POLICY IMPACT ASSESSMENT

STATE ENVIRONMENT PROTECTION POLICY (WATERS OF VICTORIA)

OUR WATER, OUR FUTURE!

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40 City Road, Southbank
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Publication 905
ISBN 0 7306 7633 1

EXECUTIVE SUMMARY

What is special about Victoria's waters?

Victoria's water environments are diverse and are among Victoria's most valuable assets. Our unique rivers, wetlands, estuaries and coasts are home to millions of creatures, from tiny plankton to fish, dolphins, birds and whales, including animals that migrate to Victoria each year from across the globe.

Our water also provides the very basis for our own lives. Healthy water is essential to sustain the many demands that we, as a community, place on our water environments. Without healthy water we would not be able to drink or grow agricultural products or undertake many of the other essential activities that support our wellbeing and economy. Water environments are also of great environmental and cultural value to all Victorians, especially indigenous people as the traditional custodians of Victoria's land and waters, and rural communities, which often see our water environments as their lifeblood.

Essentially, we need to protect water environments as they protect and sustain us, our way of living and our future.

Why are Victoria's waters at risk?

For thousands of years, Aboriginal people have been using and managing Victoria's waters to sustain their life and culture. Over the past 200 years, the use of water environments has intensified as has the use of our catchments and coasts. These uses have affected the health of our water environments to an extent that threatens the very features that make them so attractive and valuable. While some of our water environments are still natural, others are becoming saltier, dirtier or laden with nutrients. Algal blooms and aquatic pest plants and animals are a common and costly occurrence and water availability is declining. The consequences of these deteriorating environments are imminent, serious and costly.

Our water not only faces serious ecological risks. The interdependent social and economic values are also at risk. The challenge for the future is to better manage our water environments, so that the social and economic activities that depend on them can be sustained. This is a challenge that involves communities, businesses, local government and state government agencies, catchment management authorities, coastal boards and water authorities.

How can a SEPP help?

State environment protection policies (SEPPs) help to protect water environments by providing a 'blueprint' of agreed environmental outcomes and strategic directions for protecting Victoria's water. They enable us, as a community, to set the uses and values of water that we want to protect, to set 'goal-posts' so we know when they are protected and to provide clear guidance on what we need to do to protect them.

This is important not only to provide guidance on reducing our impact on the environment, but also to provide a 'safety net' so that those who pollute the environment are held accountable. SEPPs also provide a tool we can use to assess if pollution has occurred, which helps EPA (in its role of protector of the environment) to undertake enforcement action if needed.

Why a revised SEPP?

The first *State Environment Protection Policy (Waters of Victoria)* was made in 1988. The 1988 SEPP focused mainly on the key problems facing our waters in the 1980s, particularly point source discharges. Since 1988, a new era of working in partnership has emerged where government, businesses and community members are working together to protect the environment. At the centre of these partnerships are the catchment management authorities and the regional coastal boards which enable the sustainable use and management of catchment and coastal resources. Against this background, the Environment Protection Authority undertook the development of a revised SEPP and has worked in consultation with local government and state government agencies, catchment management authorities, coastal boards, water authorities, businesses and the community to develop a revised SEPP. This revised SEPP provides Victorians with an updated framework that reflects the changes that have occurred since 1988 and provides a statutory framework for the next 10 years to protect Victoria's water environments.

About the SEPP

The SEPP sets a statutory framework for the protection of the uses and values of Victoria's fresh and marine water environments. As required by the *Environment Protection Act* 1970, the SEPP includes:

- the uses and values of the water environment that the community and government want to protect – these are known as ***beneficial uses***;
- the ***objectives and indicators*** which describe the environmental quality required to protect beneficial uses;
- guidance to catchment management authorities, coastal boards, water authorities, communities, businesses and local government and state government agencies to protect and rehabilitate water environments to a level where environmental objectives are met and beneficial uses are protected – this is known as the ***attainment program***.

The implementation of the revised SEPP will help to ensure that our catchments, rivers and coasts are managed in an integrated manner so that actions in the catchment do not have a detrimental impact on the quality of our fresh and marine water environments.

The health of our water has a direct impact on a range of different uses and values of water (i.e. beneficial uses) including drinking, industrial use and aquatic ecosystems that a waterway or waterbody can support.

The protection of beneficial uses will be achieved through maintenance of the current level of environmental quality or through realistically achievable improvements.

Beneficial uses proposed in the SEPP are:

- aquatic ecosystems;
- water suitable for aquaculture;
- water based recreation;
- water suitable for human consumption;
- cultural and spiritual values;
- water suitable for industrial and commercial use;
- water suitable for agriculture;
- water suitable for the consumption of fish, crustacea and molluscs.

Environmental quality objectives and indicators

The SEPP sets out a series of environmental quality objectives and indicators to measure whether beneficial uses are being protected. It is recognised that some objectives will take longer to meet than others. In these cases, the SEPP provides a framework to develop targets that will help to drive environmental improvement so that we can ultimately meet the objective. It is important that the SEPP includes both objectives (i.e. the goal posts) and targets (i.e. interim milestones) to both provide the ultimate objective and to encourage and drive continuous improvement, towards that objective.

Attainment program

A SEPP would be ineffective if it did not articulate, at a broad level, the actions needed to meet its purpose. The SEPP articulates this through its attainment program. The attainment program:

- identifies clear roles and responsibilities for environment protection and rehabilitation; and
- identifies strategic actions and tools to address activities that pose a risk to Victoria's water environments.

The strategic measures in the attainment program support, are integrated with, and build upon Victoria's existing environmental management arrangements.

What are the benefits of the SEPP?

The SEPP provides for a much-improved framework for the protection of the surface water environments in Victoria. This framework will help ensure that:

- the uses and values of Victoria's water are better protected. This will ensure that water will be safe for swimming, boating and shipping, fishing and aquaculture, drinking, stock watering, irrigation and industrial use, and that aquatic ecosystems will be protected;
- the social and economic values that depend upon healthy water are protected. This will help to protect the estimated $150 billion generated from industries in Victoria that depend, in one way or another, on healthy water;
- the statutory framework provided by the SEPP is integrated with and supports the activities of catchment management authorities, regional coastal boards, water authorities, municipal councils, government agencies and industries. This will contribute to a seamless environment protection and management framework for Victoria.
- wastes from everyday activities (from both point and diffuse sources) are reduced. This will help to improve the environment but it will also ensure a sustainable supply of clean water for the sustainable development of businesses in Victoria.

These benefits will help to maintain the quality of life for the community, and all those who enjoy and use Victoria's waters, and protect the local and state economy.

What are the costs associated with the SEPP?

The SEPP is not prescriptive. It offers considerable flexibility in how actions will be implemented to achieve the environmental outcomes specified in the SEPP. Consequently, government agencies, businesses and communities have the opportunity to choose actions which are both affordable and which satisfy the requirements of the SEPP. Although the flexibility of the SEPP has made it difficult to identify all associated social and economic costs, indicative costs have been presented for attainment provisions and are identified throughout the PIA.

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List of acronyms

ANZECC	Australian and New Zealand Environment Conservation Council;
CaLP Board	Catchment and Land Protection Board;
CAMBA	Chinese – Australian Migratory Bird Agreement;
CAP	Coastal Action Plan;
CMA	Catchment Management Authority;
DPI	Department of Primary Industries
DSE	Department of Sustainability and Environment;
EIP	Environment improvement plan;
EMS	Environmental management system;
EPA	Environment Protection Authority;
JAMBA	Japanese – Australian Migratory Bird Agreement;
MDBC	Murray – Darling Basin Commission;
MSS	Municipal Strategic Statement;
NAP	National Action Plan for Salinity and Water Quality;
NHT	Natural Heritage Trust;
NRMMC	Natural Resource Management Ministerial Council
PEM	Protocol for Environmental Management;
RCS	Regional Catchment Strategy;
RCB	Regional Coastal Board;
SEPP	State environment protection policy;
SIGNAL	Stream invertebrate grade number – average level;
VCC	Victorian Coastal Council;
VCMC	Victorian Catchment Management Council;
VRHS	Victorian River Health Strategy;
VPP	Victorian Planning Provisions.

PART 1 – BACKGROUND INFORMATION

1. INTRODUCTION

Victoria's water environments are diverse and unique. Ranging from small mountain streams, to large lowland rivers, billabongs, lakes, estuaries and coastal waters, they are among Victoria's most valuable assets. Victoria's waters form the basis of human life and prosperity. Healthy water is essential to sustain the many demands that we, as a community, place on our water environments. Without healthy water simple pleasures such as swimming and fishing and necessities such as water for agriculture and commercial use are at risk.

Victorian communities are signalling that they want their water environments to be protected and, where necessary, rehabilitated so that they, and future generations can safely use and enjoy them. To achieve this, a shared vision for the protection of the uses and values of water, needs to be provided. This is a key purpose of State environment protection policies (SEPPs).

The Environment Protection Authority (EPA), in conjunction with state and local government agencies, businesses and Victorian communities, has reviewed the state-wide State environment protection policy to protect Victoria's water environments.

This Policy Impact Assessment (PIA) seeks to provide an explanation of the contents of the SEPP, the rationale for its provisions, and the key impacts, both positive and negative, of its adoption.

2. WHAT IS SPECIAL ABOUT VICTORIA'S WATERS?

Victoria's rivers, lakes, wetlands, estuaries and coasts are of great environmental and cultural value to all Victorians, especially indigenous and rural communities which often see our water environments as their lifeblood. Victoria's water environments support an abundance of activities including industry, agriculture, shipping, residential living, fishing and tourism, which in turn support social values and the local, regional, State and Australian economies.

It is these inherently inter-dependent environmental, social and economic values which make Victoria's water environments so special.

2.1 The environmental values

Victoria's highly diverse water environments are of considerable environmental value. Many of our rivers, lakes, wetlands, estuaries and bays are located in national or state parks or State reserves. These water environments are crucial to the survival of many species, providing a home, food and shelter.

Our rivers and streams provide water to lakes, wetlands and estuaries and provide habitat, food and water for mammals, birds, fish, reptiles, amphibians, invertebrates and plants, some of which are listed under the *Flora and Fauna Guarantee Act* 1988 as threatened, rare or endangered. Victoria also has many pristine and heritage rivers and streams, which have significant conservation, recreation, aesthetic and cultural heritage values.

Our bays, inlets, estuaries, coastal and marine environments support highly diverse populations of plants and animals, particularly along the eastern coast, including extensive seagrass beds and mangroves. These areas provide breeding grounds, food and shelter for numerous fish, mammals and birds.

Wetlands and lakes are among Victoria's most valuable and endangered water environments. They are rich and diverse habitats with irreplaceable nature conservation values. Wetlands and lakes perform important environmental functions including filtering sediments and nutrients and assist in flood-water retention. Perhaps of greater importance is the incredible array of plants and animals that live and breed in wetlands and lakes. This is important not only to support native plants and animals but also migratory birds from as far away as China and Japan.

2.2 The social and economic values?

Water is one of our most vital natural resources. Our health and wellbeing depends upon the availability of clean water for drinking, swimming, fishing, surfing, boating and a myriad of other recreational activities. Our water also has a deep cultural and spiritual value, upon which no price tag can be placed, particularly for indigenous Victorians whose stories and cultural heritage values are associated with water.

As well as the significant social value of Victoria's waters there are also substantial economic values. There are very few activities that occur within Victoria that do not ultimately depend to some extent upon clean, healthy water. Our fresh and marine waters support commercial and recreational activities that generate billions of dollars for Victoria.

For example, the viability of agriculture, forestry, fishing and aquaculture is dependent on healthy water. In 1998-9 these activities generated nearly $4 billion and employed over 80,000 people[1].

Another example is recreation and tourism in Victoria, which is concentrated in or near water environments and generates more than $10 billion per year and directly sustains nearly 160,000 jobs[2].

Finally, Victorian industries are reliant on healthy water. Victorian manufacturing represents the largest sector of Victoria's income (over $22 billion) and not only depends on healthy water for production but depends on viable ports for export. These ports rely on pest and disease free waters to attract national and international trade.

Overall, much of Victoria's gross state product, $150 billion (1998-9), and 2.2 million jobs (January 2000) are directly or indirectly dependent upon water. To sustain these values, we need to protect our water environments.

3. WHAT ARE THE KEY RISKS TO WATER ENVIRONMENTS?

Human use of Victoria's land and water resources has affected the health of our water environment to an extent that threatens the very features that make them so attractive and valuable. While some of our

[1] Victoria Yearbook 2000. Australian Bureau of Statistics.

[2] Tourism and the Economy (2000). http://www.tourismvictoria.com.au

water environments are in largely natural condition, others are becoming saltier or are laden with silt and nutrients. Algal blooms and aquatic pest plants and animals are a common and costly occurrence, and water availability is declining. Coupled with this are deteriorating and eroding catchments where soil is lost, biodiversity is in decline and land is being over-run by salt. These poor catchment environments have a direct impact on the health of our water environments. The consequences of these deteriorating environments are imminent, serious and costly.

The most imminent threats to Victoria's water environments include:

- ***excess nutrients*** - one of the most significant problems in Victoria. Nutrients enter water environments from a number of sources such as agricultural fertilisers and drainage, septic tanks, sewage discharges, animal wastes and urban stormwater. Nutrients are important for the growth of plants and occur naturally in the environment but, when these exceed natural levels, excessive plant growth and algal blooms can occur, resulting in poor water clarity and depleted oxygen levels. These can lead to fish kills and other toxic effects and reduce the suitability of water for activities such as stock watering and irrigation.
- ***suspended solids*** – are generated from the erosion of waterways, roads, urban, agricultural and forested land, and cleared or disturbed land. High levels of suspended solids can reduce the amount of light available for plant growth, smother bottom dwelling plants and animals, block estuaries and river mouths and have detrimental impacts on the suitability of water for drinking, tourism, industry, and aquaculture.
- ***salinity*** – while it is recognised that some salt inputs to water environments result from natural hydrogeological processes, poorly managed land and inappropriate land uses are key sources. In particular, the replacement of deep rooted native vegetation with shallow rooted vegetation and poorly managed irrigation practices have contributed salt to our water environments. Salty water is unsuitable for human and stock consumption and for irrigation, and has adverse impacts on the ecology.
- ***reduced environmental flows and altered flow regimes*** –large amounts of water have been and are continuing to be diverted for irrigation, industrial and domestic supply. The altered flow regimes have had significant impacts on the hydrology and health of many rivers, wetlands, lakes and estuaries throughout Victoria. In particular, the availability of water for plants and animals is reduced and habitats have been lost. In addition, reduced water flows impact on recreational and tourism values (e.g. activities such as fishing and boating) and reduce water availability for agriculture and irrigation.
- ***heavy metals and oils*** – heavy metals enter water environments through leachate from antifoulants on vessel hulls, runoff from poorly managed chemical storage facilities and in runoff from urban and agricultural areas. Oils enter water environments through spills and poorly managed transfer and vessel

maintenance operations. Oils and heavy metals are toxic to plants and animals and might potentially cause illness in humans through the consumption of water or seafood.

- ***aquatic pests*** – can drastically alter water environments and out-compete native plants and animals for food and shelter. Aquatic pests can enter water environments through accidental or deliberate release, through ballast water discharge, or attached to the hulls of vessels and fishing gear. Aquatic pests currently in Victorian fresh and marine waters include the infamous carp and the Northern Pacific seastar.
- ***other threats*** – result from depleted dissolved oxygen levels and falling pH levels in waters.

Where can I get more information?

Additional information about the health of Victoria's water environments can be found from:

- the Victorian Water Resources Data Warehouse - www.vicwaterdata.net
- National Land and Water Resources Audit - www.nlwra.gov.au
- Websites –
- DSE and DPI - www.nre.vic.gov.au
- EPA - www.epa.vic.gov.au

4. HOW CAN A SEPP HELP?

The significant environmental, social and economic costs associated with deteriorating water environments (e.g. loss of biodiversity, lost production and tourism revenue, environmental rehabilitation, clean up and water treatment costs) means that action needs to be taken to prevent and reverse their continuing decline. To focus this action, a modern and integrated policy framework is needed. This will be the basis of the revised *SEPP (Waters of Victoria)*.

4.1 What is a SEPP?

A State environment protection policy (SEPP) is a statutory policy that expresses in law the Victorian community's expectations, needs and priorities for protecting and sustainably using the environment, and the social and economic values that depend on it.

Made under the *Environment Protection* Act 1970, SEPPs are a means of setting agreed outcomes against which we can measure progress and coordinate environment protection throughout Victoria. SEPPs essentially clarify responsibilities for environmental protection, as outlined in the Act and as they relate to water. The SEPP clarifies this by identifying beneficial uses, environmental quality objectives that, if met, will ensure their protection and actions to avoid pollution. The Act provides the legal basis for statutory tools (e.g. licenses) and enforcement action taken by EPA and the SEPP guides these tools and enforcement actions. For example, the SEPP articulates roles and responsibilities and performance expectations and outcomes for activities such as wastewater management but, if an illegal wastewater discharge occurs, EPA will need to use the provisions of the Act to undertake appropriate enforcement action. Therefore, there is no legal penalty directly associated with SEPP non-compliance.

SEPPs are important guidance tools for government agencies, businesses and communities and for administrative and judicial review. Importantly, SEPPs are critical to guiding EPA's roles, responsibilities and functions, and in identifying and communicating key areas of focus for EPA. The level playing field that SEPPs provide is equally as important. By providing clear guidance and community expectations for environmental management and protection, they set a benchmark against which we can measure if pollution has occurred. This way, a SEPP articulates roles and responsibilities and environmental expectations and outcomes as broadly identified by the *Environment Protection Act* 1970. As SEPPs are subordinate legislation to the Act, EPA needs to use the provisions of the Act to undertake any enforcement action. Therefore there is no legal penalty associated directly with SEPP non-compliance.

SEPPs are reviewed every 10 years which provides the opportunity to review achievements, key risks, new science and community attitudes, and to ultimately set new goals and develop and apply new approaches, to ensure we continuously move towards sustainable water environments. This does not mean however that all the provisions of the SEPP will be implemented and all beneficial uses attained within this timeframe, but that gradual improvement is made towards their achievement. Therefore, the implementation of the SEPP needs to be done in a priority-driven and practicable manner.

4.2 Why a revised SEPP?

Times have changed since 1988 when the *SEPP (Waters of Victoria)* (the 1988 SEPP) was made. Use of Victoria's natural resources has increased, awareness and understanding of ecologically sustainable development has improved, new bodies have been established for coastal and catchment management and there is now a greater focus on diffuse pollution sources (e.g. urban development, agricultural activities and coastal development). Modern SEPPs need to be flexible and support other tools, plans, actions and processes aimed at protecting the environment, particularly regional tools. As a result, the 1988 SEPP was no longer adequate to protect Victoria's water environments.

The 1988 SEPP was revised to reflect these changes, to assist the Victorian community take the next steps towards achieving sustainable water environments.

4.3 So what does the revised SEPP do?

Essentially the revised SEPP sets a framework to protect, rehabilitate and ultimately sustain the environmental quality of Victoria's streams, lakes, estuaries, and marine environments and the uses of those environments, which the community values. This framework follows a logical and robust format, which closely follows a simple management cycle concept, and includes:

- the uses and values of the water environment that the community and Government want to protect – these are known as ***beneficial uses*** under the *Environment Protection Act* 1970;
- the ***objectives and indicators*** which describe the environmental quality required to protect beneficial uses;
- guidance to communities, businesses and government agencies in order to protect and rehabilitate water environments to a level where

environmental objectives are met and beneficial uses are protected – this is known as the ***attainment program***.

The implementation of the SEPP will help to ensure that our catchments, rivers and coasts are managed in an integrated manner, so that actions in the catchment do not have a detrimental impact on the quality of our fresh and marine water environments.

4.4 What are policy impact assessments?

Policy impact assessments (PIAs) are required for all new or revised SEPPs. PIAs are intended to bring together the information that forms the basis of each SEPP (e.g. scientific data and public comment) and to outline the SEPP development process in a clear and transparent manner for the community and decision-makers to consider. PIAs also provide a documented explanation of the rationale of a SEPP and explore the implications of adopting it.

This PIA seeks to outline the purpose of the variation to the 1988 SEPP and the likely impacts resulting from the SEPP.

5. HOW WAS THE SEPP DEVELOPED?

SEPPs must be developed in accordance with the ***Environment Protection Act*** 1970, which requires a public and transparent process. EPA aims to ensure active involvement of all affected stakeholders in the development of a SEPP that genuinely reflects the needs of the community for the protection and sustained use of their environment, in a practical and cost effective manner.

The SEPP was developed in conjunction with, and aims to support the *Victorian River Health Strategy (VRHS)*, which was developed by the former Department of Natural Resources and Environment (NRE) (now the Department of Sustainability and Environment (DSE)). The VRHS aims to set future directions for the management of Victoria's rivers and streams.

The development of the SEPP included:

- ***public and stakeholder notification*** – EPA advertised its intention to revise the 1988 SEPP in June/July, 1999 in major newspapers across the State;
- ***reference committee*** – a committee with representatives from catchment, coastal and water managers and advisers, local government, industry, conservation and indigenous groups, landholders and government agencies, was formed to help develop the SEPP and the VRHS;
- ***the Background Paper*** – was released in December 2000, to key stakeholders, including catchment management authorities (CMAs), regional coastal boards, Victorian Catchment Management Council (VCMC), Victorian Coastal Council (VCC), government agencies, the Municipal Association of Victoria, water authorities and industry, conservation and environment groups. It outlined the key concepts and options for the SEPP;
- ***meetings and workshops*** – over 100 meetings and discussions have been held to discuss the Background Paper and establish what stakeholders believe are the key environmental issues in Victoria, and to identify what stakeholders would like the revised SEPP to do

to address these. Key workshops and meetings were also held with the former NRE, CMAs and coastal boards to discuss priority and target setting processes. All comments were considered when developing the SEPP;

- ***draft SEPP outline*** – was released to key stakeholders and posted on the EPA website in May 2001 for comment. Comments were incorporated into the SEPP;
- ***scientific inputs*** – segments and environmental quality objectives were developed through investigations into water quality and biological communities in rivers and streams and marine environments across the State, and through the use of the recently revised *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. These investigations were based on many years of science and data. Further information on how the segments and objectives were developed, is outlined in section 9 of this PIA;
- ***newsletters*** - newsletters were forwarded to over 1000 stakeholders who have expressed interest in the SEPP.
- ***Draft SEPP release and 4-month public comment period*** – Over 1000 copies of the draft SEPP and PIA were distributed for public comment in December 2001. Notification of the draft SEPP release, and a call for submissions was printed in major newspapers across the State. Press releases and media opportunities, such as radio interviews, were also used during the formal consultation period to ensure stakeholders were aware of their opportunity to comment. Consultation, including briefing sessions and workshops, meetings and one-on-one discussions were undertaken during the public comment period to give communities, industries and local government and state government agencies the opportunity to discuss and seek clarification on any issues before making a submission.
- ***SEPP finalisation***

  EPA received a total of sixty-nine formal submissions on the draft SEPP. In addition many informal comments made throughout the consultation process (such as during meetings and briefing sessions) were taken into account in the finalisation process. All public comments received were considered, and a written summary of public comments and responses to those comments was prepared and distributed to all individuals and organisations who submitted comments. Following the consideration of public comment, final revisions of the SEPP and PIA were produced.

  EPA then recommended the revised SEPP to the Government for adoption through the processes outlined in the *Environment Protection Act* 1970. The revised SEPP now replaces the 1988 SEPP.

PART 2 – ABOUT THE SEPP

This section discusses the content of the SEPP and its potential impacts. Before you read this section, EPA encourages you to read the SEPP in its entirety. It is important to read the entire SEPP because each section provides a basis and a framework for the next.

For example, the front section sets out the key purpose of the SEPP and the principles of ecologically sustainable development (including concepts such as the triple bottom line) and environment protection on which it is based. These are then combined in the policy intent to provide a plain English account of the environmental outcomes the SEPP aims to achieve, the fundamental actions needed to do so and why water environments need protecting. The middle section then defines the uses and values of water environments that the SEPP aims to protect and the objectives that need to be met to protect them. Finally the last section (the attainment program) provides guidance on how we can reach the objectives and protect the uses and values. So, it's important to read the entire SEPP to gain a clear understanding of what it is trying to do and why this is so important for Victorians.

When reading the SEPP, it's important to remember that its purpose is not to provide detailed management actions for river rehabilitation or wastewater management but to provide a benchmark for the protection of water environments and strategic guidance on how this can be achieved. More detailed management frameworks and tools are provided through statewide strategies (e.g. the Victorian River Health Strategy) and more detailed actions are provided in regional plans developed by catchment, coastal and water management bodies. The SEPP supports these important processes by providing a set of agreed uses and values to be protected, objectives needed to protect them and some strategic guidance on how this may be achieved.

6. WHAT IS THE PURPOSE AND BASIS OF THE SEPP?

6.1 Policy preamble

The preamble sets the scene for the SEPP. It is largely self-explanatory as it details why water environments are so important and why they need to be protected. It also introduces the SEPP as forming part of Victoria's environment protection system and introduces one of the key intents of the SEPP, which is to continuously reduce human impact on surface water environments, by using land and water resources within their capabilities, and by avoiding and re-using wastes, particularly those generated from everyday activities.

There is a strong perception by many members of the community that manufacturing, mining and wastewater treatment plant discharges are the major sources of environmental degradation. However, while such operations can pose environmental risks, discharges from these premises are now largely controlled and regulated by licence. Adverse impacts on water environments also arise from a diverse range of activities undertaken on a daily basis by all members of our

community. The policy intent sends a strong message that wastes from a broad range of human activities (e.g. agriculture and washing cars near stormwater drains) need to be avoided and re-used. Having said this, it is important to maintain and improve the management and control of point source wastes. The SEPP sets clear guidance on how this will be achieved.

The preamble recognises the need for continued environmental improvement by setting priorities that reflect the environmental, social and economic values of regional, as well as state-wide communities. It also recognises the need to ensure that the values we place on Victoria's water environments are protected, and the level of health of those waters either maintained and/or improved.

In this context, it is important that the SEPP supports existing catchment, coastal and marine management arrangements and the community decision-making they support. These are largely based on the processes of CMAs, regional coastal boards and DSE and DPI. These approaches and the concepts introduced in the preamble are fleshed out in the policy intent and throughout the attainment program.

6.2 Policy title

The title of the final SEPP is the *'State environment protection policy (Waters of Victoria)'*.

6.3 Policy context

This section seeks to describe to whom the SEPP applies. Like all SEPPs, it applies to all local government and state government agencies, non-government organisations, community groups, businesses and individuals that use, manage, make statutory decisions on, or derive benefit from Victoria's surface water environments. It is important that this is clearly stated in the SEPP as, in the past, there has been some confusion as to who SEPPs apply to, with some people believing SEPPs only apply to EPA. While EPA is responsible for developing and administering SEPPs and has the responsibility to ensure their overall implementation, they are approved by the Governor in Council and are therefore government policy and apply to all Victorians.

The policy context also states that the SEPP is a tool of the *Environment Protection Act* 1970 and is part of Victoria's legal system. This means SEPPs must be developed and amended through an open and transparent process. This gives assurance to local government and state government agencies, businesses and communities that the objectives of, and guidance in, SEPPs are agreed to and achievable. It also provides security to communities, in that the statutory tools and processes under the *Environment Protection Act* 1970 can be used, where appropriate, to respond to actions that are inconsistent with the SEPP and detrimentally impact on the beneficial uses of surface waters.

6.4 Policy purpose

This section seeks to define the key underlying purpose of the revised SEPP. The section emphasises that the first key purpose is to set the agreed outcomes for the water environment. This is done in a manner prescribed by the *Environment Protection Act* 1970, by defining what the Act calls 'beneficial uses', but are often described as uses (e.g. swimming, drinking water) or values (e.g.

ecosystem protection and cultural and spiritual values) of water. Agreed outcomes are also specified by the level of environmental quality (through 'indicators' and associated 'objectives' for each indicator) needed to protect that use or value.

The second key purpose is to set guidance and goals for local government and state government agencies, CMAs, coastal boards, water authorities, businesses and communities to focus on and aim for over the 10 year lifetime of the SEPP. This guidance helps these organisations understand what they need to do to improve environmental quality and protect beneficial uses. The goals provide some specific areas of focus for the next 10 years, to ensure that actions important to protect beneficial uses are implemented. This does not mean however that all environmental quality objectives need to be attained or actions fully implemented within that timeframe, but that progressive improvement is made towards their attainment. Therefore, actions in the attainment program need to be implemented in a priority-driven and practicable manner during and beyond the 10-year timeframe of the SEPP.

6.5 Policy principles

The SEPP is based on the principles of the *Environment Protection Act* 1970 and reflects the community's expectations of how we should continue to provide for Victoria's economic and social development while sustaining our environment. The principles are listed in Part II (clause 5) of the SEPP and should be considered when making decisions on implementing the SEPP.

Essentially the principles promote the adoption of sound environmental practices and procedures as a basis for ecologically sustainable development. They promote a 'triple bottom line' approach by integrating the consideration of environmental, social and economic values in planning and decision-making processes. The SEPP enacts this principle by supporting the processes of catchment management authorities and regional coastal boards, which incorporate environmental, social and economic considerations into their decision making.

These principles also encourage the adoption of risk based approaches to assessing and addressing environmental risk, including implementation of measures to prevent environmental degradation, even in situations where there is scientific uncertainty and lack of information. For example, there is little scientific information on lakes and wetlands in Victoria, but it is clear that many of these valuable systems are degraded. Clearly, information and mitigation action is needed to protect these valuable ecosystems. The SEPP places a focus on improving our knowledge of these ecosystems to allow for effective action to be undertaken to protect them.

The principles propose that environment protection and rehabilitation measures need to be cost-effective and proportionate to the significance of the environmental problems being addressed. The principles also promote the conservation of social values through the maintenance or enhancement of the environment for future generations. This is manifested in the SEPP through the beneficial uses to be protected, which include the protection of the

social, cultural and spiritual values of water environments.

Importantly, the principles promote the use of ecologically sustainable practices for the production, use and disposal of goods (e.g. manufacturing and agricultural products) to ensure the sustainable use, and protection of the environment. These principles and the SEPP itself are aimed at influencing the attitude and behaviour of producers, consumers and investors to encourage them to invest in, produce and consume goods that do not significantly degrade the environment. For example, EPA is currently working with the dairy industry sector to develop an environment management system for the dairy industry. This will help dairy farmers reduce their impacts on water environments and produce milk sustainably. This is just one example of the many actions that the SEPP supports to help protect Victoria's water.

The SEPP supports the fundamental principles of accountability and enforcement by encouraging the provision of information on activities that degrade water environments and measures adopted to mitigate such impacts, and by encouraging partnership approaches to implementing mitigating actions. Sometimes, motivation and partnerships are not enough to ensure the protection of the environment and enforcement measures need to be used. As the environment 'watch-dog', EPA sometimes needs to use enforcement measures to ensure that those who implement sound environmental practices are not disadvantaged by those who do not. The Policy enables this by providing a benchmark that EPA and communities can use to assess if pollution has occurred.

The Policy reflects the integrated nature of the catchment, coast and marine environment and is intended to ensure that planning and management activities consider the wider implications of activities and actions. For example, improved management of floodplains and waterways will reduce sediment loads entering coastal areas, which will improve their environmental quality.

Finally the principle of the waste hierarchy is fundamental to reducing our impact on water environments. This principle is reflected throughout the SEPP in measures to avoid, re-use or adequately treat wastes from activities we undertake on a daily basis.

These principles are applied to the unique values of Victoria's water environments and are further expressed through the policy intent and throughout the attainment program.

6.6 Policy intent

The policy intent is in some respects the most important part of a SEPP. It seeks to broadly describe why the SEPP was developed and the way we should go about protecting our water environments. It also builds on the policy purpose and principles. In doing so, it establishes the foundation of the SEPP upon which we can build actions to implement the *Environment Protection Act* 1970 and protect and rehabilitate Victoria's water environment, over a 10 year timeframe.

The policy intent seeks to clarify fundamental issues such as the importance of valuing all waterways, and about continuing to drive towards sustainability.

To protect our water environments, we need to identify the uses and values Victorians want to protect and actions required to protect them. We also need to ensure that agreed responsibilities for the implementation of these actions are clear. The SEPP reflects uses and values of surface waters identified as needing protection at the state-wide level, and provides a framework within which uses and values can be identified on a regional basis. This framework reflects the national framework articulated in the National Water Quality Management Strategy.

A key intent of the SEPP is to guide and support the establishment of regional catchment and coastal planning processes, in which the community identifies the regional environmental, social and economic values of surface waters, and after careful consideration of their environmental, social and economic values and needs, sets appropriate goals, priorities and targets. By adopting these processes, regional communities can choose actions and set environment improvement targets to improve their environment in the context of national, Murray-Darling Basin and state-wide goals, priorities and strategies (provided by the SEPP and by other tools such as the National Water Quality Management Strategy, the Victorian River Health Strategy and the Murray Darling Basin Strategy). A high level of integration between the SEPP and these regional processes, programs and strategies is important, as it will enable actions in the SEPP to be implemented on a priority driven and progressive basis. As the policy has been developed to reflect and support these other national and state-wide strategies, processes for their implementation (including regional target setting) will be consistent.

Finally, all Victorians play an important part in protecting surface water environments and the intent sets out that the policy identifies roles and responsibilities of local government and state government agencies, CMAs, coastal boards, water authorities, businesses and communities in implementing the SEPP. These roles and responsibilities are included in the *Environment Protection Act* 1970, and the SEPP simply clarifies this.

7. WHERE DOES THE SEPP APPLY?

7.1 Policy area

This section (clause 8 of the SEPP) seeks to describe the area and part of the environment the SEPP applies to. The SEPP covers all natural water environments, including fresh and marine waters both perennial and seasonal, and their catchments, and to activities undertaken within these catchments that may impact on surface waters.

Beneficial uses and environmental quality objectives have been set for surface waters but not for catchment areas (as the purpose of the SEPP is to protect the beneficial uses of water). However, the attainment program applies to both water and land environments to help ensure the environmental impact of activities conducted in those environments is minimised.

It excludes artificial water holding and treatment systems, off-stream private dams and artificial wetlands. Artificial water environments are excluded because they are developed for a specific purpose, and as such were not typically constructed to

provide water suitable for beneficial uses such as aquatic ecosystem protection. It does not exclude drains and channels that are modified rivers or streams, as these water environments often have significant natural features that need protection and/or rehabilitation. This is important so that the environmental quality of modified environments can be progressively improved on a priority basis, protecting the healthier environments as a priority (which is consistent with the VRHS).

It is important that the water environments excluded from the policy area do not impact on the beneficial uses identified in the SEPP or surface waters outside of Victoria's jurisdiction (e.g. River Murray). The section aims to be consistent with other key water related statutes (e.g. the *Water Act* 1989 and the *Environment Protection Act* 1970) and is unchanged from the 1988 SEPP. Groundwaters are excluded from the SEPP because they are dealt with in the SEPP *(Groundwaters of Victoria)* 1997.

7.2 Segments

Segments are used to identify parts of the policy area which have common features in terms of environmental condition, aquatic ecosystem type and a range of current and future beneficial uses. Within the overall boundaries of the policy area, four broad environmental classifications have been defined (i.e. aquatic reserves, wetlands and lakes, rivers and streams, and marine and estuarine). Segments are described below.

Aquatic Reserves

This segment consists of the surface waters in reference areas, national and state parks, and marine parks and reserves. This segment has been maintained from the 1988 SEPP as it enables the protection of the areas of high conservation value. Consistent with the 1988 SEPP, environmental quality objectives for this segment are set as "no variation from background conditions".

Wetlands and Lakes

This is a new segment that includes reservoirs, alpine bogs, large open lakes, inland hyper-saline lakes, floodplains, billabongs, swamps, and mudflats and other water bodies with the characteristic of being wet on a regular or semi-regular basis (but which are not covered in other segments). This means that wetlands or lakes that are also aquatic reserves or estuaries are covered under the aquatic reserves and estuary and inlet segments.

Wetlands and lakes were included the general surface waters segment in the 1988 SEPP. EPA considers it important to separate out wetlands and lakes as they a key part of the water cycle, playing critical roles in maintaining the general health of the State's rivers, estuaries and coastal waters. Due to a lack of data, the SEPP does not include specific environmental quality objectives. However, a separate segment will facilitate further research into wetlands and lakes, particularly focussing on the development of objectives for these areas.

Rivers and streams

The approach for setting the rivers and streams segments differs from the approach used in the 1988 SEPP, which had two major segments for all inland waters. The SEPP identifies five segments to reflect distinct biological regions within the broader rivers and streams classification.

Macroinvertebrates, including insects, snails, worms and crustaceans, were used to develop biological regions. An extensive data set of macroinvertebrate distributions was used to determine regions that provide an accurate spatial representation of aquatic ecosystems at a statewide scale. This approach ensures that segments are based on the biological characteristics of different rivers and streams, which will assist in better planning and management.

Highlands

This segment consists of the mountain river and stream reaches in the Upper Murray, Mitta Mitta, Kiewa, Ovens, Goulburn, Yarra, Latrobe, Thomson, Macalister, Mitchell, Tambo and Snowy catchments. This segment is largely natural, with alpine and sub-alpine environments and is generally above 1,000 metres in altitude. While overall there is little disturbance in this segment alpine ski resorts, roads and grazing may have local impacts.

Forests–A

The Forests-A segment consists of the upland river and stream reaches in the Upper Murray, Mitta Mitta, Kiewa, Goulburn, Yarra, Latrobe and Thomson catchments, and river and stream reaches of the Grampians, Strzelecki Ranges, Wilsons Promontory and far East Gippsland. This segment has minor disturbance, is mostly forested and is generally above 400 metres in altitude but also includes some coastal areas.

Forests-B

This segment consists of the upland river and stream reaches in the Ovens, Broken, Goulburn, Macalister, Mitchell, Tambo and Snowy catchments, and river and stream reaches in the Otway Ranges. This segment has minor disturbance, is mostly forested and is generally above 400 metres in altitude. This segment has similar characteristics to the Forest-A segment. They are both mostly forested and have relatively little disturbance, apart from small towns, impoundments and some grazing. However, the two regions are biologically distinct and therefore have different biological indicators.

Cleared Hills and Coastal Plains

This segment consists of the upper river and stream reaches in the Campaspe, Loddon, Avoca, Wimmera and Hopkins catchments, mid reaches in the Ovens, Broken and Goulburn catchments, lowland river and stream reaches and their catchments in the Barwon, Yarra, Latrobe, Thomson, Macalister, Mitchell, Tambo, Gellibrand and Snowy catchments, lowland river and stream reaches in the Curdies, Moorabool, Werribee, Maribyrnong and Western Port catchments and river and stream reaches in south Gippsland. This segment is extensively cleared, although there are isolated remnant native forests left in the cleared hills. There are also substantial urban centres.

Murray and Western Plains

This segment consists of lowland river and stream reaches in the Kiewa, Ovens, Broken, Goulburn, Campaspe, Loddon, Avoca, Wimmera, Glenelg, and Hopkins catchments and the river and stream reaches in the Mallee, Portland, Corangamite and Millicent Coast basins. This segment is almost entirely cleared and under grazing, cropping or horticulture and is generally below 200 metres in altitude.

Marine and estuarine

The approach for setting the estuarine and coastal segments differs from the approach used in the 1988 SEPP, which had two major segments for all marine waters. The SEPP identifies five marine and estuarine segments based on ecosystem types (i.e. major embayments being Port Phillip Bay, Western Port and Gippsland Lakes; estuaries and inlets, and open coasts).

Estuaries and Inlets

This segment consists of surface waters, other than Port Phillip Bay, Western Port and Gippsland Lakes, where marine intrusion into freshwaters occurs. The sixty or so estuaries strung along the Victorian coast vary from small wave- and river-dominated estuaries in the west, to a network of small wave-dominated estuaries in the east. The environmental quality of estuaries and inlets varies from pristine to modified. The more modified have been separated out into different segments (e.g. Port Phillip Bay, Western Port and Gippsland Lakes). It is recognised that there are some estuaries in this segment that have highly modified ecosystems. To ultimately achieve a greater level of health, these water environments may need to have different management actions, beneficial uses, and interim targets than the healthier estuaries. Local communities, through coastal planning processes, have identified a need to focus on the improvement of these environments. This will ensure action is taken according to the priorities of regional and local communities and over agreed timeframes.

Port Phillip Bay

This segment includes the surface waters of Port Phillip Bay (bounded by the high tide mark). The waters of Port Phillip Bay are protected under a specific schedule to the 1988 SEPP, which will remain under the revised SEPP. The Port Phillip Bay Schedule (Schedule F6) sets specific beneficial uses for Port Phillip Bay and includes detailed environmental quality objectives. Consequently, the SEPP defers to these beneficial uses and objectives for Port Phillip Bay. However, the attainment program of the revised SEPP will still apply to the waters of the Bay.

Western Port

This segment consists of surface waters bounded by the high tide mark of Western Port. Similar to Port Phillip Bay, the waters of Western Port are protected by a Schedule to the 1988 SEPP (Schedule F8). Consequently, the SEPP defers to the beneficial uses and environmental quality objectives in Schedule F8. Again, the attainment program of the revised SEPP will still apply to the waters of Western Port.

Gippsland Lakes

This segment consists of the surface waters of Lake Wellington, Lake Victoria, Lake King, Lake Reeve, Lake Coleman, Lake Bunga, Cunningham Arm, North Arm and Victoria Lagoon. The Gippsland Lakes are the focus of Schedule F3 of the 1988 SEPP. There are two options available for the future of this Schedule. One is to revoke it and include beneficial uses and objectives for this region in the revised SEPP. The second option, and the one proposed in the SEPP, is to revise Schedule F3 in conjunction with a Gippsland Lakes study currently being conducted by the Gippsland Coastal Board and the former NRE (now DSE and DPI) in partnership with the East and West Gippsland CMAs, CSIRO and other partners. This option means that the revised SEPP would defer

to Schedule F3 for beneficial uses and environmental quality objectives. If this option was chosen, Schedule F3 would need to be revised over the next 18 months to provide updated beneficial uses and to develop updated objectives, in conjunction with the outcomes of the Gippsland Lakes study. Further discussions need to be held with DSE, the Gippsland Coastal Board, the East and West Gippsland CMAs and other partners to assess which option is more appropriate.

Open Coasts

This segment consists of surface waters lying within 3 nautical miles of Victoria's territorial baseline and extending from Cape Howe in the east to Discovery Bay in the West. This segment is described as near-pristine and requires the highest level of ecosystem protection.

For more detailed information on how river and stream segments were developed, please refer to the *State environment protection policy (Waters of Victoria) Biological objectives for rivers and streams – ecosystem protection*.

Available from EPA's website – www.epa.vic.gov.au or from the EPA information centre

Although the proposed segments vary from those of the 1988 SEPP, the new segments offer a better alignment of segment boundaries to ecosystem characteristics and health. This helps to target specific management actions to specific ecosystem types and also helps to more accurately develop environmental quality objectives. Although this new approach provides for the better protection of beneficial uses, it can make it difficult to describe segments in the SEPP. Due to this, EPA will provide information on the precise location of segment boundaries to stakeholders.

The relationship between SEPP (Waters of Victoria) and its Schedules

SEPP (Waters of Victoria) provides a framework to protect all of Victoria's surface water environments, however special environment protection measures are still needed for sensitive segments of the environment such as Western Port, the Gippsland Lakes and Port Phillip Bay, among others. These are covered by Schedules to SEPP (Waters of Victoria). Where a Schedule exists, both SEPP (Waters of Victoria) and the Schedule apply, but if specific beneficial uses and objectives are outlined in the Schedule, these have precedence over those in the state-wide SEPP.

8. WHAT BENEFICIAL USES ARE WE TRYING TO PROTECT?

Beneficial uses do not permit a use of water or an activity, rather they identify uses or values that depend on clean water. As well, human activities can affect the health of water environments, therefore action must be undertaken to ensure that activities are managed to minimise their impacts. The SEPP outlines many actions to manage activities that can impact on water environments.

Beneficial uses are current or future environmental values or uses of surface waters that are dependent upon clean water. Each beneficial use requires water of a certain quality and quantity for its protection. The beneficial uses have been developed by considering the views of local government and state

government agencies, CMAs, coastal boards, water authorities, businesses and communities, the understanding of environmental quality and the actions needed to achieve the level of improvement required to protect beneficial uses.

As the health of waters within segments varies, the level of protection of beneficial uses throughout segments will also vary (e.g. some surface waters within a segment will currently be of a quality that can protect all beneficial uses while others will not). Where water health is currently good and beneficial uses are currently protected, they need to remain protected. Where water health needs to be improved to protect beneficial uses, this needs to occur as soon as practicable. The SEPP recognises that some beneficial uses may not be attained in all segments within the 10-year lifetime of the SEPP. It also recognises that beneficial uses in highly modified environments may not be attained, due to extensive modification. Water health improvement and progressive protection of beneficial uses and values such as cultural and spiritual values can be driven through articulating on a regional basis or a waterbody-by-waterbody basis, the beneficial uses to be protected (which are outlined on a statewide basis in the SEPP). These regional uses and values will help to focus management actions, and assist in target setting and the identification of priority actions through catchment and coastal planning processes (see clause 22 for more information).

Beneficial uses cannot be protected in areas where the natural environmental quality could not support that use. For example, the beneficial use of swimming could not necessarily be protected in wetlands that are home to a significant population of birds. The natural occurrence of birds in wetlands could result in high *Escherichia coli (E. coli)* levels in the water due to faecal matter from the birds. This would result in *E. coli* levels being naturally higher than the level needed to protect swimming. As these *E. coli* levels are naturally high, it would not be appropriate to try and reduce this level. In a circumstance such as this, swimming could not be protected.

Beneficial uses are not protected in artificial water environments constructed for a specific purpose (e.g. wetlands constructed for stormwater treatment). These systems should be managed to protect the use for which they were constructed. Where beneficial uses do not apply or are excluded for certain activities, this is stated in the relevant clause. However, humans and animals sometimes access artificial water environments, and therefore they must be managed to ensure that contact does not have unacceptable impacts. The SEPP also seeks to ensure that discharges from waters excluded from the SEPP do not impact on the beneficial uses of surface waters. The exclusion of certain water environments from the SEPP does not mean that if pollution occurs in those waters, action to abate the pollution or to penalise those responsible cannot be taken.

The beneficial uses of the Port Phillip Bay, Western Port and Gippsland Lakes segments are identified in Schedules F6, F8 and F3 respectively. These Schedules were developed to provide special environment protection measures for these sensitive areas, and it is not necessary to set additional beneficial uses through the SEPP. Beneficial uses in the SEPP include:

- ***Aquatic ecosystems***: will protect the integrity and biodiversity of ecosystems. Three levels of environmental protection are proposed for aquatic ecosystems in Victoria, based on those in the recently revised *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. The beneficial use of aquatic ecosystems is categorised into three levels of protection, to recognise that ecosystems can be protected to different levels depending on whether they have been largely modified, slightly to moderately modified or highly modified. Definitions of the different aquatic ecosystems are provided in clause 3 of the SEPP.

  The first level of ecosystem protection protects largely unmodified aquatic ecosystems that are areas where human influence has had a minimal impact on the aquatic ecosystem. This beneficial use will be protected in areas which currently support high levels of environmental quality or which could support such high levels after the implementation of practicable environment improvement measures. It is proposed that this beneficial use be protected in the Aquatic Reserves, Wetlands and Lakes, Highlands, Forests A and B, Estuaries and Inlets and Open Coast segments.

  The second level protects ecosystems that have been slightly to moderately modified (through various catchment and water based activities) or ecosystems that can be rehabilitated back to a state reflecting slightly to moderately modified conditions. Slightly to moderately modified ecosystems are areas where the aquatic ecosystem has been disturbed to a measurable degree, but the biological communities remain in a healthy condition. It is proposed that this beneficial use be protected in the Cleared Hills and Coastal Plains and Murray and Western Plains. The environmental quality of many water environments in these segments will need to be improved to a level that will sustain the ecosystem, as well as the activities and values it supports.

  The third level protects ecosystems that have been highly modified. These are ecosystems where human influence has resulted in the significant degradation of biological communities. This level of environment protection recognises that highly modified environments can be significantly improved but it may not be practicable to rehabilitate them to largely unmodified or slightly modified environments. It is not proposed that this beneficial use be protected in any segments, but there may be some areas within a segment (e.g. urban areas) that are highly modified.

  Beneficial uses need to be protected as specified in Table 1 of the SEPP, except where it is otherwise specified in the SEPP. For example, the beneficial use of aquatic ecosystems is not protected in artificial drains and channels. This is because artificial drains and channels have a specific purpose of supplying or receiving water and, in most cases, are constructed specifically for this purpose. It is important that this exclusion does not apply to waterways that have been modified (e.g. channelised or modified streams).

- ***Water-based recreation:*** will ensure that water is suitable for primary contact recreation (e.g. swimming, diving and water skiing), secondary contact recreation (e.g. boating and fishing) and for aesthetic enjoyment. It is proposed that this beneficial use be protected in all segments.
- ***Cultural and spiritual values***: will protect the values of water for cultural and spiritual needs and ensure that cultural and spiritual practices can continue. These include the spiritual values of surface waters held by indigenous communities, and the cultural values held by both urban and rural communities (e.g. water based festivals and celebrations). It is proposed that this beneficial use be protected in all segments.
- ***Water for agriculture and irrigation:*** will ensure that water is suitable for agricultural activities such as stock watering and irrigation. It is proposed that this beneficial use be protected in Wetlands and Lakes, Forests A and B, Cleared Hills and Coastal Plains and the Murray and Western Plains segments.
- ***Water for aquaculture***: will ensure that water is suitable for the production of fish, crustacea and molluscs for human consumption via aquaculture.

  It is proposed that this beneficial use be protected in all segments except the Aquatic Reserves and the Highlands segments (as these segments are largely natural and should remain protected). Aquaculture is only protected in areas that have been approved by the Minister responsible for administering the *Fisheries Act* 1995. This is because some aquaculture operations require extremely low *E. coli* levels and it is not practicable to achieve this across the State. Aquaculture operations should only be approved in areas that can sustain them.
- ***Water for industrial and commercial use:*** will ensure that water is suitable for industrial and commercial use. It is proposed that this beneficial use be protected in all segments except the Aquatic Reserves, Wetlands and Lakes and the Highlands segments.
- ***Water for human consumption after appropriate treatment***: will ensure that water is suitable for safe human consumption after appropriate levels of treatment. It is proposed that this beneficial use be protected in the Wetlands and Lakes, Highlands, Forests A and B, Cleared Hills and Coastal Plains and Murray and Western Plains segments.
- ***Fish, crustacea & molluscs for human consumption:*** will ensure that environmental quality is suitable for the safe human consumption of fish, crustacea and molluscs. This beneficial use is protected in all segments except the Aquatic Reserves segment.

9. WHAT ARE THE OBJECTIVES AND INDICATORS?

To protect beneficial uses, water needs a certain level of health. Water needs to be free of pollutants (e.g. nutrients, sediment, salt and toxicants) at levels that are harmful to humans, plants and animals, or would result in objectionable colour or odours or would render the water unsuitable for the many uses that depend on healthy water. In

addition, water needs to be free of human impacts detrimental to beneficial uses. For example, excessive water extractions can reduce flows in rivers and streams. This is detrimental to the plants and animals that live in streams, and wetlands and estuaries that are fed by streams. To provide a measure of the protection of beneficial uses, the SEPP needs to provide a measure of the health of water environments.

There are hundreds of different indicators we can use to help measure the protection of beneficial uses, but it is not practical to measure all of these. It is therefore important that the SEPP sets core objectives and indicators that can be used to assess the key risks to beneficial uses. These objectives and indicators describe the level of health required to protect beneficial uses.

9.1 The indicators

To protect aquatic ecosystems, and in particular to assist in assessing the key issues, a small group of core indicators for ambient monitoring are proposed. Indicators chosen include:

- Rivers and Streams - nutrients (phosphorus and nitrogen), turbidity, salinity, pH, dissolved oxygen, toxicants (in water and sediments) and biological indicators. The biological indicators and objectives are especially important as they provide a direct means of assessing the health of an ecosystem as affected by water quality, flow and habitat.
- Marine, Coastal and Estuarine – nutrients (dissolved inorganic nitrogen, total nitrogen, dissolved inorganic phosphorus, total phosphorus, chlorophyll a), dissolved oxygen and water clarity indicators.
- Wetlands and Lakes – specific indicators (and objectives) will need to be developed on a regional basis due to the current lack of data. This has been identified as a priority during the life of the SEPP.
- Aquatic Reserves – no specific indicators were chosen for this segment as the objective is to have no variation of environmental quality from background (i.e. natural) level.

Beneficial uses of aquaculture and primary contact recreation need specific indicators to measure pathogens in water environments and therefore the suitability of water for swimming and aquaculture. *Escherichia coli (E.coli)* and *Enterococci* have been used in the SEPP to indicate faecal contamination. Both have been used as indicators for the suitability for primary contact recreation. These are based on the public health criteria developed and used by the National Health and Medical Research Council. [3]

More stringent *E. coli* objectives have been set in areas where shellfish aquaculture is a designated beneficial use. This is based on the *Australian Water Quality Guidelines for Fresh and Marine Waters*[4] and the *World Health Organisation WHO (2001) – Bathing Water Quality and Human Health*[5]. At present there is not enough data to support the development of *Enterococci* objectives to protect the beneficial use of aquaculture. Some stakeholders

[3] Callum, P. (1990). *National Health and Medical Research Council Australian Guidelines for Recreational Water Use.*

[4] ANZECC. (1992). *Water Quality Guidelines for Fresh and Marine Waters.*

[5] World Health Organisation 2001. *Bathing Water Quality and Human Health.*

have indicated that the objectives set under these national processes are un-achievable in Victorian waters.

9.2 The objectives

The environmental quality indicators and objectives are set out in clause 10 of the SEPP. The proposed objectives describe the environmental quality required to protect beneficial uses.

To protect beneficial uses, the objectives need to be met as soon as practicable. If the objectives are not met, not all beneficial uses will be protected. This is particularly relevant for those beneficial uses requiring the best environmental quality, for example aquatic ecosystems and aquaculture.

Unless specific objectives are described in the SEPP, the values derived from the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*[6] (the Guidelines) are the objective. The guidelines are a key component of the *National Water Quality Management Strategy* that provides an agreed national framework, outlining water quality standards appropriate for a range of water uses. The key purpose of the Guidelines is to provide a basis for environmental quality objectives in the absence of regionally specific data. The *Guidelines* recognise that there is some uncertainty associated with the Guideline values and as such the 'trigger values' they provide may be refined for application at local and/or regional scales. The SEPP adopts the approach outlined in the Guidelines to develop more appropriate environmental quality objectives based on the type of surface waters and inherent differences in the health of water environments across regions. EPA has examined regionally specific data collected from Victorian surface waters and has developed some regionally specific environmental quality objectives. These environmental quality objectives are therefore more appropriate to local conditions. The Policy Background Paper *Risk Assessment Approach – Ecosystem Protection* provides more detail on the development of objectives using the approach outlined in the Guidelines. In addition, the policy background papers on nutrient and water quality objectives for rivers and streams provide further explanation of the monitoring and statistical methods used to set more regionally appropriate environmental quality objectives.

It's important to remember that the environmental objectives specify desired levels within the surrounding water, not levels in runoff from land or discharge from drains and pipes. Consequently, individuals and businesses need to manage their activities to ensure that runoff or discharge from their premises does not cause the level of an indicator within the water column to exceed the designated objective.

Environmental quality objectives provide the 'benchmarks' that describe the environmental quality needed to protect all beneficial uses. However, because these objectives represent the ultimate level of health required to protect the beneficial uses, we need to recognise that it will not be possible in all cases to rehabilitate surface water environments to attain the beneficial uses in the SEPP's 10-year lifetime. The SEPP recognises that although human activities can cause increases in levels of potential pollutants, such as salt and

[6] Australian and New Zealand Environment and Conservation Council 2000, *Australian and Zealand Guidelines for Fresh and Marine Water Quality.*

nutrients, these also occur naturally in water environments. As such the SEPP does not require that waters be free from these potential pollutants. Rather, they should be present at a level that protects beneficial uses, or at the level at which they occur naturally (i.e. background levels). Although we may be a long way off meeting the objectives in some of the more degraded water environments, it is important to have them in the SEPP to provide end points or 'goal posts' for us, and also to provide a measure of sustainability. Where we are a long way off meeting the objectives, we can establish interim targets to maintain our motivation and to drive environmental rehabilitation.

9.3 The approach

It is recognised that the environmental quality of waters varies, so that some objectives are already met, some will be met within the lifetime of the SEPP and some will take a lot longer than 10 years to met. Some, in fact, may not be met at all in highly modified waterways.

Where the environmental quality of surface waters is better than the objectives and the environmental quality objectives are met, the current level of environmental quality should be maintained (i.e. as close as possible to 'background levels'). This ensures that water environments which have not been significantly degraded by human activities, (e.g. those in parks and protected catchments) will maintain a high level of environmental quality, rather than being 'polluted up' to the objective limit.

Where the natural level of an indicator falls outside the environmental quality objective, the objective does not need to be met in that particular water environment. For example, if *E. coli* levels are naturally higher then the objective due to faecal matter from birds in their natural habitat, then the *E. coli* objective in the Schedule does not need to be met. In these circumstances, the objective is the background or natural level of that indicator.

Where environmental quality objectives are not met, this indicates that beneficial uses are not being protected, and therefore a process of further investigation is triggered. An assessment will need to be undertaken to determine if an objective is triggered because the level of indicator in that region is naturally high (and if so the background level becomes the new objective), or if the objective is exceeded due to environmental degradation. It should be noted that these investigations have largely been undertaken for Victoria's catchments (as part of CMAs' water quality and nutrient plans) and for some marine bodies (e.g. Port Phillip Bay, Western Port, Gippsland Lakes and some estuaries) as part of scientific studies and the National Land and Water Audit. These studies and plans have largely identified waters that are degraded through human impact and actions needed to rehabilitate them. Consequently, if an objective is exceeded, in most cases, the process will be to implement the actions listed in the water quality management plans and coastal action plans as well as the provisions of the attainment program. This should be done as soon as practicable, to rehabilitate environmental quality with the clear aim of achieving the policy objective.

To assist in investigating if objectives are exceeded due to human influence or natural variation, EPA is developing a risk assessment approach.

The objectives in more detail

For more information on the types of objectives used, how they were developed and the risk assessment process, see the following documents, available from EPA's website – www.epa.vic.gov.au and the EPA Information Centre:

- *State Environment Protection Policy (Waters of Victoria) Risk assessment approach;*
- *State Environment Protection Policy (Waters of Victoria) Biological objectives for rivers and streams – ecosystem protection;*
- *State Environment Protection Policy (Waters of Victoria) Nutrient objectives for rivers and streams – ecosystem protection;*
- *State Environment Protection Policy (Waters of Victoria) Water quality objectives for rivers and streams – ecosystem protection;*
- *State Environment Protection Policy (Waters of Victoria) Water quality objective for marine and estuarine waters – ecosystem protection.*

In some of the more degraded areas (e.g. urban streams and extensively modified streams), meeting the objectives may take longer than in healthier areas. The length of time taken to attain these objectives will depend upon the current health of the environment and the practicability of measures required to improve it. In these cases, regional targets should be set for environmental rehabilitation (as outlined in clause 24).

Finally, the environmental quality objectives for some surface waters may not be attained due to extensive environmental modification (e.g. the regulation of rivers through dams). This should be taken into account when developing, prioritising and reporting against actions to improve environmental quality and protect beneficial uses. This is important to provide a public account of those environments that have been sacrificed for social or economic gains.

The objectives improve considerably on those in the 1988 SEPP as these were based on a process that used information and approaches that are over 20 years old. The approach pursued by EPA in recent years, and which is reflected in the environmental quality objectives, aims to assess ecosystem health from an ecosystem perspective with direct reference to threats and risks. This is the same approach used in the Guidelines and reflects current scientific understanding and opinion.

There is no direct legal penalty associated with not meeting the environmental quality objectives described in the SEPP or associated regional targets set through the regional target setting process. The *Environment Protection Act* 1970 provides the legal basis for statutory tools (e.g. licences) and enforcement action that can be taken by EPA to ensure that water environments (and beneficial uses) are protected from pollution, and the SEPP guides these tools and enforcement actions. For example, the environmental quality objectives in the SEPP and the risk–based approach outlined in the ***Guidelines*** (and reflected in the SEPP) will be used to develop mandatory standards for EPA licences. If the standards in the licence are not met, the licence holders need to put in place actions to minimise the impacts and EPA may take enforcement action.

10. WHAT ACTIONS ARE NEEDED TO PROTECT BENEFICIAL USES?

A SEPP would be ineffective if it did not articulate, at a broad level, the actions needed to meet its purpose. SEPPs articulate this through their attainment program.

The attainment program should:

- identify clear roles and responsibilities for environment protection and rehabilitation; and
- identify actions and tools to address specific activities that pose a risk to Victoria's water environments.

In doing so, it is vitally important that the revised SEPP does not 're-invent the wheel' but that it supports, integrates and builds upon the existing environmental management arrangements that Victoria has in place.

10.1 Policy implementation responsibilities

Clause 12: Practicability

The policy attainment program provides a series of practices and actions that protection agencies, businesses and communities need to implement to improve environmental quality and help protect beneficial uses. In particular, this may include the application of best practice if required to ensure effective environmental management and ultimate protection of beneficial uses. Practicability needs to be taken into account when making planning and management decisions and particularly when undertaking actions to implement the SEPP.

What is best practice?

Best practice is defined in the SEPP as the best combination of techniques, methods, processes or technology used in an industry sector or activity that demonstrably minimises the environmental impact of that industry sector or activity.

Environmental rehabilitation needs to be undertaken within the context of social and economic considerations and needs and priorities, so that the best overall outcome is achieved for communities. This is important because it ensures the environmental benefits justify the social and financial costs that may be incurred as a result of implementing environment improvement measures.

Practicability is an established, workable principle that is utilised throughout the SEPP and other statutory tools under the *Environment Protection Act* 1970, Occupational Health and Safety processes and in other statutory regimes. It is important that practicability is considered throughout the implementation of the SEPP. Knowledge of environmental management, implementation of effective management practices and modern advanced technology enables us to manage our activities to minimise our impact on the environment. However, different levels of environmental improvement come at different financial and social costs. Consequently, proposed environment improvement measures should be assessed against measures used by others within the same industry or social sector, and the expected environmental, financial and social impacts resulting from implementing measures. This ensures that the resultant environmental benefits justify the social and financial costs. When assessing the

practicability of an action, the following issues need to be considered:

- the severity of the environmental risk in question and the environmental benefits of removing or mitigating that risk;
- the state of knowledge of the environmental risk and options for removing or mitigating that risk;
- the availability, efficiency and suitability of options to remove or mitigate that risk; and
- the financial and social costs and benefits of removing or mitigating that risk.

Actions outlined in the SEPP should be carried out in a practicable manner and on a priority driven basis. Therefore, the practicability of each action needs to be assessed on a case by case basis to ensure that the unique environmental, social and financial aspects of each action are fully considered. Practicable actions are not necessarily the lowest financial cost options, but are generally considered to be what is 'affordable' in the context of the relevant industry or social sector. Where required, further guidance on practicability can be provided and this will be based on consultation with the relevant industries. Further guidance on practicability may also be provided through guidance documents and in statutory process such as the works approval and licensing processes.

Impacts

By implementing the provisions of the SEPP in a practicable manner, social and financial values will be considered and sustained and environment protection maximised. This way the many values of surface waters are protected in the context of the ability of communities and businesses to pay for this rehabilitation, both financially and socially. For example, there are many options available to manage wastewater discharges. By choosing the most practicable option, the environment will be improved in an affordable manner, which will result in the best overall outcome for communities. Importantly, by choosing practicable measures in the first instance, ongoing and long-term costs can be avoided. For example, in new sub-divisions where septic tanks will be the main form of sewage treatment, it is important that septic tanks that can retain wastewater on-site are installed. In the first instance these more efficient septic tanks may be more expensive but the costs borne by water authorities, municipal councils and communities in providing sewerage to areas where septic tanks impact on water, are much greater than the costs of installing adequate septic tank systems in the first place.

There are no costs directly attributed with this clause as any costs associated with actions of the SEPP are discussed throughout the PIA. This clause simply ensures that those costs, whether financial or social, are affordable.

Clause 13: General responsibilities for implementing the Policy

In Victoria, there are many effective processes for managing water environments, involving a number of stakeholders, each having different but complementary roles and responsibilities. Ensuring the protection and management of Victoria's water is a shared responsibility. No single group or agency has an overall custodial role for ensuring the management of the region's water environments

and as such, the arrangements for their management is complex.

While the Environment Protection Authority is responsible for ensuring the overall implementation of the SEPP, its implementation on a daily basis is the shared responsibility of protection agencies, businesses and communities. This includes both statutory responsibilities and responsibilities from the principles on which the SEPP is based. These requirements place responsibilities on all those who live, use or undertake activities that impact on Victoria's water environments, to reduce their impact on the environment by undertaking their activities in an ecologically sustainable manner. To ensure that the SEPP is effective in achieving its purpose, EPA will work with those responsible for implementing the SEPP to agree on priorities and timeframes for implementation. As part of the SEPP implementation process, priorities for implementation and programs to deliver these will need to be identified by Government, natural resource managers, and various industries. This planning will involve setting targets, at the state-wide level, for the implementation of programs and actions identified in the SEPP. At a regional level, the SEPP's implementation will be driven through regional catchment and coastal planning processes.

A key focus of this clause is to ensure that planning and management decisions that can potentially impact on water environments are consistent with the provisions of the SEPP. This could include the development, by protection agencies, of environment improvement programs and actions. These programs and actions need to be developed in consultation with other protection agencies, businesses and communities to ensure a cooperative approach to protecting and rehabilitating the environment in an effective and cost-efficient manner.

Given the shared responsibilities for implementing the SEPP, it is important that processes are in place to ensure the accountability and coordination of actions to implement it. It is important that those with implementation responsibilities are meeting their commitments. To enable EPA to report to the Victorian community on SEPP implementation and effectiveness, protection agencies, EPA and businesses need to include, in their annual reporting processes, actions undertaken to implement the SEPP. To ensure that programs and actions are effective in minimising the impacts on water environments, relevant protection agencies (e.g. DSE, DPI, EPA, water authorities and CMAs) and relevant businesses and industries need to undertake quality controlled monitoring of ambient environmental quality, and of the impact of wastewater discharges on surface waters. Often monitoring requirements are incorporated into EPA licenses, but monitoring should also take place to assess the impacts of unlicensed activities and improvements resulting from the implementation of management actions.

What are protection agencies?

As defined in the *Environment Protection Act* 1970, protection agencies are individuals or entities, which have responsibilities for managing or protecting the environment under any Act of Parliament.

Monitoring of environmental quality is important to track changes in the condition of the environment and to assess the attainment of environmental

quality objectives and protection of beneficial uses. There are already extensive monitoring networks in place, such as the Victorian Water Quality Monitoring Network, that provide a basis for the development of environmental quality objectives. The continuous development and improvement of modern and transparent assessment tools will assist in building knowledge on the health of Victoria's water environments and the effectiveness of actions to protect them.

Within the context of monitoring and evaluation, businesses, protection agencies and communities can use independent auditing to assess the progress and effectiveness of the implementation of programs and actions, as well as the protection of beneficial uses in segments of the environment. EPA is currently working with DSE, DPI, CMAs, coastal boards, water authorities and other water and land managers to use Victoria's statutory environmental audit system to undertake environmental condition audits. The system includes a number of trial audits, a protocol for environmental condition auditing and the appointment of environment condition auditors. As a large number of actions in the SEPP will be implemented through regional catchment strategies, the monitoring and evaluation of these is important. As a priority, DSE will develop a monitoring and evaluation framework for the implementation of regional catchment strategies, which will include the use of independent audit.

Why is audit an important part of monitoring and evaluation?

Monitoring and evaluation and audit are important because:

- We need to know whether if beneficial are protected;

- We need to ensure accountability amongst those responsible for environment protection; and

- it is also important to assess whether the actions we are putting in place are effective in protecting the health of water environments.

Periodic auditing of the quality of environments, the protection of beneficial uses and the management of activities that impact on them is an important aspect of the SEPP.

The Environment Protection Authority administers Victoria's statutory Environmental Audit System (that is set out in the *Environment Protection Act* 1970) and maintains its ongoing integrity by thoroughly assessing applications for appointment and enforcing the mechanisms in place to ensure audits are rigorous and independent.

Environmental auditors provide a tool for protection agencies to independently audit activities that they approve or regulate, and for industries to assess their own improvements in environmental protection and management. Guidance on the audit system will be established in conjunction with relevant protection agencies and industries.

This clause reinforces the need for a coordinated effort to improve the understanding of Victoria's water environments. Gaps in knowledge about the health of water environments need to be filled through a coordinated research program undertaken

by EPA, DSE, state government agencies and academic institutions. This research will increase the understanding of the environmental quality of Victoria's waters, and provide information on actions to protect beneficial uses. Research into the environmental quality of particular regions will help to identify the pressures on Victoria's water environments as well as risks to those environments. This will in turn enable communities and protection agencies to identify regional uses and values of their surface water environments and actions required to achieve their protection.

A focus for research should be on gaining an improved understanding of the factors affecting the health of water environments and on the development of more regionally appropriate environmental quality objectives for wetlands, estuaries, lakes, suspended sediments, environmental flows and aquatic habitats, and into improved environment monitoring and assessment tools. The outcomes of this research will enable the development of more specific beneficial uses for wetlands, lakes and estuaries and provide a more informed basis on which to plan and make decisions. Better planning and decision-making will lead to better protection of beneficial uses and associated social and economic values. Where information is currently available, it will be used to guide decision-making on actions and priorities for the protection of wetlands, estuaries and lakes. For example studies such as the Estuaries Audit conducted as part of the National Land and Water Resources Audit (NLWRA) have increased the understanding of the health of Victorian estuaries, however the NLWRA recommends that more research is needed to address gaps in knowledge and to develop a definitive picture of the health of Victorian estuaries. Therefore, information from studies such as the NLWRA will provide the basis for prioritising activities and programs to implement the SEPP. However, it is recognised that as more information becomes available specific environmental quality objectives and beneficial uses for environments such as estuaries will be developed.

It is important that protection agencies with responsibilities for implementing the SEPP continue to increase the community's understanding of the consequences of human activities on Victoria's water environments, and the actions required to minimise those risks. Measures to implement this clause could include awareness campaigns on the various actions taking place to implement the policy and how the community can reduce their impacts on water environments and contribute to regional processes to implement the SEPP.

Impacts

Clarifying general responsibilities for SEPP implementation will ensure that protection agencies, businesses and communities are aware of their responsibilities for environmental protection and enable protection and ensure accountability in SEPP implementation, especially for activities where there is joint responsibility for implementation.

Many of the responsibilities outlined in this clause are core responsibilities of protection agencies. For example, local government and state government agencies such as DSE and DoI already required to ensure that planning tools and decisions are consistent with the SEPP.

Monitoring, periodic review, evaluation and auditing and reporting will also ensure the overall transparent implementation of the SEPP and will help inform the public of its effectiveness in protecting beneficial uses. Monitoring, evaluation, auditing and reporting will also lead to improved community understanding of the status of Victoria's water environments and of the activities that pose a risk to those environments. This awareness will potentially contribute to community involvement in the process of developing environment improvement and management actions, regional targets and identifying priority issues and areas and can therefore deliver maximum benefits for the community and the environment.

There are programs in place, such as the Victorian Water Quality Monitoring Network, to monitor environmental quality of surface waters. Additional monitoring requirements may be required in areas that have not previously been sampled or through the application of the risk-based approach to identify environmental risks to beneficial uses. Where extra monitoring requirements are identified, these needs should be prioritised and integrated into environmental planning and management activities.

EPA will draw on the annual reporting processes of protection agencies to ensure that all actions undertaken to implement the SEPP are reported to the community via EPA's annual reports. Efficient and practical reporting processes will ensure that communities are well informed of progress towards SEPP implementation and ultimate protection of beneficial uses. These reports will also include the results of any statutory audits undertaken in relation to the SEPP.

The use of monitoring and evaluation and statutory audit to measure progress towards implementation of the SEPP, the protection of beneficial uses and the activities that impact on them, will increase accountability and contribute to the protection of beneficial uses. Monitoring, evaluation and audit results can potentially be used to identify opportunities for improvement and to assess the impact of management actions on the protection of beneficial uses. The development and use of Victoria's statutory environmental audit system will incur costs to the EPA and to those who employ the services of auditors. As the use of the statutory audit system for environment condition audits is relatively new, associated costs have not been fully assessed. This is because the cost of audits varies depending on the size and type of the audit. They can range from 'paper' audits that are typically low in cost to extensive catchment audits that would require more resources. For example, the cost of recent and extensive catchment based audits ranged from $50,000 to $100,000 although 'paper' based audits would be a fraction of this cost. Given the variation of costs associated with audits, they would need to be undertaken on a priority basis to ensure cost effectiveness. Priority needs to be given to auditing activities where statutory auditing has been identified as the most appropriate tool in monitoring and evaluation frameworks. These frameworks are established through primary delivery and policy instruments such as regional catchment strategies, coastal action plans and state and national strategies (e.g. the VRHS and the National Water Quality Management Strategy). Further research to increase understanding of environmental quality objectives and actions to protect beneficial uses will

incur additional costs and funding will be sought through Commonwealth and State Government processes. These activities will potentially increase the protection of beneficial uses and identify improved monitoring and assessment tools and actions to implement the SEPP.

Many protection agencies already have a strong role in community education on minimising the impacts of activities on the environment. For example, Parks Victoria has an established role in educating the community on national parks, their management and environmental issues in general.

Clause 14: Environment Protection Authority

EPA has a key statutory responsibility to act as an independent 'watch dog' for the protection of the environment. One of the ways this is done is through enabling the protection of beneficial uses through ensuring the implementation of the SEPP. SEPPs ensure that government agencies, businesses and communities are provided with guidance on their responsibilities in terms of environment protection and act as a safety-net to ensure that those that pollute the environment are held accountable.

The SEPP will be implemented through a variety of measures consistent with EPA's responsibilities under the *Environment Protection Act* 1970. These measures include partnerships, monitoring, reporting, auditing, community outreach and regulatory and enforcement tools.

EPA will work with protection agencies, CMAs and coastal boards, water authorities, businesses and communities to implement the SEPP by providing guidance on measures to prevent water pollution and to reduce the impact of human activity on water environments and by contributing to the development of planning and management tools such as regional catchment strategies and coastal action plans. The SEPP identifies several activities that pose a significant risk or currently have a significant impact on water environments, and these will be a focus for EPA over the next 10 years. Another key role for EPA is in providing support for monitoring and reporting to the public, the attainment of environmental quality objectives and the protection of beneficial uses. This is an important role for EPA as it ensures that the public is aware of the health of our environment and activities underway to protect it. EPA also has responsibilities to work in conjunction with other protection agencies such as DSE, CMAs, water authorities and wastewater dischargers, and academic institutions to establish objectives (in particular for lakes, estuaries and wetlands, suspended sediments, environmental flows and aquatic habitats), develop monitoring methods and quality assurance processes.

An important role for EPA is its auditing responsibilities. EPA has considerable expertise in auditing the quality of environments, the protection of beneficial uses and the management of activities that impact on them. EPA will work with protection agencies, businesses and the community to use Victoria's statutory environmental audit system, within the context of a broader monitoring and evaluation framework to measure progress towards implementation of the policy, attainment of the environmental quality objectives and regional targets and protection of beneficial uses. The results of monitoring and evaluation and audits should be used to highlight areas for improvement,

and provide direction for relevant stakeholders to work towards targets for improvement.

Throughout the development of the SEPP and other activities, communities have indicated (through surveys and other feedback mechanisms) their desire for EPA to assist in reducing the environmental impacts of priority activities. This feedback has enabled EPA to identify priority areas for its efforts. Therefore, EPA will focus on the following areas over the 10 year lifetime of the SEPP: improved wastewater management (including stormwater), intensive agricultural industries (particularly discharges from irrigation drains, milking sheds and horticultural operations including plant nurseries and market gardens), aquaculture, water extractions, and port, marina and vessel operations (including ballast water and vessel waste management).

Impacts

Over the past 30 years, significant environmental improvements have resulted from partnerships between EPA, protection agencies, businesses and communities. Coupled with this, and also resulting in significant improvements to the environment, is the use of enforcement to ensure that businesses and individuals that do not pollute the environment are not disadvantaged by those who do. By EPA ensuring the fair and equitable protection of the environment, business can be assured of a equitable playing field and communities can enjoy cleaner surface waters.

EPA will work within its budget to resource these responsibilities. However, like other government bodies, EPA will need to prioritise its activities in order to get the best overall outcome for the Victorian community. An increased focus on any number of EPA's activities, will incur additional costs. In these cases, additional funds may be sought through Commonwealth and State government processes. For example, EPA's increased work in administering and using Victoria's statutory environmental audit system for environmental condition audits is a reflection of the Victorian government and community's expectations of EPA as the environmental 'watch-dog' (see clause 14 for more detail on impacts).

Clause 15: Catchment management authorities

A key responsibility of catchment management authorities (CMAs), is to coordinate the sustainable development of catchments, floodplains, waterways, and where relevant estuaries and coasts through protecting and rehabilitating the environment. Many of these responsibilities are identified through legislation such as the *Catchment and Land Protection Act* 1994 (e.g. development of RCSs and subordinate plans), and the *Water Act* 1989 (e.g. management of waterways, floodplains and rural drainage).

A core component of this responsibility is encouraging integrated catchment management through improved water and land management and guiding future investment by governments and communities in land and water management. The key tool that each CMA uses to coordinate the management of water and land is the Government approved Regional Catchment Strategy (RCS). The RCS encapsulates the vision and needs of the regional community and ensures that public resources are used in line with the identified needs and priorities. It is the over-arching regional strategy

for identifying and protecting regional environmental, social and economic values and is supported by subsequent plans (e.g. regional water quality plans, waterway health strategies and salinity plans), which provide more detailed actions on priorities on a range of issues. CMAs ensure that catchment based issues, including where necessary coastal issues, are resolved by working with local communities, protection agencies (including DSE and DPI) and regional resource managers and businesses in developing and implementing regional plans and strategies, and by ensuring the regional community has a sense of ownership of these plans.

Importantly, the SEPP supports the use of established processes and tools such as regional catchment strategies and associated subordinate plans (e.g. water quality strategies), to identify regional environmental, social and economic values (using the SEPP's beneficial uses as the long-term goal), threats to these and actions, priorities and regionally agreed targets to enable their protection (for more discussion on the target setting process, refer to clause 24).

In the Port Phillip and Western Port region the SEPP specifies that Melbourne Water, in partnership with the Port Phillip and Westernport CMA and in consultation with regional stakeholders, set waterway priorities and regional targets. In the same region the Port Phillip and Westernport CMA sets catchment based priorities and regional targets, again in consultation with regional stakeholders to ensure ownership of these priorities.

The SEPP also recognises the efforts of some CMAs to work with landholders to implement effective land management measures and stewardship agreements, and encourages all CMAs to work towards these goals. This has been identified as an important goal for CMAs as the quality of water is directly affected by the health and use of catchments. In the past, considerable attention has been given to waterway management and many plans, actions and incentives have been developed. Over the next 10 years, it will be important to encourage and provide incentives for sustainable land uses and practices, so that surface waters are better protected. This supports the initiative of the Victorian Catchment Management Council in developing a *'Healthy Landscape Strategy'* for Victoria to promote improved land management.

Impacts

By integrating the actions needed to protect beneficial uses into RCSs, the SEPP supports existing institutional arrangements and adds value by identifying benchmarks for environment protection (i.e. beneficial uses, environmental objectives and attainment actions). This provides guidance to CMAs on the actions to be implemented to protect beneficial uses, while supporting the processes of CMAs to prioritise those regional uses and values and actions to protect these according to regional environmental, social and economic considerations.

It is recognised that environment rehabilitation needs to be done in a progressive and affordable manner. By implementing the SEPP through CMA processes, regional communities can decide on actions to improve the environment according to their environmental, social and economic priorities. This approach empowers and supports CMAs and

regional communities. Integrating the SEPP with CMA processes will minimise any confusion or overlap between SEPP and CMA processes and ensure efficient use of resources. More importantly, through their integration, we can ensure that these programs will be coordinated and focussed and will therefore have greater effect in protecting and rehabilitating water environments.

CMAs, through review of the RCSs, will identify regional environmental values and prioritise actions and identify regional targets. The SEPP identifies beneficial uses and describes the environmental quality required to protect them. The regional target setting process will identify regional targets based on the careful consideration of the environmental, social and economic values of regional communities, that drive the implementation of actions to protect the beneficial uses identified in the SEPP.

In addition, similar and related priorities and actions will be required as part of the *Victorian River Health Strategy and the National Action Plan (NAP) for Salinity and Water Quality*. Significant efficiencies should result from adopting a single, integrated set of benchmarks to measure and report against.

As the clause supports the responsibilities of CMAs (under the *Catchment and Land Protection Act* 1994) and Melbourne Water (under *the Melbourne Water Corporation Act* 1992), and is consistent with the provisions of NAP and the VRHS, it is not expected that significant new resources will be required. In fact, setting targets and priorities is likely to assist CMAs to obtain additional funding from State and Federal governments.

Some CMAs already have in place programs to enable sustainable land management. For example, the North East CMA has developed a land stewardship program with regional landholders. This program has received some funding from a variety of sources. Additional funding could be sourced from State and Commonwealth government programs such as Natural Heritage Trust (NHT), NAP, 'Water for Growth' and VRHS. Other examples of activities of CMAs in helping landholders to reduce their impact on the water environments include revegetation programs and incentive schemes for fencing. Further detail on these programs is provided in discussions on those activities.

Clause 16: Regional coastal boards

Regional coastal boards (RCBs) have a responsibility to provide advice on, and undertake, strategic planning to enable the sustainable development of coastal environments. The key planning tool developed and used by RCBs is their coastal action plans (CAPs). In addition, RCBs should work with CMAs to develop RCSs and ensure that plans and targets for the sustainable use of coastal environments are incorporated into regional catchment strategies. CAPs are plans that roll out the provisions of the State-wide *Victorian Coastal Strategy* at a regional level. As RCBs are advisory bodies and do not have management responsibilities, they work closely with DSE, municipal councils and other government agencies and communities to develop and implement CAPs.

The clause recognises these responsibilities and supports RCBs incorporating into their CAPs (and working with CMAs to incorporate within RCSs), coastal environmental, social and economic values

(using the SEPP's beneficial uses as a guide) and a program of priority actions and regional targets aimed at maximising the protection of beneficial uses in each coastal region. This needs to be done in conjunction with relevant communities and protection agencies, particularly DSE, CMAs, Parks Victoria and municipal councils.

The clause also encourages RCBs to work with DSE, CMAs and Parks Victoria to ensure an integrated approach to protecting estuarine beneficial uses. This has been identified as an important goal for RCBs, as the roles and responsibilities for protecting and rehabilitating estuaries have been unclear. The protection and rehabilitation of estuaries should be a focus of CAPs, and RCSs, which could address issues such as management actions, monitoring, reporting and research requirements.

The focus on estuaries is supported by RCBs and has been identified as a key focus of the revised *Victorian Coastal Strategy 2002*, developed by the Victorian Coastal Council (VCC).

Impacts

Coastal environments not only support an abundance of plants and animals but also support many recreational activities. The majority of the Victorian population live or holiday around our coasts, and the number of people who live or holiday on the coast continues to increase. Given this, the protection of our coasts for swimming and fishing is vital for the continued viability of recreational activities (e.g. swimming and fishing) and the $10 billion per year and 160,000 jobs generated through recreation and tourism in Victoria. A focus on estuaries will ensure that this valuable resource and the unique plants and animals it supports will be protected for current and future generations.

RCBs are currently developing CAPs under the *Coastal Management Act* 1995 however their development is in various stages across Victoria. Some include targets and priorities and some include a focus on estuarine protection. RCBs support the clause, which encourages all CAPs to include targets and priorities and for relevant CAPs to have an increased focus on estuaries. As outlined in Clause 15, RCSs are currently being reviewed and RCBs are feeding into this process to ensure coastal issues are addressed. Therefore, new costs are not expected to arise from the implementation of this clause.

Clause 17: Municipal Councils

Municipal councils play an important role in protecting surface waters through a number of responsibilities, including stormwater, floodplain, drainage, and vegetation management, domestic wastewater management including septic tank approvals, local road management and landuse planning.

Municipal councils plan for and approve landuse activities through the Victorian Planning Provisions (VPP), Municipal Strategic Statements (MSSs) and planning permits. The SEPP recognises and supports the provisions of the VPP, which require municipal councils to ensure that their strategic and statutory planning tools and permits are consistent with SEPPs.

In addition to municipal councils, the Department of Primary Industries and the Department of Sustainability and Environment should ensure that

Victoria's planning system is consistent with the policy, in particular when reviewing, amending and implementing planning schemes.

Municipal councils need to work with the EPA, CMAs and other protection agencies to ensure these tools and permits are consistent with SEPPs, and importantly, with regional catchment management and planning tools such as RCSs and CAPs. Given this, it is important that municipal councils are aware of and involved in these regional activities and, where relevant, that municipal planning schemes, statutory approvals and municipal programs are consistent with the SEPP and other strategies and help to protect beneficial uses.

The policy also requires municipal councils to emphasise improving the management of urban stormwater and domestic wastewater (e.g. wastes from septic systems) and where relevant minimising run-off from unsealed roads. This is important as wastes from unsealed roads, urban stormwater and septic tanks have been found to be key contributors to the poor health of many urban and rural waterways.

In addition, the SEPP recognises that municipal councils need to consider land capability when making land use planning decisions. For example, when approving a residential sub-division that will not be sewered, municipal councils need to consider the capability of that land to contain wastes from septic systems or other wastewater management options.

Impacts

Ensuring that municipal planning tools are consistent with the SEPP and other relevant strategies and plans (e.g. RCSs and CAPs) is fundamental to environmentally sustainable land development, as good strategic planning is imperative to good environmental management. Likewise, considering the capability of land to sustain land uses will ensure that new land uses (that are approved by municipal councils) are appropriate and sustainable. This leads to the long-term viability of activities and reduces costs associated with addressing the impacts of poor land management (e.g. costs associated with river rehabilitation, nutrient and sediment reduction and water treatment).

These provisions recognise and support established policy and increasingly implemented practice. For example, the provisions of the 1988 SEPP have been incorporated into planning schemes as required by the VPP and are consequently considered a normal part of municipal business planning.

There will be a cost incurred by municipal councils, DSE and DPI to review their strategic and statutory tools in light of the revised SEPP. However municipal councils are required to review their MSS every few years as part of the VPP requirements. As part of this review, DSE and DPI should ensure that the VPP is consistent with the Policy and municipal councils should in turn ensure that their MSS is consistent with the revised VPP, SEPP and regional strategies. This way, no significant additional costs will be incurred by municipal councils. EPA will work with municipal councils to ensure the requirements of the SEPP are understood and able to be translated into the Municipal Strategic Statement and planning framework.

Any costs associated with stormwater, domestic wastewater and the reduction of sediment runoff

from unsealed roads are discussed in related clauses in this PIA.

Clause 18: Water authorities

Water authorities have varying responsibilities for providing water for uses such as irrigation, industry and potable supply, for managing wastewater in a sustainable manner, and are involved, along with communities and other protection agencies in the identification and provision of environmental flows. In particular, water authorities have varying responsibilities for waterway management (i.e. Melbourne Water), streamflow management (i.e. rural water authorities), and the sustainable management of sewage and wastewater (i.e. regional water authorities, water companies and Melbourne Water).

The clause recognises and supports the action of water authorities in working with DSE, DPI and CMAs to develop and implement relevant priority actions in relation to water provision and wastewater management. For example, as part of developing water quality and nutrient management plans, water authorities have worked with relevant CMAs to identify and prioritise actions to reduce the impact of wastewater on water environments. The SEPP encourages this to continue.

The SEPP also encourages relevant water authorities to work with CMAs and landholders to minimise the impact of irrigation drains on beneficial uses (refer to clause 51 for further discussion). It also encourages regional water authorities, water companies and Melbourne Water to work with EPA and, where relevant, other protection agencies, to minimise the impact of trade wastes and wastewater on beneficial uses. These are all important focuses over the next 10 years as both irrigation drainage and effluent from wastewater treatment plants and industry continue to have significant impacts on water.

Impacts

By working with DSE, DPI, CMAs, local communities and landholders, water authorities plan their activities in the context of overall needs of the catchment, by prioritising actions that will have the greatest environmental, social and economic outcomes for the community. By placing a particular focus on those activities that have a significant impact on the environment (i.e. irrigation drainage and wastewater discharge), the quality of surface waters will be greatly improved. This not only has benefits for Victorian communities, but also for communities that rely on Victorian waters. For example, the reduced impact of irrigation drains in northern Victoria will result in improvements in the health of the River Murray. This has benefits for the hundreds of thousands of people that depend upon it (e.g. the population of Adelaide for drinking water). This reduced impact on the Murray will help Victoria meet its commitments under the National Action Plan for Salinity and Water Quality, COAG Water Reform Framework and with the Murray Darling Basin Commission Strategies.

Victoria's robust water and catchment management framework already enables cooperative planning between DSE,DPI, CMAs and water authorities, so the clause supports the continuation of this existing framework. Improved management of wastewater and irrigation drainage will incur costs (these are discussed in related clauses in this PIA).

Clause 19: Department of Sustainability and Environment

Recently the responsibilities of the Department of Natural Resources and Environment were re-organised into two departments – the Department of Sustainability and Environment and the Department of Primary Industries.

DSE has significant responsibilities in overseeing the general protection, conservation and sustainable management of Victoria's natural environment and biodiversity. Specifically DSE has a responsibility to implement strategies, policies and programs that encourage the sustainable management of catchments and water, planning and urban development as well as parks, reserves and other public land.

DSE has direct responsibility for overseeing the delivery of waterway, floodplain, coastal, forestry and catchment management services by allocating funding to CMAs, RCBs and many other stakeholders. Through these responsibilities, DSE is the lead agency for ensuring the ecologically sustainable use of Victoria's water environments and works closely with DPI, CMAs, RCBs and water authorities to do so.

Given the importance of RCSs in protecting regional environments and in implementing the SEPP, DSE will work with EPA, CMAs and protection agencies to develop a framework to monitor and review the implementation of regional catchment strategies, and the attainment of priority programs, regional targets and environmental quality objectives that they contain. DSE and EPA will work together and with other protection agencies to ensure that linkages are provided between this framework and other monitoring and review tools (such as Victoria's statutory auditing system). The SEPP recognises these responsibilities and supports DSE in the implementation of these responsibilities, particularly in providing guidance on protection and rehabilitation of rivers, wetlands, lakes, estuaries and marine environments, managing water, catchment and coastal assets and assisting in the development of regional priority actions and targets. Over the next 10 years, DSE needs to continue to provide information on, and develop tools (such as regulation and market incentives) to protect and rehabilitate rivers, wetlands, lakes, estuaries and marine environments. An example of this is the *Victorian River Health Strategy*, recently developed by the former NRE (now DSE). The VRHS provides guidance and sets priorities for improving the management of rivers, streams and their associated floodplains.

Impacts

The overall guidance that DSE provides on natural resource management is invaluable to regional planners and managers in terms of providing direction and priorities for environment protection and rehabilitation. It ensures that regional decision-making is moving towards not only regional improvements but the improvement of the State's natural resources as a whole.

The provision of guidance and incentives is a core business of DSE and as such it has in place several programs and strategies to protect and rehabilitate rivers, streams and coastal and marine environments, and to use these natural resources sustainably. There is potential to place an increased focus on wetland, estuary and land management.

Throughout the SEPP, DSE is recognised as the lead agency for certain actions that aim to continue the conservation and sustainable management of Victoria's water resources. The SEPP supports DSE's significant role in this area and as such associated costs are expected to be addressed through normal budgeting processes. In some cases, however, DSE may require additional funds to implement programs (e.g. the implementation of the VRHS may require additional funds). These funds will be identified as part of the process of developing initiatives and programs and will be sought through normal government processes.

Clause 20: Department of Primary Industries

The role of the Department of Primary Industries is to facilitate the sustainable development of Victoria's primary industries to achieve strong economic activity, a high quality natural resource base in the long term, and resilient industries and communities. DPI is responsible for enhancing the contribution of the agriculture, commercial and recreational fisheries, aquaculture, minerals and petroleum industries to the prosperity, health, and wellbeing of the Victorian community through innovation and strong policy and science initiatives.
DPI invests in innovation and science to influence industry performance to improve their sustainable use of Victoria's natural resources. DPI has regulatory responsibilities to ensure these industries meet community expectations, for example, in the areas of animal health, occupational health and safety, and environmental management. DPI undertakes important extension activities on the ground to assist industries to adopt best practice in these areas.

Impacts
DPI contributes to this Policy by establishing and proactively managing cooperative partnerships with key stakeholders to implement this Policy. For example, irrigated agricultural activities represent one of the most significant uses of Victoria's precious water resources, and DPI through its partnerships with industries and extension activities with individual landholders and communities, will make a significant contribution to meeting the objectives of this Policy. In implementing the Policy, DPI will work closely with EPA, DSE, primary industry sectors, CMAs, RCBs and water authorities.
In promoting and encouraging sustainable industry practices, DPI will be also be critical in ensuring that economic, social and environmental benefits and costs are considered with a view to ensuring long term sustainable industries, particularly in rural and regional Victoria (eg in setting of regional targets). DPI will work with the agricultural sector to promote actions to improve water use efficiency.
Furthermore, DPI will work closely with EPA, water authorities and DSE to identify a credible, independent audit system that can be used to audit the impact of irrigation drain discharges on surface waters.

Clause 21: Parks Victoria

Approximately 16 per cent of Victoria's land area is in reserves managed by Parks Victoria, including national, state, marine, regional and metropolitan parks and conservation reserves. These reserves include water environments of international, national and state significance. Parks Victoria provides services to the Secretary of the Department of Sustainability and Environment for the

management of these parks, reserves and other lands. Many of the areas Parks Victoria manages are at the 'tops' of catchments where human impact is minimal. In these areas, ecosystems are largely unmodified and their protection is critical if Victoria is to maintain a significant and representative sample of natural water environments and ecosystems.

However, other areas managed by Parks Victoria, such as coastal waters, embayments and reserves, are downstream of land uses that degrade water environments. In these areas, it is important that Parks Victoria continues to work in partnership with other land and water managers to achieve its mission.

This clause recognises and supports Parks Victoria's work with DSE, DPI, CMAs, RCBs and other stakeholders such as communities. It also supports Parks Victoria's priority for protecting ecosystems, particularly those of high conservation value such as wetlands and heritage rivers.

Impacts

The benefits of the clause will be in the continued protection of beneficial uses and values in Victoria's parks. These benefits will become more valuable as future change threatens to make aquatic environments with largely unmodified and slightly modified ecosystems increasingly scarce. Increased visitor numbers will also potentially increase the pressure on water environments and as such approaches will need to be developed to address any potential impacts.

In undertaking its mission to "conserve, protect and enhance environmental and cultural assets", Parks Victoria has an important contribution to make to partnerships with other land and water managers for the protection and rehabilitation of aquatic environments. This role is especially important in rivers, wetlands and estuaries of high conservation value and exemplified by Parks Victoria's management and planning for wetlands listed under the Ramsar convention.

Many of the activities encouraged by the SEPP are already undertaken through existing partnerships with other land and water managers and, as such, it is not expected to impose significant new costs on Parks Victoria. It simply sets out Parks Victoria's responsibilities and activities in protecting beneficial uses. However there will be ongoing costs associated with Parks Victoria's responsibilities in environmental management and protection of surface water environments. These will be funded through normal Victorian government budgeting processes. Where relevant to SEPP implementation, EPA will work with Parks Victoria to develop agreed timeframes to ensure that actions are implemented in a practicable manner.

Clause 22: Industry sectors

As the activities of many thousands of individuals in many different industries impact on the environment, it can be difficult for business managers to know what they can do to reduce the impact of their businesses on the environment. Industries can play an invaluable role in providing leadership to businesses through promoting the ecologically sustainable development of goods and services produced by them.

The SEPP has provisions to ensure that industry sectors, incorporating peak bodies, producers,

manufacturers and service providers (e.g. Victorian Water Industry Association, Fisheries Co-Management Council, Victorian Farmers Federation, Victorian Aquaculture Council, and many more organisations that can play a role in the management and protection of water environments), should develop environment management systems, aimed at reducing the ecological degradation and resource intensity of their industries. This is consistent with the policy principles of eco-efficiency and product stewardship. To make these programs effective, industry associations or bodies need to work with their constituents and suppliers, and with protection agencies to implement sustainable management practices. For example, EPA is assisting the dairy sector in developing an environment management system (EMS). This system will be used to provide guidance and support to dairy farmers on how they can produce milk sustainably. Eventually, the aim is that dairy processes will provide incentives to, and possibly prefer the milk from, farms that implement efficient management practices.

Impacts

As many industries depend in one form or another on healthy water, most industries will benefit from improved surface waters. The clause will help industries reduce their impact on surface waters and therefore help industries ensure the continued availability of clean water for their use. In essence, by reducing the impact of industries on environmental quality, industries are ensuring their future. This is coupled with the significant improvements to aquatic ecosystems that would result from the reduced impact of industries on the environment as well as benefits associated with increased consumer, investor and insurer confidence in sustainable industries. More and more consumers want goods and services that are produced with minimal impact on the environment. This is seen through the increased recognition and consumer support for sustainable industries (e.g. through initiatives such as the Dow Jones Sustainability Index). By producing goods and services sustainably, Victoria can confirm its 'clean and green' image and enjoy a greater market share for our major exports (e.g. agriculture and manufacturing). This image is not only good for Victoria, but for individual industries. Communities increasingly expect industries to report their environmental impacts and on the actions taken to reduce those impacts. In addition, industries can save money through decreased use of natural resources (e.g. water and fertiliser costs) and through avoiding costs associated with waste treatment and the clean up of polluted areas.

Although it is in the best interests of industries to become sustainable, there will be costs involved. For example, there will be costs involved in the development of guidelines and environmental management systems and in reporting and auditing processes. However various bodies, including State and Commonwealth government agencies and industry, commonly provide funding for these activities. For example over $600,000 has been provided by in-kind donations and cash contributions from the Victorian dairy industry, the former NRE (now DPI), EPA, CMAs, and Commonwealth Natural Heritage Trust funding. Costs of developing management systems usually represent a very small fraction of the billions of dollars that industries generate each year in Victoria

(and that are at risk if surface waters are not clean). They are also significantly less than the costs of cleaning up polluted waters (which is often borne by governments and communities) and costs associated with offences relating to water pollution. In addition EPA will work with the relevant industry sectors to agree on approaches and priority actions to implement this clause. These actions and priorities will be agreed to and outlined during the implementation planning process.

Clause 23: Communities

Community members have an important role in protecting beneficial uses by avoiding pollution, reducing resource consumption and contributing to environmental management processes. The SEPP sets a framework for individuals and communities to proactively protect and rehabilitate the environmental, economic and social values of Victoria's surface water environments. It recognises and supports the responsibilities of individual community members (including indigenous groups and other community groups) to manage their activities to minimise direct impacts on surface waters and to efficiently use natural resources in a way that avoids the generation of waste and wastewater.

At a regional level, communities also have a role in identifying the beneficial uses for surface waters identified in the SEPP, as well as regional uses and values that they wish to protect in their local environment. The SEPP supports the regional planning processes of catchment management authorities, regional coastal boards and municipal councils and recognises the importance of community involvement and decision-making in these processes. Community members need to support and be involved in regional planning processes to ensure ownership of the targets set and actions identified in the subsequent strategies and plans.

Impacts

The cumulative effect of wastes such as litter, animal wastes and polluted urban stormwater can have significant impacts on surface waters. The actions of individual community members can have a significant effect in reducing the generation of these types of waste and wastewater. Small changes in the behaviour of individuals can lead to more aesthetically pleasing and healthier water environments.

In the past three decades communities have worked with government and industries, leading to a number of environmental improvements. For example communities have contributed to the development and implementation of environment improvement plans for industrial sites. More recently regional planning processes (e.g. the development of RCSs and CAPs) also enable community involvement in the identification of targets and actions to minimise impacts of activities on water environments. In addition, new tools such as Neighbourhood Environment Improvement Plans enable the community to initiate plans and actions to improve their local environment. Community ownership of the targets and actions in these strategies and plans will ultimately lead to the increased protection and rehabilitation of Victoria's water environments.

10.2 Guidance

Clause 24: Regional target setting

The quality of our water environments varies from pristine to degraded so it will not always be practicable to fully protect all beneficial uses within the SEPP's 10 year lifetime. In these cases, regional targets to drive the rehabilitation of environmental quality need to be developed.

As targets are met, new ones can be set to ensure that, eventually, environmental quality is improved to a level that meets the aspirations of communities. This is important as meeting community aspirations for environmental quality will require significant time and resources and these need to be recognised in planning and budgeting processes.

Currently Victoria, other States and the Commonwealth are working together through the Natural Resource Management Ministerial Council (NRMMC) to develop target setting processes, target indicators and timelines for the development of targets. This has formed the basis of Victoria's target setting processes and will ensure consistency across national (e.g. NAP, NHT), statewide (e.g. SEPP and VRHS) and regional (e.g. RCS and coastal action plan) processes.

As part of this national process, regional aspirational targets based on maximising the protection of beneficial uses and the attainment of the Policy's environmental quality objectives will be set. In addition, regional resource condition targets will be set to drive measurable and time-bound progress towards the attainment of regional aspirational targets, taking into account regional environmental, social and economic values.

Regional management action targets will also be developed to assess the implementation of rehabilitation actions. These targets will lead to the achievement of regional resource condition targets.

The SEPP recognises and supports these processes by reflecting the role of regional organisations (e.g. CMAs and coastal boards) to work with regional stakeholders to set targets through the integrated regional planning processes. By supporting these processes, any targets set by CMAs or coastal boards will be suitable to meet the needs of the SEPP, VRHS, NAP and MDBC processes as well as to meet the expectations of regional communities and industries. This is important to avoid duplication and promote integrated planning for environmental protection and rehabilitation. The SEPP supports the development of targets for both resource condition and management actions. Regional targets could be set to assess improvements in environmental quality (e.g. reduction of nutrient, salt and sediment concentrations or loads), using the regional aspirational targets as long term goals, or the implementation of rehabilitation actions (e.g. number of riparian buffer strips rehabilitated, number of willows removed) outlined in the SEPP and other strategies such as the VRHS, RCSs and water quality management plans. Further, the SEPP implementation process will include state-wide management action priorities, developed by EPA, DSE, DPI, CMAs, water authorities, RCSs, industry and communities in consultation with stakeholders. It is expected that these priorities will be reflected in the relevant regional plans and strategies.

Through this integration, targets will consider both State and regional environmental, social and economic considerations and priorities and provide

measurable and time-bound progress towards improving the environmental quality of Victoria's surface waters. This will result in the best overall outcome for regional and Victorian communities as it is important to meet regional and State, and even national and international, environment protection commitments.

Regional organisations such as CMAs, coastal boards and water authorities have indicated their support for this approach.

Impacts

Regional targets will provide a process for protection agencies, CMAs, coastal boards, businesses and communities to measure improvements to surface waters so that, eventually, all water environments are rehabilitated to a healthier level and beneficial uses are protected. Targets are also useful to focus work programs and may assist in attaining funding for work programs. In some cases, targets are required in order to receive funding (e.g. NAP). Overall targets will help focus and drive action and enable an open and accountable system for communities to assess performance.

Through the development of subordinate plans to regional catchment strategies (e.g. nutrient and waterway health plans), CMAs have some of the relevant information to establish targets. The costs of establishing targets for catchment environments will vary, depending on how much information CMAs have available and how much planning has been undertaken. For example, work by the Goulburn-Broken CMA on targets has indicated that it had most of the information to set targets for environmental rehabilitation. However, this CMA has collected extensive amounts of data and has put considerable effort into water and catchment planning. Other CMAs may not have as much data available and therefore may incur some costs for developing targets. These costs are difficult to estimate on a State-wide basis. However, as targets will need to be developed for the VRHS, NAP and MDBC processes, DSE, DPI EPA, CMAs and the Commonwealth are working together to ensure that one set of targets (to meet the needs of the various programs) are set for each region which will minimise costs. In addition, funds have been made available to establish targets through both specific programs such as NAP and the VRHS, and recurrent budgets.

For coastal environments, some targets have recently been set for Western Port and Port Phillip Bay (through regional schedules to the 1988 SEPP) and targets could be set for the Gippsland Lakes via the Gippsland Lakes Study, led by the Gippsland Coastal Board along with the former NRE (now DSE) and other key partners. This leaves the need to set targets for smaller estuaries and inlets across the State. This could be incorporated into the cost of developing coastal action plans however, RCBs do not receive as much funding as CMAs, nor do they have a direct management role. Consequently, RCBs do not have funding for extensive target setting. However, coastal targets are being set through RCSs, with considerable input from Regional Coastal Boards and coastal communities.

Regional targets set through regional planning processes will not have a legal basis under the Act. Therefore, there is no legal penalty directly associated with not meeting the targets set in regional plans and strategies. The intent of targets is

to identify clear outcomes and drive continuous improvement of environmental quality.

Clause 25: Guidance on environmental management

Reducing the impact of activities on the environment is fundamental to its rehabilitation. To enable this, businesses and communities need guidance on how to manage their activities in an environmentally sustainable manner. This guidance clarifies the environmental management responsibilities of those whose activities that impact on the environment and provide detail on effective environmental management practices.

The SEPP requires EPA to work with protection agencies, businesses and communities to develop guidance for specific industries or for the environmental management of certain activities. This guidance may include guidelines and protocols for environmental management, which will be incorporated documents under the SEPP and which will be publicly developed and reviewed.

The aim of guidance material is to provide more detailed guidance than can be provided in the SEPP itself. Having this guidance in protocols and guidelines will ensure that the information is up to date and reflects the current state of knowledge and contemporary circumstances for the relevant environmental management practices.

Guidance on environmental management will outline measures that need to be implemented if beneficial uses are to be protected. These will generally relate to activities that, if not adequately managed, may pose a significant risk to beneficial uses. Guidance documents do not necessarily have to be developed by EPA, and in fact, they benefit from extensive input from industry and, where appropriate, can be led by the relevant industry. However, given their importance to environment protection, they should be formally endorsed by EPA.

For example, EPA developed a partnership with the Mornington Peninsula Vignerons Association (MPVA) to develop best practice guidelines for the regional viticulture industry and community. These guidelines will help to guide the management of viticulture activities in the region to help reduce their impact on water environments. EPA has provided funding to the MPVA which is leading the partnership. Another example is the Best Practice Environmental Management Guidelines for the concrete batching industry, developed in close consultation with the concrete batching industry. These guidelines have a key focus on providing the industry with clear environmental performance objectives for reducing the impacts of operations on water environments and suggested measures to meet these performance objectives.

For guidance documents to be effective, they need to be incorporated into planning and approvals processes for new activities and developments and also need to be used by managers of existing activities that pose a risk to beneficial uses (this can be done as part of an industry sector EMS as outlined in clause 22).

Throughout the development of the SEPP, stakeholders have indicated the need for guidance on wastewater management (e.g. wastewater re-use, treatment and disposal options), the use of Victoria's statutory environmental audit system (e.g. audit protocols and responsibilities) and chemical

management (e.g. biocide and fertiliser use). Through the SEPP, EPA has committed itself to developing guidance on these, and other activities. The timeframes for development of this guidance material will be determined and outlined during the implementation planning process.

What are protocols and guidelines for environmental management?

Guidelines and Protocols for environmental management (GEMs and PEMs) are documents that include practices needed to reduce the impact of activities on the environment. PEMs usually focus on setting out requirements for a particular activity or process, and provide clarity and detailed guidance to industry on how it can meet environmental requirements set out in the SEPP. GEMs generally have a broader focus than PEMs and provide additional guidance and information on how tools outlined in the SEPP will be used in its implementation. In recognition that different industries and operators have implemented varying levels of environmental management, GEMs include processes to gradually implement environmental management practices. PEMs and GEMs referenced in this SEPP will be incorporated documents into the SEPP, and will therefore undergo similar stakeholder consultation processes as the SEPP. After the consultation process the final, agreed PEM or GEM is approved by EPA and tabled in Parliament in accordance with the *Interpretation of Legislation Act* 1984. PEMs and GEMs then have the same legal status as the SEPP. Therefore, no direct legal penalty is associated with non-compliance with a PEM or GEM, but other regulatory measures can potentially be used in cases where activities are impacting on beneficial uses.

Impacts

Improved guidance on sustainable management of activities will help protection agencies, businesses and individuals identify what actions they need to implement to reduce their impact on the environment. This will help to improve the overall quality of water environments and will help protect the environmental, social and economic values that rely upon healthy water.

The costs associated with guidance will include:

- the cost of development (for example, a proposed PEM to be developed by EPA and other stakeholders for unsealed road management is estimated to cost approximately $60,000). The costs for individual guidance documents listed in the SEPP will be borne by EPA, and as negotiated, with industry bodies and protection agencies.
- the cost of their implementation. This cost varies and does not necessarily require businesses and individuals to use additional resources, but often to change existing practices and to make better use of existing resources to undertake activities in an environmentally sustainable manner. For example, a pilot program for implementing sustainable agricultural practices in Queensland has resulted in an annual saving of $15,000 to farmers. These savings have resulted from cost-effective changes in the way fuel, water and waste are managed on their properties. Victoria is also committed to developing similar programs through the development of the business sustainability program within EPA. This program is also, in partnership with DSE,

DPI and other industries, exploring ways to help the farming community and other industries reduce their usage of resources and thus their impact on the environment, while at the same time reducing their operating costs.

Clause 26: Off-set measures

Due to social and economic considerations, it may not always be practicable to fully implement the waste hierarchy (i.e. to fully avoid, re-use or adequately treat wastewater). In these circumstances, an off-set measure can be put in place to off-set actions that have the potential to degrade environmental quality (e.g. wastewater discharges) with actions which enhance environmental quality. An off-set can be defined as any arrangement which enables environmental objectives to be achieved by ensuring that actions which have the potential to degrade environmental values are counterbalanced (or off-set). These off-sets will need to be approved by EPA and will only be approved if they provide equivalent or greater protection of beneficial uses and therefore will not result in any unacceptable local impacts.

There are a number of options available to establish an off-set agreement, all of which involve the establishment of a legally binding agreement between the discharger and EPA. The development of off-set agreements would involve community consultation, and include mechanisms to ensure that beneficial uses are given equivalent or greater protection than without the off-set measure.

EPA will develop guidance documents to further clarify the process for an off-set agreement between EPA and the discharger (including how the community will be involved in the development and approval of the off-set). Guidance documentation will include a process for the monitoring implementation and effectiveness of off-set measures. Discussion of further details of the timeframes for development of this guidance material will be included in the implementation planning process.

Impacts

Off-sets allow for economic growth while protecting the environmental and social values related to water environments. Off-sets can be part of a management approach that is focused specifically on achieving outcomes, while still allowing flexibility in how those outcomes are achieved. For example, the nutrient levels in Port Phillip Bay are high and a target for reduction has been set at 1000 tonnes. However, there is continued growth in the region. As part of implementing the Port Phillip Bay Schedule, DSE is investigating options for a nutrient trading system where new discharges containing nutrients can be off-set by reducing nutrients elsewhere is the Bay (over and above the 1000 tonne reduction). This approach allows for environmental improvements to occur in the context of sustainable development.

It is likely that the development of an off-set proposal would involve some up-front costs for the proponent. They would have to demonstrate to EPA that the off-set would ensure an environmental benefit at least equivalent to the benefit that would be achieved from alternative approaches and, therefore, that the off-set does not result in unacceptable local impacts. These costs need to be included in the planning for a new development or facility upgrade. A proponent would presumably

only consider developing such a proposal if they perceived that financial as well as environmental benefits could be achieved. This mechanism should enable licensed dischargers to minimise the costs of protecting environmental quality.

10.3 Waste and Wastewater Management

Clause 27: Management of discharges to surface waters

A key role of EPA, under the *Environment Protection Act* 1970, is to minimise the pollution of water environments. A particular focus for EPA is the control of point sources of waste and wastewater, with a priority being on avoiding the generation of wastewater. This is important as pollutants such as toxicants, nutrients and sediment can become concentrated in point source discharges leading to significant impacts on receiving waters.

In Victoria, the discharge of wastes or wastewater from significant point sources (e.g. wastewater treatment plants and industries), to surface waters (which include stormwater drains), is licensed by EPA. EPA has a robust framework for licensing, monitoring and auditing wastewater discharges to surface waters (this process includes detailed provisions for protecting beneficial uses and the environment). Unlicensed activities may also discharge wastewater to surface waters and these need to be managed to ensure that they do not impact on beneficial uses. While we have come a long way since 1988 in minimising the impacts of wastewater discharges on the beneficial uses of surface waters, there are still some wastewater discharges that impact on the environment, and this clause provides important guidance to EPA and wastewater managers on the licensing of discharges and, in particular the provisions that need to be incorporated into licences and wastewater management activities to avoid the generation of wastewater and minimise the impact of wastewater discharges.

This clause ensures that effective wastewater management practices are undertaken to minimise the environmental risks to the beneficial uses of water environments. Actions to minimise the impact of wastewater discharges on beneficial uses, include the implementation of the waste hierarchy to avoid, re-use and recycle wastewater in preference to its discharge. There are various technologies and processes available to minimise the impacts of wastewater discharges, and the focus should be on using the best combination of these technologies and processes to ultimately reduce the impacts of wastewater discharges on beneficial uses. EPA will work with wastewater dischargers to develop standards that need to be incorporated into wastewater licences and management practices. This will include the use of best practice where a discharge will have an impact on beneficial uses. To provide further clarity on this, EPA will provide guidance on treatment, control and disposal requirements for wastewater discharges. This guidance will roll over and update the provisions of Schedule D and E of the 1988 SEPP. Importantly, this clause also rolls over the provisions of the 1988 SEPP, where EPA will not approve a discharge where effluent immediately prior to the point of discharge results in lethal effects to the aquatic ecology. These discharges will need to be avoided, re-used or treated at source, to a level that will not cause lethal impacts of plants and animals in receiving waters.

However, if there is no other alternative, a waste discharge containing a non-persistent substance that degrades within any declared mixing zone (e.g. a freshwater discharge into the marine environment) may be approved. If an approved mixing zone is in place, there must not be chronic effects on the aquatic ecology outside of the mixing zone.

Impacts

Waste and wastewater discharges from point sources once had and, in some areas, still have a significant impact on surface waters. Control of these point sources will ensure that aquatic ecosystems and other beneficial uses will be protected, particularly at a local scale where point sources have the greatest impact. The clause makes it clear, to those who illegally discharge wastewater to surface waters, that this is not acceptable under Victoria's environment protection system. It also provides over-arching guidance on how wastewater needs to be managed to prevent pollution and ensures that EPA will develop further guidance on effective wastewater management practices, in consultation with relevant industries, to assist wastewater dischargers in meeting the requirements of this clause. This will help those wanting to receive a licence for a wastewater discharge, and those that are already discharging to the environment, to better plan their activities to minimise their impact.

The disposal of wastes and wastewater to water, without approval from EPA, is already prohibited under *the Environment Protection Act* 1970. This clause simply makes those provisions clear and transparent. As these provisions have existed for over 30 years, it does not impose new obligations and therefore if requirements are being implemented it should not impose new costs.

Clause 28: New wastewater discharges

Considerable gains have been made over the past 30 years in protecting Victoria's surface waters from the impacts of point-source wastewater discharges (e.g. from sewage wastewater treatment plants and industries). These gains could be seriously reduced by new discharges associated with population growth and the extension of industry. The SEPP aims to ensure that beneficial uses are not further threatened by new wastewater discharges and that the gains made in protecting beneficial uses to date are secure.

The SEPP reflects the provisions of the 1988 SEPP, the provisions of the *Environment Protection Act* 1970 and the waste hierarchy principle. This will ensure that proponents of new developments will maximise the wastewater avoidance and re-use potential of the development before a discharge is considered. Where a discharge can not be avoided, re-used, or recycled applicants for works approvals need to incorporate treatment measures that ensure discharges will not pose a risk to beneficial uses (this may include the use of best practice as outlined in clause 12). As a last resort, and if wastewater management practices are not effective in protecting beneficial uses, EPA may authorise mixing zones and off-set measures (as outlined in the relevant clauses in this PIA).

If a licence is issued to discharge wastewater, EPA will ensure it is consistent with the SEPP and includes an environment improvement plan that plans that drives the progressive reduction of the

impact of wastewater discharges on beneficial uses, and a monitoring program to assess the impact of the discharge on beneficial uses. Importantly, the SEPP reiterates the provisions of the 1988 SEPP by identifying areas where EPA will not licence wastewater discharges. These include areas of conservation significance and potable water supplies.

Impact

The impacts of wastewater discharges from point sources has had, and in some areas continues to have, a serious impact of the quality of surface waters. Point sources have a particular impact on water environments as they tend to concentrate pollutants. These impacts have been reduced over the past 30 years, and this clause will enable this to continue. Particular benefits will result from the reduction of nutrients, pathogens, sediments and salt in wastewater discharges. In addition, the discharge of excessive amounts of freshwater into marine environments can have a significant impact on marine environments. The re-use of wastewater would therefore reduce the quantities of freshwater discharged into marine environments. Wastewater re-use also reduces the need for extracting water from rivers and streams, which will help protect environmental flows.

The clause will also help protect aquatic reserves, potable water supplies and areas of high ecological significance from wastewater discharges, which is vital to sustain their ecological or water supply functions.

This clause focuses on new wastewater discharges and reiterates the provisions of the 1988 SEPP and the *Environment Protection Act* 1970. These responsibilities are therefore not new and any costs associated with minimising the potential impact of new wastewater discharges need to be incorporated into the cost of the total development. Typically, these costs are a small percentage of the total cost.

Clause 29: Existing wastewater discharges

Wastewater discharges to surface waters from a wide range of human activities continue to pose significant threats to beneficial uses. These threats have attracted increased public attention as community expectations for environmental protection have grown. Accordingly, controlling and preventing wastewater discharges have been priority focuses of environmental protection efforts and significant improvements have been made in the management of point source discharges over the last three decades. This SEPP continues the directions established in the 1988 SEPP to ensure that wastewater discharges to surface waters are minimised and treated to a level that minimises threats to beneficial uses. In addition, the SEPP supports the implementation of new strategies such as the Water Recycling Action Plan, currently being developed by DSE, to provide a framework to drive beneficial water recycling in Victoria.

As the *Environment Protection Act* 1970 requires wastewater licences to be consistent with SEPPs, EPA will need to review existing licences. During this review, EPA will need to work with and encourage licence holders to assess options to apply the waste hierarchy (and maximise wastewater avoidance and re-use opportunities), and to develop environment improvement plans (EIPs) to implement preferred options and gradually reduce the impact of wastewater discharges on beneficial uses. As with

new wastewater discharges, as a last resort, EPA may declare a mixing zone as part of a licence (as outlined in the mixing zone clause).

The SEPP places a particular focus on the avoidance, re-use, recycling and management of current discharges to the Aquatic Reserves, Wetlands and Lakes or Estuaries and Inlets segments and ensuring that any discharges are in accordance with clause 31 of the SEPP. The Victorian Government has been progressively reducing the number and extent of such discharges in these areas, for example Lake Colac now has only one discharge, which has been significantly reduced and improved in quality. These environments have been identified as priority areas due to their high sensitivity to wastewater discharges and to reflect the Victorian Government's commitment to phasing out waste disposal to sensitive environments.

It is important that communities are aware of the impact of wastewater discharges on their local environments. To enable this, managers of premises discharging wastewater should monitor the impacts of that discharge on beneficial uses. EPA has developed a monitoring protocol to help assess the impact of wastewater discharges on beneficial uses (i.e. *Point Source Discharges To Streams: Protocol For In-Stream Monitoring And Assessment*), and will incorporate wastewater impact monitoring into licences. It is important that this monitoring protocol is followed as it documents national approaches to assessing the impacts of wastewater on receiving waters.

Impacts

The major benefits of the clause will be the continued improvement of the quality of surface waters and the protection of their beneficial uses for all Victorians. Benefits to the environment can be significant, particularly on a local level where impacts from wastewater discharges are greatest.

Achieving greater levels of water recycling will provide a range of benefits including reducing impacts on marine, estuarine and freshwater environments, offsetting demand for scarce surface and groundwater resources, retaining and restoring environmental flows and providing opportunities for sustainable economic growth in industry and agriculture.

Like most of the wastewater provisions in the SEPP, this clause largely reflects the provisions of the 1988 SEPP and responsibilities under the *Environment Protection Act* 1970. For example, water authorities and businesses have responsibilities under the *Environment Protection Act* 1970 to adequately manage and minimise wastewater discharges on water environments. The SEPP simply clarifies these responsibilities and provides a basis for licence setting and wastewater management. Given these existing responsibilities, any associated costs should form part of on-going business plans and budgets.

Moreover, the application of the waste hierarchy, and the development of environment improvement plans, involves considerable flexibility in how wastewater management goals can be reached and the community and stakeholders have the opportunity to choose actions which are both affordable and which will help to protect beneficial uses.

EPA will absorb the significant costs of reviewing all existing licences as part of its core business

function. It is not anticipated that significant changes to licences will occur as a result of the SEPP's review as many of the provisions in the revised SEPP are in the 1988 SEPP or in EPA guidelines. In addition, many licensed premises already have environment improvement plans that identify practicable solutions to reduce the impact of a premises or activity on the environment. Where costs are increased as a result of licence review, EPA will work with the licensed discharger through the environment improvement planning process to ensure the requirements are met over agreed timeframes and implemented in a practicable manner. Some managers of wastewater discharges may incur costs associated with monitoring of the impact of their discharges on the environment. This cost varies depending on the size and impact of the discharge but is about $40,000 per year for a major discharge (e.g. a discharge from a large wastewater treatment plant). However most managers of wastewater discharges already implement monitoring programs and therefore will not incur any new costs associated with this requirement.

Clause 30: Mixing zones

This clause continues the directions provided by the 1988 SEPP in recognising that the complete avoidance, re-use, recycling or treatment of wastewater may not be practicable in the short term in all situations and that associated developments may have some social and economic value. In these circumstances, EPA may approve a wastewater discharge licence to include provision for a mixing zone.

The designation of a mixing zone clearly acknowledges to the community that a limited area of the environment is to be sacrificed for some immediate economic benefit to the wastewater discharger and ultimately the community. The responsibility therefore lies with the discharger to minimise this impact by keeping the mixing zone as small as possible and to show that they are continuously improving their environmental management. This can be achieved through the implementation of an environment improvement plan to outline actions undertaken to continuously reassess opportunities to avoid, reduce and re-use waste or treat it to a higher standard.

What is a mixing zone?

A mixing zone is an area of a waterway or waterbody where the receiving water environment is detrimentally affected by a waste discharge.

It is an area with explicitly defined boundaries where specified environmental quality objectives may be exceeded (and consequently some beneficial uses may not be protected in the mixing zone).

EPA has responsibilities to work with wastewater dischargers to provide guidance on EIPs and actions to reduce the size of mixing zones. It also has a responsibility to incorporate EIPs and mixing zones into licences, and as part of doing so, incorporating a schedule for the review and reduction of the mixing zone. Although not all mixing zones will be eliminated within the lifetime of this SEPP, elimination is the preferred option. EPA will regularly review mixing zones and the implementation of environment improvement plans to ensure that all practicable steps are taken to gradually reduce the size of the zones.

Finally, EPA has responsibilities to not approve a mixing zone if it will have too great an impact on beneficial uses. The clause identifies circumstances where a mixing zone will not be approved and provides over-arching guidance on conditions that need to be met before a mixing zone is approved.

EPA recognises the need to be more specific about the criteria and process for establishing mixing zones. The 1988 SEPP contains detailed provisions for the designation of mixing zones. These will be reviewed and detailed in a guidance document to be prepared by EPA in consultation with all stakeholders.

Impact

The SEPP provision for mixing zones is designed to allow time for essential services and activities such as wastewater treatment and regionally important industries to find ways to reduce their environmental impact. Through a program of continuous improvement to implement the waste hierarchy, the extent of mixing zones will be progressively reduced and in some cases, eliminated. This will have significant benefits for local waterways where the impact of wastewater discharges is greatest.

Again, this clause reflects the provisions of the 1988 SEPP and responsibilities under the Environment Protection Act 1970. Although this clause does not result in new obligations, where these obligations are yet to be met or not currently being implemented, costs may be incurred and as such be budgeted for as part of normal business processes and budgets. In effect, the clause enables wastewater dischargers to better plan for improved wastewater management, so that associated costs can be built into budgets and pricing mechanisms.

Managers of wastewater discharges will incur costs to undertake monitoring programs to assess the extent of the impacts of their discharges so that mixing zones can be considered and potentially established. These costs are approximately $40,000 per annum but will depend on the number of sites and the size of the discharge impact. Again, this needs to form part of core budgets of organisations that manage wastewater discharges.

Clause 31: Management of wastewater re-use and recycling

Wastewater re-use is a common practice employed by water authorities and businesses to reduce the volume and impact of wastewater discharged to surface waters. However, it is important that re-use is sustainable to provide a long-term solution to wastewater management. If re-use is not sustainable, both surface water and groundwater environments and beneficial uses will be affected.

Wastewater can be re-used for irrigating trees, watering gardens and parks and in some countries it is used for drinking (after high levels of treatment). It is also important to note that wastewater could be re-used in waterways, to assist in providing environmental flows, but only after adequate levels of treatment that ensure the beneficial uses of receiving waters benefit from the flow, and are not detrimentally affected by poor water quality resulting from wastewater discharges. The clause supports these forms of re-use and also provides guidance on how wastewater can be re-used sustainably. Further guidance is provided by EPA

through the *Environmental Guidelines for the Use of Reclaimed Water*, which is available from the EPA information centre. The Government is also developing a Victorian Water Recycling Strategy to facilitate water recycling. The long-term aim is to establish water recycling as a significant component of sustainable water resource management that contributes towards conservation of water resources, waste avoidance, and the economy. The Strategy will include policy and actions to address the barriers to water recycling, and a plan to achieve the Melbourne region's recycling target of 20per cent by 2010.

Impacts

Re-using wastewater for irrigation has the potential to reduce the amount and cost of water and fertilisers purchased by irrigators, reduce the quantity of water extracted from waterways for irrigation purposes and minimise the potential for operators of wastewater discharges to pollute the environment. Using highly treated wastewater to provide environmental flows could be of a great benefit to the aquatic ecology, particularly given the low flows in many of our rivers and streams. These benefits will only be realised if wastewater is re-used sustainably.

Again, this clause is consistent with the provisions of the 1988 SEPP and other more recent Government initiatives such as the Victorian Water Recycling Strategy, so the revised SEPP does not allocate new responsibilities or costs to wastewater dischargers. Costs may be borne in implementing re-use schemes but generally, in the long-term, re-use schemes present economic advantages mainly through increased water use efficiency, reduced treatment costs and also through reduced liabilities associated with water pollution.

Clause 32: On-site domestic wastewater

On-site domestic wastewater systems (e.g. septic tanks and small waste treatment plants) are designed to treat wastewater in areas where the density of development does not justify the provision of reticulated sewerage. It is important that these systems retain wastewater within the property boundaries over the long-term and that they do not impact on the beneficial uses of groundwater. To do this they need to be properly planned for and maintained. This will ensure that the transport of nutrients, pathogens and other pollutants to surface waters and groundwaters is minimised.

The SEPP recognises this and requires that owners of on-site domestic wastewater systems maintain their systems. Guidance for septic tank maintenance is provided in the *Code of Practice - Septic Tanks On-site Domestic Wastewater Management.*

Municipal councils have a key role in domestic wastewater management in assessing the capability of land and assessing viable treatment options, with assistance from EPA, before approving new developments to ensure that wastewater can be effectively treated and retained within the allotment boundaries (i.e. consider the capability of land for on-site systems). For example, septic tanks on sandy soil may not be able to retain wastewater on-site and groundwater impacts may result. A land assessment will help to determine the appropriate placement of on-site domestic wastewater treatment systems. If land is not suitable for on-site

management, municipal councils need to ensure that sewerage is provided. The SEPP recognises this responsibility and supports the ongoing requirement that municipal councils issue permits that are consistent with guidance provided by EPA, including that provided in the *Code Of Practice - Septic Tanks On-Site Domestic Wastewater Management*.

In addition, if wastewater is not being retained within allotment boundaries, sewerage or other methods of wastewater management need to be provided. This does not necessarily mean reticulated sewerage must be provided, but could mean that improved on-site management of wastewater is needed. Once these areas have been identified, EPA will support municipal councils in developing and implementing domestic wastewater management plans. These plans should identify issues, prioritise actions that lead to improved wastewater management and include implementation timelines. Importantly, the clause requires that the wastewater management plans provide for regular assessment of compliance of septic tank performance against conditions in permits issued by councils.

Impacts

Improved wastewater management in on-site domestic wastewater systems and unsewered areas will benefit the aquatic ecology and protect beneficial uses, particularly those at risk from high *E. coli* and nutrient levels. The protection of such activities (including swimming and the consumption of shellfish) has significant benefits for tourism and recreation and subsequently the local economy. Domestic wastewater management plans will assist in these improvements and will also ensure that the community is involved in the development of wastewater management options and that recommended measures are affordable.

By ensuring all existing septic tanks have an appropriate permit and are assessed for compliance with the permit conditions, municipal councils should gain an improved awareness of areas in which septic tanks and other small wastewater treatment facilities are not capable of treating and retaining wastewater within the property boundary. This information will allow for more informed decisions in the granting of permits for such systems on nearby properties and will also assist municipal councils identify areas which may need sewering.

Municipal councils and EPA already invest resources in ensuring that new developments can retain wastewater on-site and that permits for septic tank and small wastewater treatment permits are consistent with EPA guidelines. For example, EPA, the Municipal Association of Victoria and municipal councils are working together on a pilot program to develop domestic wastewater management plans. A pilot project has indicated that the cost of developing plans varies depending on whether the plan is developed by the council or by employing a consultant. Costs for development of plans are expected to range between $10,000 and $20,000, although this could be exceeded if a consultant is required. It is important that all relevant municipal councils develop these plans to reduce the impact of failing on-site domestic wastewater management systems on water environments. Assessment of domestic wastewater systems could include site visits by municipal councils or could be limited to

requiring owners of septic tanks to have them regularly checked (by a plumber) and then sending a certificate of compliance to the relevant municipality. It is expected that costs to municipal councils for this activity will mainly be through additional staffing time. Activities in this area are expected, on a per municipality basis, to require approximately 20 per cent of an enforcement officer's time (expected to cost in the order of $20,000). During consultation, municipal councils indicated the costs may be higher than this estimation and EPA will continue to work with MAV and municipal councils to identify priority areas to ensure that programs are implemented according to agreed timeframes and in a practicable manner. The details of these arrangements will be further detailed in the SEPP implementation plan.

Clause 33: Sewerage planning

Where reticulated sewerage is identified in a domestic wastewater management plan as the preferred option for improved wastewater management, water authorities and companies need to develop a sewerage management plan. A sewerage management plan needs to identify and prioritise options for sewerage services (including the costs and funding options for these services) and identify how the wastewater collected can be managed sustainably. The plan should also identify possible timeframes for implementation and provide for three yearly reviews. It is important that these plans are developed in conjunction with communities and government to ensure that wastewater management options are affordable. Where connection to sewerage is the preferred option but not immediately possible, EPA will work with municipal councils to develop interim strategies to reduce the impact of existing domestic wastewater treatment systems (and identify measures to treat effluent in a sustainable manner, i.e. in accordance with the waste hierarchy).

Impacts

A core activity of water authorities is planning their sewerage management functions. Consequently, the clause should not impose new planning costs on water authorities. Costs associated with the implementation of the sewerage management plans will depend upon the sewerage management method(s), which need to be identified in the plan. These proposed wastewater management actions will be considered as part of the normal government processes for water authority budgeting.

Clause 34: Connection to sewerage

Further to the provisions of the wastewater management clauses, it is important to ensure that on-site domestic wastewater management systems retain wastewater on site. EPA has issued guidelines *(Re-use Options for Household Wastewater)* to assist owners of on-site wastewater systems to ensure they are sustainable. If these guidelines are followed, wastewater will be retained on site.

If on-site systems are inadequate and wastewater is being discharged offsite, the owners of that system must connect their premises to the sewerage system (where sewerage is available). Regional water authorities and water companies have the power to enforce this under their relevant legislation. For example, for a water company to exercise this power, they need to receive written advice from EPA stating that discharges pose a risk to beneficial

uses, or from the Department of Human Services stating that discharges pose a risk to human health.

This arrangement prevents potential or perceived conflicts of interest where a water authority, as service provider, assumes the role of a regulator in relation to compulsory connections i.e. it could be construed that by requiring the connection of a property to a sewerage system an authority would also financially benefit.

This clause is important to include in the SEPP as many water authority managers and municipal environmental health officers have remarked that the roles and responsibilities in regard to ensuring and enforcing sewerage connection are unclear.

Impacts

The benefits resulting from the clause are the same as those resulting from improved management of septic tanks and unsewered areas (clauses 30 and 31). Furthermore, it ensures that the financial outlay incurred by governments and water authorities when providing sewerage, and the investment by owners of other premises that have connected to sewerage, are justified.

If a premises is required to be connected to sewerage, cost will be incurred. Historically there has been assistance provided to owners of residences that have hardship in funding improvements to meet requirements.

Clause 35: Sewerage Management

Water authorities are responsible for the management, provision and maintenance of sewerage services to industry and the community. These responsibilities include the maintenance of sewerage infrastructure so that sewer overflows, leakages and collapses are avoided, or where they occur, they are controlled. The clause recognises and supports these responsibilities. The SEPP includes a minimum requirement that sewerage infrastructure must have the hydraulic capacity to contain flows associated with a 1-in-5-year rainfall event as determined by the Bureau of Meteorology. However the SEPP also provides for a comparable design standard that will avoid losses of wastewater if the capacity to contain flows associated with a 1-in-5-year rainfall event is not regionally relevant.

The SEPP continues the provisions of the 1988 SEPP by proposing that EPA will ensure that sewerage treatment and pumping works are not located on floodplains (covered by 1:100 year floods) unless works are constructed to prevent entry of floodwater.

Impacts

Wastewater in sewerage systems contains concentrated levels of nutrients and pathogens, which if leaked into surface waters, can have serious impacts, including fish kills and unsafe water for swimming and fishing. This often results in costly clean up actions, which can be avoided by maintaining sewerage systems.

Again, this clause was part of the 1988 SEPP and therefore is already part of water authorities' core function and part of their ongoing budgets. As such, if the requirements are currently being met, it does not represent new responsibilities or costs to water authorities or EPA. Where the requirements are currently not met, a program of continuous improvement should be implemented to ultimately contain flows to the required standard. This will

have significant benefits for local waterways where the impact of sewerage overflows from sewerage systems is greatest.

Clause 36: Saline discharges

Some surface waters in Victoria have become unnaturally saline through the discharge of salty water resulting from land clearing and the introduction of irrigation and drainage including sub-surface drainage, activities such as groundwater pumping, inefficient irrigation practices and other wastewater discharges. Alterations to the natural salinity of water can have a dramatic effect on the health of aquatic plants and animals, and limits the usefulness of water for drinking, agriculture and other industries. To sustain the long-term viability of water dependent industries and the environment, saline discharges need to be managed and their impact on the environment minimised.

Authorities responsible for approving or managing saline discharges (e.g. relevant water authorities, DSE and irrigation trusts) need to continue to minimise the impact of saline discharges (including that from groundwater pumping and irrigation drain discharges) to rivers, streams, wetlands and lakes. This clause applies the waste hierarchy principle (which outlines widely accepted waste avoidance, re-use, treatment and disposal practices) to saline wastewater management. The clause essentially promotes the implementation of activities where practicable within economic, environmental, and social parameters, to avoid the generation of saline wastewater as the preferred approach to reducing the impact of saline discharges. This is followed by the re-use and recycling of saline wastewater, followed by containment of wastewater, followed by its discharge. The intent is that saline wastewater management would gradually move up the waste hierarchy to reduce the impacts of its discharge on the environment.

This should be achieved by implementing Government endorsed land and water management plans that will maximise the implementation of avoidance measures such as best irrigation practices which will maximise on-site saline wastewater re-use options, and recycling or containing saline wastes through the use of drain re-use schemes and evaporation basins. Where these practices have been implemented to the extent practicable within economic, environmental, and social constraints and the avoidance and re-use of saline wastewater has been maximised, any remaining saline wastewater may need to be discharged to natural water environments (e.g. rivers, streams, wetlands and lakes). Where this occurs, it needs to be undertaken in a manner that minimises the impact on beneficial uses and which is consistent with government approved land and water management plans, salt disposal entitlements, the Murray-Darling Basin Agreement, and the provisions of the SEPP.

Key government approved salinity plans and strategies include the Murray Darling Basin Salinity Management Strategy 2001-2015 and Victoria's Salinity Management Framework. These aim to sustainably manage saline wastewater through actions such as efficient irrigation practices, drainage water re-use and through managing discharges of saline wastewater, through many measures including salt disposal entitlements. The SEPP reinforces these responsibilities, recognises that it will take time to implement avoidance and re-

use measures and encourages their continued implementation.

Impacts

The rising salinity of Victoria's surface waters has been a significant issue for several decades and continues to be a key issue facing water managers. Minimising the discharge of saline water will reduce the level of salt in Victorian surface waters, particularly those of northern Victoria, and in the River Murray. This will have significant benefits for the sustainability of irrigated agriculture in Victoria, and will help to meet the Murray Darling Basin Commission's salinity end of valley targets. Improving water quality in the River Murray will help protect environmental values and help provide clean water for various uses, including a reliable high quality water supply to Victoria's downstream irrigated horticultural enterprises and urban supplies, and will contribute to providing a secure potable water supply for the Adelaide community.

There are numerous programs to assist in funding efficient irrigation practices and sustainable ground water pumping (including NAP). These additional funds, combined with the recurrent programs of DSE, DPI and water authorities will provide an opportunity to accelerate the implementation of Government endorsed regional land and water management plans to better manage saline discharges and reduce their impact on beneficial uses.

Clause 37: Chemical management

Pollution of water by industrial, agricultural and domestic chemicals including fertilisers, fuels, oils and other hazardous substances and prescribed industrial wastes (prescribed under the *Environment Protection Act* 1970), can lead to algal blooms, fish kills and even risks to human health. Chemicals can enter water environments through the use of biocides to control pest plants and animals, the use of fertilisers, and oil and chemical leakages and spills. While it is important that pest plants and animals are controlled to rehabilitate surface waters, it is equally important that biocide use, and the use, transport and storage of fertilisers and other chemicals is responsibly managed.

The SEPP identifies measures that will minimise the runoff or leakage of chemicals into water environments. Some of the measures will include the need for those using chemicals to properly store them, so that they do not come into contact with water and to have contingency plans that outline measures to avoid and control spills, leakages or breakdowns. This is important for both environmental and occupational health and safety reasons.

Importantly, the SEPP provisions will ensure that wastes and wastewater containing hazardous chemicals and materials are managed at source, according to best practice. This more stringent requirement is important to ensure that waste and wastewater discharges are not toxic to aquatic ecosystems. Schedules C and D of the 1988 SEPP included provisions for wastewater treatment and control. These will be reviewed in conjunction with protection agencies, water authorities, businesses and communities and incorporated into guidance on environmental management.

Instream and riparian chemical spraying also needs to be managed so that impacts on water

environments are minimised. Water authorities have indicated that further guidance needs to be developed to provide guidance on how spraying can be managed to minimise impacts of beneficial uses. This has been recognised in the SEPP. The detailed provisions of the 1988 SEPP need to be reviewed and updated and included in guidance documents. To protect the largely natural regions, spraying needs to be avoided in the Aquatic Reserves and Highlands segments.

Impacts

The responsible management of chemicals will help to protect beneficial uses. In particular, waters will be free of toxicants and therefore safe for drinking, swimming and fishing, and agriculture and the aquatic ecology will also be protected. In addition, the proposed guidance documents will provide all users of chemicals with clear guidance that reflects community expectations for the protection of water environments. Sometimes pest plants can be more harmful to aquatic habitats than chemical spraying. Any guidance material should reflect the importance of applying a risk-based approach to chemical spraying in order that the benefits of chemicaluse are considered in light of the ultimate costs and benefits to aquatic habitats (particularly in the more pristine environments).

The provisions of the clause are largely transferred from the 1988 SEPP. Since 1988, chemical technology and user awareness has greatly improved and the labour and material costs of responsible chemical applications incurred by manufacturers, distributors and users have become part of common practice. Therefore it is not expected that this clause will impose any new obligations. In addition, guidance such as the *Code of Practice for Farm Chemical Spray Application*, developed by the former Department of Natural Resources and Environment (now DPI) already provides guidance on chemical use, including the prevention of impacts of chemical spraying and emergency arrangements in the case of a chemical spill. However additional costs may be incurred for identifying additional needs and developing further guidance documentation. This will be incurred by EPA and by and government agencies involved in the development of the guidance documents.

Clause 38: Spills, illegal discharges and dumping of waste

The discharge of oil and other noxious substances into surface waters presents a risk to the aquatic ecology and dependent industries, and are costly to clean up. The discharge of oil to Victoria's waters is prohibited under the *Environment Protection Act* 1970 but accidental oil spills do occur and oily wastes are discharged to the environment through poor practice and negligence. In addition, illegal discharge and dumping of wastes does occur and response and clean up arrangements need to be in place to minimise environmental risks to beneficial uses.

It is vital that the environmental risks associated with bulk oil shipping, and petrol, diesel, oil and chemical transfer and storage are effectively managed to minimise the risk of oil and chemical discharge to surface waters. It is important that port, marina and vessel operators, and oil and chemical transport industries put in place preventative measures to avoid the discharge of pollutants and that they have pre-planned response arrangements

to effectively deal with pollution incidents. The SEPP supports this.

The SEPP also reflects the roles and responsibilities of Marine Safety Victoria, EPA and businesses and industries in ports and port waters, in preventing and responding to oil spills. If a spill occurs, Marine Safety Victoria has a key responsibility in ensuring that response arrangements are conducted in accordance with the National Plan to Combat Pollution of the Sea by Oil and other Noxious Substances and any other relevant regional marine pollution contingency plans such as the Victorian Marine Pollution Contingency Plan. Marine Safety Victoria also has responsibilities to ensure that oil spills are physically reclaimed or, where reclamation is not practicable, safe clean-up methods are used. The SEPP recognises these responsibilities and encourages Marine Safety Victoria to develop a protocol for the use of dispersants in marine waters that includes provisions for the avoidance of dispersant use.

EPA has key roles in providing guidance on safe clean up measures and also in investigating the impact of, and enforcing against, oil spills. Again, these responsibilities are recognised in the SEPP.

While satisfactory arrangements are in place to respond to marine spills, the response arrangements for inland spills and illegal dumping of wastes are less clear. Currently EPA can require those responsible for spills or dumping wastes to clean up wastes. If those responsible cannot be identified EPA will work with the landholder to clean up. In recognition that not all land and water managers have extensive clean-up capabilities EPA will work with protection agencies, particularly surface water managers and where relevant municipal councils to ensure the identification and implementation of adequate clean-up arrangements for inland spills and illegal discharge and dumping of wastes is completed.

Impacts

Spill prevention avoids damage to the environment and protects the economic and social values of industries that may be affected by spills (e.g. tourism and fishing industries). For example, Western Port supports a major oil port and also supports hundreds of millions of dollars in recreation and tourism. The famous penguin parade alone brings in over $90 million dollars to the Victorian economy and is an international tourist attraction. An oil spill in Western Port would have serious and perhaps irreversible impacts on the ecology and associated social and economic values. In addition, clean up action alone can be significant. For example, a 1989 bunker fuel spill at the Port of Portland incurred costs to the port managers of over $770,000. These costs can be avoided by avoiding illegal discharges of oils and minimising the likelihood of oil spills.

Responsibilities for spill prevention and clean up are outlined in the 1988 SEPP, and in State, national and international legislation and conventions. For example, vessel operators have responsibilities, under the *Environment Protection Act* 1970 and the *Pollution of Water by Oil and Other Noxious Substances Act* 1986, to undertake measures to avoid oil spills. Similarly, under the *Marine Act* 1988, Marine Safety Victoria has responsibilities for mounting oil spill responses across Victoria and has been conducting its duties under the National Plan

and the *Victorian Marine Pollution Contingency Plan* since 1998 (the Victorian government has been undertaking such actions since 1973). The SEPP simply clarifies and reinforces these responsibilities.

It is estimated that a protocol for the use of dispersants would cost approximately $20,000 to develop. Since the release of the draft SEPP, Marine Safety Victoria has been working with key stakeholders to develop the protocol. It is currently in draft stage and Marine Safety Victoria will continue to consult with stakeholders throughout the finalisation process. The protocol will become an attachment to Victorian Marine Pollution Contingency Plan and implemented as part of its implementation. Consequently, it is likely that these costs will be met through existing budget allocations.

In relation to inland spills, the requirements of the clause may have cost implications for EPA and others associated with clean-up activities. However, this clause clarifies existing responsibilities under the *Environment Protection Act* 1970 and other relevant Acts (e.g. *Water Act* 1989) and therefore costs should not be new but ongoing under the relevant legislation. EPA will work with other protection agencies and stakeholders to ensure that the SEPP implementation planning process includes practicable measures to implement the requirements of this clause.

Clause 39: Animal wastes

When animal wastes, and runoff containing animal wastes enter surface waters they can cause elevated nutrient and pathogen levels, which may result in water becoming unsafe for swimming, fishing and aquaculture. In rural environments, the main contributors of animal wastes are stock access to surface waters and illegal discharges from intensive agricultural industries. In urban environments, animal waste in surface waters largely result from the runoff of dog and horse faeces to stormwater drains.

The SEPP requires the avoidance and minimisation of the dumping, discharge and runoff of animal wastes in surface waters. To assist this, DSE, DPI, Parks Victoria and CMAs need to encourage landholders and occupiers of Crown Land, to restrict animal access to surface waters, municipal councils need to encourage urban dwellers to collect animal wastes from public areas and ports and marinas need to provide waste bins for fish wastes.

Impacts

A reduction in the quantity of animal wastes entering water environments will improve the quality of water available for beneficial uses such as swimming, fishing and aesthetic enjoyment. Programs are now in place in many of Melbourne's bayside councils to provide facilities for owners of dogs to collect their dogs' waste from public areas hence reducing the runoff of faeces into Port Phillip Bay. This will help reduce nutrient and *E. coli* levels in the Bay and make it safer for swimming, fishing and aquaculture.

Restricting stock access to surface waters will incur costs on landholders. However, restricting stock access has many other benefits besides preventing the entry of animal wastes into surface waters, including benefits of reduced erosion and vegetation protection. The cost of streamside

fencing will vary depending upon the type of fence used. There are many programs in place to assist landholders restrict stock from waterways as well as tax incentives.

To encourage the collection of animal wastes, municipal councils should provide (and ensure the maintenance of) facilities to enable the collection by animal owners of their pets' waste. Many municipal councils already provide facilities for the collection and disposal of animal wastes. For example, Bayside City Council provides bins and bags in parks and foreshore areas for waste collection and disposal. This program incurred once-off costs of approximately $10,000. They allocate approximately $17,000 per annum to provide this facility and approximately two hours per week are spent on enforcement and education[7].

10.4 Water Management

Clause 40: Water conservation

Most Victorians recognise the need to conserve water through the implementation of water saving activities. As well as requiring water of a sufficient quality, many of the uses and values identified in the SEPP require water of a sufficient quantity. Wiser use and conservation of Victoria's water resources will ensure the protection of beneficial uses and values beyond the lifetime of the SEPP.

Implementation of this clause will ensure that communities, businesses and protection agencies are aware of the shared responsibility to reduce water consumption and ensure a sustainable potable water supply, and water for all beneficial uses. To ensure that water is conserved, communities need to be aware of potential water saving measures, and therefore protection agencies, particularly water authorities and municipal councils need to develop and implement wide-ranging programs which address the needs of many different parts of the broader community, to inform the public of water saving practices and measures. The SEPP recognises the responsibilities of protection agencies to work with communities and businesses to implement these measures. Importantly, this should include incentive mechanisms to encourage water conservation and the efficient use of water.

The SEPP also recognises the particular opportunity for water conservation measures to be incorporated into new developments. This will enable more efficient use of water within these developments.

The implementation of the waste hierarchy will ensure that the consumption of water is minimised through the application of principles such as the avoidance or reduction of water use, and the re-use or recycling of water. For example water that has been treated to an appropriate quality may be re-used for beneficial uses such as irrigation (see clause 31). This will contribute to water conservation and therefore to the protection of beneficial uses.

Impacts

The conservation of water can have significant benefits for current and future beneficial uses and values. Water authorities and the Victorian Government already have measures in place to encourage water conservation for the future and to ensure that a balance is achieved between the many different uses of water. These measures include

[7] Personal Communication, Bob Stone, Bayside City Council.

education campaigns, such as Melbourne Water's WaterWise program and the development of strategies for sustainable and equitable water use, such as the Water Smart Strategy developed by the Victorian Government.

As the development of strategies and education campaigns is ongoing this clause is not expected to incur additional costs. Furthermore decreased water consumption, including the avoidance and potential re-use of water, can lead to cost savings for the community and individual businesses.

Clause 41: Water allocations and environmental flows

Protecting water quality alone is not sufficient to protect beneficial uses. Water flow is also a significant factor affecting the health of aquatic ecosystems, particularly those of estuaries and wetlands. Appropriate flow regimes are also important to the protection of beneficial uses, particularly recreation.

The SEPP recognises and supports the work of water authorities and DSE, and the responsibilities of CMAs to develop and implement measures to provide environmental flows (e.g. through streamflow management plans and bulk entitlements). It is important that the advances made in the allocation of environmental flows are not negated by new diversions. Water extractions are only approved from rivers, streams, lakes, wetlands and estuaries that are subject to a process designed to provide environmental flows that is consistent with the *Water Act* 1989. As flows are so important for protecting aquatic ecosystems, the SEPP requires the Department of Sustainability and Environment, in consultation with catchment management authorities, relevant water authorities and EPA, to develop a program to ensure that the provision of environmental flows and their effectiveness in protecting beneficial uses is appropriately and independently audited.

Impacts

The protection of environmental flows has significant benefits for the aquatic ecology, which in turn has benefits for activities that require healthy water such as agriculture and drinking. The provision of environmental flows will require an improved understanding of flows and the location and volume of diversions throughout the policy area. This will assist in a better understanding of costs associated with water usage and support the implementation of the government's cost recovery and user-pays policies.

Environmental flow provisions were included in the 1988 SEPP and there is currently a number of tools available to allocate environmental flows, including bulk entitlement orders, streamflow management plans, Sustainable Streamflow Regime and Diversion Limits program, and various initiatives of the Murray Darling Basin Commission (MDBC) and the Water *(Irrigation Farm Dams) Act* 2002.

It is estimated that streamflow management plans and bulk water orders can cost between $75,000 to $200,000 to develop[8] The cost depends on the complexity of the plan such as the need for environmental flow studies, monitoring and the number of meetings that may be required. It is the responsibility of rural water authorities and

[8] Personal Communication – P. Bennet, Catchment and Water Division, Department of Natural Resources and Environment.

licensing authorities to prepare streamflow management plans and CMAs are responsible for implementing these. CMAs are responsible for overseeing the implementation of streamflow management plans, including the review of annual reports, which are prepared by rural water authorities and licensing authorities. Costs for developing these plans have been built into existing and future budgets.

Again, the cost of implementing measures to provide environmental flows varies. As part of the VRHS, DSE is allocating funds to rehabilitate 'stressed rivers' through providing for environmental flows. In addition, funding provided through NAP and the 'Water for Growth' initiative will also assist funding actions to provide environmental flows. Costs associated with auditing the provision of environmental flows needs to be absorbed into the costs of monitoring environmental flows, currently coordinated by DSE.

Clause 42: Releases from water storages

The economic and social benefits Victorians have enjoyed as a result of water resource development have not been without adverse impact on our rivers and streams. Rivers have been significantly affected by water storages and flow regulation. Water storages have not only altered flow regimes but they have also resulted in changes in chemical and thermal properties of receiving waters. In particular, water downstream of water storages has been affected by the release of cold, nutrient enriched, and oxygen depleted waters from low level off-takes from large water storages. This has seriously affected the ecology of receiving waters and can result in the death of fish and other aquatic life as well as affecting the breeding cycle of a wide range of aquatic species.

Implementation of the SEPP requirements will ensure that water authorities and other water storage operators (such as hydroelectric companies) implement measures to ensure that the potentially negative environmental impacts of water releases from water storages are minimised, with a particular focus on minimising the impact of pollutants and altered flow patterns on beneficial uses. It also emphasises that the impacts of water releases need to be monitored by water authorities and other water storage operators, both to ensure that impacts are identified and publicly reported and to assist them in planning management actions.

Impacts

Some of Victoria's most valuable rivers are affected by releases from water storages (e.g. the Goulburn River, affected by releases from Lake Eildon and the Mitta Mitta River, affected by releases from Dartmouth Dam). These rivers support many beneficial uses such as agriculture, aquaculture and the aquatic ecology. These beneficial uses, and the economic and social values they support, will benefit from improved water quality.

The provisions of this clause are consistent with the provisions of the 1988 SEPP so, in effect, water authorities should already be implementing measures to minimise the impact of water storages and therefore additional costs should not be incurred. One additional requirement is that water authorities and other water storage operators monitor the impacts of water releases on receiving waters. If impacts are identified in preliminary assessments, water authorities and other water

storage operators should put in place actions to address those impacts.

Water authorities already contribute to the Victorian Water Quality Monitoring Network with monitoring data from within water storages. Additional monitoring of the water quality of receiving waters may be needed to assess the impacts of water releases on receiving waters and may incur additional costs to water authorities and other water storage operators. EPA will work with DSE and water authorities and other water storage operators throughout the implementation of the SEPP to develop monitoring programs and help identify costs to ensure that the clause is implemented in a practicable manner.

Clause 43: Surface water management and works

Excess sediment causes water to become turbid or muddy. It also increases the level of nutrients and other pollutants attached to sediments, and smothers habitats, blocks river mouths and leads to increased flooding. Although erosion in rivers and streams occurs naturally, this process has been intensified by surface water works, stock trampling, cross roads and other surface water modifications. To protect beneficial uses, surface waters need to be managed so that erosion and sediment resuspension are minimised.

The SEPP supports the provisions of the 1988 SEPP by proposing that surface water managers (e.g. CMAs, Melbourne Water, Parks Victoria and DSE) ensure any works undertaken in or near surface waters are managed to minimise unnatural erosion, sediment resuspension and other environmental risks such as nutrient and pollutant dispersal. This can be achieved by using existing guidance documents, approvals processes and by partnerships with local communities and municipalities. Goulburn Broken CMA and Sinclair Knight Merz have developed *Guidelines for Assessment of Applications for Permits and Licences for Works on Waterways* (2001). These guidelines provide guidance to CMAs, water authorities, local government, agencies and individuals to minimise environmental risks to beneficial uses and assess potential impacts. The SEPP also supports the need to ensure that existing or new in-situ structures do not prevent the passage of native fish.

Impacts

Surface waters provide water for agriculture, drinking, bathing and for recreation and industrial activities. Surface water can only be provided for these uses when it remains free of excessive amounts of sediment. One of the major industries to suffer from turbid waters is the recreational and tourism industry, which contributes more then $10 billion to the Victorian economy annually. Additional benefits will result from decreased costs associated with water treatment and the competitive advantages of having a secure supply of clean water.

The costs associated with stabilising waterways can vary significantly depending on the level of disturbance and can range from a few thousand dollars to tens of thousands per km[9]. Surface water works are undertaken by Melbourne Water and CMAs on a priority basis and costs are included in annual business plans and funded by the government. Given the existing allocation of

[9] estimate from Melbourne Water

resources, the clause encourages the continuation of these practices across Victoria.

Clause 44: Dredging and desilting management

Dredging is necessary to create and maintain shipping and boating channels and canal developments, to enable international trade, safe fishing and recreational boating and to maintain estuary openings. Desilting is undertaken to remove the build up of sediments at weirs and in dams. These activities have the potential to cause environmental impact. The two main environmental impacts are the release of contaminants and nutrients from disturbed sediments (which can have toxic effects on aquatic life) and increases in turbidity (which can impact on the aquatic ecology by limiting light penetration and by smothering habitats). Therefore, these activities need to be managed to minimise their impact on the environment and its uses.

It is important that protection agencies that approve or manage dredging activities (e.g. EPA, DSE, Victorian Channels Authority, Parks Victoria, municipal councils, port operators and committees of management), ensure that activities are undertaken in accordance with effective management practices. EPA has recently developed a PEM (*Best Practice Environmental Management Guidelines for Dredging*) to outline the process for considering and approving dredging proposals. The guidelines also describe those issues that should be addressed in order to minimise the environmental impact of dredging.

Those involved in desilting operations (e.g. waterway managers such as CMAs and Melbourne Water and hydro-electric operators) also need to minimise the impact of their activities, especially sediment resuspension. EPA will provide guidance to these organisations to minimise the environmental impacts of desilting operations. In addition, an objective of the Victorian Coastal Strategy is the development, by the Department of Sustainability and Environment, of best practice guidelines for the management of estuarine mouth openings.

Impacts

Reducing the resuspension of sediment and associated pollutants by using effective management practices for dredging and desilting operations will contribute to the protection of the ecological, economic, recreational and aesthetic values of Victoria's waters. For example, it will ensure that the impacts of dredging and desilting on commercial and recreational fisheries (worth millions of dollars to the Victorian economy) are minimised.

The *Best Practice Environmental Management Guidelines for Dredging* evolved from a *Trial Dredge Protocol* that was developed in 1992. These practices have been increasingly incorporated into dredging activities and the clause encourages this to continue. It is expected that any costs related to the environmental management of dredging and desilting operations will be absorbed into the cost of the operations themselves. Further to this, those involved in dredging and desilting activities have a responsibility under the *Environment Protection Act* 1970 to minimise any environmental impacts. This clause simply reinforces these responsibilities and ensures that operators will receive guidance on how

to undertake dredging and desilting operations in a sustainable manner. As the development of the best practice guidelines for estuary mouth openings is an objective of the Victorian Coastal Strategy, this will be implemented through DSE's normal budgeting processes.

Clause 45: Groundwater management

While the protection of groundwater quality from catchment management activities is covered by the *SEPP (Groundwaters of Victoria),* the management of groundwater can affect the quality and quantity of surface waters, and therefore needs to be addressed in the SEPP. Groundwater provides the base flow for surface waters, which in times of drought, is the only flow for some of Victoria's waterways. Given this, it is very important that groundwater management and extraction does not detrimentally affect the beneficial uses of surface waters.

Groundwater managers (e.g. DSE and water authorities) and users should act to ensure that groundwater use does not impose a risk to the beneficial uses of adjoining surface waters. This means that groundwater diversions need to be managed to ensure adequate quantity of water for surface waters.

Impacts

The beneficial uses of surface waters support the Victorian economy and community. Healthy groundwater will help to protect the health of surface waters and the billions of dollars they support. In addition to this, the health of ecosystems dependent on groundwater for environmental flows (e.g. riverine and some wetland communities) will be sustained through baseflow periods.

Rural water authorities have a major role in licensing groundwater use. Licence conditions include consideration of the impact that the use of groundwater might have on surface waters and the environment. Given that these responsibilities already exist, the implementation of this clause should not impose new or additional obligations on groundwater managers. Costs associated with ensuring that groundwater extractions do not adversely affect surface water flows are covered in the environmental flows section (these costs are incorporated into the streamflow management planning process).

Clause 46: Urban stormwater

Although the beneficial use of the aquatic ecology is not protected in artificial stormwater drains, stormwater run-off from urban areas can have a significant impact on rivers, streams, lakes, estuaries, wetlands, bays and coastal waters. As well, these environments must be protected for the purpose for which they have been constructed (i.e. the transport of stormwater) and must not have unacceptable impacts on animals. Stormwater is often contaminated by car washing detergents, fertilisers, oils from roads, grey-water from unsewered areas, animal wastes (for example, dog faeces) and paints, grass clippings, litter and other pollutants that are thrown into or poured down stormwater drains, and sewer overflows. Given this, improved stormwater management is needed to protect the beneficial uses of Victoria's water environments.

The SEPP supports the development and implementation of municipal stormwater management plans and the implementation of effective management practices, particularly for new residential developments and new drainage systems. The development of stormwater management plans is currently supported by EPA through its administration of the Victorian Stormwater Action Program (VSAP). Through VSAP (which is a three year program), many stormwater management plans have been developed and implemented since June 2000. The SEPP also supports EPA and other protection agencies continuing to work with municipal councils, businesses and communities to prevent wastewater discharges to stormwater drains and assist councils in the monitoring and reporting of the impacts of stormwater drains. The SEPP makes reference to the *Urban Stormwater Best Practice Management Guidelines* (1999), which includes actions to minimise the pollution of stormwater as well as guidance on the content of stormwater management plans. In addition, the SEPP identifies the need for EPA to work with municipal councils and DSE to ensure new developments include practices to minimise stormwater runoff volumes as well as the impacts of urban stormwater. Through rolling out and building on the VSAP, EPA will place a key focus over the next 10 years on improving stormwater quality.

Public education programs will raise awareness and understanding of the impacts that pollutants that enter stormwater drains can have on the environment and on human health. It will also help to ensure that businesses, in particular developers of residential estates, are aware of stormwater management options and their responsibilities to implement effective stormwater management and environmentally sensitive urban design. The clause supports the provision of information to communities and businesses to raise awareness and assist in reducing the impacts of activities on stormwater.

Impacts

Improved stormwater management will contribute to the protection of the ecological, economic, recreational and aesthetic values of Victoria's waters. For example, by minimising the impact of urban stormwater run-off on Port Phillip Bay, the levels of nutrients, sediments and E. coli in the Bay will be reduced and the Bay's health will improve. Further, through these improvements, the Bay will be cleaner and safer for aquaculture, fishing and swimming, which will encourage the 30 million people who visit Port Phillip Bay every year to return.

The Victorian Stormwater Action Program (VSAP) has assisted municipalities to develop and implement stormwater management plans. All of municipal councils have now developed plans, so costs associated with stormwater management planning should now be focussed on the implementation, review and update of these plans.

Costs associated with implementing plans vary but again funds are available (from VSAP) for up to 50 per cent of the costs. The remaining 50 per cent would need to be funded from existing municipal budgets or by other regional partners, as negotiated by the municipality. In addition recent Water Trust funding provided by the Victorian Government could assist in the implementation of improved stormwater management actions.

Clause 47: Ports, marinas and vessels

Shipping, recreational boating and associated services (e.g. vessel maintenance, vessel loading and unloading) can contribute to the degradation of surface waters. For example, the discharge of raw sewage from vessels can threaten human health, aquaculture industries and recreational activities such as swimming and fishing. Given this, it is important that wastes such as litter, garbage, sediments, fuel, oil and sewage are not discharged into aquatic environments. It is also important that ports and marinas provide appropriate facilities to receive wastes from boats and ships rather than these wastes being discharged to water environments. In addition, it is important that ports and marinas plan for the responsible management of port and marina activities that may pose a risk to the beneficial uses and values of surface waters.

The SEPP requires that protection agencies (such as the Department of Infrastructure and Marine Safety Victoria) and industry work together to develop and implement a range of strategic actions and programs to prevent the discharge of sewage, oil, sediment, litter or other wastes that pose a risk to beneficial uses and values into surface waters. It also includes provisions to develop environment improvement plans (or environmental management plans) so that all activities conducted in the port environment, or operations that can affect the port environment, are managed to minimise their risk to beneficial uses. A key provision is for owners of vessels with toilet or overnight accommodation facilities to install facilities to contain wastewater so that it can be transferred to approved treatment or disposal facilities. For this to occur, ports and marinas need to provide waste reception facilities.

EPA will work with protection agencies, in particular Marine Safety Victoria, and with port, marina and vessel operators to develop and implement programs to prevent the discharge of sewage and other wastes from vessels into surface waters.

The SEPP also commits EPA to provide guidance to port and marina managers to help them develop and implement an environment improvement plan or environmental management plan for their activities. Such plans will need to include efficient management practices relevant to the activities of the particular port or marina. In addition, they should be incorporated into the operations of businesses in ports or port waters. For example, related activities include the provision of waste reception facilities, arrangements for ballast water management (where relevant), vessel loading, unloading, and containment of wastes from vessel maintenance. This requirement is consistent with the government's port reform process which supports the development of environmental management plans to address environmental issues at ports.

Environment improvement plans are a tool (of the *Environment Protection Act* 1970) used to guide a business's environmental management through a program of continuous improvement. To assist those developing an environment improvement plan, EPA has developed an information bulletin for the development of environment improvement plans (publication 739). In addition to this, EPA will develop a program to work with other government agencies (such as the Department of Infrastructure and Marine Safety Victoria) and port, marina and vessel operators to prevent waste generated by these activities from entering surface water

environments. This guidance will include methods of assessing the environmental risks posed to beneficial uses at a particular port or marina and the identification of actions required to minimise these risks.

EPA has developed guidelines (the *Cleaner Marina Guidelines* (1998)) to provide clarity and guidance on how wastes from marinas can be avoided and managed. As well as these guidelines, the clause refers to the *Best Practice Guidelines for Waste Reception Facilities at Ports, Marinas and Boat Harbours in Australia and New Zealand* (1997), published by ANZECC, which, as the title suggests, provides guidance on the environmental management of ports and marinas.

Impacts

The containment and disposal of vessel wastes to treatment and disposal facilities will contribute to the protection of the ecological, economic, recreational and aesthetic values of Victoria's waters. For example, the reduction in raw sewage being discharged from vessels into lakes, rivers, estuaries and bays will help protect water for aquaculture and recreational activities. Port and marina environmental management planning will enable the better planning, prioritisation and management of port and marina activities. This will assist ports and marinas to develop work programs and budgets so that the activities that pose the greatest risk to beneficial uses are addressed first.

The requirements of this clause are consistent with the existing Yarra, Port Phillip Bay and Western Port Schedules to the SEPP. It is also consistent with other State, Commonwealth and international policy, legislation and conventions such as *Pollution of Waters by Oil and Other Noxious Substance Act* 1986, the Environment Protection Act 1970, and the International Convention on the Prevention of Pollution from Ships (MARPOL). As such, most of the associated costs cannot be strictly attributed to the SEPP.

Costs associated with managing the discharge of waste from vessels include the cost of installing containment facilities on board vessels, and reception facilities at ports and marinas. The costs to vessels of installing appropriate waste containment facilities, such as portable toilets can range from $130 - $3000 depending on the size of the vessel and the facilities required, with smaller (and therefore less expensive) facilities thought to be sufficient for most vessels. These costs represent significantly less than 1per cent of costs associated with owning and operating most vessels. It is expected that ongoing costs for the use of waste reception facilities at ports and marinas will be included in port or marina fees and charges. As part of EPA's focus on reducing wastes from ports, marinas and vessels, it will work with marinas and ports to encourage and support the installation and use of containment facilities on relevant vessels.

Waste reception facilities are already provided in the Gippsland Lakes, Lake Eildon, at ports and marinas in Western Port and limited facilities are provided elsewhere in the State (e.g. the Yarra River). The costs to ports and marinas for the installation of sewage reception facilities can vary depending on the type of facility and the infrastructure required. Costs start at approximately $10,000, but can range to $100,000 depending on distance to sewer and obstacles during construction of discharge pipe (e.g. rocky surfaces). Maintenance costs are estimated at

about $4,500 per annum. The Central Coastal Board is currently overseeing a project to install waste reception facilities at a number of strategic locations in Port Phillip Bay and Western Port.

EPA has worked with port managers at the ports of Melbourne and Hastings to develop port environment management plans and the Port of Portland has developed an environmental management system. In addition, the port managers at Geelong are intending to develop plans to improve the environmental management of the port in the near future. All other local ports and marinas should also develop plans, although these are not expected to be on the same scale as plans for the major commercial ports, but should be commensurate with the environmental risks at each port or marina.

The costs of developing environment improvement plans or management plans for a large commercial port are estimated to be in the order of $50,000 - $200,000. This is an order of magnitude less for small ports and marinas. It is also expected that there will be ongoing costs for the maintenance, review and update of these plans, and these costs should be addressed through normal budgeting processes.

Importantly, costs associated with environmental management at commercial ports will be addressed by the Essential Services Commission. This way, costs associated with good environmental management can be built into port access charges. The costs of addressing issues identified in EIPs will depend on many factors (e.g. the size of the port and the actions required) and are therefore difficult to estimate. The development and implementation of a program to address the issue of wastes from port, marina and vessel operations will incur costs to EPA and other government agencies such as Marine Safety Victoria. EPA will work with ports and marinas to determine the most appropriate timeframe for implementation of this clause and this will be reflected in SEPP implementation planning.

Clause 48: Aquaculture activities

Aquaculture is an important and diverse primary industry sector providing a range of seafood, fish for restocking and fish for aquarium display. It currently contributes around $21 million to the Victorian economy per year[10] and it is expected that this will increase significantly over the next 10 years. Globally, aquaculture contributes around 30 per cent of the world's seafood harvested[11]. With wild catch fisheries approaching full exploitation levels, aquaculture is the primary source of supply to meet a rapidly expanding demand for seafood.

Inappropriately sited or poorly managed aquaculture can however adversely impact on the surrounding environment, through increased nutrient levels resulting from the use of artificial diets, the introduction of aquatic pests and diseases and the concentration of faeces from fish, crustacea and molluscs. It is important that aquaculture activities are managed so that these impacts are minimised.

To achieve this, the SEPP requires EPA, DPI and DSE to provide guidance on effective management practices and environmental monitoring requirements to managers of aquaculture

[10] Department of Natural Resources and Environment, Fisheries Victoria Commercial Fish Production Information Bulletin (2002). p. 23.

[11] Food and Agriculture Organisation, State of World Fisheries and Aquaculture (2000).

operations, particularly for water based operations. It also requires managers of aquaculture operations to implement effective management practices and appropriate environmental monitoring systems.

Impacts

Reducing the impact of aquaculture activities will not only help to protect the environment and other beneficial uses but it will also ensure the long-term viability of aquaculture activities that rely upon healthy water.

Aquaculture operations on land including freshwater operations (such as trout farms) are licensed by EPA and are already required to develop and implement environment management systems including environmental monitoring requirements, so this clause should not incur extra costs to the industry. Currently EPA does not license *in-situ* marine aquaculture operations, however these operations will be required under fishery reserve management plans to monitor and manage their impact on the environment.

The Victorian Aquaculture Strategy established in 1998 represents a 'whole of government' commitment to develop a profitable, diverse and ecologically sustainable and well-managed aquaculture industry. A goal of the Strategy is to ensure ecologically sustainable development by establishing a regulatory and management framework under which sustainability will be maintained and to implement environmental management performance standards for aquaculture development. DPI is currently implementing the strategy. Given this, DPI is providing guidance to the aquaculture industry on how it may meet its obligations for environmental sustainability and continuously reduce its impacts. DPI and EPA are currently working together to develop guidelines for monitoring marine aquaculture and developing best practice environmental management guidelines for key industry sectors.

Clause 49: Aquatic pests

Marine and freshwater pests are harmful to aquatic ecosystems as they can feed on native species, cause habitat modification, compete for food and habitat and spread disease. These risks to aquatic ecosystems can threaten social and economic benefits derived from aquatic environments, including recreational and commercial fishing, boating and shipping. To protect the aquatic ecosystem and other beneficial uses, the introduction and spread of aquatic pests needs to be minimised.

The clause supports existing government initiatives of EPA and DSE working with other relevant government agencies, ports and the shipping, fishing and aquaculture industries to develop and implement a variety of measures to minimise the introduction of aquatic pests.

The clause also encourages DSE, and where relevant, DPI, Parks Victoria and CMAs to continue to develop and implement strategies and programs for the control and management of both marine and freshwater pests.

Activities that are primary pathways for the introduction of aquatic pests should be a key focus for mitigating action. For marine environments, these include shipping (via ballast water and ships hulls) and aquaculture and fishing industries (via

the transport of aquatic pests with live fish and attached to fishing equipment[12]). In freshwater environments, the main pathway for the introduction of aquatic pests is through accidental and intentional introduction of fish outside their natural range and releases from aquariums and aquaculture activities[13].

Impacts

Preventing the introduction and spread of aquatic pests is essential to protecting the integrity and health of the aquatic ecosystem and its beneficial uses. In marine environments alone, fishing, aquaculture and shipping bring in approximately $6 billion per year[14]. This would be at risk if aquatic pests out-competed native species for food and shelter.

International and national data shows that marine pests have caused significant environmental and economic disruption. For example the Black Striped Mussel incursion in Darwin harbour cost government and industry in excess of $2 million in eradication costs. The Comb Jelly introduced into the Black and Azov Seas is estimated to have cost US$250 million in fisheries losses. These costs can be avoided if activities that introduced aquatic pests are better managed.

The clause is consistent with Victorian government commitments to address the issue of aquatic pest introductions and spread. For example, the Victorian government has several programs in place to address these issues, including:

- a national demonstration project for ballast water management at the Port of Hastings, managed by EPA, provides a basis for future development of national ballast water management arrangements;
- implementation of the National Policy for the Translocation of Live Aquatic Organisms,[15] developed by the Ministerial Council on Forestry, Fisheries and Aquaculture;
- a series of programs and criteria to manage the release of exotic and native fish into waterways, developed by the former NRE (now DSE and DPI);
- an action statement, released in 1999, developed by the former NRE (now DSE) under the *Flora and Fauna Guarantee Act* 1988, that outlines activities to be implemented to address the threat of introduction and spread of marine pests;
- a waste management policy being finalised by EPA, to minimise further introductions of marine pests via ships' ballast water (which will include a policy impact assessment detailing the impacts of the policy and its implementation) ;
- an interim incursion management protocol developed by the former NRE (now DSE and DPI) to implement practical measures to manage the spread and adverse effects of marine pests;
- a demonstration project, managed by the former NRE (now DPI) encourages the development of

[12] Hewitt, C.L, Campbell, M. L., Thresher, R, E., and Martin, R. B (1999). *Marine Biological Invasions of Port Phillip Bay, Victoria*. Centre for Research on Introduced Marine pests. Technical Report No. 20. CSIRO Marine Research, Hobart.

[13] Department of Natural Resources and Environment, (2001). Freshwater Ecosystems Biodiversity management issues No. 10 – Introducing fish outside their natural range.

[14] Environment Protection Authority, 1999:Protecting the Victorian Marine Environment from Marine Pests, Draft Industrial Waste Management Policy (Ships' Ballast Water and Hull Cleaning) and Draft Policy Impact Assessment. Publication 673, p. 22.

guidelines that will lead to the adoption of practices that reduce the risk of marine pest spread via their attachment to the hull or gear of small vessels;

- a cooperative project between mussel growers and the former NRE (now DSE) to ensure that ropes are properly treated, so that marine pests are not inadvertently transported to other locations.

These programs provide a basis for minimising the introduction and spread of aquatic pests into Victorian waters. The SEPP seeks to reflect Victorian government commitments by supporting the ongoing development of these programs. It is recognised that new activities will incur costs to industry and government, but generally the costs for eradication are far greater than for preventative action. Costs associated with the implementation of the clause will depend on the programs implemented. Any new actions or programs associated with this clause need to be practicable and worked through with industry bodies to ensure that requirements are implemented according to agreed timeframes so that the industry is not unduly burdened by new costs.

10.5 Catchment Management

Clause 50: Agricultural activities

A large percentage of Victoria's land area is used for agriculture and agricultural and other private land abuts over 63,000km of waterway frontages. While inputs of many pollutants to waterways are lower from each hectare of agricultural land than from urban areas, the vast extent of agricultural land makes it a critical source of sediments, toxicants, pathogens, litter and nutrients, salt and biocides in surface waters. The movement of pollutants to waterways, however, is greatly affected by the way land is managed and minimising these inputs is vital to the protection of beneficial uses and a measure of the sustainability of agriculture in Victoria.

This SEPP requires DSE, DPI, CMAs, and industries to encourage and assist landholders to develop and apply effective farm management practices that minimise the pollution of surface waters. Effective farm management practices could include buffer strips, efficient use of fertilisers and biocides, soil conservation and erosion control measures (especially from cultivated land and farm roads and laneways, and through controlling stock access to surface waters) and efficient water use and drainage measures. Finally, the SEPP encourages farm management practices and activities to be linked to industry based environment management systems to enable a coordinated and consistent approach to reducing the impact of agricultural activities, across industry types.

Impacts

The benefits of the clause will improved protection of beneficial uses and the availability of those uses to all Victorians, especially those in agricultural regions. A further benefit will arise from the growing measure of sustainability achieved by Victorian agriculture through the best practice approaches outlined in the clause. Agricultural food production and processing currently provide 32 per cent of the State's export income and food exports contribute

$4 billion annually to the Victorian economy. The long-term sustainability of agriculture will be measured in part by its impact on the state's water resources. This will be critical to the success of the Victorian Government's aim for agricultural and food exports to be worth $12 billion annually by 2010. At a farm and community level, significant economic benefits will flow from the reduced use of raw materials such as fertiliser and water, and the reduced costs of downstream water treatments for potable supplies. Social and economic benefits will also be created through cleaner waterways for safe swimming and fishing and other passive recreations.

The clause does not impose new obligations on landholders or government agencies. The intent of the clause is to continue the work that is occurring throughout agriculture to undertake activities in environmentally sustainable ways by progressively changing existing practices and making better use of existing resources. For example, some farmers may need to change the way they apply fertiliser or water to their pastures, to minimise the runoff of nutrients and sediment into waterways. Appropriate fertiliser application may not necessarily require additional resources, but altered application methods.

Furthermore, the requirement for improved environmental management in agriculture is an important component of many existing State and regional strategies (e.g. the Victorian Biodiversity Strategy and Regional Catchment Strategies) and the impacts associated with the adoption of new practices cannot be readily quantified or exclusively attributed to the SEPP.

Clause 51: Irrigation channels and drains

Irrigation drains that outfall to surface waters often carry nutrients, sediment, salt and chemicals from intensively farmed irrigated land, as well as pollutants from other sources like licensed industrial discharges, and run-off from dryland and roads. Irrigation channels may also carry these pollutants as a result of erosion or poorly managed channel works and the use of biocides to remove vegetation.

The discharge of irrigation drainage can have a significant impact on Victorian rivers, lakes and wetlands and has also affected the surface waters of other States such as the River Murray. To protect beneficial uses, the discharge of irrigation water to surface waters needs to be managed, and the discharge of drainage water and the inputs and level of pollutants in channel and drainage water needs to be minimised.

This SEPP continues the provisions of the 1988 SEPP and highlights the environmental risk to beneficial uses posed by irrigation and irrigation drainage outfalls.

The clause requires DPI, CMAs, water authorities and industry groups (e.g. the Victorian Farmers Federation) and irrigators to continue to work together to improve irrigated land and surface water management and the efficiency of irrigation practices. The clause recognises and supports the responsibilities of these organisations to ensure that new and existing irrigation activities incorporate effective land management and efficient irrigation and water re-use practices, and to facilitate research into, efficient irrigation practices. The clause also recognises the responsibilities of water authorities

to work in partnership with key stakeholders to ensure that the impacts of drainage water on receiving waters are socially and environmentally acceptable and are monitored and independently audited using an independent audit system agreed to by EPA, DPI, DSE and relevant water authorities and CMAs. This clause supports the implementation of the Government endorsed land and water management plans as a key mechanism to achieve these outcomes. These provisions build on the findings of a recent independent review of the environmental aspects of the surface water drainage programs in northern Victoria. This independent review commissioned by the former NRE (now DSE) found that in many aspects, the environmental management of the northern Victoria irrigation drainage programs are performing at a high level through application of best practice. However, the review also identified a number of recommendations to further improve the environmental management of these programs, particularly with respect to improved accountability and clarity of responsibility. The Government has supported many of these findings, including improved monitoring and independent auditing of the environmental impacts of surface water drains on the environment. A 'high level operating agreement' for the implementation of the drainage programs is currently being developed to clarify the respective roles, responsibilities, and accountabilities of relevant agencies (e.g. DPI, DSE, water authorities, EPA and CMAs).

Importantly, this clause states that beneficial uses are not protected in artificial irrigation channels and drains. This means that ecosystems in irrigation channels and drains constructed specifically for irrigation are not protected as the channels and drains were constructed for a specific purpose. This does not include drains and channels that are modified rivers or streams. Modified rivers or streams may currently have degraded ecosystems due to these modifications but through good management, they should be gradually rehabilitated. Further, some irrigation drains are constructed from drainage lines, which under the *Water Act* 1989 are considered waterways and would therefore not be considered an artificial drain. As such beneficial uses would be protected in these environments. However, the SEPP clearly states that some waterways have been so highly modified that the attainment of environmental quality objectives is not likely to occur without considerable rehabilitation of that environment and extensive change to activities impacting on that environment. Given this, it is not expected that priorities would be placed on meeting the environmental quality objectives in irrigation drains constructed from drainage lines but that priority would be placed on implementing actions to minimise the impact of these irrigation drains on rivers and streams.

The SEPP clearly states that discharges from artificial channels and drains need to be managed to minimise the adverse environmental impact on receiving surface waters through sediment, nutrient or other pollutant runoff, or by impacts of flow discharges on the aquatic ecology (by altered flow regimes or channel erosion caused by flow discharges). Although the aquatic ecology is not protected, artificial channels and drains must be designed and managed so that their waters are not harmful to humans or have unacceptable impacts on animals. In addition, the dumping of wastes into

drains and channels will remain an offence under *the Environment Protection Act* 1970.

Impacts

The provisions of the SEPP will help to build the sustainable irrigation industry by enhancing the skills and operations of irrigators and irrigation managers and through appropriate land use and irrigation water application. It supports the on-going adoption of efficient irrigation practices and surface water management as they develop. What is best practice today does not necessarily mean best practice tomorrow. Sustainable irrigation requires a culture of continuous improvement and innovation. It is also recognised that the irrigation sector must have the capacity to adopt best management practice. This requires the sector to be highly skilled and adaptive, and for the solutions to be economically and socially acceptable.

This clause recognises the importance of the various functions and roles of government agencies and community bodies towards sustainable irrigation.

These functions and roles need to be coordinated and the regional planning processes should be used to achieve this. This clause recognises that coordination is best achieved by all stakeholders working cooperatively, and being underpinned by regulatory and accountability frameworks.

Salt and water balance is fundamental to the long-term sustainability of irrigation. Salt disposal must be sustainable and accountable, taking into account impacts on downstream beneficial uses. To minimise salt disposal, the SEPP supports the waste hierarchy principle and the adoption of efficient irrigation and re-use. The wide-scale adoption of best practice will minimise drain and channel outfalls, contribute to reducing land salting and waterlogging by lowering surface water accessions to groundwater, and contribute to the maintenance of environmental flows in the waterways supplying irrigation areas. These are all critical actions for the future and sustainability of irrigated agriculture.

Many of these initiatives have been actively developed and pursued over the past decade, funded by private and public investment. For example, $1.5 million was invested by the government during 2001-02 to reduce off-site environmental impacts by implementing the Macalister Irrigation District Nutrient Reduction Plan. Of this $910,000 was used to improve irrigation on farms through a system of rebates for construction of re-use systems and the conversion of flood irrigated land to spray irrigation. Improved irrigation practices will result in reduced phosphorus loads entering the Gippsland Lakes, produce significant water savings for the farming community and assist in the control of salinity.

These investments are supported by existing partnerships at regional, state and national levels. DSE, DPI, CMAs and water authorities have in place many programs to assist land-holders to implement efficient irrigation practices, and these programs will be boosted by current funds from NAP and the Water for Growth program. Water for Growth is an DSE program which will be contributing $9.3 million over three years to help irrigators improve the efficiency of irrigation water use.

Clause 52: Intensive agricultural industries

Trends in the agricultural industry show an increasing intensification of animal based

enterprises (e.g. dairy sheds, feedlots, piggeries and broiler farms) and horticultural enterprises (e.g. market gardens and nurseries). Intensification offers a number of economic and social benefits, but the concentration of animals or horticultural activities can also concentrate the runoff of pollutants. This concentration of pollutants can have significant localised impacts on receiving waters, similar to that of traditional point sources of pollution. If the trend of intensifying agriculture is to continue, enterprises need to be managed so that they do not pose a risk to beneficial uses.

This SEPP reiterates the provisions of Schedule D1 of the 1988 SEPP by proposing that wastes and wastewater from intensive agricultural industries must not be discharged into surface waters. Managers of intensive animal industries should implement effective management practices to avoid the runoff of wastewater from their property. EPA and DPI will provide guidance on appropriate management measures. There are many guidelines and codes of practice to provide guidance on environmental management of intensive animal industries including that provided in the:

- *Guidelines for the Conduct of Intensive Animal Industries,* published by NRE and EPA;
- *Code of Practice – Piggeries*, published by the Department of Human Services and NRE; and
- *Victorian Code for Broiler Farms* published by NRE.

What is an intensive agricultural industry?

An intensive agricultural industry is defined in the SEPP as an operation where animals are concentrated for the purpose of agricultural production, which for the purposes of this Policy includes piggeries, poultry farms, feedlots and dairy sheds, and intensive horticultural operations including plant nurseries and market gardens.

EPA, DPI, industry representatives such as VFF and landholders need to work together to develop and regularly review guidelines, codes of practice and programs to implement this clause.

Impact

Reducing the impact of intensive animal industries on the environment will not only improve the environment as a whole, but will greatly improve the local waterways that receive wastes from intensive agricultural industries. In particular, nutrient, sediment and pathogen levels will be reduced, leading to healthier water for swimming, agriculture and other beneficial uses. Sustainable development of the intensive agricultural industry will also help promote a 'clean and green' image for Victoria, which will help to attract future investors and secure consumer confidence.

The provisions of the clause are carried over from the 1988 SEPP. In addition, many intensive agricultural industries are already licensed as Scheduled Premises under the Environment Protection Act 1970 (e.g broiler sheds, piggeries and feedlots). Consequently, this clause simply clarifies existing responsibilities and therefore should not require additional resources. However, it is

acknowledged that some intensive agricultural farms are impacting surface waters and EPA will need to work with managers of these farms to control these sources of pollution. This is important to ensure that those who do not discharge waste and wastewater from intensive agricultural industries are not disadvantaged by those that do.

Clause 53: Vegetation protection and rehabilitation

Throughout Victoria there has been extensive clearing of native vegetation along and within water environments. Urban and industrial development and agricultural practices may incorporate the removal of vegetation (in some cases directly along waterways) and indirectly impact upon and degrade vegetation. Direct access of stock to waterways has a significant impact on riparian (streamside) vegetation. Aquatic, riparian and coastal vegetation all play an extremely important role in stabilising the bed and banks of water environments, reducing the amount of sediments and pollutants entering waterways, and providing habitat for plants and animals.

The SEPP recognises and supports the work of DSE, DPI, Parks Victoria, CMAs, regional coastal boards and municipal councils, in minimising the removal of, and rehabilitating native vegetation alongside and in rivers, streams, wetlands, lakes, estuaries and coasts. This is fundamental to the protection of the aquatic ecosystem and other beneficial uses and is consistent with the Victorian Planning Provisions and other policies such as Victoria's Biodiversity Strategy and Victoria's Native Vegetation Management Strategy – a Framework for Action. A goal of the SEPP is to achieve a net gain in the extent and quality of aquatic, riparian and coastal vegetation, over its 10 year life.

Impacts

The protection and rehabilitation of Victoria's aquatic, riparian and coastal vegetation will have significant benefits for the State including the reduction of sediments and pollutants entering our waterways, increased habitat for birds and animals and improved aesthetic values for all Victorians. Improved aesthetics should ensure that Victoria's surface waters are places where people want to live and visit, which has benefits for the sustainable development of Victoria's recreation and tourism industries. Vegetation also protects fisheries, particularly those of our bays and inlets. For example, commercial fish catches in Western Port have almost halved since the Bay's area of seagrass coverage was decimated due to poor water quality. The continued viability of commercial and recreational fisheries in Western Port (and the $285 million/ year they generate) is dependent on the rehabilitation of its marine vegetation.

The cost associated with rehabilitating native vegetation can vary significantly depending on the level of disturbance from a few thousand dollars to tens of thousands per linear km. This needs to be taken into consideration when developing budgets. Across the State, there are a number of programs in place to undertake this rehabilitation which are mainly implemented by DSE, CMAs, regional coastal boards, and Melbourne Water. These organisations receive funding from the government each year to undertake these works on a priority basis. Priorities are developed through annual business planning

and through the regional native vegetation Plans currently being developed by CMAs.

In addition, municipal councils have responsibilities under the Victorian Planning Provisions to protect riparian vegetation and they carry these out through existing planning processes.

Of fundamental importance to vegetation rehabilitation are the Landcare and community groups who work to rehabilitate vegetation on private and public land. These groups are assisted through grants from Commonwealth and State government agencies.

Clause 54: Recreational activities

Victoria is a world-class tourist destination providing a wide range of outstanding recreational opportunities. The most commonly pursued outdoor recreational activities, particularly in the warmer months, are those enhanced by water. While beaches, coasts and bays play a major role in providing opportunities for recreation, inland waters, rivers, lakes and estuaries are vital recreational resources. Healthy water is important to both obtain and maintain a market share in the highly competitive tourism and recreation markets.

Where required, agencies responsible for recreational facilities that are operated in or near water (e.g. DSE, Parks Victoria and municipal councils) need to ensure that recreational activities are undertaken in a sustainable manner. In particular, swimming, camping or boating in parks and reserves may need to be controlled where water supplies need to be protected. The SEPP also recognises that wave or propeller action resulting from the use of powerboats may lead to the erosion of river banks and sea-floor beds and therefore needs to be managed.

Impacts

While recreation is a feature of the Australian way of life, its social and economic benefits are widely based. Economic benefits range from accommodation, development of facilities, adventure activity tours such as white water rafting, equipment purchase and hire. Recreational resources, particularly those associated with rivers and lakes, are not evenly distributed across the state and the presence and protection of local resources can be of fundamental importance to the protection of regional economies. Overnight visitors to the coast pay a premium that equates to $700 million per annum[16], and a 1997 study estimates that recreational fishing contributes approximately $1.3 billion per year[17] to the State's economy, much of this in regional areas.

This provision is consistent with the provisions of the 1988 SEPP. Therefore, the clause does not impose new obligations and is expected to result in new costs only where obligations are not being met. EPA will work with businesses, protection agencies and communities to ensure that programs are developed, that the responsibilities are articulated and that implementation is progressed over agreed timeframes.

Clause 55: Forestry activities

Forestry and timber harvesting occurs throughout most regions of the State. Of Victoria's 8.8 million

[16] Victorian Coastal Council, Victorian Coastal Strategy 2001, State Government of Victoria 2001.

[17] www.vrfish.com.au, 7/11/2001.

hectares of public land around 1.3 million hectares are available for timber harvesting. Forestry activities, including private forestry activities, require short-term vegetation removal, subsequent revegetation and the construction of roads that, if not appropriately managed, can result in increased run-off of suspended solids due to erosion. This can impact on the beneficial uses of waterways by reducing the light available for plant growth and smothering plants and animals. Excessive sediment levels can block river mouths and estuaries and have detrimental impacts on the suitability of water for drinking, tourism, industry and aquaculture. Timber harvesting and forestry operations also have the potential to impact on water quality by altering water regimes from changed water tables and the dynamics of water run-off[18].

The provisions of the SEPP require forestry managers, including private forestry managers, to implement effective management practices for forestry activities. These practices should be consistent with the Code of Forest Practice for Timber Production (1996), and in subsequent Forest Management Plans, which provide more detailed and locally relevant prescriptions consistent with the Code. It is also important that compliance of these activities with the Code is periodically and independently audited to ensure a sustainable forestry industry that does not impact on the beneficial uses of surface waters. Recently EPA has been given the responsibility of ensuring that Victoria's statutory environmental audit system is used to conduct independent audits of forestry activities on public land to assess compliance with the Code. As well, EPA will work with DPI and DSE and municipal councils to provide guidance on minimising sediment run-off from forestry activities.

Impacts

State forests are managed to balance a variety of values, including the conservation of plants and animals, protection of water catchments and water quality, the provision of timber and other forest products, the protection of landscape, archaeological and historic values, and the provision of recreational and educational opportunities. The appropriate management of forestry activities will assist in protecting the other values of forests as well as improving the quality of streams flowing from forested areas. This is important as streams in forested areas are among Victoria's cleanest and it is vital they remain that way. In addition, in 1999 Victoria's native forestry industries contributed over $1.8 billion to the State's economy and created over 10,000 direct and indirect jobs, primarily in rural and regional areas[19]. These social and economic values will be protected as part of the broader commitment by Government to the ecologically sustainable management of forests.

The provisions of the clause are consistent with the provisions of the 1988 SEPP. Victoria has in place a comprehensive system for ensuring sustainable forestry practices including the *Code of Forestry Practice for Timber Production* and Forest Management Plans, as accredited by the Commonwealth through the Regional Forests Agreement process. Despite this, some breaches do

[18] Croke J., Managing Sediment Sources and Movements in Forestry: The Forest Industry and Water Quality, November 1999

[19] Jaakko Pöyry consulting., Timber Pricing Review Discussion Paper, Department of Natural Resources and Environment, June 2001

occur, and DSE will work with commercial operators and managers to ensure greater compliance. Local Government has responsibility to monitor compliance with this Code. Some CMAs are also working with forest managers. For example, the North East CMA has formed a partnership with foresters to assist them in maintaining forest roads to reduce sediment run-off.

Given that these responsibilities are carried over from the 1988 SEPP and already exist, new costs should only be incurred by forestry managers who are not currently in compliance with the SEPP or the *Code of Forestry Practice for Timber Production*.

Clause 56: Construction activities

Construction practices that fail to control pollution can cause damage to waterways and wetlands and disturb aquatic ecosystems by smothering habitats and contributing nutrients that can have significant impacts on fish, plants and other aquatic life. The risk to the environment is increased when construction is undertaken in or near coastal areas, streams and creeks, or along river valleys. To protect beneficial uses, all construction activities need to be managed in a way that will minimise their impacts on aquatic environments, particularly if they cross or adjoin surface waters.

Increasingly, construction managers (e.g. VicRoads, municipal councils and developers) are ensuring that construction plans include soil conservation and erosion control measures and that those impacts on water are monitored. EPA has developed two guidelines to assist construction managers reduce their impacts on the environment, these are the *Environmental Guidelines for Major Construction Sites (1996)* and *Construction Techniques for Sediment Pollution Control (1991)*. The SEPP recognises and supports these initiatives and encourages such practices to be included as part of all construction plans.

Impacts

By enabling the reduction of sediment, nutrient, litter and contaminated water runoff from construction sites, the clause will contribute to the protection of the ecological, economic, recreational and aesthetic values of Victoria's water environments. Consideration of these issues at the planning phase of a project will help to ensure that measures to prevent pollution are built into the design, work schedule and budget of a project.

This clause supports the use of two existing guidelines, the first of which has been implemented since 1991. Since 1991, erosion and sediment control at construction sites has become a common practice and this clause simply encourages this to continue. Costs of sediment and erosion control should be incorporated into the costs of any new construction and usually represent a very small percentage of the costs of the overall development. In fact, many actions do not require any additional capital expenditure. For example, sediment and erosion control can be achieved by re-vegetating each section as works are completed, rather than leaving this to the last stage; designing the slope of land cuts to minimise the angle of the incline; and programming activities so that the area of exposed soil is minimised during times of the year when the potential for sediment runoff is high.

In addition, the *Environmental Guidelines for Major Construction Sites (1996)* includes a monitoring

section, so monitoring has also been encouraged and undertaken for many years, and is considered to be common practice within the industry. Ensuring that monitoring schemes are included at the planning phase of construction activities will ensure that the costs can be factored into project costs.

Clause 57: Roads

Poorly managed roads, particularly unsealed roads, erode and contribute sediments and pollutants to surface waters which can cause significant damage to our waterways. Aside from smothering aquatic habitats, excessive sedimentation of waterways can reduce the capacity of rivers, lakes, wetlands, estuaries and other water storages. This can lead to flooding and the need for expensive dredging.

Erosion and sediment and pollutant transport from roads can be minimised by encouraging, and providing appropriate resources to road managers (e.g. VicRoads, municipal councils, DSE and Parks Victoria) to maintain and manage existing roads and infrastructure. In particular unsealed roads, including forestry roads, that adjoin or cross surface waters should be maintained or upgraded to minimise sediment run-off and sealed roads should be managed to minimise contaminated stormwater run-off. In some cases the need for existing roads, and their impacts on surface waters, needs to be examined by the relevant road manager. Priorities for implementation of this clause will be established in consultation with the relevant road managers, and through the implementation planning process.

Impacts

By enabling the reduction of sediment and pollutant runoff from our roads, the clause will contribute to protecting the beneficial uses of Victoria's water environments. For example, poorly managed forestry roads have been shown to contribute significant amounts of sediment to surface waters. This affects drinking water supplies (which are usually sourced from forested areas). Better management of forestry roads will ensure that the security of water supplies is protected.

Municipal councils and VicRoads, the two key road managers, already have long term asset management plans for roads. These plans address a variety of issues including erosion prevention. There are also many programs in place to manage forestry roads (see example in clause 53). In addition, the provisions on this clause are the same as those 1988 SEPP therefore it is not expected that the clause will require additional resources, beyond those currently used for road management.

Clause 58: Extractive industries

If not managed appropriately, extractive industries, such as mines and quarries, can have major environmental impacts on both surface waters and groundwaters. When a mine or quarry is situated in or near a coastal area, stream and creek, or along a river valley, the risk to the environment is increased considerably. Sediments contained in run-off can disturb aquatic ecosystems by decreasing the amount of light available for plants, and smothering habitats.

The clause reiterates the provisions of the 1988 SEPP by proposing that extractive industries are managed in a way that minimises the environmental impacts of sediments and pollutants on surface waters and groundwater. This means that

contaminated stormwater and wastewater discharges from extractive industries need to be controlled to minimise the runoff of sediments.

Impacts

Again, the reduction of sediment and pollutant runoff from extractive industries will reduce sediment in surface waters which will lead to healthier ecosystems, cleaner water and will reduce the likelihood of rivers being blocked and flooding.

The provisions of this clause are the same as those in the 1988 SEPP and much work has been undertaken since then to minimise the impact of extraction activities on the environment. Any discharge from extraction activities is licensed by EPA and the licence includes a requirement to minimise sediments and pollutants. Given this, the provisions of this clause will only affect new extractive industries and the costs of incorporating environment protection measures should be incorporated into the cost of the new development.

10.6 Schedules

Schedule A describes the environmental quality objectives and indicators of the SEPP (these are described in detail in section 9 of this PIA).

Schedule B describes the areas of high conservation value where EPA will not approve the discharge of wastewater due to their considerable international, national and State environmental values.

Schedule F includes the variations to the SEPP. Where a Schedule F exists, both SEPP (Waters of Victoria) and the Schedule apply except where specific beneficial uses and objectives are outlined in the Schedule; these have precedence over those in the statewide SEPP. These Schedules include:

- the *State environment protection policy (Waters of Victoria) Schedule F3 (Gippsland Lakes and Catchment)*. This Schedule was made in 1988. The future of this Schedule needs to be further discussed. It is proposed that this Schedule is reviewed in conjunction with the Gippsland Lakes Study being led by the Gippsland Coastal Board and the former NRE (now DSE). This option could assist in providing an integrated statutory tool for the protection of the Gippsland Lakes and its catchment. Further discussion will be held with regional and State stakeholders.
- the *State environment protection policy (Waters of Victoria) Schedule F5 (Waters of the Latrobe and Thompson River Basins and Merriman Creek Catchment)*. This Schedule was made in 1996.
- the *State environment protection policy (Waters of Victoria) Schedule F6 (Waters of Port Phillip Bay)*. This Schedule was made in 1997.
- the *State environment protection policy (Waters of Victoria) Schedule F7 (Waters of the Yarra Catchment).* This Schedule was made in 1999.
- the *State environment protection policy (Waters of Victoria) Schedule F8 (Waters of Western Port and Catchment)*. This Schedule was made in 2001.
- Schedules F5, F6 and F7 refer to the 1992 version of the Australian and New Zealand Guidelines for Fresh and Marine Waters for some objectives. It is proposed that these Schedules be revised to ensure that the

objectives are consistent with the 2000 version of the guidelines.

11. REVOCATION

In order to make the new SEPP, the 1988 SEPP will need to be revoked. The SEPP includes provision for this revocation. Further to this, as part of the review process, some Schedules of the 1988 SEPP need to be revoked. In some cases, this is because the SEPP incorporates these into new clauses or Schedules, or because they no longer protect beneficial uses. Revocation details are:

- Schedule A – Areas of conservation significance will be revoked and re-made as Schedule B. The provisions of the proposed Schedule B are largely unchanged from the 1988 SEPP.
- Schedule B – Environmental quality indicators and objectives will be revoked. Objectives have been proposed (in Part V and Schedule A) of the SEPP. These proposed objectives reflect current scientific understanding.
- Schedule C – Stream and stream-side spraying of pesticides and herbicides will be revoked. This Schedule has been incorporated into a new clause in body of SEPP (clause 37) and detailed provisions will be included in a PEM to be developed in consultation with key stakeholders. There will be no impact from this change in approach.
- Schedule D – Minimum control requirements for classes of discharge will be revoked. This Schedule has been incorporated into a new clause in the body of the SEPP (clause 25) and detailed provisions will be included in a PEM to be developed in consultation with key stakeholders. There will be no impact from this change in approach.
- Schedule E – Emission limits for waste discharges to water. The general principles of this Schedule have been incorporated into the body of the SEPP with details for individual industries to be provided in a PEM. It is not anticipated that there will be any impacts flowing from this change, as there will be no change in outcome. The new approach will afford industry greater certainty as protocols will be prepared in consultation with individual industries or industry associations and will provide greater detail than is possible in the current Schedule.
- Schedule G - will be revoked. There have been no industries or activities specified under this Schedule and there will be no implications in its revocation.

Schedules F1, F2 and F4 are older Schedules (made in 1988) that no longer provide for the protection of beneficial uses in their regions. These Schedules are based on information and technology that are over 12 years old and do not reflect changes in catchment and coastal institutional arrangements or modern environmental risks. In particular it is proposed that:

- Schedule F1 – Waters of the Werribee and Little River Catchments will be revoked. The beneficial uses listed will continue to be protected under the revised segment structure. Most actions discussed in this Schedule have been undertaken or are components of regional catchment strategies. More effective protection

will be afforded under the revised segments and as such no environmental or economic impacts are expected.

- Schedule F2 – Waters of the Maribyrnong River and Tributaries will be revoked. The waters listed in this Schedule will now be covered within segments designed to more accurately reflect the ecological characteristics of the waterways. The major focus of the Schedule is in improving sewage discharge practices. Many provisions in the Schedule have been implemented and the planning for, connection to and management of sewerage systems have been incorporated into the body of the SEPP. The proposal in the Schedule to investigate additional land based disposal is now standard procedure for wastewater disposal, where this can be achieved in an ecologically sustainable manner.
- Schedule F4 - Waters of the Western Metropolitan Region will be revoked. The major focus of the Schedule is in improving industrial discharges. The SEPP provides for the management of wastewater discharges and urban stormwater including industrial discharges and therefore there are not expected to be any impacts from the revocation of this Schedule.

12. POTENTIAL IMPACTS OF THE SEPP

The previous chapters have provided background information and detailed analysis on the *State Environment Protection Policy (Waters of Victoria)*. The PIA has considered the broad implications (environmental, social and economic) of the approaches required to achieve the policy purpose. This final chapter is intended to provide a summary of the key impacts that will flow from the implementation of the SEPP.

The SEPP is not prescriptive and there is considerable flexibility in how specific actions will be implemented. It is fundamentally a policy framework that provides guidance, benchmarks and priorities to drive action. It should be recognised that, in the majority of cases, there is not a one-to-one relationship between individual benefits and costs. A single management action or land use is likely to have a range of effects on the protection of a range of beneficial uses. The benefits and costs are, to differing extents, also attributable to a range of other influences.

The SEPP plays a key role in ensuring the more efficient use of resources by providing a framework for coordinated action. In this summary section, the key benefits and costs, which the SEPP contributes to, are identified.

12.1 Key benefits of the SEPP

Protection of beneficial uses and interdependent economic and social values

The most important benefit of implementing the revised SEPP is the protection of beneficial uses through a coordinated effort to better plan for and manage activities that have the potential to impact on surface waters. This will ensure that surface waters will be safe for swimming, boating and shipping, fishing, drinking, stock watering, irrigation and industrial use, and that aquatic ecosystems will be protected. Protection of these uses will ensure that industries such as tourism, recreation,

agriculture, aquaculture, fishing, forestry, mining, urban development, and shipping, which all depend on good environmental quality, will be ecologically sustainable. Consequently, the revised SEPP will help to protect the estimated $150 billion generated from industries in Victoria and the other associated benefits such as jobs for the local communities.

Protection and rehabilitation of aquatic ecosystems

Aside from the social and economic benefits resulting from the implementation of the revised SEPP, the protection and rehabilitation of the environment is of fundamental importance to Victoria. The revised SEPP will help protect Victoria's plants and fish, birds, penguins, dolphins, seals and other animals that depend on the water environment for food and shelter. These plants and animals are invaluable in terms of their contributions to the natural beauty and biodiversity of Victoria. It is of utmost importance that these values are sustained for current and future generations to enjoy. It must be noted that these values are at risk if surface waters are not better protected.

Integrated environmental management and continuous improvement

The SEPP supports the activities of CMAs, RCBs, water authorities, municipal councils, government agencies and industries. This will contribute to a seamless environment protection and management framework for Victoria. This will reduce duplication of actions to protect and rehabilitate the environment and empowers regional and local planning and management. In particular, the SEPP supports existing programs to rehabilitate the environment including the VRHS, NAP, MDBC salinity and water quality programs, VCMC's healthy landscapes strategy, Victorian Planning Provisions and of course regional catchment strategies and coastal action plans.

Reducing the impact of wastes from everyday activities

The revised SEPP will help to reduce the impacts of wastes from everyday activities, from both point and diffuse sources. This will be achieved by avoiding and reusing wastes and wastewater from sewage treatment plants, industrial discharges and agriculture, particularly from irrigated, dairy and horticultural farms. Not only will this help to improve the environment but it will also ensure a sustainable supply of clean water for the sustainable development of businesses in Victoria.

Ecologically sustainable development

Improved business, strategic and environmental planning and management, as proposed in the SEPP will help to ensure that the activities of individuals, businesses and protection agencies are ecologically sustainable. Businesses that embrace ecologically sustainable development are increasingly favoured by consumers, clients, investors and insurers and are consequently likely to attract a greater share of their market sector. Further, improved environmental performance resulting from good environmental planning and management reduces business' exposure to liabilities associated with pollution and environmental degradation.

Eco-efficiency and improved production

Adoption of the SEPP, in particular the improved environmental management of activities, will result in substantial social and economic benefits

including improved agricultural production, efficient use of raw materials such as energy, water and fertilisers and reduced water and waste treatment costs. These benefits help to reduce environmental degradation and resource use, while sustaining or improving the production of goods and services. This places a focus on preventing pollution so that communities, businesses and governments do not need to invest in rehabilitation actions.

Informed decision making

Improved scientific and community understanding is integral to the success of any environmental management and protection framework. The SEPP promotes the use of research, reporting, auditing, education and partnerships to ensure that the community, businesses and other stakeholders are informed of the state of their environment and environmental pressures. This will enable and motivate these stakeholders to make informed decisions on measures to protect and improve their environment, which will ultimately result in improved environmental performance of a wide range of activities.

12.2 Key costs of the SEPP

By setting a framework for enhanced coordination of actions, the SEPP should help to make better use of the existing resources that contribute to improving environmental quality in Victoria's waterways.

People and organisations have various motivations for taking actions to help to improve the environment. For example, a 1996 survey of EPA licensed companies in Victoria found that complying with legal requirements of SEPPs and regulations was only one reason that companies put in place environmental improvement programs. Other reasons identified by companies were:

- corporate commitment to act as an environmentally responsible citizen,
- desire to maintain good relations with local communities, employees and customers, and
- profit maximisation or cost reduction through factors such as waste minimisation.

A key to the successful development of the SEPP has been to identify the various motivations for taking actions to help to improve the environment that exist within Victoria. All of the attainment program clauses have been deliberately designed to harness these existing motivations and help guide and encourage people and organisations in making implementation decisions.

On this basis, the SEPP offers considerable flexibility as to how actions will be implemented to achieve the specified environmental outcomes. This is a practical approach that has been strongly welcomed by stakeholders.

The following examples illustrate how the SEPP will help guide the more effective use of existing resources and budgets in the region to improve environmental quality:

- Planning. Municipal councils are required to review their Municipal Strategic Statements on a regular basis. The SEPP requires that when municipal councils review their strategic and statutory planning tools, they ensure these tools are consistent with the SEPP. This will not impose any significant additional cost on municipal councils because the SEPP relies on existing

planning processes and tools. In addition, EPA will work with municipal councils to ensure the requirements of the SEPP are understood and able to be translated into the Municipal Strategic Statement and planning framework.

- Improved environmental management of agricultural and urban activities. The SEPP provides land-holders with the ability to choose options appropriate to their circumstances that will generate both environmental improvements and financial benefits (for example reduced fertiliser and water use).
- Wastewater management for unsewered areas. Municipal councils may be required to develop options in consultation with others to improve wastewater management where there is a significant impact on water environments.
- Environment Improvement plans and environment management plans. EIPs and EMPs allow industries to identify the environmental impacts and associated costs of their industry and identify and prioritise actions to reduce that impact. This enables industries to better plan for their future and to identify the true costs of their products, including those associated with environmental degradation and water treatment. They will also provide a basis with which industries can work with their suppliers and constituents to enable them to implement effective management practices and ensure the on-going viability of the industry in Victoria.
- Mixing zones and off-set measures are good examples of approaches aimed at assisting managers of wastewater discharges to reduce their impact on the environment in a progressive and affordable manner. These approaches recognise that it may take some time to improve the management of wastewater and that this can be costly. These provisions enable this expenditure to be incurred on a progressive basis, which gives businesses time to plan for these costs in budgets and pricing mechanisms.

In addition, there are many provisions in the SEPP which have been carried over from the 1988 SEPP. Given that these provisions have been in place for more than 13 years it is expected that the only new costs will be incurred by businesses that are not currently implementing effective environmental management practices. It is important that these businesses begin to implement environmental management practices to ensure they do not receive any competitive advantage over businesses that are reducing their environmental impact. The costs they incur will be similar to those already incurred by those businesses that operate according to triple bottom line principles.

13. WHAT SHOULD REPLACE THE 1988 SEPP?

EPA considered possible policy options for the water environments of Victoria. These options were judged against their ability to achieve the desired outcome of a modern and robust framework of environment protection based on principles of ecologically sustainable development that will guide the community and government in the management of the regional environment for the next decade.

Two key possible approaches considered were:

Option 1: **do nothing – rely on the 1988 SEPP;**

Option 2: **revise the 1988 SEPP-** develop a new SEPP (Waters of Victoria) that provides a modern framework.

Option 1: do nothing - rely on the existing SEPP – not supported.

As this option would retain the 1988 SEPP as the statutory tool to protect the uses of Victoria's surface waters, a statutory framework would still be in place. Partnerships and initiatives would still be formed to improve water environments in the state. However, without the coordination and priority setting that the revised SEPP provides, these actions may be ad hoc and could be duplicative. This could lead to inefficient resource allocation and the potential for additional costs.

Industries that are currently not involved in partnerships or other initiatives in the state may receive a benefit, as there would be limited environmental improvements and therefore no associated costs. These benefits could give these industries a short-term competitive edge against more sustainable industries that are currently involved in environmental initiatives. In addition, the short-term economic advantages would be offset by long-term losses due to poor water quality.

As the 1988 SEPP is focused on the issues of the 1980s, the current major sources of pollution would not be adequately addressed. The 1988 SEPP, while successful in managing point sources of pollution within the state, does not adequately deal with the current needs for managing the risks to the sensitive and valuable environment of Victoria's surface waters. Nor does it reflect the catchment and coastal processes that have evolved since 1988. Without incorporating these considerations, the estimated $150 billion of economic benefits currently generated in Victoria would be placed in jeopardy. In addition, future economic and social growth in the region would be limited as developers would be unlikely to invest in a State where the availability of good quality water cannot be guaranteed.

Given this, the 'do nothing' option was rejected as it fails to provide a mechanism to address the current environment protection needs of Victoria.

Option 2: revise the 1988 SEPP- develop a new SEPP (Waters of Victoria) that provides a modern framework – supported

This option is the preferred option, and has been pursued when developing the SEPP and PIA. This option allows for the development of a modern and tailored policy framework for the surface waters of Victoria, which operates as the *SEPP (Waters of Victoria)*.

This option:

- provides an up-to-date framework of specific measures to protect the environmental values of Victoria;
- identifies beneficial uses that Victorians want protected and the objectives to be attained and the actions to be implemented to protect beneficial uses;
- identifies key areas of focus for EPA and other key agencies and bodies in regard to protecting beneficial uses. This will help to focus environment protection and rehabilitation actions over the next 10 years, and will help achieve the best overall outcomes for

communities by considering environmental, social and economic values;

- provides the basis for protecting beneficial uses in regional Victoria (through Schedules, regional catchment strategies and coastal action plans);
- provides a basis for addressing key risks to Victoria's water environment, particularly those posed by nutrients, sedimentation, salinity, lack of environmental flows and aquatic pests.