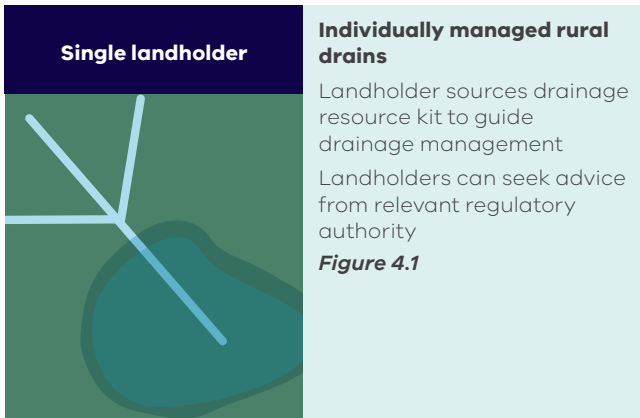
This information will form part of a drainage resource kit that landholders will be able to access from the relevant agency websites (proposed action 4a).

Proposed policy 4b

Establish a contact point for landholders to access tools and information to help them seek statutory approvals to manage rural drainage

Councils will provide the point of contact for landholders to access tools and information about statutory approvals to manage rural drainage in a local context. This information will also be available on all partner agency websites, including those of catchment management authorities, the Department of Environment, Land, Water and Planning and the Department of Economic Development, Jobs, Transport and Resources.

4.2 Individually managed rural drains



In some cases, rural drainage is confined to one property and can be managed by a single landholder. Landholders can access the drainage resource kit to understand the obligations for approvals for drainage works. They can continue to get advice from the relevant statutory authority about their obligations to manage the impacts of rural drainage.

Often, individual properties drain into a roadside table drain or culvert. Where the capacity of the drain or culvert is inadequate to avoid waterlogging or inundation on that property, it is up to the landholder to negotiate a resolution directly with the responsible road authority (either a council, VicRoads or in some cases the Department of Environment, Land, Water and Planning). These matters generally do not involve other agencies unless there is other infrastructure involved such as rail infrastructure, or there is a regulatory consideration, such as a need for works on a waterway that requires a permit.

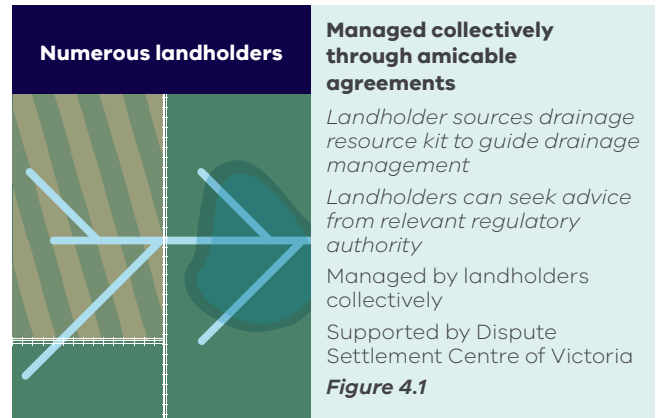
Authorities in charge of roads, rail and other public infrastructure resolve drainage issues affecting their infrastructure on a priority basis. For example, in response to the jump in drainage inquiries following extensive regional flooding, Campaspe Shire Council prepared a drainage policy to prioritise drainage repairs and maintenance.⁵

Proposed policy 4c

Agencies continue to manage their public infrastructure that interfaces with individuals' drainage works

Where a property's drainage interfaces with a piece of public infrastructure such as a road, the relevant agency will continue to resolve issues through its prioritisation process.

4.3 Drainage managed collectively through amicable agreements



In some cases, neighbours need to collaborate to agree on a combined approach to managing rural drainage. This happens where drainage crosses property boundaries or affects neighbours.

Where rural drainage involves more than one property, the landholders who benefit from that drainage system need to come together in ways that build trust and foster cooperation. Ultimately, they need to develop a set of rules for coordinating their drainage maintenance efforts. Where only a small number of landholders are involved and the system is relatively simple, landholders might choose to agree informally through neighbourly cooperation. In effect, the system would be managed through a series of amicable agreements. However, these negotiations between neighbours may sometimes be difficult.

The draft Strategy proposes that these informal arrangements can continue. These landholder groups will be able to contact councils and obtain the resource kit (proposed action 4a), which includes information on obligations related to approvals for works.

It should be noted, however, that when amicable agreements break down, there is very little agencies can do to help resolve issues or negotiate new agreements. The resource kit will encourage landholders to consider formal written agreements to support ongoing arrangements.

If a dispute cannot be resolved through discussions between landholders, they should approach the Dispute Settlement Centre of Victoria⁶, which offers a free mediation service involving an accredited and impartial mediator.

Proposed policy 4d

Landholders managing drainage through amicable agreements

Landholders will continue to be able to come to amicable agreements among themselves to manage and maintain shared drainage systems, but will be encouraged to consider formal written agreements to support all parties if circumstances change.

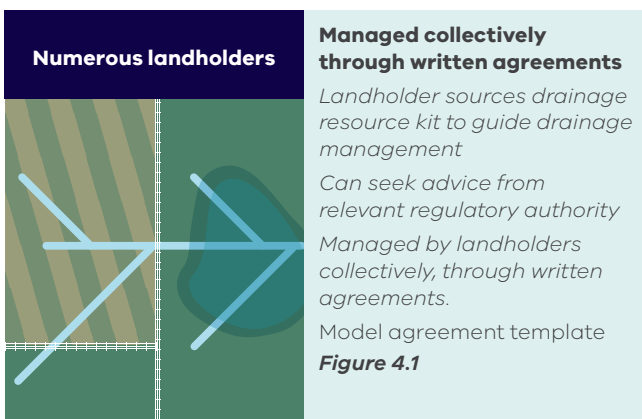
Neither councils nor other agencies are responsible for resolving disputes about rural drainage. Landholders are expected to work with their neighbours to manage shared rural drainage systems. Where agreement is not possible, landholders can seek assistance from the Dispute Settlement Centre of Victoria.

Ideally, the agreements should be recorded on land titles. A formalised community drainage committee can be established as an entity that can enter contracts in its own name to borrow money or buy equipment, and manage risks.

Model rules for incorporated associations are available from Consumer Affairs Victoria.⁷ They provide a starting point for associations to tailor their own rules. The rules that the association adopts are a contract between the association and its members. They set out the association's purposes, list the rights and responsibilities of members and office holders, and include dispute resolution processes. In northern Victoria, a model agreement has been prepared for incorporated associations to extend their rules in a way that is tailored to community management of drainage systems. (see case study on page 29 – Shepparton Community Surface Water Management System).

One key task for the committee would be to determine, and record in the agreement, how they will collect revenue and how they will acquit funds.

4.4 Drainage managed collectively through written agreements



Formal written agreements are more likely to survive changes in land use and property ownership. Relying on amicable arrangements is subject to changes in land use needs, or to confusion when properties change hands, potentially resulting in the breakdown of those arrangements.

Landholders working with each other to manage rural drainage might choose to bolster those arrangements with agreements for access to each other's properties under the *Water Act 1989*. This enables community groups (either an existing drainage committee or new group) to formalise drainage arrangements. These written arrangements can include:

- The extent of access to a neighbour's property;
- A map showing the location and measurements of proposed drainage works;
- Management arrangements for joint assets and support for management of broader risks to assets in the landscape.

The landholders may choose to form a community drainage committee to collectively manage drainage across their properties and neighbouring lands.

Proposed policy 4e

Landholders managing drainage through written agreements

Landholders will continue to be able (and will be encouraged) to enter written agreements among themselves to manage and maintain drainage systems.

They will be able to use model rules for incorporated associations, available from Consumer Affairs Victoria, and use model agreements for community management of rural drainage, to formalise their written agreements.

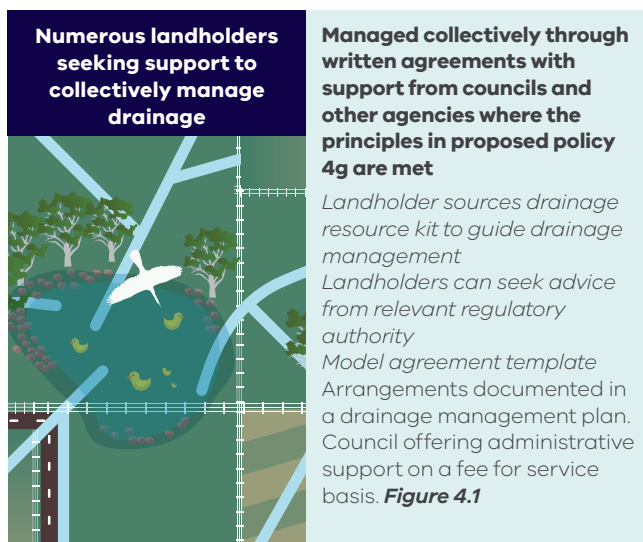
Proposed action 4d

Prepare a model agreement for adoption by rural drainage committees

The Department of Environment, Land, Water and Planning will work with key delivery partners to prepare a model agreement that landholders may choose to adopt as a formal written agreement to manage rural drainage.

This work will consider opportunities to provide advice on how a drainage committee can self-insure for risk.

4.5 Drainage managed collectively with support from councils and other agencies



The current need for each landholder to gain individual approval, as opposed to system-wide approval, to remove native vegetation, remove silt or modify channels that cross property boundaries has proven to be a stumbling block for landholders to collectively manage drainage. While it is important that these activities are regulated to minimise or avoid environmental and cultural impacts, this can be done much more efficiently on a broader scale (involving many properties) than at the individual property level.

Similarly, landholders may require support to determine how they will collect revenue and acquit funds. It is expected that landholders may need administrative assistance to collect funds on their behalf. While there are examples of such arrangements working effectively, in some cases the inability to reach agreement, particularly where some landholders believe they may not benefit from the drainage service, has prevented management of larger drainage areas. The new drainage resource kits discussed in proposed action 4a are designed to help landholders work through their options for drainage management, and to choose whether or not they want a drainage service.

In some cases, there may be a smaller group of landholders willing to pay for drainage services within a larger group that is not willing to pay. It would not make sense for those willing landholders to pay for a whole drainage area, but it may make sense for them to form a smaller collective to meet their individual needs, providing third party impacts are considered. In these cases, a drainage management plan may help to determine the critical points of the drainage system, and any third-party impacts, to progress drainage services for those prepared to pay (Section 7.4).

This will be underpinned by strong partnership arrangements, with agencies relevant to the drainage system in the local context involved in supporting landholders (proposed action 8f). The Shepparton Drain case study on page 29 highlights the lessons from irrigation drainage where drainage is supported by partnership arrangements.

Proposed policy 4f

Supporting landholders to prepare rural drainage management plans

To streamline the approvals process, landholders who choose to manage drainage collectively will have the option to prepare a rural drainage management plan that sets out how the environmental and cultural impacts of rural drainage will be managed. Support for landholders to prepare a rural drainage management plan will be underpinned by strong partnership arrangements, in line with the proposed directions in this draft Strategy. Under the proposals:

- Landholders will be responsible for preparing rural drainage management plans. (based on guidance proposed in action 8b).
- Councils will provide administrative support for the development of rural drainage management plans, including convening meetings with landholders and relevant agencies, where landholders are prepared to meet certain criteria (see proposed policy 4f).
- Catchment management authorities will provide an early indication for landholders on the costs of seeking environmental approvals. Catchment management authorities will also work in partnership with Traditional Owners and Aboriginal Victorians to understand the potential costs of seeking cultural approvals. And they will provide advice on the development of environmental and cultural management arrangements for rural drainage management plans.

Once the planned maintenance activities detailed in the plan (potentially an attachment to a license application) have been approved by each of the relevant regulatory bodies, planned maintenance will be allowed without the need for further approvals for a period of up to 15 years (provided it is in line with conditions which could include a requirement that works be undertaken in line with the drainage management plan), at which time they will be reviewed and then renewed with or without changed conditions.

Proposed policy 4g

Principles for supporting landholders to manage rural drainage

Rural drainage systems will only be managed with the administrative support of councils and the advice of other agencies if:

- The need to manage the drainage system has the support of landholders within the drainage area.
- The landholders benefiting from the drainage system agree to pay for the maintenance and administrative costs of the system.
- The landholders are willing to participate in a formally constituted local drainage management committee
- The incorporated association holds appropriate insurance.



Case study: Community Surface Water Management System Shepparton Drain 3B / 11P

Although irrigation drainage is outside the scope of this draft Strategy, there are lessons to be learned from this community model.

The Shepparton Irrigation Region is located in central northern Victoria within the Goulburn Murray Irrigation District. The development of irrigated agriculture has altered the natural hydrology of the region, with removal of trees and the frequent irrigation of land resulting in soil profiles with higher moisture content. This results in higher volumes of runoff and ponded rainfall leading to prolonged waterlogging with negative impacts on productivity.

To address these issues, the Shepparton Irrigation Region Land and Water Management Plan was developed in partnership with Goulburn Murray Water, Goulburn Broken Catchment Management Authority, the community, the Victorian Government and the Greater Shepparton City Council. This plan included a Surface Drainage Strategy looking at providing drainage services across the irrigated regions of the catchment and a proposed works program, prioritised to allow progressive implementation of works across the region.

The Community Surface Water Management System Shepparton 3B/11P services a catchment area of 292 hectares across 15 properties. Land use is mixed, with the entire catchment laid out to irrigation. Normal to wet rainfall conditions result in significant inundation,

as natural drainage lines in the area are not continuous and the topography is particularly flat. The catchment was affected by wet periods through the 1970s and 1980s, with a major flooding event in 1993 leading to renewed community calls for improved drainage.

Implementation of a community surface water management scheme in this catchment required strong partnership arrangements to support the negotiation of various issues including land ownership changes, land use changes, changing views of landholders on the need for the service, and landholder disagreements. These complexities necessitated landholder support for the construction and ongoing management of the system. As the works are within the irrigation district and outfall is into the publicly-owned drainage system, the Victorian Government, via the then Department of Primary Industries with support from Goulburn Murray Water, were the most appropriate organisations, and they worked in partnership to provide support in this case.

Through these arrangements, landholders were able to construct drains, and connect them to existing irrigation district drains at much lower costs than for other options. Due to the connection to irrigation infrastructure, ongoing maintenance of the completed works is funded by serviced landholders and conducted by Goulburn Murray Water as part of its maintenance program, with costs recovered through annual rates and charges.

The support provided by a third party to bring the affected parties together, along with clear guidelines and a process for delivery, enabled this community group to successfully work through a range of issues over a number of years to see their scheme completed with improved outcomes for agriculture in the region.

5 Improvements for the environment

This chapter explains the importance of waterways, and the effects of drainage on waterways. It focuses on those waterways most affected by drainage, and pays attention to the impacts on wetlands.

The chapter also outlines how proposed simplified environmental approvals processes for landholders in relation to rural drainage management will play an important role in protecting and improving environmental values.



The chapter outlines opportunities for environmental restoration of waterways previously affected by drainage. It also sets out arrangements to avoid future impacts of drainage on biodiversity values and waterways, while also providing landholders with increased certainty. It concludes by proposing ways for existing rural drainage to be managed in environmentally and culturally sensitive ways, and outlines the environmental protection measures that would be required for any new drainage in the future.

It also considers how climate change and other factors can be considered in future management of rural drainage, and describes how this draft Strategy proposes to manage any further threats to the value of waterways from rural drainage.

In the context of the main proposed outcomes of the Strategy, this chapter addresses the environmental aspects of the following:

Proposed outcome 2

Cultural and environmental values are protected with increased efficiency

Proposed outcome 3

Priority waterways impacted by rural drainage are managed to provide cultural and environmental benefits



West Wimmera Wetlands (David Fletcher)

5.1 Introduction

Waterways are important natural assets supporting diverse populations of animals and plants - some of which are now rare, endangered or threatened - and providing broader community values. This draft Strategy proposes that existing statutory arrangements to consider impacts of rural drainage on the environment will be retained. This includes retaining the role of catchment management authorities in considering permit applications relating to works on waterways.

What are waterways?

Waterways are defined as rivers and streams, their associated estuaries and floodplains (including floodplain wetlands) and non-riverine wetlands.⁸

5.2 The environmental impacts of rural drainage

Rural drainage has clearly led to increased agricultural productivity in Victoria – but in the past this has resulted in a decline in the ecological condition of many waterways. The drainage of land has resulted in a 28 per cent reduction in Victoria’s wetland area, while the runoff from rural drainage affects water quality in receiving waters. Wetlands in southwest Victoria have been particularly affected; in the Glenelg Hopkins Catchment Management Authority region, for example, 75 per cent of shallow freshwater wetlands have been lost due to drainage.

A state-wide assessment of Victoria’s 600 high value wetlands concluded that 56 per cent of these wetlands were in excellent or good condition, while the other 44 per cent were in moderate, poor, or very poor condition. The report stated that ‘even though high value wetlands have a high profile for protection and management’, many wetlands were ‘still subject to threatening processes which are likely to have been exacerbated by drought’.⁹

North Central Catchment Management Authority staff undertaking wetland monitoring (North Central Catchment Management Authority)



5.3 Pathways through environmental and cultural approval processes

Under this draft Strategy, it is proposed that the Department of Environment, Land, Water and Planning will work with councils and catchment management authorities to develop a risk-based framework for environmental approvals (proposed action 4c). It will also prepare guidance material, including a resource kit, on how to apply for a permit to maintain rural drainage. This will include practical advice for landholders about how to meet their obligations to protect environmental and cultural values.

Provide better information to landholders about approvals

Since the 1970s there has been very little expansion of large-scale rural drainage in Victoria. Many priority agricultural areas have already been developed, and were assessed under a different environmental standard. There is now a greater community expectation for provision of a higher level of protection for the environment. In practice this means approvals for new rural drainage works in some areas may not be granted – or, if they are granted, approvals could come with conditions designed to minimise environmental and cultural impacts. Under this draft Strategy, it is proposed that landholders will benefit from information about where approvals may not be granted, or where a greater level of investment in environmental and cultural considerations is required, minimising the potential frustration and costs of pursuing unrealistic or unaffordable drainage proposals.

Proposed action 5a

Provide increased certainty for landholders about approvals

The Department of Environment, Land, Water and Planning, in partnership with councils and catchment management authorities, will prepare a resource kit that provides increased certainty to landholders about approvals – including increased certainty about where works are unlikely to be approved – for rural drainage works that could have significant environmental impacts.

Preparing rural drainage management plans

Councils will provide support for drainage committees wishing to prepare rural drainage management plans. These plans will provide an opportunity to streamline the approvals process. With agency support for the development, those plans should reduce the costs and administrative burden currently involved in gaining approvals.

Rural drainage management plans should be fit for purpose. The level of complexity should depend on a risk-based assessment of the environmental and cultural impacts associated with operating and maintaining the drainage. For example, for small drainage systems with low levels of risk, the plans could be relatively informal. For large drainage areas with high levels of risk, the plans would need to address comprehensively the operation and maintenance regime, the regulatory requirements, and the processes for minimising the social, economic and environmental impacts of rural drainage.

Rural drainage management plans will need to provide details to landholders and the community about how the system is managed and how drainage charges are applied. Multi-year works plans would have a clear schedule of the type, scale and timing of works to be undertaken. Once landholders agree, rural drainage management plans will be considered by the relevant regulatory body (such as a council, catchment management authority or the Department's Forest Fire and Regions Group), streamlining the process to seek approval for drainage works, while also providing confidence to decision makers that works will be completed in a sensitive manner, meeting cultural and environmental obligations.

The proposal is for rural drainage management plans to outline the management, operation and maintenance schedule for the system for a period of up to 15 years, thus avoiding the need to get regular approvals (proposed policy 4f).



Bunyip Main drain at Koo Wee Rup
(Melbourne Water)

Case Study: The Koo Wee Rup and Longwarry flood protection district

The Koo Wee Rup and Longwarry flood protection district covers approximately 330 square kilometres south-east of Melbourne.

The region is a former wetland that was drained in the late 1800s for agriculture. It is now Australia's largest asparagus growing district. Beef farming and potato growing are the other major agricultural activities. Much of the district also provides habitat for threatened flora, fauna and ecological communities, and supports Aboriginal cultural heritage values. Five species and one ecological community likely to be found within the district are protected under the *Environment Protection and Biodiversity Conservation Act 1999*: the helmeted honeyeater, the southern brown bandicoot, the growling grass frog, the Australian grayling, dwarf galaxias and the subtropical and temperate coastal saltmarsh.

Melbourne Water owns and is responsible for drains in the district and carries out annual maintenance activities, guided by the advice of the Koo Wee Rup–Longwarry flood protection district advisory committee.

To allow maintenance to continue, Melbourne Water sought an exemption under the *Environment Protection and Biodiversity Conservation Act 1999* to proceed with annual routine works without the need to seek further approval.

In accordance with the *Environment Protection and Biodiversity Conservation Act 1999*, Melbourne Water is required to demonstrate that its actions will not:

- Lead to the long-term decrease in the size of a population
- Reduce the area of occupancy of the species
- Fragment the existing population into two or more populations
- Disrupt the breeding cycle of the population
- Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

To ensure that species listed under the *Environment Protection and Biodiversity Conservation Act 1999* are protected, while enabling necessary flood protection maintenance works to proceed, Melbourne Water developed controls and protection measures for use in known sensitive areas. (*Koo Wee Rup and Longwarry Flood Protection District EPBC Act Factsheet*). As a result of these controls and protection measures, approval was granted for 'the maintenance of existing utility assets within the identified asset maintenance zones'.

Melbourne Water is still required to comply with State and Commonwealth legislation to protect environmental values to demonstrate that its actions are undertaken in a way that minimises impacts. This can include staging works to avoid affecting critical life history stages (such as breeding), leaving one side of a channel vegetated while clearing the other, leaving some vegetation within the channel that will not significantly impede flood conveyance, or thinning rather than completely removing vegetation.

By working closely with the community and regulating agencies, Melbourne Water now has a Cultural Heritage Management Plan and a maintenance regime that meets its obligations under environmental and cultural heritage protection legislation while providing an appropriate level of services to its customers.

Exemptions

Where allowed by regulations such as the Victorian Planning provisions or bylaws for Works on Waterways, it may make sense to explore and provide clarity about opportunities for exemptions from approvals for works to maintain existing rural drainage.

The removal of native vegetation is primarily regulated by the Victoria Planning Provisions, and applications for removal are referred to the Department for consideration where approval is required on Crown land or where certain thresholds are reached. The *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (the Guidelines) is a document incorporated into the Victorian Planning Provisions that outlines how impacts on Victoria's biodiversity are assessed when a planning permit application to remove native vegetation is lodged. Under certain circumstances, a planning permit is not required to remove, destroy or lop native vegetation when undertaken in accordance with a relevant exemption. These exemptions will continue, and guidance on how they are applied will be provided.

In 2000, the Commonwealth Government's *Environment, Protection and Biodiversity Conservation Act 1999* came into effect to protect matters of national environmental significance. Given that most of the existing drainage systems were constructed before it was enacted, the legislation provides exemptions allowing the continued and uninterrupted operation of pre-existing activities that were fully approved or permitted by state and local governments.

There are some examples of where documented maintenance regimes for pre-existing infrastructure have been put in place to demonstrate ongoing compliance with the intent of legislation and environmental regulations, while also providing an appropriate level of drainage service.

The activities outlined in the Koo Wee Rup and Longwarry flood protection district case study demonstrate that drainage works can be undertaken in environmentally sensitive ways. The lessons from this case study will guide the support provided to landholders who choose to prepare rural drainage management plans (proposed policy 4f and proposed action 8b).

Proposed action 5b

Investigate opportunities for exemptions for maintaining existing drainage

The Department of Environment, Land, Water and Planning will work with catchment management authorities and councils to develop a risk-based framework for environmental approvals. In doing so, it will investigate opportunities for exemption from relevant approvals (i) for maintenance of existing drainage works, and (ii) where works are undertaken in ways that minimise impacts.

Considering water quality impacts of rural drainage

The *State Environment Protection Policy* (Waters of Victoria) provides a regulatory framework to protect waterway values through the management of water quality threats. The policy, which is established under the *Environment Protection Act 1970*, places obligations on those carrying out specific activities that may affect water quality. It also outlines a series of environment management practices and actions that improve environmental quality and help protect waterway values.

The policy reflects the *Environment Protection Act 1970* by placing a priority on avoiding waste. Where that is not achievable, it focuses on reusing, recycling, treating, containing and, if necessary, disposing of waste. It includes requirements to minimise the runoff of pollutants such as sediment, nutrients, salt, biocides, pathogens and litter to surface waters from agricultural activities.

The policy is currently being reviewed. It is proposed that the obligations on landholders to minimise their impact on the environment will be retained.

This draft Strategy also recognises the potential impacts of farming practices on waterways, and supports the preparation of rural drainage management plans which, guided by the regulatory framework, seek to minimise or avoid the impact of rural drainage on receiving waterways.

Proposed policy 5a

Considering the water quality impacts of rural drainage

Rural drainage management plans will consider the regulatory framework to minimise or avoid the impact of rural drainage on receiving waterways.

Managing waterways in a changing climate

Australia's climate is highly variable. Within this variability, records show that catchments have become drier and temperatures have increased. The Millennium Drought brought a seasonal shift in rainfall, with proportionally less rain in the cooler months, a trend that has continued in many parts of Victoria since the end of the drought. Many catchments in Victoria have recorded streamflow reductions of 50 per cent or more over the past 20 years (since the beginning of the Millennium Drought in 1997), (Figure 5.1). Given the changes experienced in Victoria's climate and streamflow, the climate of recent decades is considered the most reliable baseline.

As the climate changes, many wetlands are expected to dry more frequently and for longer durations. The remaining more permanent wetlands will become vital to the survival of many species by acting as refuges in dry years.

It is not known if drainage affects the carbon balance of wetlands. A recent investigation of inland wetland carbon stocks confirmed that Victoria's inland wetlands represent significant carbon sinks. However, because wetlands are a significant source of methane, which is also a greenhouse gas, little is known about their net effect on greenhouse gases.

The Wimmera and North Central catchment management authorities are partnering with Murray Local Land Services in NSW, MidCoast Council, Deakin

University and Southern Cross University to look at maximising carbon sequestration in freshwater wetlands. This project will determine whether hydrology can be manipulated to maximise carbon sequestration and minimise the release of greenhouse gases in wetlands. The Department's climate change framework flags the need to develop climate change adaptation plans for key sectors. Three pilot adaptation plans are being developed, including one for water.

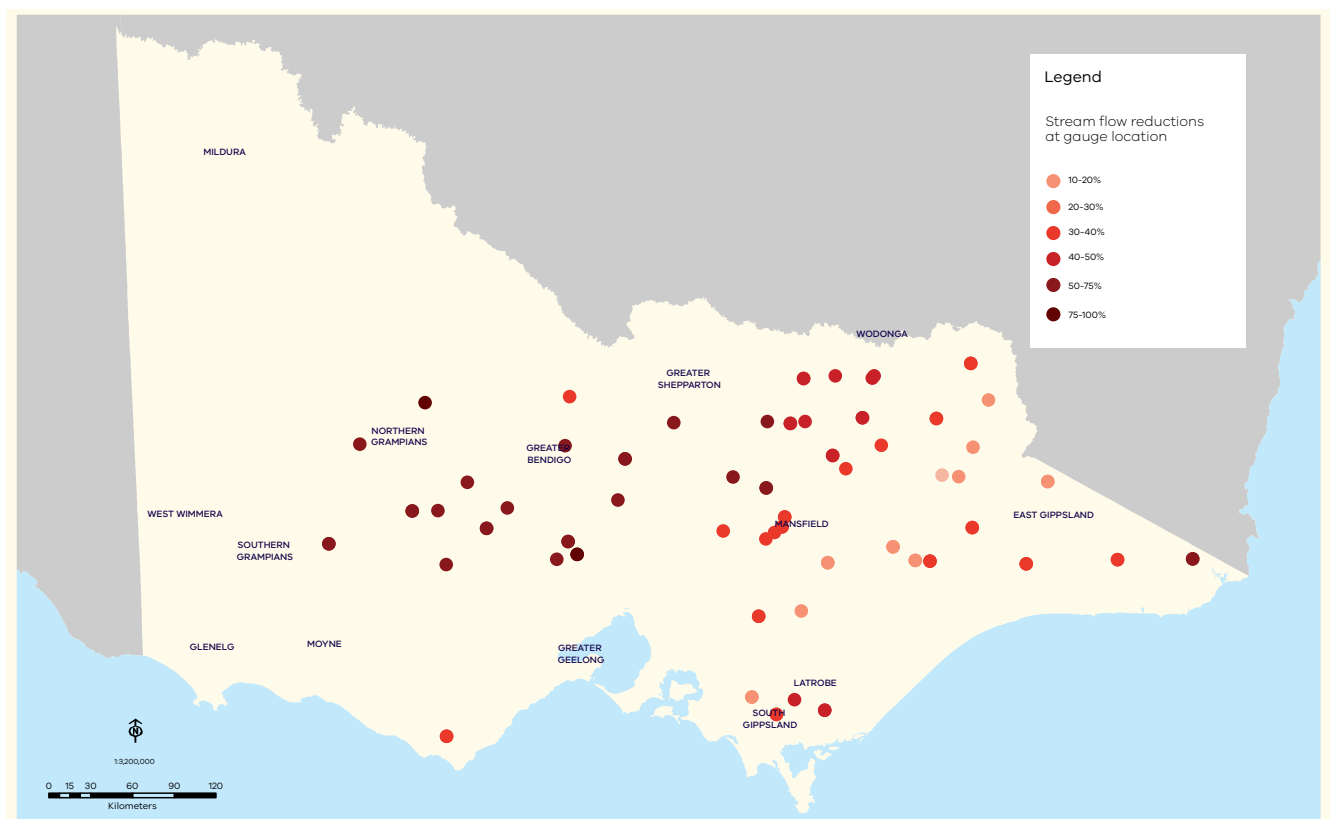
This draft Strategy proposes to manage existing and future drainage of waterways in ways that help to adapt the management of waterway ecosystems to climate change.

Proposed action 5c

Support climate change adaptation in rural drainage

The pilot climate change adaptation plan for the water sector will consider opportunities to support climate change adaptation in rural drainage. For example, it may link to guidance that will be provided to landholders on how they can consider climate change scenarios as part of deciding whether to invest in rural drainage over the longer term.

Figure 5.1 Streamflow reductions across gauged streams in Victoria since 1997¹⁸



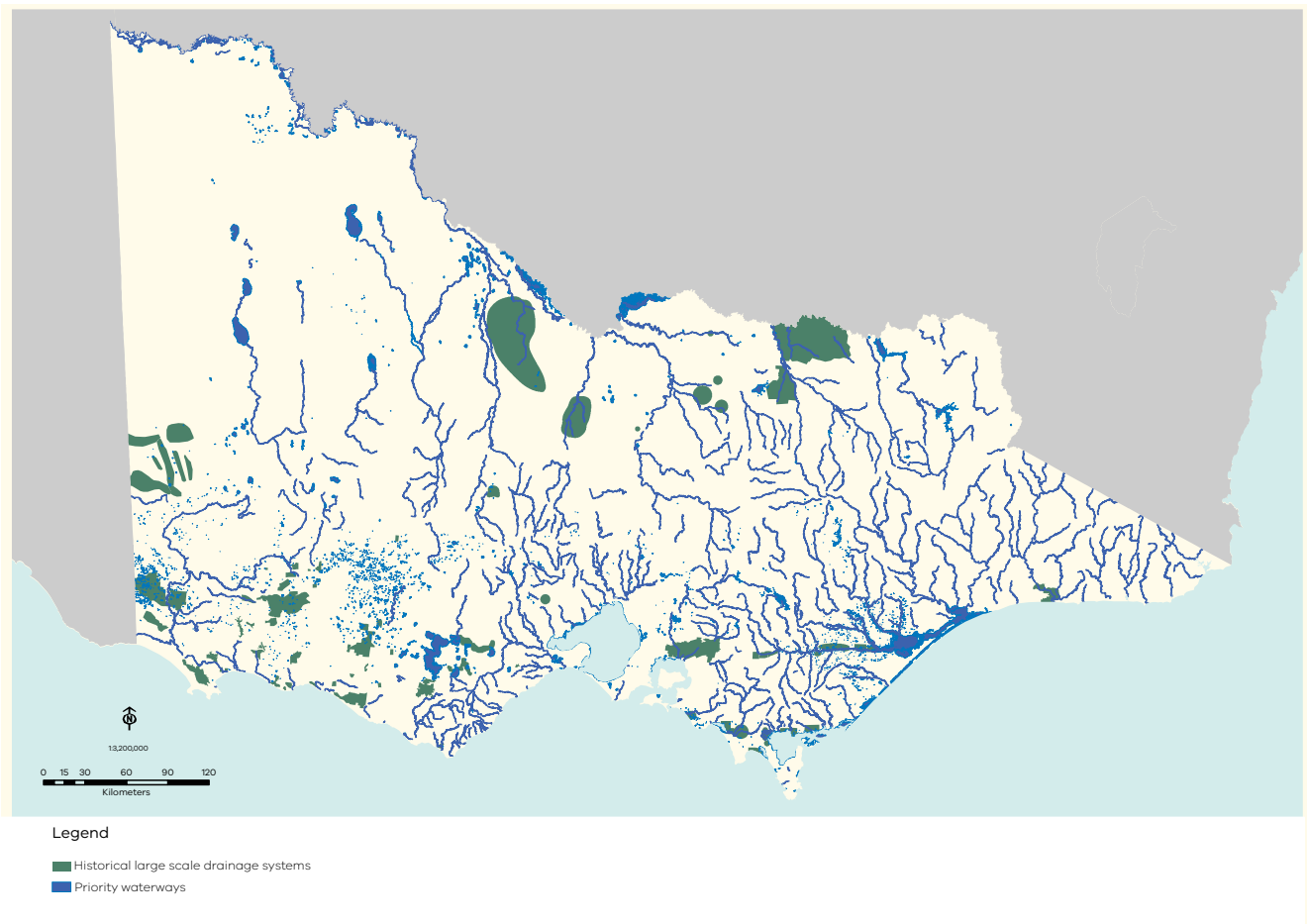
5.4 The potential for environmental restoration

The *Victorian Waterway Management Strategy* provides the overarching policy for the management of Victoria's waterways. This draft Strategy does not seek to duplicate these directions; rather, it aims to clarify how rural drainage management and drainage infrastructure will be considered in this context.

Wetland management in Victoria is based on an integrated approach at the international, national, state and regional levels. Wetlands of international importance listed under the Ramsar Convention are protected under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*. This legislation recognises the importance of protecting places and species of national environmental significance, including threatened ecological communities and Ramsar listed sites.

At the regional level, catchment management authorities oversee programs to maintain and improve the values of rivers, estuaries and wetlands on a priority basis through their statutory regional waterway strategies. Priority waterways attract more investment for protection and restoration, and have been identified across Victoria by each catchment management authority, in consultation with local communities and Traditional Owners. The location of priority waterways in relation to known historic rural drainage systems is shown in **(Figure 5.2)**.

Figure 5.2 – Historical large scale drainage areas related to priority waterways



Environmental restoration of drainage areas

Where opportunities exist for environmental benefit, it makes sense for drainage areas to be considered for priority works and measures to maintain or improve the condition of waterways.

The priority waterways framework needs to be updated to enable catchment management authorities to consider restoration of previously modified drainage areas. Currently, environmental restoration is considered only in priority reaches. Landholders are increasingly recognising the value of waterways, and are increasingly investing in riparian management, such as fencing off waterways, and in some cases, particularly in northern Victoria, they have started seeking opportunities to restore wetlands.

Proposed action 5d

Update the priority-setting framework to consider restoration of previously modified drainage areas

The guidelines for developing regional waterway management strategies will be updated to include previously modified drainage areas in the priority-setting framework so that the restoration works can be considered in these areas when investment decisions are being made.

This presents a great opportunity, as almost 70 per cent of Victoria's wetlands, representing 35 per cent of the total wetland area, are on private land. The way landholders manage land adjacent to wetlands is often critical to their long-term health. The *Victorian Waterway Management Strategy* emphasises that individual landholders, community groups, not-for-profit organisations and for-profit organisations can make significant contributions to maintaining and improving the condition of wetlands on private land.

Nature Glenelg Trust and Field and Game Australia provide outstanding examples of what can be achieved in this way.

To this end, where landholders decide that drainage is redundant or that they are no longer prepared to pay for drainage services, they may decide to reinstate wetlands. Incentives to do so are provided through existing programs run by organisations such as catchment management authorities, Trust for Nature and the Department. The Brady Swamp case study on page 39 highlights how restoration works can strengthen partnerships between landholders, agencies and community volunteers, and achieve environmental benefits.

Proposed policy 5b

Identify priority areas for environmental restoration of waterways

In line with the *Victorian Waterway Management Strategy*, regional waterway strategies will identify actions to mitigate the impacts of existing drainage on waterways where it is feasible and cost-effective, where it has community support and where it does not affect other stakeholders.

Catchment management authorities, in partnership with key stakeholders including Traditional Owners, will consider a combination of incentives, education, awareness and partnerships with the private sector to encourage environmental restoration.

*Brady Swamp, post restoration
(Lachie Farrington – Glenelg Nature Trust)*



Case study: Brady Swamp restoration

Brady Swamp is part of an extensive wetland complex of the upper Wannon River, near Dunkeld in southwest Victoria. Artificial channels were constructed in the 1950s to drain these wetlands and support agricultural productivity. A portion of the wetlands was acquired in the mid-1980s and incorporated into the Grampians National Park. However, the majority wetland and floodplain area remained under private ownership, creating a degree of uncertainty surrounding the restoration of a more natural water regime. That uncertainty remained unresolved for over two decades.

Restoration works

In autumn 2014, Nature Glenelg Trust, with the support of local landholders, community volunteers, Parks Victoria and the Glenelg Hopkins Catchment Management Authority, implemented a restoration trial by blocking the drain with a temporary weir. Even with below-average rainfall, the weir significantly improved the hydrology of the wetland by increasing water retention levels, increasing the duration of inundation and reinvigorating flows in the adjacent natural Wannon River flow path. Following the success of the trial restoration, the Victorian Government funded the Trust to permanently reinstate the original earthen banks of the wetlands that were breached through artificial drainage.

This work permanently protects the reinstated hydrology of these important floodplain wetlands and restores flows to the upper Wannon River.

Results

The extended period of inundation has boosted the population of the threatened growling grass frog, which breeds during spring to early summer. Brady Swamp is also home to two other threatened species that will also benefit from the increased period of inundation: the western swamp crayfish, which is only found in the Grampians region, and the little galaxias freshwater fish. Both species are reliant on this wetland floodplain habitat for breeding success. Monitoring is in place to measure changes to vegetation and the distribution and status of these and other key fauna species, including varieties of waterbirds, fish and frogs.

This restoration project has shown the importance of partnerships between landholders, agencies and community volunteers. Community participation has been critical in promoting the benefits of the project to all partners and stakeholders, in constructing works and in monitoring the ecological response to works.

6 Supporting collaboration with Aboriginal Victorians over rural drainage



This chapter is based on a discussion paper prepared by The Federation of Victorian Traditional Owners Corporation. The chapter recognises the values that Traditional Owners and Aboriginal Victorians place on their traditional lands and waters, and discusses the effects of drainage on these values. Building on previous successes, the chapter supports opportunities for landholders to collaborate with Traditional Owners to manage rural drainage.

The chapter also outlines arrangements established to give due consideration to Aboriginal cultural heritage in the context of rural drainage, and explains how these arrangements will be used to avoid future effects of drainage on cultural values, while also providing landholders with increased certainty. It proposes ways for existing rural drainage to be managed in environmentally and culturally sensitive ways, and it outlines the protection measures that would be required for any new drainage in the future. It finishes by considering opportunities to involve Traditional Owners and Aboriginal Victorians directly in the ongoing management of rural drainage.

In the context of the main proposed outcomes of the Strategy, this chapter addresses the cultural aspects of the following:

Proposed outcome 2

Cultural and environmental values are protected with increased efficiency

Proposed outcome 3

Priority waterways impacted by rural drainage are managed to provide cultural and environmental benefits



6.1 Introduction

In its 2016 *Water for Victoria* plan, the Victorian Government made a strong commitment to involve Traditional Owners and Aboriginal Victorians in future water planning and management across the state. That commitment is honoured in this draft Strategy, which mandates extensive consultation with Aboriginal Victorians in all aspects of the draft Strategy that have relevance to their rights and interests. Importantly, the Strategy also seeks to draw on Traditional Owners' unique relationship with and knowledge of Country to create innovative opportunities to incorporate Aboriginal values in rural drainage management.

Based on principles of co-design, and through a tender process, the Department of Environment, Land, Water and Planning procured the services of a Traditional Owner peak body, The Federation of Victorian Traditional Owners Corporation, to prepare a discussion paper about what should be included in this chapter of the draft Strategy.

This draft Strategy recognises the legislative context of Traditional Owners, defined in the *Aboriginal Heritage Act 2006*. In line with the principles for broader inclusion of Aboriginal Victorians, this chapter reflects the opportunities to broaden inclusion, alongside the legislative context, in line with the Department's *Munganin-Gadhaba* plan.

Quotes and stories from Aboriginal Victorians throughout this chapter reflect the government's commitment not just to engage with Traditional Owners and Aboriginal Victorians, but to do so on their terms.

Who are Traditional Owners and Aboriginal Victorians?

Aboriginal Victorians

An Aboriginal Victorian is a person of Aboriginal descent who identifies as an Aboriginal and is accepted as such by the Victorian Aboriginal community in which he or she lives.

Traditional Owners

People who, through membership of a descent group or clan, are responsible for caring for Country. They are Aboriginal people with knowledge about traditions, observances, customs or beliefs associated with a particular area. A Traditional Owner is authorised to speak for Country and its heritage.¹⁰

6.2 Involving Traditional Owners and Aboriginal Victorians in the development of the Victorian Rural Drainage Strategy

The approach used to consult with Traditional Owners so far in developing this draft Strategy was devised by Victorian Traditional Owners who have rights and interests in rural drainage on their Country. It was a Traditional Owner-driven process, with consultants nominated to facilitate engagement within a framework of Aboriginal self-determination. Having designed the process, Traditional Owners were empowered to participate on their terms in a way that adheres to cultural protocols.

The consultation process has sought to acknowledge and recognise the obligations of government under the *Traditional Owner Settlement Act 2010* (Vic) to engage directly and meaningfully with Traditional Owner Corporations on all policy reforms that affect their Country, as set out in the individual participation strategies of each corporation's Recognition and Settlement Agreements. The process also actively implements the principles of the Department of Environment, Land, Water and Planning Aboriginal Inclusion Plan, *Munganin-Gadhaba*, which seeks to respect and acknowledge Aboriginal culture, to recognise Traditional Owners' right to access and care for Country, and to work in partnership with Traditional Owners to improve participation.¹¹

The work is not intended to speak for all Traditional Owners and Aboriginal Victorians, but rather to give a broad overview of shared concerns and values to shape the direction of the draft Strategy.

Further consultation will take place with a wider range of Traditional Owners and Aboriginal Victorians to gain feedback on the details of the proposals in this draft Strategy (Chapter 3).

Proposed action 6a

Develop a consultation process to gain feedback from a wider range of Traditional Owners

Following the release of this draft Strategy, further consultation will be conducted with a wider range of Traditional Owners and Aboriginal Victorians to seek feedback on the precise details of the proposed actions and policies.

Traditional Owners and Aboriginal Victorians will be invited to continue to engage in the development of a final Strategy. They will be invited to contribute to a working group that will consider feedback through consultation on a draft and help to shape the final Strategy.



Regulator at Lake Condah supporting Aboriginal cultural values
(Department of Environment, Land, Water and Planning)

6.3 Considering Aboriginal values in rural drainage management

The importance of waterways to Traditional Owners

The Traditional Owners of Victoria assign great cultural, social and economic significance to water. Each group of Traditional Owners holds distinct perspectives relating to identity and religious attachment to place and environmental knowledge, and supports custodial responsibilities to manage interrelated parts of culture. Connections to and relationships with water and wetlands are much broader than consideration of heritage values; they relate to notions of sociality, sacredness, identity and life-giving, as part of the broader means of caring, connecting and speaking for Country.

Waterways and wetlands, including floodplain areas that are prone to inundation, have always been important places for Traditional Owners to come together as families and communities for social, economic, religious and recreational activities. Waterways are valued for many different reasons: they were routes of travel, trade and communication, conduits for ceremony and ritual, and rich sources of food, medicines and other resources. Rivers, streams and lakes have also served as boundaries between clans and nations, giving them primary importance in the political life of Aboriginal peoples.

The values and connections of Traditional Owners and Aboriginal Victorians are articulated in Country plans, and in submissions to government reports and inquiries.

Eastern Maar consider waterways in this way:

We believe the spirits of our dead reside in our waterways and water bodies, and that they use animate and inanimate objects to move through Country.¹²

And for Dja Dja Wurrung,

Our rivers are the veins of Country, and provide food and medicine, and places to camp, hunt, fish, swim and hold ceremonies. They are places that are central to our creation stories, and many of our cultural heritage sites are associated with waterways – burial sites, birthing sites and middens. Our waterways are places that we connect with our ancestors and pass traditional knowledge on to our children and grandchildren.¹³

Archaeological sites associated with Aboriginal occupation often have a strong association with waterways. Indeed, proximity to water has been identified as one of the key determinants of archaeological potential. The clear majority (95 per cent) of the 30,000 known significant Aboriginal places and heritage sites recorded in Victoria are located on or near waterways. For example, stone eel

trap systems used by the Gunditjmara for thousands of years are the oldest example of freshwater aquaculture in the world; the landscape is therefore recognised as an internationally significant site. Eeling remains an important traditional, social and economic practice, and methods of eel farming undertaken by earlier generations of the Eastern Maar community are still in practice today.

Effects of drainage on Aboriginal heritage

Rural drainage has clearly led to increased agricultural productivity in Victoria, but the environmental effects of rural drainage have eroded the capacity of Country, including waterways, to sustain Indigenous economies, with significant social consequences.¹⁴ Many Traditional Owners will testify to the loss of control and autonomy, the inability to access and holistically manage customary estates, to exercise custodial authority and to prevent further ecological degradation and economic impoverishment. The management of the water quality of waterways receiving drainage is also an issue that concerns Traditional Owners (see section 5.4).

In a submission to the 2013 Victorian parliamentary inquiry into rural drainage, the Framlingham Aboriginal Trust stated:

In the words of traditional owner Possum Clark-Ugle, "Before Europeans arrived, south-west Victoria was the 'Kakadu' of the south, with thousands of wetlands supporting a rich variety of animals, birds and plants that our ancestors used in a sustainable and respectful way."

The inquiry should note that the historical basis for drainage schemes lies in the importation to Australia of European land management practices that are ignorant of local hydrological, meteorological, ecological and cultural realities. This ignorant approach to land management quickly swept away vast tracts of sustainably managed habitat that underpinned the economies of Aboriginal people in Victoria.¹⁵

Historically, Traditional Owners were not specifically consulted over the declaration of drainage areas or the implementation of drainage schemes. The government recognises that managing the effects of rural drainage on Aboriginal values can provide opportunities to reconnect Traditional Owners to waterways to revive culture and contribute to an improved sense of identity.

6.4 Incorporating Aboriginal values into drainage management

Working with landholders to avoid impacts of drainage on Aboriginal heritage

Victoria's rich Aboriginal cultural heritage is protected by the *Aboriginal Heritage Act 2006*, which was strengthened in 2016 to incorporate intangible heritage for the first time. The Act provides protection for all Aboriginal places, objects and human remains, as well as intangible heritage, regardless of whether they are included in the Victorian Aboriginal Heritage Register or land tenure. Registered Aboriginal Parties have functions and responsibilities under the *Aboriginal Heritage Act 2006* (Figure 6.1).

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* identifies heritage items of national significance and provides protection mechanisms for these items. If an action is proposed that significantly affects a nationally listed heritage item, approval is required from the Australian Government – in addition to state and local approvals (see case study in chapter 5 - The Koo Wee Rup and Longwarry flood protection district).

There are varying approaches to considering Aboriginal heritage, and some confusion among landholders and agencies about when and how the legislation is triggered. For example, what triggers the need for a Cultural Heritage Management Plan? What opportunities are there for landholders, agencies and/or registered aboriginal parties?

Proposed action 6b

Prepare guidance on how to incorporate cultural heritage management in the context of rural drainage



The Department of Environment, Land, Water and Planning will work closely with Aboriginal Affairs Victoria and Registered Aboriginal Parties to prepare guidelines relating to cultural heritage management, native title and Traditional Owner Settlement obligations. The guidelines will form a component of the proposed drainage resource kit, and will support landholders and organisations in their need to consider Aboriginal heritage values in the management of rural drainage. The guidelines will include:

- An overview of the obligations for landholders to manage cultural heritage when undertaking rural drainage works
- Guidance on what types of drainage works might be considered high impact
- Identification of some of the highly sensitive landscapes that might trigger the need for a Cultural Heritage Management Plan when doing drainage works
- A checklist on how to apply the obligations for cultural heritage in a rural drainage context
- Options for landholders to seek support (such as for preparation of a drainage management plan).

Figure 6.1 Historical large-scale drainage areas related to Registered Aboriginal Party boundaries.



Legend

-  Historical large scale drainage systems
-  Registered Aboriginal Party (RAP) boundaries

Ensure cultural heritage is considered in drainage management

The *Victorian Waterway Management Strategy* provides the framework for maintenance or improvement of the condition of waterways. This draft Strategy proposes arrangements to encourage and facilitate restoration of drainage areas that are no longer required for drainage purposes, or where there is goodwill from landholders to support environmental or cultural values (Section 5.4).

Restoration of drainage areas offers a means by which Traditional Owners can be engaged in works and measures to bring about environmental improvements, build technical capacity, and provide a land management service to the wider community. Catchment management authorities will work with Traditional Owners to help landholders consider whether drainage services are still required (for drainage systems that they currently or previously had a role in managing) and, if not, whether restoration is appropriate (See proposed policy 5b).

As the case study in this chapter demonstrates, activities to restore waterways where drainage services are no longer required by landholders would be viewed very positively by Traditional Owners.¹⁴

Proposed action 6c

Update the priority-setting framework to consider restoration of previously-modified drainage areas

The guidelines for developing regional waterway management strategies will be updated to include previously modified drainage areas in the priority setting framework so that the restoration works that maintain or enhance Aboriginal values can be considered in these areas when investment decisions are being made.

Proposed policy 6a

Identify priority areas for restoration of previously drained areas for cultural benefit

In line with the *Victorian Waterway Management Strategy*, regional waterway strategies will identify actions to mitigate the impacts of existing drainage on Aboriginal cultural values where (i) it is no longer required for drainage purposes by landholders, (ii) it is feasible and cost effective, and (iii) where it has community support and does not affect other stakeholders.

This consideration will reflect a broad definition of cultural heritage values.



Case study: Long Swamp – restoring a drainage area in Dja Dja Wurrung Country

Long Swamp, the largest wetland on the Moolort Plains near Maryborough, is located in Dja Dja Wurrung country, two kilometres east of the northern end of the Tullaroop reservoir. A freshwater meadow, the swamp occupies approximately 177 hectares. Although the site is highly salt affected, birdlife is prolific when water is present.

Historically, this deep swamp was an important site of Aboriginal occupation because it held water for longer than the surrounding area.

In 1965, Long Swamp was drained at the suggestion of the Shire of Tullaroop. The aim was to reduce the effects of salinisation on vegetation and to bring more land into agricultural production. A drain was cut to move water into Tullaroop Creek. That action was

strongly opposed by the Maryborough Field Naturalists, who valued the biodiversity of the area, especially birds like brolgas that were attracted to it.

Community concern about the swamp prompted action in the 1990s to restore its values. Parts of the swamp have been purchased by the Trust for Nature (\$290,000), with contributions from government (\$222,000) to the purchase. The central drain has been closed with sandbags. Water levels were restored during the last flood and there are plans to further rehabilitate the area.

Since the formation of the Dja Dja Wurrung Clans Aboriginal Corporation and its enterprise unit, the Trust for Nature has been exploring a partnership with Traditional Owners. Long Swamp is identified as a case study in Healthy Country Planning processes undertaken by the Trust. These processes have involved discussing what successful wetland restoration looks like, and how young Aboriginal people can be involved in making 'new stories' about their Country.



6.5 Traditional Owner involvement in restoration works

More than 60 per cent of Victoria is now covered by legally recognised settlements with Traditional Owner Corporations, and some claims are still underway. These settlements include native title determinations and settlements under Victoria's *Traditional Owner Settlement Act 2010*, which allows for out-of-court settlements of native title.

As an alternative to the future acts regime of the *Native Title Act 1993*, Victoria has also developed a Land Use Activity Regime policy that provides procedural rights for recognised Traditional Owner groups over certain land use activities that occur on areas of public land (Part 4 of the *Traditional Owner Settlement Act 2010*). Land use activities that may affect native title rights and interests are defined in the Act, as are notification and consultation processes for decision makers to follow. The aim is to encourage a level of engagement between the decision maker and the Aboriginal Corporation that is flexible enough to respect and accommodate the needs of each party.

Currently there is one Land Use Activity Agreement in place for the Dja Dja Wurrung settlement area. The future act regime under the Native Title Act applies to Crown land in areas where there is no Land Use Activity Agreement. It provides procedures for dealing with activities on Crown land that have the potential to affect native title rights and interests.

In the words of Dja Dja Wurrung:

*... un-doing drainage is a principle of [Traditional Owner's] Country Plan. Restoring flows resonates with Traditional Owner values of restoring Country to its natural working order, but it's hard to do in isolation.*¹⁴

Restoration work constitutes a large component of reconnecting people and communities with the natural environment, and *Water for Victoria* commits the largest investment in waterway health in Victoria to support on-ground works over four years.

Munganin – Gadhaba 'Achieve Together' Department of Environment, Land, Water and Planning Aboriginal Inclusion Plan 2016 – 2020, commits the Department to improving its procurement processes with a view to facilitating opportunities for Aboriginal businesses. *The Victorian Aboriginal Economic Strategy 2013-2020 – Building Opportunities for Economic Prosperity for all Aboriginal Victorians* identifies the Department of Environment, Land, Water and Planning as one of the lead departments (in conjunction with Department of Economic Development, Jobs, Transport and Resources) in supporting the development of Aboriginal businesses.

The Victorian Government is reviewing its procurement policies to enable Aboriginal businesses to have improved access to contract tendering processes. The evidence shows that Traditional Owner groups have the skills and capability to do this work. For example, Gunaikurnai Land and Waters Aboriginal Corporation has an annual turnover of \$1.1 million linked to restoration works, and employs a significant number of Traditional Owners. The experience of restoration throughout the region, demonstrates clearly that Gunaikurnai has the capacity to engage in partnership arrangements to manage weeds and plant trees. Gunditjmara Aboriginal Cooperative has demonstrated a long-term vision for restoring drained areas such as Lake Condah (see also the case study in this chapter about the restoration of Long Swamp). Similarly, Yorta Yorta Aboriginal Corporation has identified wetland restoration as a key goal of the organisation.

Partnership arrangements with Aboriginal Victorians

Victorian Aboriginal groups have spent many years working to improve relations and partnerships with catchment management authorities and other agencies involved in natural and cultural heritage resource management. Councils are also working to improve their practices and to build stronger partnerships with Traditional Owners. The proposed partnership arrangements outlined in this draft Strategy (proposed action 8a and proposed action 8f) support an exchange of knowledge and practices in partnering with Traditional Owners to improve cultural heritage management, and a two-way exchange to improve outcomes.

For example, collaborative relationships over cultural heritage have been forged by the Taungurung Corporation and local landowners in the Seven Creeks area near Euroa, where restoration activities are underway. Artefacts have been found by land holders and willingly brought to the attention of Taungurung to share knowledge. As the land holders increasingly realise that the Taungurung people's prime objective is to discover more about their past and not to impede development, more and more landowners have come forward.

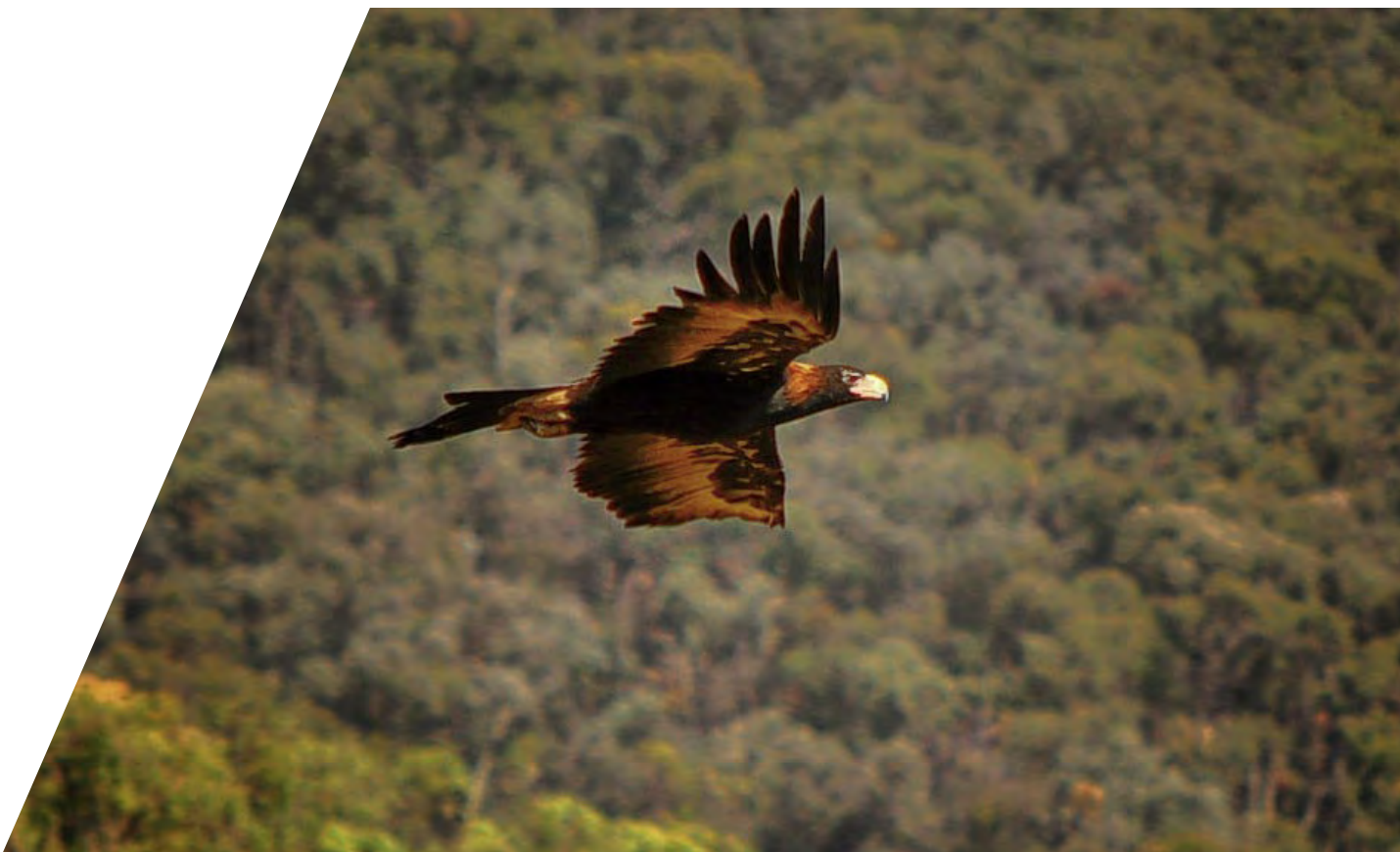
The Taungurung Corporation is building on this goodwill by offering education programs to councils and their planning departments in cultural heritage management. The Corporation is running workshops to agree to common procedures, improve rates of compliance with the *Aboriginal Heritage Act 2006* and encourage councils to take a proactive approach.

Proposed policy 6b

Traditional Owners invited to work collaboratively with stakeholders to encourage restoration works

Traditional Owners and Aboriginal Victorians will be invited to work in partnership with catchment management authorities to consider a combination of incentives, education, awareness and partnerships with the private sector and landholders to encourage restoration works.

Wedge Tailed Eagle (Rod Waddington)



A large, spreading tree with dense green foliage dominates the left and center of the frame. The tree's branches extend across the sky. In the background, a flat, open landscape stretches to the horizon under a clear blue sky. A wire fence runs across the middle ground, and a concrete or stone wall is visible in the foreground. The ground is covered in dry, brownish grass or mulch. The overall scene is a rural landscape. There are decorative geometric shapes: a dark blue triangle in the top right corner, a teal triangle below it, and a blue vertical bar on the left side.

**Part 4 –
How rural drainage
will be supported
in Victoria**



(Chapter 7)

Part 4 details the institutional arrangements that will underpin the future management of rural drainage in Victoria, including the roles and responsibilities of key stakeholders. It focuses on the process for streamlining approvals, and clarifies how costs can be equitably distributed among landholders (Chapter 7).



7 Governance

This chapter proposes governance arrangements for the future management of rural drainage in Victoria. It sets out a contemporary management framework supported by clear roles and responsibilities and details the funding arrangement for rural drainage.



Proposed outcome 4

Key agencies have clear roles and responsibilities, and understand the importance of working in partnerships to support landholders managing rural drainage.

7.1 Introduction

The 2016 *Water for Victoria* plan emphasised the need for a management framework to provide certainty around the cost and responsibilities for rural drainage. In addressing that need, this chapter has been largely informed by feedback gathered during consultation for the draft Strategy. The feedback closely echoed issues raised during the earlier parliamentary inquiry into rural drainage.

A number of consistent themes emerged from those consultations, including the need for:

1. Clear responsibilities for rural drainage, and clearly defined roles for individual landholders, the Victorian Government, councils, catchment management authorities, Melbourne Water and other rural water corporations.
2. Clear legislative and policy arrangements that will enable rural drainage schemes to be managed sustainably into the future
3. Support to develop pathways through environmental and cultural approval processes (See chapters **4**, **5** and **6**)
4. Clear funding arrangements for rural drainage that reflect the distribution of costs and benefits.



Gunbower National Park (North Central Catchment Management Authority)

7.2 Clear roles and responsibilities

Clarifying responsibilities

Landholders building their capability to manage rural drainage will need the support of councils and government agencies, and it is important to be clear about the roles and responsibilities of each of those agencies.

The agencies with responsibilities related to rural drainage works and measures include:

- Department of Environment, Land, Water and Planning (the Department)
- Forest, Fire and Regions Group (Department of Environment, Land, Water and Planning)
- Catchment management authorities
- Councils
- Melbourne Water
- Rural water corporations
- Department of Economic Development, Jobs, Transport and Resources
- VicRoads and VicTrack.

The parliamentary inquiry into rural drainage identified concerns about the replacement of the more prescriptive *Drainage Areas Act 1958* and the *River Improvement Act 1958* with the current enabling legislation. The current legislation, while it enables management of drainage, does not have clearly prescribed directions for management. The onset of the Millennium Drought soon after enabling legislation was enacted took the focus away from the ongoing need for rural drainage until the extraordinarily wet years 2010–2012. These circumstances created confusion about the ongoing roles and responsibilities for managing rural drainage.

Landholders should be better able to manage their own rural drainage as part of the proposed new arrangements. If landholders are to make informed choices about managing rural drainage into the future (Chapter 4), they will need clear arrangements for councils and other agencies to provide them with administrative support and advice on how to consider third party impacts of drainage. A partnership approach is proposed, requiring agencies at the local level to work together with clearly defined roles.

Proposed policy 7a

Shared arrangements for managing rural drainage in Victoria

The following roles will apply for rural drainage in Victoria:

- The Department of Environment, Land, Water and Planning will develop support tools and templates, and set the policy direction for rural drainage
- The Forest Fire and Regions Group of the Department of Environment, Land, Water and Planning will regulate native vegetation removal, provide advice, and support pathways for rural drainage approvals.
- Landholders will make choices about how they want to manage rural drainage. They will fund works, and comply with regulations and obligations.
- Catchment management authorities will support landholders to manage environmental and cultural benefits and impacts; help to build capabilities and skills in management of rural drainage, investigate opportunities to apply contemporary drainage arrangements to the rural drainage systems they; have had a previous role in managing and invest in restoration of priority drainage assets for environmental and cultural benefit.
- Councils will provide the principal point of contact for landholders. They will also provide administrative support, regulate land use planning, manage drainage assets vested in them and manage related infrastructure such as table drains, bridges and culverts, in line with their obligations.
- Melbourne Water - existing arrangements will continue in the Melbourne Water region. It will provide regional drainage services within its waterway management district, and develop and implement plans or schemes related to rural drainage
- Rural water corporations will share lessons from community arrangements in northern Victoria. They will regulate take and use of water, and manage infrastructure and drainage associated with irrigation in regulated districts, and where rural drainage infrastructure is to some extent integrated with irrigation drainage infrastructure.
- The Department of Economic Development, Jobs, Transport and Resources will continue to support agricultural productivity through existing partnership forums. It will also work with agricultural industries on research, development and extension.
- VicRoads and Victrack will continue to be responsible for the ongoing management of infrastructure associated with arterial roads and rail lines, and to manage that infrastructure on a priority basis. It should be noted that in some instances, drainage infrastructure within a railway corridor could be considered infrastructure associated with rail lines (pipes, swale drains, culverts), but is in fact licensed to third parties such as councils or adjoining landowners. In these instances, the licensee is responsible for this infrastructure. For example, in some places VicTrack is responsible for a culvert structure but a licensee is responsible for keeping the opening clear.

7.3 Clear legislative and policy arrangements

Legislative arrangements

The draft Strategy outlines obligations on individual landholders to gain approvals for drainage works, and seeks to streamline approvals based on the level of risk.

It is proposed that support would be provided to landholders for more complicated drainage systems where landholders agree to certain principles and processes, including participation in a formally constituted local drainage committee. Such arrangements are covered in Part 12 of the *Water Act 1989*. Where a group of landholders has formalised arrangements, and has established a community drainage committee, councils could at the request of, (and on behalf of) the committee collect levies from participating landholders for drainage services. Provision is also made for a council to undertake other services for a committee. The *Local Government Act 1989* also provides the ability to declare a special rate or charge, or a combination of both, for the purposes of meeting costs where there is a special benefit.¹⁶ Arrangements under which councils can collect funds already operate in some parts of Victoria.

The *Victorian Floodplain Management Strategy* notes that Water Management Schemes under the *Water Act 1989* may provide an alternative management framework to community drainage committees for councils to manage levees, where such a framework might not be available under the *Local Government Act 1989*. The *Victorian Floodplain Management Strategy* recognises that the arrangements set out in the *Water Act 1989* are not perfect, and commits to a review to consider options to make these arrangements more workable. Water Management Schemes, once they are reviewed, would be considered in more complex arrangements - such as anywhere that flood infrastructure and drainage infrastructure interact.

An independent review is underway to consider the potential costs and benefits of regulatory and non-regulatory options to manage dryland rural drainage. The review will consider the implications for agencies and landholders involved in drainage committees, water management schemes and alternative non-regulatory options and consider the most appropriate approach to clarify the legislative arrangements that support the refreshed roles and responsibilities in rural drainage (see proposed policy 7a).

Proposed action 7a

Review administrative arrangements for rural drainage

The Department of Environment, Land, Water and Planning will work with councils to make arrangements appropriate to match their provision of services for rural drainage. Opportunities to streamline existing legislative mechanisms will be considered, as will the impacts on agencies and landholders of any changes.

Peri-urban drainage

In recent decades, Victoria has experienced rapid expansion of urban centres into rural and farmland areas. These areas are often described as peri-urban areas – areas of land use change where urban areas are expanding into rural zones. Peri-urban development creates more impervious surfaces, which can lead to greater runoff and increased inundation downstream (causing issues such as increased risk of flooding, stream side erosion and water quality impacts).

Similarly, in many rural parts of Victoria population densities are increasing on former farmland, where larger properties are broken up into smaller 'lifestyle' blocks. These areas are also described as 'peri-urban' and in some cases, have proven to be stumbling blocks to collective action to managing drainage. The proposed new arrangements and support provided by councils will help to find pathways around this collective action problem (see section 4.5).

Improving the management of peri-urban drainage

Under clause 56 of the Victorian Planning Provisions, councils must ensure new residential subdivisions (where they trigger a planning permit) do not increase flows downstream of the subdivision (although there may be some exemptions where there are no downstream impacts). Unfortunately, these provisions are not widely considered and may not apply in regional areas, and there are several legacy issues to address.

Landholders have indicated that peri-urban development can increase the volume of water that they must manage in the downstream drainage area. The *Water Act 1989* regulates changes to flow of water impacting on third parties such as landholders, including changes that may result from an increase in peri-urban development. Landholders have also raised concerns about the impacts on rural drainage from the increase in runoff from new roads and expansion of existing roads. The *Roads Management Act 2004* requires the relevant road manager, such as VicRoads to manage third party impacts through measures to regulate the peak flow of water onto a road, including the removal of constructed features that have altered the natural flow of water.

A current review of the planning provisions that regulate these impacts is underway. *Water for Victoria* (Action 5.5) commits to a review of planning provisions to improve management of stormwater. There is potential for this review to be expanded as part of the next stage of the review to consider the opportunities to improve management of the volume of runoff from peri-urban areas.

Proposed action 7b

Understand the impact of increased runoff on drainage areas due to the expansion of impervious surfaces

The Department of Environment, Land, Water and Planning will work with councils and other stakeholders to understand the impact of increased impervious surfaces on rural drainage areas, and to consider the effectiveness of options to manage these increased impacts.

7.4 Distribution of costs

In the past, landholders wanting to collectively manage rural drainage received a mix of types of support from councils and key agencies. There is now greater understanding of the impacts of rural drainage (chapters 5 and 6), and there is a greater focus on allowing individuals to make their own choices about how to invest, rather than continue with significant government investment in rural drainage infrastructure.

Landholders choosing to manage drainage collectively will be supported where those landholders who benefit are prepared to pay for the service (Chapter 4). Landholders who agree to pay for drainage may not all get the same level of service; a landholder at the end of a system, for example, may receive a greater direct benefit than those upstream. A key design principle for determining fees for drainage arrangements is that the distribution of costs should be proportional to the distribution of benefits.

Proposed policy 7b

Funding arrangements for rural drainage

Rural drainage will be provided where landholders choose to pay for the service in proportion to the extent that they benefit from the service.

Proposed action 7d

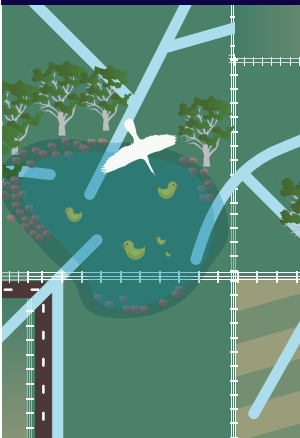
Develop guidelines for determining costs proportional to the benefit of drainage services

The Department of Environment, Land, Water and Planning and councils will work with key delivery partners to develop guidance on how to distribute costs based on the proportional benefit to each landholder.

Rural drainage in Gippsland, Victoria (Craig Moodie)



7.5 Managing complex drainage systems

Numerous landholders seeking support to collectively manage drainage	Managed collectively through written agreements with support from councils and other agencies where the principles in proposed policy 4g are met <i>Landholder sources drainage resource kit to guide drainage management</i> <i>Landholders can seek advice from relevant regulatory authority</i> <i>Model agreement template</i> <i>Arrangements documented in a drainage management plan.</i> <i>Council offering administrative support on a fee for service basis.</i> Figure 4.1
	

Drainage systems that cross municipal boundaries

Some rural drainage systems span municipal boundaries. This makes the task of providing administrative support for landholders more complex, because it is not always clear which council should take on the primary support role. This has proven to be a stumbling block for collective action with some rural drainage systems. Of the five rural drainage systems that span council boundaries, only one does not currently involve a catchment management authority. The transitional arrangements detailed in chapter 8 consider how to manage those drainage systems that are currently the responsibility of catchment management authorities. The authorities will consider opportunities to reduce the scale of systems to address these complexities (see proposed action 8g).

Large dispersed rural drainage systems

Some rural drainage systems, most notably Black Dog Creek in northeast Victoria, involve a complex network of drains into and out of waterways over a vast, flat landscape. Many landholders in those areas are unaware that their properties are in effect drained by that system. Consequently, there is little prospect for collective action in managing it.

In those systems, the most pressing need is to avoid changes in water flow across property boundaries that are not considered reasonable in a legislative context, or that cause injury or damage. In Indigo Shire, this is managed through an environment significance overlay that applies to the Black Dog Creek system, but there are no such controls applying to the other half of the system.

Collective action in managing drainage services may be possible in discrete parts of such systems. In some

cases, therefore, it may make sense to provide administrative support for small groups of landholders where agreement can be reached, rather than attempt to reach agreement with everyone in the system in the first instance (Chapter 4).

Inundation caused by flooding

Rural drainage systems sometimes have to cope with inundation caused by flooding or by the natural closure of an estuary. In these situations, landholders must interact with several agencies whose interests are broader than the provision of drainage services.

Working collaboratively with local communities, Traditional Owners, councils, the Victorian State Emergency Service (VICSES) and other regional agencies, in line with the *Victorian Floodplain Management Strategy*, catchment management authorities will prepare regional floodplain management strategies. These strategies will consider the floodplain management activities required to manage the flood risk for drainage areas.

For example, the West Gippsland Catchment Management Authority is seeking feedback on its *draft Regional Floodplain Management Strategy*. Flood issues relating to rural drainage in the Yarragon-Trafalgar Flats Drainage Area are considered in that draft Strategy. There are significant floodplain management issues associated with the Moe Canal and the contour drain, which together constitute important parts of the rural drainage system. The *draft Regional Floodplain Management Strategy* considers the floodplain management activities required to manage the flood risk for those parts of the rural drainage system, and it recognises that the residual rural drainage matters will be considered in this draft Strategy.

Apart from the problems presented by widespread flooding, long periods of low flow in catchments can result in the closure of estuary entrances. This natural process supports ecological values in the estuary, but can also cause inundation of surrounding low-lying land, triggering the demand for flood mitigation or drainage services, including artificial estuary entrance openings. The *Victorian Waterway Management Strategy* sets out the principles and process under which artificial estuary entrance opening will occur in the future.

It is expected that regional partners will rely on these principles when agreeing on local processes for managing estuary openings. These local arrangements may be formalised through memoranda of understanding or other instruments. These principles seek to support landholders wanting drainage services, while balancing the benefits of those services against the potential environmental risks. In most cases councils will provide these services to landholders in partnership with other agencies such as catchment management authorities, Parks Victoria and landholders.



Powlett estuary and surrounding land (DELWP)

Case Study: Powlett River Estuary

Located 130 kilometres south-east of Melbourne, the Powlett River Estuary is a designated Nationally Important Wetland due to its extensive saltmarsh and wetland communities and cultural heritage. The estuary and surrounding wetlands support a diverse range of significant plants and animals. The estuary also has significant social and recreational values and is surrounded by high value agricultural land.

The Powlett River Estuary intermittently closes following long periods of low flow. This natural process, which supports the estuary's ecological values, can cause inundation of the surrounding low-lying land (including farmland). It is sometimes necessary to artificially open the river mouth, which provides a drainage service to low lying areas, allowing waters to flow into the sea. However, this disrupts the natural process affecting the life cycles of the estuary's ecological communities and can potentially lead to mass fish deaths.

Government agencies and the community have been working together to improve understanding of the importance of estuary closure and the risks associated with artificial estuary openings. The West Gippsland Catchment Management Authority has developed an Estuary Management Plan for the Powlett River to guide future management, including maintaining a balance between supporting agricultural productivity through providing drainage services and protecting environmental values.

The Estuary Management Plan also outlines clear roles and responsibilities for Parks Victoria, Bass Coast Shire and the catchment management authority in managing the estuary mouth opening to alleviate inundation and waterlogging of surrounding farmland.

Proposed policy 7c

Managing complex drainage systems

Councils will provide administrative support to bring all partners together, including the relevant agencies and landholders, to find pathways to managing complex arrangements.

These arrangements will be based on local circumstance, and will need to consider how the systems may interact with other arrangements, such as floodplain management. Ultimately the aim will be to section off the drainage component to make the arrangements workable for drainage.

Where drainage systems relate to other arrangements such as flooding, these matters can be considered outside of the rural drainage context. This can open up opportunities to leverage funding through the relevant avenues.

Landholders who are prepared to meet the criteria in proposed policy 4g will be provided with administrative support to find pathways to manage the drainage components of complex systems, in line with the arrangements in this strategy.

Chapter 8 of this draft Strategy demonstrates how such support arrangements might work.

7.6 Arrangements for drainage infrastructure

Understanding unmanaged drainage infrastructure on waterways

Significant safety issues could surround some of the infrastructure associated with some rural drainage systems. However, ownership – and, therefore, liability – is often unclear because the historical records about assets, maintenance and ownership have been lost. With no clear design standards for these assets or infrastructure, it is difficult to know whether this infrastructure is fit for purpose.

This draft Strategy supports Policy 11.6 in the *Victorian Waterway Management Strategy*, which states that waterway managers will assess and identify priority drainage structures for removal in the relevant regional waterway strategy. In assessing if an in-stream structure should be removed, the level of service provided as well as the environmental, cultural, social and economic risks and benefits must be considered. The level of health and safety risk to the public must also be considered.

Where drainage assets provide benefits to an individual landholder, transferring ownership to that individual would increase the incentive for the asset to be maintained at a standard that is fit for purpose.

Except for drains that are privately owned, the responsibility for maintaining drainage infrastructure remains with the authority with which it is currently vested.

Drains on private land are likely to be owned either by:

- The landholder; or
- The people who obtained consent for the drains to be constructed on neighbouring land – if this was done under and in accordance with Part II of the *Drainage of Land Act 1975* (or its predecessors of 1890 and 1958), or the *Water Act 1958*.

Where a council or a catchment management authority has previously provided administrative support, appointed a drainage management committee, or levied a rate on behalf of a drainage management committee, it does not necessarily follow that any of the infrastructure is vested in that council or catchment management authority.

Other than limiting any potential liabilities associated with their infrastructure, there should be no obligation for anyone to manage existing rural drainage or to provide drainage services. Support for drainage services should only be provided for both existing and new drainage where the benefitting landholders agree to the proposed principles for support to manage rural drainage (Proposed policy 4g).

Proposed policy 7d

Managing existing drainage infrastructure

The responsibility for managing drainage infrastructure and associated infrastructure such as table drains, culverts, bridges and water-regulating structures remains with the authority that was vested with it. Those authorities will continue to be responsible for managing any risks associated with that infrastructure in line with their procedures or policies.

Ongoing support for drainage services will only be provided where landholders agree to the principles for support proposed in this draft Strategy.

Where ownership of drainage infrastructure is unknown, waterway managers will assess and identify priority drainage structures for removal in the relevant regional waterway strategy.



Part 5 – How the Strategy will be implemented

*Black Swamp, part of the large dispersed drainage
system in North East Victoria" North East
Catchment Management Authority*



(Chapters 8–9)

To give effect to the clarified roles and responsibilities, the draft Strategy proposes the establishment of supporting arrangements to help implement the proposed policies and actions. It first explores how to build the skills and capabilities of landholders and agencies to help them in their roles in future rural drainage management. It then considers what landholders will need to know to make informed choices about rural drainage in the context of the proposed streamlined approvals process and in the face of climate change (Chapter 8).

Part 5 also includes a timeline for delivery of the Strategy, and details a proposal to review the arrangements in a final Strategy (Chapter 9).

8 Transitional arrangements

This chapter outlines the supporting arrangements needed to implement the proposed policies and actions outlined so far. It first explores how to build the skills and capabilities that landholders, councils and government agencies will need to manage their responsibilities for future rural drainage management. It then considers the information that landholders will need to make their own choices about rural drainage – including details about the proposed streamlined approvals process, and how the potential effects of climate change need to be taken into account when weighing up the costs and benefits of investment in rural drainage.

Proposed outcome 5

Catchment partners work together with landholders to re-build capability and support ongoing arrangements for drainage management

8.1 Introduction

This draft Strategy proposes new arrangements for rural drainage and greater clarity about the roles and responsibilities of agencies. It also proposes ways to give landholders the power to make their own choices about the future of rural drainage management (Chapter 4).

The transition for key agencies and landholders to the new arrangements will be progressively supported as capability builds and queries relating to rural drainage are directed appropriately. The State will demonstrate its commitment to supporting change through the proposed actions in this chapter.



8.2 Building skills and capability

Due to the lack of clarity around roles and responsibilities for rural drainage, the skills and capability for administering rural drainage no longer sit explicitly with any one organisation.

A capability building program that draws on the relevant experience of councils, catchment management authorities, the Department of Environment, Land, Water and Planning and the Department of Economic Development, Jobs, Transport and Resources is needed. Councils – which have expertise in the management of urban drainage, land use planning, regional development, community support, local roads and associated infrastructure such as table drains, culverts and bridges – are best placed to provide ongoing administrative support for rural drainage.

However, councils will need the ongoing support of catchment management authorities, which will bring advice on obtaining hydrological skills and a catchment-wide understanding of the landscape to the table. This will be particularly important where drainage systems cross municipal boundaries. Councils and the catchment management authorities will both also rely on the Department to provide policy direction, guidance materials and capacity-building support. At the regional level, the Department of Environment, Land, Water and Planning will continue to be actively involved in the proposed streamlined approvals process.

Landholders making their own choices about the future management of rural drainage are the focus of this draft Strategy. The proposed streamlined approvals process will make their choices easier, but in the first instance they will rely on councils, catchment management authorities, the Department of Environment, Land, Water and Planning and the

Department of Economic Development, Jobs, Transport and Resources to provide them with information, and possibly administrative support, as they work to identify viable options for rural drainage management.

To help put those arrangements in place, catchment management authorities will work with landholders to provide an early indication of the likely costs of environmental and cultural approvals for rural drainage, and identify trigger points for landholders to commit to proceeding with drainage works. The Department of Environment, Land, Water and Planning will produce guidance materials to enable each agency to play its clearly identified role in collaborating with drainage committees. This work will draw on the experience and lessons from irrigation drainage.

Proposed action 8a

Develop a capability program to support agencies, Traditional Owners and landholders to manage rural drainage

The Department of Environment, Land, Water and Planning, working closely with catchment management authorities, will develop and implement a program to increase the capability and skills of landholders, councils, key agencies and Traditional Owners to manage rural drainage, including support to participate in the preparation of rural drainage management plans (such as where they incorporate cultural heritage, including Aboriginal cultural heritage land management agreements).

Proposed action 8b

Prepare guidelines to manage rural drainage

The Department of Environment, Land, Water and Planning will provide support to landholders managing rural drainage, and to councils working in partnership with other key agencies, by developing guidelines that will:

- Set out best-practice standards for rural drainage, providing technical guidance for managing rural drainage in ways that consider environmental and cultural impacts and third party impacts caused by changes to the flow of water across property boundaries.
- Outline the elements of a rural drainage management plan, including clear directions for the preparation of environmental and cultural management plans.
- Help to determine the distribution of costs so that they are proportional to the distribution of benefits.
- Develop model rules of association and a model community agreement that can be applied by those landholders who choose to set up a drainage committee.

8.3 Providing information on climate change to inform choices about managing rural drainage

Water for Victoria recognises that landholders are continually adapting to new technologies, variable cost structures and global market forces. These types of variables will contribute to individuals' choices about the ongoing costs and benefits of rural drainage. So too will the potential impacts of climate change. To help Victorians understand the likely scale of change and what they can do to adapt, the Victorian Government produced *Climate-Ready Victoria* (2015), a series of regional fact sheets that outline projected climate change impacts across Victoria.¹⁷ Specific guidance for the water sector has been developed to help the sector plan for and adapt to a range of climate scenarios. The *Guidelines for assessing the impacts of climate change on water supplies in Victoria* apply a risk-based framework that considers the vulnerability of supply systems to climate variability and climate change.²

Providing information to help the community better understand and manage the effects of climate change is a key responsibility and an ongoing commitment of the Victorian Government.

Changes in climate conditions will affect the way rural drainage needs to be managed into the future. The Bureau of Meteorology recently released a synthesis of

findings from the Victorian Climate Initiative¹⁸. Because of the uncertainty about when and the extent to which reductions in rainfall and streamflow may occur, a scenario-based approach to planning is recommended.

Water for Victoria committed to investing in climate science and to continuing to invest in research and partnerships. It is important that this information is provided in a way that meets the needs of landholders.

Proposed action 8c

Provide climate change information in a way that meets the needs of landholders

The Department of Environment, Land, Water and Planning will provide climate information that meets the needs of farmers to inform their choices about investing in rural drainage in the future.

8.4 Working together to support rural drainage

Complex natural resource matters often involve multiple stakeholders. Options are in place to help strengthen partnerships between these stakeholders. *Our Catchments, Our Communities* is the first state-level strategy for integrated catchment management in Victoria, with a focus on how catchment management partners can work together more effectively. A key objective in that strategy is to drive increased partnership approaches to managing Victoria's catchments. It will do this by strengthening the regulatory instruments, such as Statements of Obligations and Letters of Expectation, that govern the way catchment management authorities operate.

Under *Our Catchments, Our Communities*, new Catchment Partnership Agreements will be developed to strengthen coordination between catchment partners to support environmental, economic and liveability outcomes for regional communities. The framework for the new agreements describes the current rural drainage role of catchment management authorities. Development of the new agreements can incorporate the arrangements relating to rural drainage where relevant for each region.

The Victorian State and Local Government Agreement also provides a mechanism to consider the effects of policy changes on councils, and seeks to foster more effective collaboration between councils and the State Government. The implementation of the final Strategy will have the secondary benefit of further strengthening communities and regional relationships. It will overcome the current lack of a management framework, and will remove uncertainty surrounding drainage regulation.

Working together with landholders to implement effective and sustainable drainage works will not only help strengthen relationships, it will help build local economies and support the liveability of regional Victoria. Broader involvement of Traditional Owners and Aboriginal Victorians in rural drainage management will help to meet the strategic direction of the Victorian government to involve Aboriginal Victorians and Traditional Owners in water management and planning. This will strengthen the partnership approach to natural resource management.

Proposed action 8d

Provide a coordinated approach to rural drainage by councils and the State Government

In accordance with *Victorian State and Local Government Agreement*, the State Government commits to continuing to work with local government (including councils and the Municipal Association of Victoria) under the agreed principle of mutual respect and with an emphasis on improving communication and cooperation.

Proposed action 8e

Establish a working group to support the development of a final Strategy and ongoing implementation.

The Department of Environment, Land, Water and Planning will partner with key stakeholders, including landholders and agencies, to establish an implementation working group to support the transition of stakeholders to the new arrangements. This will include coordinating actions arising from the Rural Drainage Strategy, and their alignments with broader government directions and policies, such as Aboriginal Water Management.

Traditional Owners and Aboriginal Victorians will be invited to be represented on the working group.

Proposed action 8f

Establish clear arrangements for catchment management authorities to work in partnership to support the management of rural drainage

Under its commitment to a partnership approach to rural drainage, the government will require that the Statement of Obligations for catchment management authorities and the Letter of Expectations issued by the government explicitly consider a role for catchment management authorities in rural drainage where they are funded to do so.

To further embed partnership arrangements, the development of the new Catchment Partnership Agreements will consider how to incorporate the arrangements relating to rural drainage where relevant for each region.

8.5 Understanding catchment management authorities' drainage infrastructure

Nine drainage areas were previously, or in some cases may still be, managed by catchment management authorities, and another one is managed by Melbourne Water (See Figure 8.1). These drainage areas are often large scale and, in some cases, cross municipal council boundaries (See section 7.5) Melbourne Water owns and is responsible for drains in its waterway management district, and funds works through its waterways and drainage rate. Melbourne Water charges a special 'precept rate' to fund the increased level of service across the Koo Wee Rup and Longwarry flood protection district. These arrangements will continue.

Melbourne Water has invested significant time and effort to demonstrate that rural drainage maintenance can be done in an environmentally and culturally sensitive way. Rather than landholders in other drainage systems having to duplicate the efforts of Melbourne Water, they can learn from and apply the principles of this precedent with the support of the arrangements proposed in this draft Strategy (See case study in Chapter 5).

The government recognises its responsibility to support landholders to move to the new arrangements. It is investing in understanding of where landholders are prepared to commit to the proposed arrangements outlined in this draft Strategy, and providing supporting technical tools and setting the policy arrangements to support this.

The pilot project on Woody Yaloak/Lough Calvert provides a real example of how these arrangements could be applied (page 67). This project will also provide an evidence base for the future management of systems currently or previously managed by catchment management authorities.

Catchment management authorities will use this investment to investigate options for the future management of the seven remaining drainage areas they have had some previous involvement in managing. They will work with landholders, using the tools, manuals and guidance materials proposed in this draft Strategy, to determine whether landholders are prepared to meet the principles for support for rural drainage (Proposed policy 4g).

Works to upgrade drainage infrastructure will be considered in situations where landholders or organisations are prepared to take on ongoing management responsibility. These works will focus on the areas previously managed by catchment management authorities on a priority basis (figure 8.1) and will draw on the lessons learned from existing work by the Corangamite Catchment Management Authority (see **Page 67**).

It is possible that some catchment management authorities have been vested with the responsibility for bridges or culverts on public or private roads. Ideally, the relevant road authority should manage bridges and culverts on public roads in the long term. In such cases it will be up to the relevant road authority to work with the catchment management authority on deciding whether to take on the drainage infrastructure where it relates to their assets (roads). Similarly, individual landholders should manage structures on private roads.

Proposed action 8g

Identify priority areas for drainage works for systems previously managed by catchment management authorities

Over the next three years, catchment management authorities will investigate future management arrangements for the seven drainage areas they have previously managed. These are mostly larger scale systems that cross municipal boundaries. Catchment management authorities will:

- Identify strategic opportunities to restore wetlands for cultural and environmental values where drainage services are no longer required.
- Work with landholders, Traditional Owners, Aboriginal Victorians and other stakeholders to finalise options for ongoing ownership and management of the drainage infrastructure in these areas, consistent with the new arrangements proposed in this draft Strategy.
- Work with landholders and councils in these drainage systems where they cross multiple boundaries.
- Focus on how to establish smaller scale drainage systems that do not span municipal boundaries and, if that is not possible, identify clear arrangements for organisations to work in partnership to support landholders to manage rural drainage.
- Consider supporting initial capital upgrades for drainage works in a culturally and environmentally sensitive way for these areas, on a priority basis, where landholders are prepared to commit to the new arrangements.



Cundare regulator upgrades on the Woody Yaloak Diversion Scheme (DELWP)

Pilot Project – Woody Yaloak/ Lough Calvert

The Corangamite Catchment Management Authority was given management responsibility for the Woody Yaloak Diversion Scheme and the Lough Calvert Drainage Scheme by Ministerial Order in 1999. Despite having clear management responsibility for the schemes, the catchment management authority is not authorised to raise revenue to fund their operation and maintenance. However, the Victorian Government provides the authority with an annual stipend, which it uses to carry out priority maintenance and to operate the scheme when necessary.

Current issues

While both schemes are still capable of being operated, they need significant maintenance to remain viable into the future and to enable compliance with current safety regulations. Various assets are at- or-near, the end of their economic and operational life, with the majority being over 50 years old.

An asset condition assessment undertaken in 2014-2015 identified areas for repair or upgrade that would be necessary to meet acceptable operational, public safety and workplace safety requirements. While some minor upgrades and maintenance can be delivered with existing government funds, these are not sufficient to fully cover the required capital upgrades.

The region contains many important environmental and cultural assets that can potentially be impacted by the operation of these systems. For example, the Woody Yaloak Diversion Scheme alters flows into Lake Corangamite (which is Ramsar listed) and Cundare Pool.

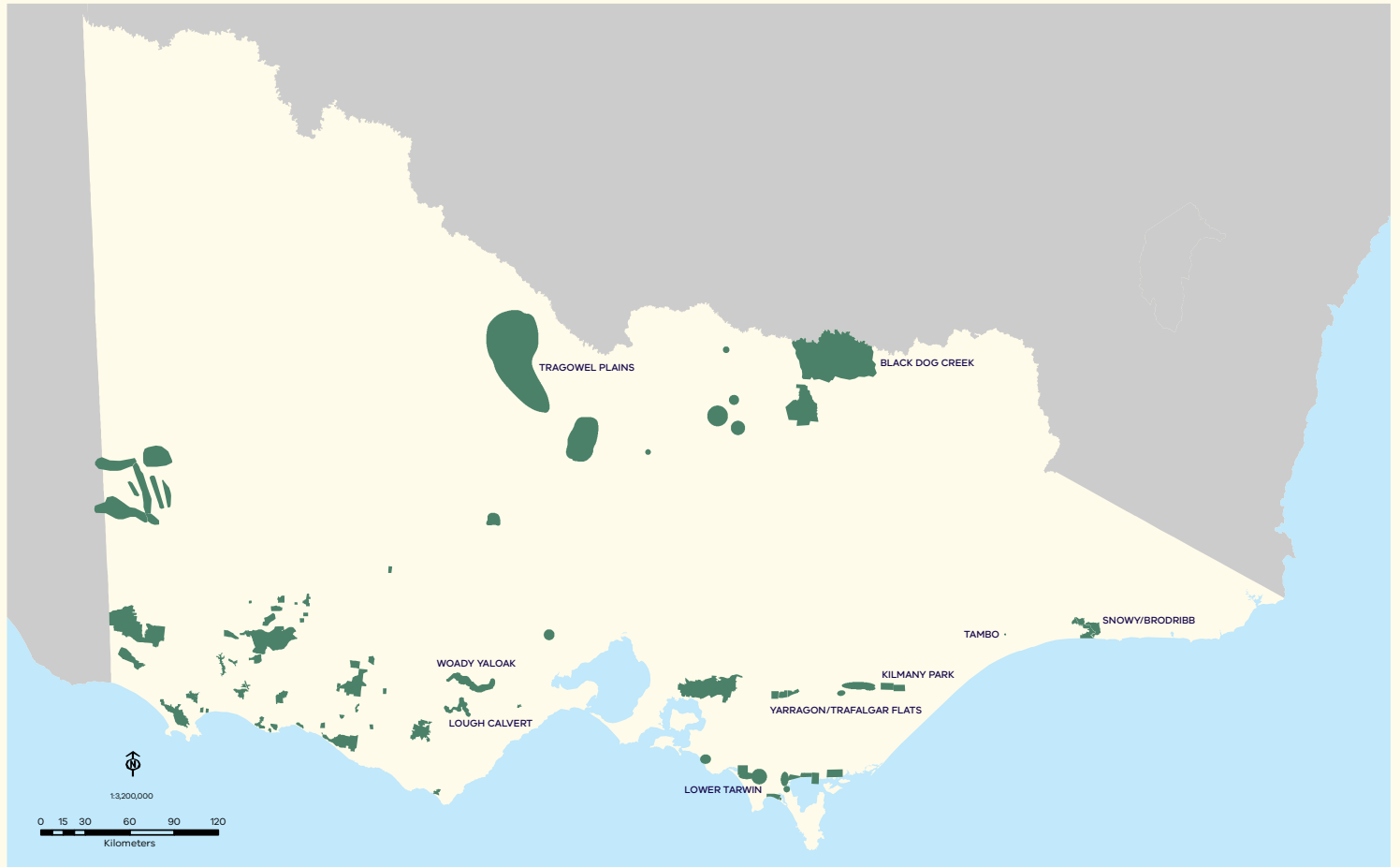
To ensure the ongoing viability of this infrastructure, options for its ongoing management, maintenance and ownership are being explored. These will include managing the system to protect significant environmental assets in the region.

Planning, capital works and maintenance

The proposed works program includes:

- Reviewing current ownership and management arrangements for works
- Identifying priorities based on risk to improve/ upgrade
- Developing operation and maintenance plans and emergency response plans
- Upgrading and repairing infrastructure
- Working with landholders and other stakeholders to formalise options for ongoing ownership and management.

Figure 8.1 Historical drainage areas across Victoria. Areas previously managed by catchment management authorities are named in this figure.



Legend

■ Historic drainage areas



9 Delivering the Strategy

This chapter outlines the delivery plan for the strategy and timelines for review of the Strategy actions and polices.

9.1 Learning through delivery

Delivery of the Strategy will be based on lessons learned through implementation. These lessons will be used to refine the program and inform and improve future strategies.

Data will be collected throughout the life of the Strategy, with an evaluation five years following its release. The evaluation will assess progress in delivering Strategy actions and directions. It will also provide new knowledge and information to update the Strategy implementation plan, and it will measure the Strategy's success in meeting its outcomes (see Chapter 1). This will ensure there is a record of achievements and lessons learned, and an evidence base for future management approaches.

Proposed action 9a

Evaluation of the strategy

An evaluation of the Strategy will be undertaken within five years of the release of the final Strategy.

9.2 Proposed implementation plan

All proposed actions and policies listed within the draft Strategy are summarised in the tables below (Table 9.1 and Table 9.2), with lead responsibility partners delivery timelines. The final Strategy will include an updated implementation plan that will set out the preferred actions and directions to manage dryland rural drainage in Victoria.

Table 9.1 – Summary of proposed actions and indicative timelines for the Victorian Rural Drainage Strategy

Chapter 4 - Landholders

Action	Responsibility	Delivery Partners	Timeframe
Proposed action 4a Prepare tools and information to support landholders seeking statutory approvals to manage rural drainage	Department of Environment, Land, Water and Planning	Department of Economic Development, Jobs, Transport and Resources; landholders; councils; catchment management authorities	June 2018
Proposed action 4b Help landholders understand the potential costs and benefits of rural drainage	Department of Environment, Land, Water and Planning	Department of Economic Development, Jobs, Transport and Resources; landholders; councils; catchment management authorities	October 2017
Proposed action 4c Streamline environmental and cultural approvals	Department of Environment, Land, Water and Planning – Forest, Fire and Regions Group	Councils and catchment management authorities	November 2018
Proposed action 4d Prepare a model agreement for adoption by rural drainage committees	Department of Environment, Land, Water and Planning	Councils	June 2018

Chapter 5 - Environment

Action	Responsibility	Delivery Partners	Timeframe
Proposed action 5a Provide increased certainty for landholders about approvals	Department of Environment, Land, Water and Planning	Councils and catchment management authorities	June 2018
Proposed action 5b Investigate opportunities for exemptions for maintaining existing drainage	Department of Environment, Land, Water and Planning	Catchment management authorities, councils	December 2017
Proposed action 5c Support climate change adaptation in rural drainage	Department of Environment, Land, Water and Planning	Landholders, Department of Economic Development, Jobs, Transport and Resources; catchment management authorities	Ongoing
Proposed action 5d Update the priority-setting framework to consider restoration of previously-modified drainage areas	Department of Environment, Land, Water and Planning	Catchment management authorities	Mid 2018

Chapter 6 - Traditional Owners and Aboriginal Victorians

Action	Responsibility	Delivery Partners	Timeframe
Proposed action 6a Develop a consultation process to gain feedback from a wider range of Traditional Owners	Department of Environment, Land, Water and Planning	Traditional Owners and Aboriginal Victorians	November 2017
Proposed action 6b Prepare guidance on how to consider cultural heritage management in the context of rural drainage	Department of Environment, Land, Water and Planning	Aboriginal Affairs Victoria; Traditional Owners and Aboriginal Victorians	December 2017
Proposed action 6c Update the priority-setting framework to consider restoration of previously-modified drainage areas	Department of Environment, Land, Water and Planning	Catchment management authorities; Traditional Owners	Mid 2018

Chapter 7 - Governance

Action	Responsibility	Delivery Partners	Timeframe
Proposed action 7a Review administrative arrangements for rural drainage	Department of Environment, Land, Water and Planning	Councils; landholders	June 2018
Proposed action 7b Understand the impact of increased runoff on drainage areas due to the expansion of impervious surfaces	Department of Environment, Land, Water and Planning	Councils; landholders; catchment management authorities	June 2019
Proposed action 7d Develop guidelines for determining costs proportional to the benefits received from drainage services	Department of Environment, Land, Water and Planning; councils	Catchment management authorities; Department of Economic Development, Jobs, Transport and Resources; landholders	December 2017

Chapter 8 – Transitional Arrangements

Action	Responsibility	Delivery Partners	Timeframe
Proposed action 8a Develop a capability program to support delivery partners and landholders to manage rural drainage	Department of Environment, Land, Water and Planning	Catchment management authorities; landholders; councils; Traditional Owners	June 2018
Proposed action 8b Prepare guidelines to manage rural drainage	Department of Environment, Land, Water and Planning	Department of Economic Development, Jobs, Transport and Resources; landholders; councils and catchment management authorities	June 2018
Proposed action 8c Provide climate change information in a way that meets the needs of landholders	Department of Environment, Land, Water and Planning	Landholders	December 2017
Proposed action 8d Provide a coordinated approach to rural drainage by councils and the State Government	Department of Environment, Land, Water and Planning	Municipal Association of Victoria; councils	Ongoing
Proposed action 8e Establish a working group to support the development of a final Strategy and ongoing implementation	Department of Environment, Land, Water and Planning	Councils; catchment management authorities; landholders; Department of Economic Development, Jobs, Transport and Resources	November 2017
Proposed action 8f Establish clear arrangements for agencies to work in partnership to support the management of rural drainage	Department of Environment, Land, Water and Planning	Catchment management authorities; Traditional Owners and Aboriginal Victorians; councils; Department of Economic Development, Jobs, Transport and Resources; VicRoads	June 2018
Proposed action 8g Identify priority areas for drainage works for drainage systems previously managed by catchment management authorities	Catchment management authorities	Department of Environment, Land, Water and Planning; landholders; Traditional Owners and Aboriginal Victorians; councils	June 2022

Chapter 9 – Delivering the strategy

Action	Responsibility	Delivery Partners	Timeframe
Proposed action 9a Evaluation of the Strategy	Department of Environment, Land, Water and Planning	All partners	End 2022

Table 9.2 – Summary of proposed policies for the Victorian Rural Drainage Strategy

Chapter 4 - Landholders

Policy	Responsibility	Delivery Partners
Proposed policy 4a Landholders can access a technical tool that they can use to consider the potential costs and benefits of rural drainage	Landholders	All partners
Proposed policy 4b Establish a contact point for landholders to access tools and information to help them seek statutory approvals to manage rural drainage	Councils	Department of Environment, Land, Water and Planning; Department of Economic Development, Jobs, Transport and Resources; catchment management authorities
Proposed policy 4c Agencies continue to manage their public infrastructure that interfaces with individuals' drainage works	Councils, VicRoads, VicTrack and catchment management authorities	Department of Environment, Land, Water and Planning
Proposed policy 4d Landholders managing drainage through amicable agreements	Landholders	Consumer Affairs Victoria; Department of Environment, Land, Water and Planning; councils
Proposed policy 4e Landholders managing drainage through written agreement	Landholders	Consumer Affairs Victoria; Department Environment, Land, Water and Planning; councils
Proposed policy 4f Supporting landholders to prepare rural drainage management plans	Landholders	Catchment management authorities; councils; Traditional Owners; Department of Environment, Land, Water and Planning
Proposed policy 4g Principles for supporting landholders to manage rural drainage	Councils	Catchment management authorities; Department of Environment, Land, Water and Planning; Department of Economic Development, Jobs, Transport and Resources; landholders

Chapter 5 - Environment

Policy	Responsibility	Delivery Partners
Proposed policy 5a Considering the water quality impacts of rural drainage	Landholders	Department of Environment, Land, Water and Planning; catchment management authorities; Traditional Owners and Aboriginal Victorians
Proposed policy 5b Identify priority areas for environmental restoration of waterways	Catchment management authorities	Department of Environment, Land, Water and Planning; Traditional Owners and Aboriginal Victorians

Chapter 6 - Traditional Owners and Aboriginal Victorians

Policy	Responsibility	Delivery Partners
Proposed policy 6a Identify priority areas for restoration of previously drained areas for cultural benefit	Traditional Owners and Aboriginal Victorians; Catchment management authorities;	Catchment management authorities; Department of Environment, Land, Water and Planning
Proposed Policy 6b Traditional Owner involvement in restoration works	Catchment management authorities; Traditional Owners	Department of Environment, Land, Water and Planning; local councils

Chapter 7 - Governance

Policy	Responsibility	Delivery Partners
Proposed policy 7a Shared arrangements for managing rural drainage in Victoria	All partners	All partners
Proposed policy 7b Funding arrangements for rural drainage	Landholders	Councils
Proposed policy 7c Managing complex drainage systems	Councils and all partners	All partners
Proposed Policy 7d Managing existing drainage infrastructure	All partners	

Chapter 8 – Transitional Arrangements

Policy	Responsibility	Delivery Partners
NA		

Chapter 9 – Delivering the strategy

Policy	Responsibility	Delivery Partners
NA		

10 Glossary

Aboriginal Victorians	An Aboriginal Victorian is a person of Aboriginal descent who identifies as an Aboriginal and is accepted as such by the Victorian Aboriginal community in which he or she lives.
Adaptation	Changes in natural or human systems to prepare for actual or expected changes in the climate to minimise harm, act on opportunities or cope with the consequences.
Agencies	For the purposes of the Draft Strategy, the term agencies includes councils and catchment management authorities, the Department of Environment, Land, Water and Planning, and the Department of Economic Development, Jobs, Transport and Resources. It can also include Vic Roads and Vic Track.
Assets	Assets are resources that provide benefit. Drainage assets can include, for example, infrastructure such as pipes and pumps, culverts, dams, bores and table drains.
Biodiversity	The numbers and variety of plants, animals and other living beings, including micro-organisms, across our land, rivers and oceans. It includes the diversity of their genetic information, the habitats and ecosystems in which they live and their connections with other life forms.
Capital works	Construction activities, such as building and engineering, that create assets.
Carbon sequestration	The general term used for the capture and long-term storage of carbon dioxide. Capture can occur at the point of emission (e.g. from power plants) or through natural processes (such as photosynthesis), and removes carbon dioxide from the earth's atmosphere.
Catchment	An area where water falling as rain is collected by the landscape, eventually flowing to a body of water such as a creek, river, dam, lake or ocean, or into a groundwater system.
Catchment management authorities	The <i>Catchment and Land Protection Act 1994</i> established 10 catchment and land protection regions, each with a catchment management authority responsible for the integrated planning and coordination of land, water and biodiversity management.
Climate change	Changes in the state of the climate, including an increase in extreme weather events, long-term changes in weather patterns and sea level rise, attributed directly or indirectly to human activity.
Community	Includes individuals, public and private landholders, community groups and business owners.
Country	Aboriginal culture revolves around relationships to the land and water. For Traditional Owners, Country is a part of who they are, just as they are a part of it.
Country Plans	Country Plans are one way for Traditional Owners to articulate their priorities and aspirations for looking after Country. They can be strategic plans that encompass physical and spiritual concepts of Country, provide a strategic basis for partnerships, and identify management actions and economic opportunities.
Culvert	A culvert is a structure that allows water to flow under a road, railroad, trail, or similar obstruction.
Department of Economic Development, Jobs, Transport and Resources	Victorian government department working across multiple portfolios. Within this department, Agriculture Victoria works with the agriculture and fisheries industries on research, development and extension to improve production, connect the sector with international markets, support development and maintain effective biosecurity controls.

Department of Environment, Land, Water and Planning	Victorian Government department that brings together planning, local government, environment, energy, suburban development, forests, emergency management, climate change and water functions into a single department to strengthen connections between the environment, community, industry and economy.
Drainage	The works and functions related to the collection and removal of local rainfall runoff from land prone to natural water-logging.
Dryland agriculture	Agricultural land that is not actively connected to surface water supplies, via direct contact or irrigation. Dryland farmers manage their own on-farm water supplies, including waterlogging.
Ecosystem	A dynamic complex of plant, animal, fungal and microorganism communities and the associated non-living environment interacting as an ecological unit.
Fit-for-purpose	Water of a quality that is appropriate for its intended use.
Floodplain	Low-lying land adjacent to a river or stream with unique ecosystems dependent on inundation from flood events.
Floodplain management	The prevention activities of flood management together with related environmental activities (see also floodplain).
Hydraulic capacity	A measure of the maximum volume of flow able to pass through a material, structure or watercourse.
Hydrology	The scientific study of water and its movement, distribution and quality.
Integrated catchment management	The coordinated management of land, water and biodiversity resources based on catchment areas. It incorporates environmental, social, cultural and economic considerations. This approach seeks to ensure the long-term viability of natural resource systems and human needs across current and future generations.
Irrigation drainage	Drainage networks implemented to remove excess surface water generated by rainfall events from irrigated landscapes.
Landholders	People who own land and, in particular, individuals who make their living from it.
Melbourne Water	Supplies drinking and recycled water to Melbourne, manages its water supply catchments, sewage treatment and rivers, creeks and major drainage systems.
Millennium Drought	The drought in Victoria that lasted from 1997 to 2009.
Peri-urban drainage	Peri-urban drainage refers to drainage in non-urban areas close to cities and towns. Peri-urban areas are often described as areas of rapid land use change where more intensive use is becoming more common
Ramsar wetlands	Wetlands of international importance, designated under the Ramsar Convention.
Reservoir	Natural or artificial dam or lake used for the storage and regulation of water.
Riparian	Land or vegetation that adjoins a river, creek, estuary, wetland or lake.
Runoff	The amount of rainfall that drains into the surface drainage network to become streamflow; also known as rainfall excess.
Rural drainage	For the purposes of this Strategy, rural drainage is defined as the works and functions related to the collection, and timely removal, of excess water generated by high rainfall to support agriculture production. It involves enhancing the hydraulic capacity of drainage lines and soils, and increasing the rate at which water will flow off (or through) and away from land, to support increased agricultural production in dryland areas.

Rural water corporations	Provide a range of water services to customers within their service areas. The services comprise water supply, sewage and trade waste disposal and treatment, water delivery for irrigation and domestic and stock purposes, drainage, and salinity mitigation services.
Statement of Obligations	Statements made under section 41 of the <i>Water Industry Act 1994</i> that specify the obligations of Victoria's water corporations in relation to the performance of their functions and the exercise of their powers.
Stormwater	Runoff from urban areas. There is a net increase in runoff from urban development due to water not being able to seep into the ground because of impervious surfaces, such as roofs and roads.
Streamflow	The flow of water once it enters a river, stream or channel.
Surface water	Water on the surface of the planet, including streams, rivers, lakes, wetlands and oceans.
Table drains	Table drains are normally earthen drains excavated next to, and running alongside, roadways and that are designed to ensure the road is properly drained. This term can also refer to communal drainage for rural drainage schemes.
Traditional Owners	<p>People who, through membership of a descent group or clan, are responsible for caring for Country. Aboriginal people with knowledge about traditions, observances, customs or beliefs associated with a particular area. A Traditional Owner is authorised to speak for Country and its heritage.</p> <p>For the purposes of application of the Aboriginal Heritage Act 2006, a Traditional Owner is defined as:</p> <p>(a) the person is an Aboriginal person with particular knowledge about traditions, observances, customs or beliefs associated with the area; and</p> <p>(b) the person—</p> <p>has responsibility under Aboriginal tradition for significant Aboriginal places located in, or significant Aboriginal objects originating from, the area; or</p> <p>is a member of a family or clan group that is recognised as having responsibility under Aboriginal tradition for significant Aboriginal places located in, or significant Aboriginal objects originating from, the area.</p>
Waste	<p>In the context of the State Environment Protection Policy (Waters of Victoria) waste includes—</p> <p>(a) any matter whether solid, liquid, gaseous or radio-active which is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration in the environment;</p> <p>For example, rainfall runoff with contaminants from properties would be considered waste.</p>
Wastewater	Water that has had its quality affected by human influence, deriving from industrial, domestic, agricultural or commercial activities.
Water corporations	Government owned organisations that provide a range of water services to customers within their service areas, including water supply, sewage and trade waste disposal and treatment, water delivery for irrigation and domestic and stock purposes, drainage, and salinity mitigation services. Some water corporations have a regulatory function for the diversion of water from waterways and the extraction of groundwater. Formerly known as water authorities.
Water sector	The broad range of entities with a stake or role in water management. For example, water corporations, catchment management authorities, local government and environmental water holders.
Water quality	Refers to the chemical, physical, biological, and radiological characteristics of water. It is a measure of the condition of water relative to the requirements of one or more biotic species and or to any human need or purpose.

Waterways	Rivers and streams, their associated estuaries and floodplains (including floodplain wetlands) and non-riverine wetlands.
Waterway managers	Authorities with a waterway management district under the <i>Water Act 1989</i> – these are the nine regional catchment management authorities and Melbourne Water in the metropolitan region.
Weirs	A barrier across a river designed to alter flow characteristics.
Wetlands	Wetlands are areas, whether natural, modified or artificial, subject to permanent or temporary inundation, that hold static or very slow moving water and develop, or have the potential to develop, biota adapted to inundation and the aquatic environment. Wetlands may be fresh or saline.

Endnotes

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