

Special Areas Strategic Plan of Management 2015

WaterNSW and
Office of Environment & Heritage

August 2015



Published by WaterNSW and Office of Environment and Heritage, August 2015.

© WaterNSW and Office of Environment and Heritage.

This publication may be freely reproduced and distributed for most purposes, however some restrictions apply.
See the copyright information at www.waternsw.com.au or phone (02) 4724 2200.

Contents

Abbreviations and glossary	iv	5	Joint management arrangements	22
Ministers' Foreword	vi	5.1	Joint management arrangements	22
1 Introduction	1	5.1.1	Objective	22
2 Why do we need Special Areas?	2	5.1.2	Responsibilities	22
2.1 What are Special Areas?	2	5.1.3	Planning, implementation and review	22
2.2 Where are the Special Areas?	2	5.1.4	Liaison, coordination and decision making	22
2.3 Why are Special Areas important?	2	5.1.5	Policy and operational protocols	22
3 What are the issues in Special Areas?	8	5.2	Benefits of joint management	23
3.1 Water quality	8	6	Planning and reporting framework	24
3.2 Water quantity	9	6.1	Planning and reporting cycle	24
3.3 Pests and weeds	10	6.1.1	Four year land management priorities	24
3.4 Assets and infrastructure	11	6.1.2	Operational implementation	25
3.5 Access	13	6.2	How priorities are determined	26
3.6 Fire	14	6.3	How we measure, evaluate and report performance	27
3.7 Ecological integrity	15	6.3.1	Performance measurement	27
3.8 Cultural heritage	16	6.3.2	Performance evaluation	27
3.9 Land use including mining	17	6.3.3	Performance reporting	27
3.10 Climate change	19	6.4	Term of this plan	27
4 Strategic direction	20	6.5	More information	27
4.1 Vision	20	References	28	
4.2 Elements	20	List of Figures		
4.2.1 Management	20	Figure 1: Location of Special Areas within the broader hydrological catchments	4	
4.2.2 High quality water	20	Figure 2: Location and tenure of land within Special Areas	5	
4.2.3 Ecological integrity and natural values	20	Figure 3: SASPoM planning framework	24	
4.2.4 Cultural values	20	Figure 4: Factors considered in priority setting	26	
4.3 Strategic management objectives	21	List of Tables		
		Table 1: Area and land tenure in Special Areas	6	

Abbreviations and glossary

ABBREVIATION	DESCRIPTION
Biodiversity	The variability among living organisms from all sources (including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part) and includes diversity within and between species and the diversity of ecosystems.
Burra Charter	The Burra Charter provides the basic principles and procedures for the conservation of heritage places in Australia and throughout the world.
CRAFT	Catchment Remote Area Firefighting Team which provides first response to the outbreak of wildfire within and threatening the Special Areas during the fire season.
Cultural significance	<p>Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, natural values, associations, meanings, records, related places and related objects. Places may have a range of values for different individuals or groups.</p> <p>The term cultural significance is synonymous with heritage significance and cultural heritage value. Source: Burra Charter (The Australia ICOMOS Charter for Places of Public Significance).</p>
DECC	Former NSW Department of Environment and Climate Change.
DECCW	Former NSW Department of Environment, Climate Change and Water.
Ecological integrity	Ecological integrity refers to the wholeness and stability of ecosystems and ecosystem functions and processes, the biotic and abiotic components, the terrestrial and aquatic components, the flora and fauna components and can include the Aboriginal cultural interest in natural values.
Ecosystem	A dynamic complex of organisms and their non-living environment, interacting as a functional unit.
EIA	Environmental impact assessment.
ESG	Executive Steering Group, a working group comprising representatives from the joint sponsors that oversees the implementation of the SASPoM and joint management arrangements.
Fire regime	The impacts of fire on biodiversity differ greatly depending on the frequency, intensity, duration, extent and timing of each fire. Inappropriate fire regimes are those that differ from regimes which species and communities are adapted to, and are a serious threat to biodiversity.
Geodiversity	Geodiversity is the natural diversity of rocks, minerals, fossils, soils and landforms, and the processes that have shaped these features over time.
ha	Hectares.

ABBREVIATION	DESCRIPTION
Hydrological integrity	Hydrological integrity refers to the wholeness and stability of the hydrological functions and processes.
ICOMOS	International Council on Monuments and Sites.
IPART	Independent Pricing and Regulatory Tribunal of NSW.
Joint sponsors	WaterNSW and NPWS as the NSW Government entities responsible for preparing and implementing the SASPoM as required under the <i>Water NSW Act 2014</i> .
mm	Millimetres.
Monitoring	Ongoing review, evaluation and assessment to detect changes in the natural integrity of a place, with reference to a baseline condition.
Natural values	Natural values are biological and non-living components of the natural world that have conservation, scientific, resource or aesthetic values. They encompass biodiversity, ecosystems, geodiversity and landscape features and the processes that relate to them. Natural values may include plant and animal species, their groupings and habitats, ecosystem services, geological and geomorphological features and processes, natural sites and areas.
NHMRC	National Health and Medical Research Council.
NP	National Park.
NPW Act	<i>National Parks and Wildlife Act 1974</i> (NSW).
NPWS	National Parks and Wildlife Service, part of the NSW Office of Environment and Heritage.
NRMMC	Natural Resource Management Ministerial Council.
OEH	NSW Office of Environment and Heritage.
Operating Licence	Operating Licence for WaterNSW under the <i>WaterNSW Act 2014</i> .
SAOG	Special Areas Operations Group, a working group comprising representatives from the joint sponsors that recommends land management priorities to the ESG, liaises at an operational level to provide effective program coordination and evaluates program delivery.
SASPoM	Special Areas Strategic Plan of Management.
SCA	Former Sydney Catchment Authority, now WaterNSW since 1 January 2015.
SEPP	State Environmental Planning Policy.
UNESCO	United Nations Educational, Scientific and Cultural Organisation.
WNSW Act	<i>Water NSW Act 2014</i> (NSW).

Ministers' Foreword

The Special Areas are the protected catchment lands surrounding the water storages and are critical controls in the supply of quality water to Greater Sydney. They cover approximately 364,000 hectares of mostly unspoilt native bushland around the water storages that supply Sydney, the Illawarra, Blue Mountains, Southern Highlands and Shoalhaven regions. They contain landscapes of great beauty with significant natural and cultural heritage values, with parts of the Special Areas recognised for their World Heritage and wilderness values.

Management of the Special Areas focuses on the ongoing protection of water quality and natural and cultural values, including responding to emerging threats, and seeking to address existing issues. This requires a coordinated approach by WaterNSW and the NSW National Parks and Wildlife Service (NPWS) in collaboration with neighbours and other stakeholders.

The Special Areas Strategic Plan of Management provides the strategic framework for the planning, delivery and reporting of land management activities within the Special Areas by WaterNSW and NPWS. It is a long-term plan to secure high quality water for the storages, the maintenance of ecosystem integrity and the management of cultural values within the Special Areas.

The Special Areas Strategic Plan of Management 2015 replaces the Special Areas Strategic Plan of Management 2007. This new plan builds on the achievements, learnings, experience and relationships gained from the previous years of joint management.

This Special Areas Strategic Plan of Management presents a shared vision for the management of the lands within the Special Areas. Detail about land management work will be derived from reserve and operational plans, and agency policy and planning documents and systems. Actions are highly targeted and relevant to the areas being managed and responsive to new and emerging issues.

The review of the Special Areas Strategic Plan of Management included a public exhibition period, with feedback sought from key stakeholders such as local councils, indigenous groups, landholders, government agencies, industry and the broader community. The input was considered in the finalisation of the plan.

In accordance with the provisions of Section 52 of the *Water NSW Act 2014*, this plan is hereby adopted.



The Hon Niall Blair, MLC
Minister for Primary
Industries, Land
and Water



**The Hon Mark Speakman
SC, MP**
Minister for the
Environment

1 Introduction

Special Area lands that surround and protect drinking water supply storages and are declared under the *Water NSW Act 2014* (WNSW Act). Under this legislation, WaterNSW and the NSW National Parks and Wildlife Service (NPWS) are required to jointly manage the Special Areas.

WaterNSW has responsibility for the quality of water in Greater Sydney's drinking water catchment areas. NPWS is the primary conservation agency in NSW and is also the landowner of reserves within the Special Areas that have been gazetted under the *National Parks and Wildlife Act 1974* (NSW) (NPW Act). Objectives of the NPW Act include the conservation of natural and cultural values in the landscape – objectives that are complementary to the WNSW Act requirement to protect water quality and ecological integrity.

Joint sponsorship of the Special Areas requires an integrated approach to management based on a shared vision. Section 52 of the WNSW Act requires the joint sponsors to prepare a plan of management for the Special Areas and Section 53 requires the joint sponsors to implement the plan. The Special Areas Strategic Plan of Management (SASPoM) applies to all Special Areas, however, the requirements of this plan do not apply to owners of private land in Special Areas.

The SASPoM has been negotiated between NPWS and the former Sydney Catchment Authority (SCA). The SCA was merged with State Water Corporation on 1 January 2015 to form WaterNSW, and this document has been updated to reflect this change.

The Special Areas have been managed in accordance with a SASPoM since 1997. Some significant achievements under previous SASPoMs include:

- Application of joint management principles by WaterNSW and NPWS for the coordination of on-ground activities.
- Collaboration around significant policy issues such as environmental impact assessment and access management.
- Effective first response to wildfire within the Special Areas through Catchment Remote Area Fire-fighting Team (CRAFT) services.
- Scientific research programs.
- Cultural heritage planning and conservation works.
- Ongoing consultation and involvement with Aboriginal communities, local councils, neighbours and relevant government agencies.
- Public scrutiny through annual review and independent auditing programs.
- Effective on-ground land management programs such as weed and pest animal control.

WaterNSW and NPWS have undertaken joint reviews of the SASPoM every five years.



2 Why do we need Special Areas?

2.1 What are Special Areas?

Special Areas comprise the 364,778 hectares of lands that surround and protect water supply storages for Sydney, the Illawarra, Blue Mountains, Southern Highlands and Shoalhaven regions. This is approximately 23 percent of the broader hydrological catchment, as shown in **Figure 1**.

Special Areas contain native vegetation, wetlands, river systems, heritage sites, water storages and associated infrastructure, active and historic farmland, active and derelict mines, roads, utility corridors and water supply facilities.

Special Areas are lands declared under the WNSW Act for the following purposes:

- Protecting the quality of stored waters, whether intended for drinking or other purposes.
- Maintaining the ecological integrity of an area of land declared to be a Special Area in a manner that is consistent with WaterNSW's objectives.

The Special Areas form part of the Greater Sydney drinking water catchments. Investments in catchment management seek to reduce risks to water quality, protect and prevent the degradation of the environment and conserve cultural values.

2.2 Where are the Special Areas?

Special Areas are declared in Warragamba, Metropolitan, Blue Mountains (Blackheath, Katoomba and Woodford), Woronora, Wingecarribee, Shoalhaven, Fitzroy Falls and Prospect catchments. Boundaries for Special Areas may change by Order as published in the Government Gazette. The locations of Special Areas are shown in **Figure 1**.

As indicated in **Table 1** and **Figure 2**, Special Area declarations are applied over both government and private tenure lands. At present approximately 67 percent of the Special Areas comprise reserves under the NPW Act, 19 percent is WaterNSW freehold land (which includes the water storages), and 14 percent is privately owned land and other tenure, including Crown land.

2.3 Why are Special Areas important?

The Special Areas are critical for the protection of water quality and quantity and play an important role in the conservation of many threatened plant and animal species as well as other significant natural and cultural values.

The Special Areas primarily comprise intact native forest and largely exclude land uses with the potential to generate excessive nutrients, sediments, pathogens and other substances that can pose a threat to water quality. Modelling has demonstrated that the level of pollutant export would increase if the Special Area lands were put to alternative use.

Special Areas provide a critical barrier in a multi-barrier approach to protecting water quality. The multi-barrier approach addresses risks to water quality throughout the whole of the water supply chain, from the raw water source in the catchment to the customers' taps. The multi-barrier approach includes management of the hydrological catchments, water storages, transfer systems, treatment plants and delivery systems (NHMRC and NRMCC 2011; SCA 2012). The multi-barrier approach recognises that while each individual barrier may not be able to completely remove or prevent contamination, they collectively provide greater assurance that the water supply will be safe.

In some instances, the Special Areas constitute all or nearly all of the water storage's catchment area, such as the Woronora or Metropolitan Special Areas. In larger catchments, such as for Warragamba and Shoalhaven, the Special Areas form only a proportion of the hydrological catchment. In these cases, the Special Areas' role is particularly critical as they provide a final barrier immediately upstream of the water storage.



Ecological integrity and connectivity has been maintained in most of the Special Areas through protective management over the past 100 years. The Special Areas display very high biodiversity and protect a large number of important threatened species populations and endangered ecological communities. They also protect large areas of diverse natural landscapes, including wilderness areas and significant geological and other natural features. As well as being important in their own right, scientific evidence suggests that robust ecological systems have a positive benefit on water quality.

The Special Areas also protect a rich and diverse range of Aboriginal heritage sites and values in a relatively undisturbed landscape setting, and historic heritage features such as early infrastructure associated with roads, water supply, farming and mining. A number of communities maintain ongoing cultural connections to Special Area lands.

The important natural and cultural values of many parts of the Special Areas are recognised by their designation as national parks, nature reserves, state conservation areas and regional parks under the NPW Act. These reserves are identified in **Table 1**.

In addition to their reservation status, the Special Areas are recognised in the following ways:

- Blue Mountains Special Areas and parts of the Warragamba Special Area form part of the UNESCO-listed Greater Blue Mountains World Heritage Area.
- Wingecarribee Special Area contains part of the Wingecarribee Swamp, an area that has been listed on the NSW State Heritage Register and the Commonwealth Government's Directory of Important Wetlands (2001).
- Almost 30 percent of the reserves in the Special Areas are also declared as wilderness.

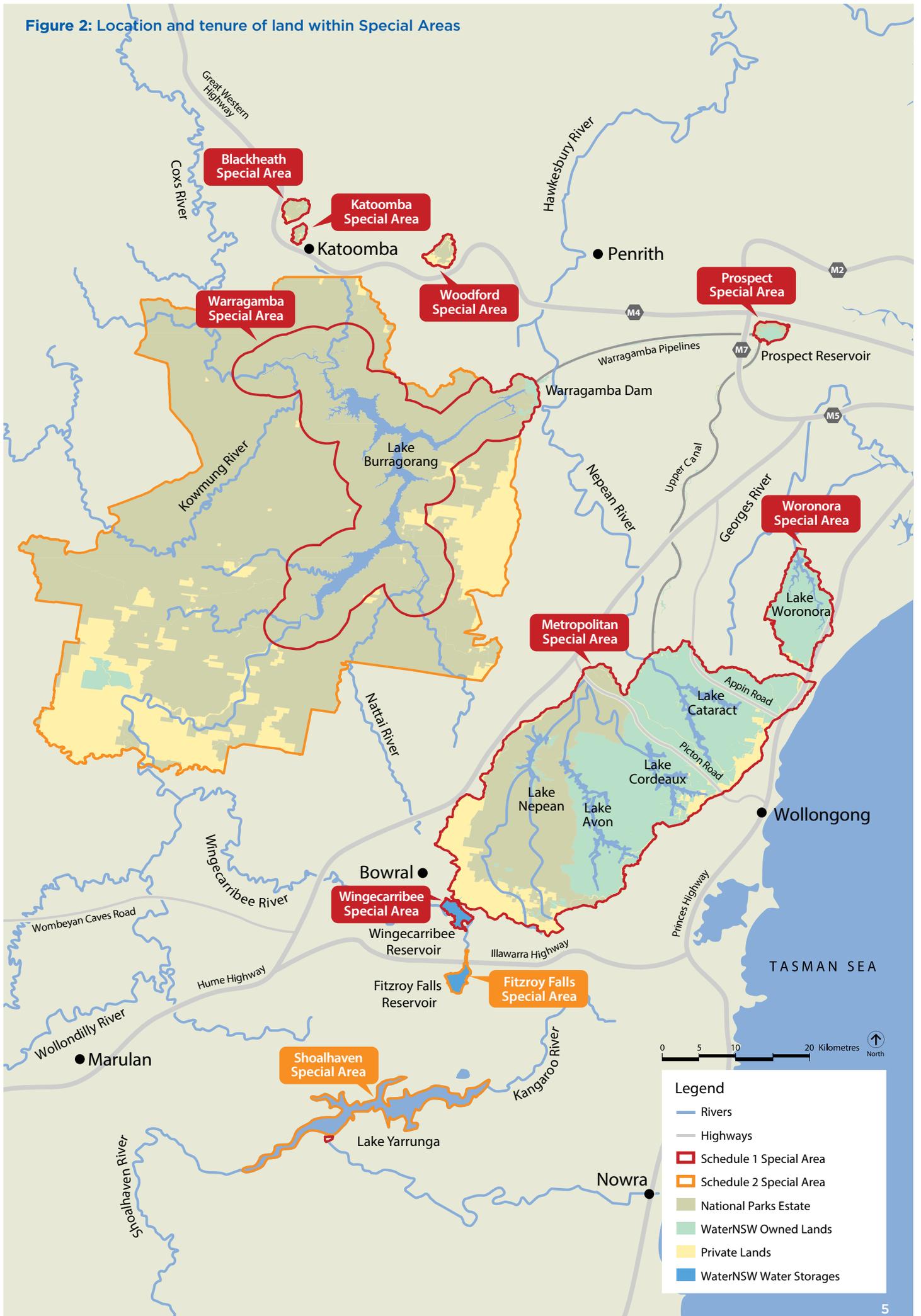
Figure 1: Location of Special Areas within the broader hydrological catchments



Sydney's drinking water catchments



Figure 2: Location and tenure of land within Special Areas



2

Table 1: Area and land tenure in Special Areas

Special Area/tenure	Area (hectares)	% of special area
Warragamba Special Area (established 1942)		
NPWS reserves (Nattai State Conservation Area, Burragorang State Conservation Area, Thirlmere Lakes National Park (NP), Nattai NP (part), Wollondilly River Nature Reserve, Joadja Nature Reserve (part), Blue Mountains NP, Yerranderie State Conservation Area, Yerranderie Regional Park and Kanangra Boyd NP)	211,646	81.13
WaterNSW freehold (largely Lake Burragorang and Warragamba Dam operational area)	10,167	3.90
Other	39,067	14.97
Sub-total	260,880	100.00
Metropolitan Special Area (established 1923 and amended in 1933)		
NPWS reserves (Upper Nepean State Conservation Area, Dharawal NP (part), Illawarra Escarpment State Conservation Area (part))	30,111	33.37
WaterNSW freehold	48,449	53.69
Other	11,679	12.94
Sub-total	90,239	100.00
Woronora Special Area (established 1941)		
NPWS reserves (Heathcote NP (part))	6	0.08
WaterNSW freehold	7,241	93.44
Other	502	6.48
Sub-total	7,749	100.00
Blue Mountains Special Areas (Blackheath, Katoomba, Woodford) (established 1991)		
NPWS reserves (Blue Mountains NP (part))	1,425	65.91
WaterNSW freehold	105	4.86
Other	632	29.23
Sub-total	2,162	100.00

Special Area/tenure	Area (hectares)	% of special area
Shoalhaven Special Area (established 1970)		
NPWS reserves (Morton NP (part))	121	8.25
WaterNSW freehold	1,117	76.14
Other	229	15.61
Sub-total	1,467	100.00
Fitzroy Falls Special Area (established 1973)		
NPWS reserves (nil)	0	0.00
WaterNSW freehold	655	98.79
Other	8	1.21
Sub-total	663	100.00
Wingecarribee Special Area (established 1973)		
NPWS reserves (nil)	0	0.00
WaterNSW freehold	719	99.86
Other	1	0.14
Sub-total	720	100.00
Prospect Special Area (established 2008)		
NPWS reserves (Prospect Nature Reserve)	325	36.19
WaterNSW freehold	573	63.81
Other	0	0.00
Sub-total	898	100.00
Total special area by land tenure		
NPWS reserves	243,634	66.79
WaterNSW freehold	69,026	18.92
Other	52,118	14.29
TOTAL (ALL TENURES)	364,778	100

Explanatory notes:

- 'WaterNSW freehold' also includes water storages
- 'Other' includes Crown lands, private freehold and leases and no data areas
- WaterNSW is responsible for managing most vacant Crown land in Special Areas

3 What are the issues in Special Areas?

This plan identifies the main issues that need to be managed within Special Areas. The strategic planning framework, which is described further in **Sections 4, 5** and **6**, is designed to respond to these issues and emerging priorities. The delivery of any one land management activity may address multiple issues detailed below.

3.1 Water quality

Water quality is commonly defined by its physical, chemical, biological and aesthetic characteristics. The quality of water within the Special Areas is important not only as a source of raw water, but also to support the habitat values of a range of fauna and flora. Most of the land within Special Areas is protected native vegetation, which provides a foundation for sustaining good water quality. However, there are existing and potential sources of pollutants that diminish the quality of water within the Special Areas that require careful management.

Certain land use activities in the water supply catchments can increase the potential for adverse impacts on water quality because they generate additional sources or relatively high levels of pollutants compared to intact native vegetation. These activities include grazing, horticulture, intensive animal production, mining, urban and transport infrastructure development.



Some of these activities also occur on leased or private land within Special Areas. WaterNSW encourages best practice sustainable land use in the catchments through a mix of incentives, shared information, education and regulation.

Water pollutants can arise from natural or human land disturbance, the effects of introduced pests and weeds, and from wildfire.

The types of water pollutants can be broadly grouped into three main categories and are the subject of prioritised and targeted land management programs under this plan.

- **Pathogens** or microorganisms such as *Cryptosporidium*, *Giardia* and enteric viruses and bacteria can cause health concerns for water users and are costly to remove from drinking water. Waterborne pathogens are excreted in the faeces of people, domestic and feral animals. The joint sponsors will seek to reduce the pathogen hazard in the Special Areas by restricting human access, fencing out domestic stock and by implementing feral animal control programs, not only to reduce the overall level of pathogens introduced into the environment, but also by specifically targeting those localities with the greatest likelihood of the pathogens being transported into the water storages.
- **Nutrients** – nitrogen and phosphorus within nutrient-rich runoff from land can lead to eutrophication of surface water, which in turn can lead to an increase in the frequency and severity of outbreaks of cyanobacteria (blue-green algae) blooms with their potential to generate cyanotoxins in water supplies. This can result in taste and odour issues and test the capability of water treatment. An increased risk of nutrient release in the Special Areas may arise as a result of large or high intensity fire. To address this, the joint sponsors will seek to promote appropriate fire regimes within the Special Areas. This will be achieved through rigorous fire management planning and the implementation of comprehensive programs across the Special Areas. Nutrients from sewage can be minimised by restricting human access and managing activity within the Special Areas.

- **Sediments** – suspended solids are fine particles from soil and other sources suspended in the water which can impact the performance of water treatment plants, help transport phosphorus and nitrogen, and reduce the effectiveness of ultraviolet treatment and natural sunlight to remove pathogens. Erosion and sedimentation is typically caused by land clearing or disturbance associated with roads and trails, pest species and some recreational activities. Fire can also affect water quality, particularly if the fire is so intense that it denudes the landscape of vegetation cover and is followed by heavy rainfall that washes exposed soil and ash into waterways. To address the issue of sediments, the joint sponsors will seek to minimise disturbance during land management operations. This will be achieved by addressing incidents of active erosion, managing fire and implementing an active program of asset maintenance. The joint sponsors will ensure that any activity meets the requirements of the EP&A Act 1979 (NSW) to minimise impacts on the environment.

In addition, other pollutants such as pesticides, heavy metals and salt are also monitored as part of WaterNSW's water monitoring program. In sufficient concentrations, these pollutants could have serious impacts on the environment, ecosystems and human health. For example, bioaccumulation of certain pollutants can lead to impairment of metabolic function, or changes in reproduction or physiology.

Water quality monitoring results are reported in the annual water quality monitoring report. Further analysis is provided in the independent catchment audit report every three years, as required under Section 42 of the WNSW Act. The annual report and catchment audit report are available on WaterNSW's website.

3.2 Water quantity

Greater Sydney's drinking water catchments supply water to around 4.5 million people, approximately 60 percent of NSW's population. WaterNSW manages a total of 21 storage dams that hold more than 2.5 million megalitres of water.

Under the *Water Management Act 2000*, WaterNSW is granted a 'water licences and approvals package' which regulates access to these water resources. The package includes water access licences and combined works and use approvals required to comply with the provisions of the Water Sharing Plan for the Greater Metropolitan Region Unregulated Rivers Water Sources 2011.

From these catchments, WaterNSW provides raw water to four key customers with water supply agreements in place to address water quantity and quality objectives.

The water quantity or catchment yield, derived from the Wollondilly and Coxs River catchments which provide water to Lake Burrangorang are significantly influenced by the climatic conditions, land uses and extraction activities undertaken in the outer catchment which extend beyond Goulburn in the south and Lithgow to the West (see **Figure 1**). The inflows to Tallowa Dam from the Shoalhaven and Kangaroo Rivers are similarly affected by outer catchment influences. In all, approximately 77 percent of the hydrological catchment is located outside of Special Areas.



3

The Woronora, Metropolitan and Blue Mountains Special Areas represent most of the hydrological catchments for those particular storages. In general, only activities within or adjoining these areas are likely to impact on water quantity.

Understanding the yield from the hydrological catchments informs long term strategies to ensure the ongoing supply of raw water to its customers. Activities such as illegal water extraction, mining, coal seam gas extraction and climate change could lead to a reduction in yield and can have significant impacts on the available water supply and the ecology of the area.

Within Special Areas, the maintenance of natural flow regimes support important ecological communities and species. The composition and biodiversity of some vegetation communities are so important they have been listed as Endangered Ecological Communities under state and national legislation as are some individual species of flora and fauna. Some vegetation communities such as swamps are groundwater dependant and directly impacted by changes in the hydrological function of the catchments.

Acting like sponges in wet weather, swamps play an important role in provide slow release base flows to our streams. This is particularly important during extended dry periods such as droughts. Base flows provide an important component of the quantity of water that reports to the storages.

Understanding the quantity and sources of water derived from the Special Areas is important in the delivery of improved water quality outcomes. Impacts to the hydrogeological connections of surface and groundwater sources can also have negative impacts on surface flows, ecological values and potentially to the flows reporting to the storages.

WaterNSW will continue to apply resources to understanding catchment water quantity and how it relates to the supply of raw water and ecological values. The NPWS and OEHL monitor many aspects of the ecological condition of the Special Areas.

3.3 Pests and weeds

Pests and weeds can out-compete or prey on native species, they can destroy or degrade habitat and they can spread disease. They are regarded as critical threats to ecological integrity and the conservation values of Special Areas, and they can pose a risk to water quality and degrade areas of cultural significance. Pests and weeds require sustained, long-term management within the Special Areas.



The need for control of invasive species is reflected in legislative and planning obligations which include:

- *Noxious Weeds Act 1993* (NSW) (requires control of noxious weeds).
- *National Parks and Wildlife Act 1974* (NSW) (requires management of pest species).
- *Threatened Species Conservation Act 1995* (NSW) and *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) (requires management of key threatening processes).
- *Rural Lands Protection Act 1998* (NSW) (requires control of declared pests such as rabbits, wild dogs and feral pigs).
- *Fisheries Management Act 1994* (requires the notification of aquatic pests).

- *Pesticides Act 1999* (NSW) (regulates use of pesticides).
- *Game and Feral Animal Control (Game) Act 2002* (NSW).
- NSW Invasive Species Plan 2008-2015 (Department of Primary Industries).
- NPWS regional pest management strategies.
- WaterNSW pest and weed management plans.



The joint sponsors implement programs to manage pests and weeds, with an emphasis on those introduced species that have the greatest potential to impact on water quality and ecological integrity. The complete eradication of pests and weeds over wide areas is not practicable, and it is necessary to prioritise management effort and allocate resources where they will be of greatest benefit. The joint sponsors work with other agencies, landholders and the community to identify pest and weed control priorities.

3.4 Assets and infrastructure

A range of built assets are maintained within the Special Areas. These include roads, buildings and water supply infrastructure. The Special Areas also contain built assets managed by other parties that relate to utilities, mining, transport corridors and telecommunications. The owners of these assets must maintain facilities to relevant industry standards and also respond to the hazards represented in the Special Areas, such as fire. The joint sponsors actively work with the asset owners to ensure the maintenance needs of the assets are considered in the context of the Special Area values.

Construction activity and the failure to appropriately maintain infrastructure within the Special Areas has the potential to result in adverse environmental impacts and impede land management activities. These may include clearing of habitat, spreading weed propagules, inadequate access for fighting fires and other management purposes and an increased risk of pollutants being discharged into the environment.

Clearing for new infrastructure including the creation of roads and easements, and developments for other purposes may also affect biodiversity, ecological processes and water quality. Clearing has the capacity to impact on vegetation communities and fauna habitat, and introduce new corridors for the movement of pests. New and existing infrastructure may conflict with the maintenance of ecological integrity, where it alters natural stream flows, water tables and flooding regimes. Construction and maintenance activity, if done inappropriately, has the potential to impact water quality and quantity.



3

Potential impacts of asset construction, operation and maintenance need to be assessed in accordance with the EP&A Act. The type of assessment and approvals required depends on factors such as the provisions of relevant environmental planning instruments including zoning and permissibility, proponent and nature of proposed work.

Some key considerations are:

- Under clause 12 of the State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 (NSW), public authorities such as WaterNSW and local councils are required to consider if a proposed activity will have a neutral or beneficial effect on water quality. Under clause 11 of this SEPP WaterNSW holds concurrence powers for development which requires consent from a local council.
- State Environmental Planning Policy (Infrastructure) 2007 applies to many of the activities that WaterNSW and NPWS would undertake within the Special Areas. Generally activities carried out by WaterNSW and NPWS do not require development consent however environmental assessment is still carried out for most types of activities.

Approval provided under the EP&A Act, may require additional consideration by WaterNSW to further regulate the activity or unexpected impacts. The key mechanism is through the Water NSW Regulation 2013 by:

- Prohibiting certain conduct and activities within the Special Areas unless the consent of WaterNSW is given. Asset and infrastructure work assessed and approved under the EP&A Act may allow an otherwise prohibited activity such entering the area, the damaging of plants or the use of vehicles. WaterNSW consent is still required in these circumstances and WaterNSW may place additional conditions to this consent.

- Providing WaterNSW powers in relation to water pollution offences. In certain circumstances, WaterNSW can stop an activity if it believes it has the potential or is causing actual water pollution through the provision of verbal and written directions. WaterNSW can direct investigations, the provision of information and the undertaking of remediation activities. WaterNSW can issue Penalty Infringement Notices and undertake prosecutions.

The joint sponsors will ensure their construction and maintenance activities and those of other parties operating within the Special Areas, will meet environmental planning requirements. The joint sponsors will conduct an active program of asset maintenance to maintain safety and operational effectiveness and to minimise the incidence of suspended solids in waterways.

3.5 Access

The Water NSW Regulation 2013 (NSW) prohibits certain conduct and activities in Special Areas to protect the quality and quantity of the water supply. WaterNSW can give its consent to carry out these activities in specific circumstances. The NPWS assists WaterNSW to implement its regulatory responsibilities.

The restrictions act to protect the values of the Special Areas. Unregulated access involving vehicle movement and unauthorised recreational pursuits, stock movement and grazing, and illegal activities such as track creation, hunting, rubbish dumping, bushrock removal and reptile collection may impact water quality and ecology.



Potential issues arising from such activities include:

- Erosion and sedimentation of streams and storages.
- Increased risk of fire.
- Pollution of waterways.
- Introduction or spread of disease.
- Damage to significant plant and animal communities and vegetation that plays an important role in protecting water quality.

To minimise these risks, the Special Area lands have been classified into water quality protection schedules and public access to the Special Areas is regulated in accordance with these schedules.

No Entry (Schedule 1):

- Schedule 1 lands are lands immediately surrounding the water storages. Public entry is generally not permitted, although some visitor facilities and walking corridors do exist with WaterNSW's consent.

Restricted Access (Schedule 2):

- Schedule 2 lands are a second tier buffer zone that generally adjoins Schedule 1 lands. While some public entry and activities are permitted, restrictions apply.

The joint sponsors provide some recreational opportunities at picnic areas, lookouts and other publically accessible facilities within Special Areas. Provision is also made for utility providers and contractors to access the Special Areas for a range of purposes including the construction and maintenance of assets.

Access restrictions do not apply to privately-held freehold land and public roads within the Special Areas.

Agencies may impose temporary access restrictions to protect public health and safety during periods of high fire danger and during management operations including fire suppression, hazard reduction and pest control.

The National Parks and Wildlife Regulation 2009 (NSW) limits the activities that can be undertaken within NPWS reserves without consent. The *Wilderness Act 1987* (NSW) also limits the activities that can be undertaken in declared wilderness areas. Plans of management for NPWS reserves within the Special Areas may impose particular additional restrictions or consent requirements on access and recreational activity. NPWS makes provision for licensed or approved groups to access certain parts of the Special Areas for commercial, recreational, research or cultural purposes however such access must be permissible under all relevant Acts.

The joint sponsors will continue to regulate access to the Special Areas by implementing access restrictions and conducting programs to enforce those restrictions. The agencies can issue Penalty Infringement Notices and pursue prosecutions.

3

3.6 Fire

Fire plays an important part in many Australian ecosystems. However, fires that are too frequent or intense may threaten natural and cultural heritage values, and water quality, as well as potentially affecting life and property. High frequency fire has been listed as a key threatening process under the *Threatened Species Conservation Act 1995* (NSW).

The *Rural Fires Act 1997* (NSW) provides for:

- The prevention, mitigation and suppression of bush and other fires.
- The co-ordination of bushfire fighting and bushfire prevention throughout NSW.
- The protection of persons from injury or death, and property from damage, arising from fires.
- The protection of the environment by requiring certain activities to be carried out having regard to the principles of ecologically sustainable development listed in section 6 (2) of the *Protection of the Environment Administration Act 1991* (NSW).



In managing fire in the Special Areas, the joint sponsors will seek to:

- Protect life, property and community assets from the adverse impacts of fire.
- Develop and implement cooperative and coordinated fire management arrangements with other fire authorities, reserve neighbours and the community.
- Manage fire regimes to maintain and enhance biodiversity.
- Protect known Aboriginal sites and places, historic places and culturally significant features from damage by fire.

NPWS is a statutory firefighting authority as defined by the *Rural Fires Act 1997* (NSW). WaterNSW is not. As public authorities, land owners and land managers, under the *Rural Fires Act 1997* (NSW), the NPWS has primary responsibility for fire management on NPWS lands and WaterNSW has primary fire management responsibility on WaterNSW lands. Both agencies retain fire management responsibilities.

In accordance with the requirements of the *Rural Fires Act 1997* (NSW), the agencies work cooperatively with the Rural Fire Service and District Bushfire Management Committees to prepare and implement district bushfire risk management plans and operations plans relating to fire.

The joint sponsors have detailed fire management strategies and plans for the Special Areas that are regularly updated in consultation with the Rural Fire Service and District Bushfire Management Committees. These guide operational activities, and are based on analysis of fire history, fire ecology thresholds, water quality, a risk assessment of assets and feedback from community consultation. The implementation of fire management operations are significantly influenced by factors such as available fuel levels and prevailing weather conditions.

The joint sponsors seek to minimise inappropriate fire regimes within the Special Areas. This is achieved through rigorous fire management planning and the implementation of comprehensive programs across the catchment.

3.7 Ecological integrity

Maintenance of ecological integrity in the Special Areas requires the protection of biodiversity, with particular emphasis on threatened plant and animal species, endangered populations and endangered ecological communities. Specifically, the *Threatened Species Conservation Act 1995* (NSW) requires public authorities to have regard to listed threatened entities and critical habitat and to consider recovery and threat abatement strategies such as habitat regeneration, species re-introduction and the protection of specific nesting locations. More generally, the maintenance of ecological integrity requires the evaluation and protection of habitat values, maintenance of ecological processes and the conservation of geodiversity. *The Fisheries Management Act 1994* requires the protection of aquatic threatened species such as the Macquarie Perch.

Threats to ecological integrity, as previously described, can arise from pests and weeds, asset construction and maintenance activity, mining, uncontrolled access and inappropriate fire regimes. In addition, ecological integrity may be affected by diseases to flora and fauna, such as *Phytophthora* and Myrtle Rust. The joint sponsors will implement government and agency-specific responses to these threats. There are significant links between the maintenance of ecological integrity and the maintenance of water quality. For example, some diseases, pests and weeds may significantly impact on flora and fauna populations and in so doing, progressively degrade the environment and diminish water quality. Addressing such issues can have significant benefits for both water quality and ecological integrity.

In addition to addressing threats, the joint sponsors may undertake survey and monitoring activities to improve information and to measure the effectiveness of management in protecting the values of the Special Areas.



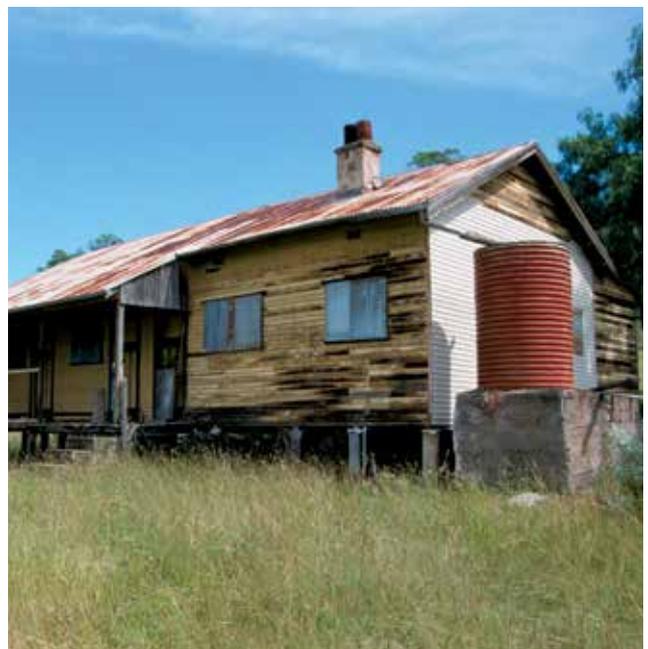
3

3.8 Cultural heritage

The cultural values of the Special Areas are significant for communities. Parts of the Special Areas have been protected as water supply catchments for over 100 years and are relatively undisturbed. This has resulted in rich and well-preserved examples of cultural heritage. Culturally important places, sites and objects of both Aboriginal and non-Aboriginal origin occur throughout the Special Areas and provide a record of human activities related to the natural features of the region. These features may be affected by the impacts of recreational activities, fire regimes, mining, research, introduced species and management operations, as well as by natural deterioration resulting from weathering erosion and vegetation growth. Cultural sites may be deteriorating and non-renewable, and may require effective management to ensure their conservation.

Under the NPW Act and the *Heritage Act 1977* (NSW), the agencies are required to have regard to the conservation of Aboriginal sites and historic places within the Special Areas. The agencies have a range of policies, plans and procedures that guide Aboriginal cultural heritage and historic heritage management on Special Area lands. The agencies are guided by the provisions of the Australian ICOMOS Charter for the conservation of places of historic significance (the Burra Charter, ICOMOS 2013) and the views of local communities who have an ongoing and active interest in the management of Aboriginal and historic cultural heritage within the Special Areas.

The joint sponsors consult and where appropriate, actively involve communities with cultural connections in the management of the Special Area lands. The joint sponsors will plan and implement programs to conserve significant historic places and Aboriginal sites within the Special Areas where required.



3.9 Land use including mining

Pressures may arise from development within and adjacent to Special Areas. Examples include urban development across the Sydney growth corridors, proposed and ongoing coal mining, and proposed coal seam gas extraction. While such developments bring significant economic and social benefits, they can impact water quality, water quantity and ecological integrity by increasing pollution, illegal access and the incidence of fire, reducing the viability of threatened species populations and reducing the connectivity between natural areas. Mine subsidence has the capacity to affect ecosystems, water quality and water quantity by disrupting drainage patterns, and can also damage other natural and cultural values. Such development pressures are expected to continue. WaterNSW and the NPWS will continue to respond to these issues through effective communication and coordination, utilising their specialist capabilities and expertise.

Urban development, industry and rural land uses:

The joint sponsors work to prevent and minimise the impacts of such development on the Special Areas. WaterNSW encourages best practice sustainable land use in the catchments through a mix of incentives, shared information, education and regulation.

WaterNSW and local councils have responsibility for implementing the State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 (NSW) and associated Local Planning Direction 5.2 Sydney Drinking Water Catchments to influence land use planning and zoning, and regulate development and activities in the catchment.

State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 requires councils to not approve development unless satisfied the development would have neutral or beneficial effect on water quality. In addition the SEPP states that any development activity should incorporate WaterNSW's relevant current recommended practices (which are designed to help ensure a development will have a neutral or beneficial effect on water quality).

Planning authorities, including local councils, must consult WaterNSW when developing their planning proposals and zoning in the catchment to ensure land use activities will have a neutral or beneficial effect on water quality. In addition Local Planning Direction 5.2 requires land in the Special Areas that is owned or under the control of WaterNSW to be zoned 'E2' Environmental Conservation if it is located above the full water supply level, and 'SP2' Infrastructure for all land below the full water supply level and for all operational land, including land at dams and weirs. The direction requires all land within the Special Areas which is reserved under the NPW Act to be zoned 'E1' National Parks and Nature Reserves.



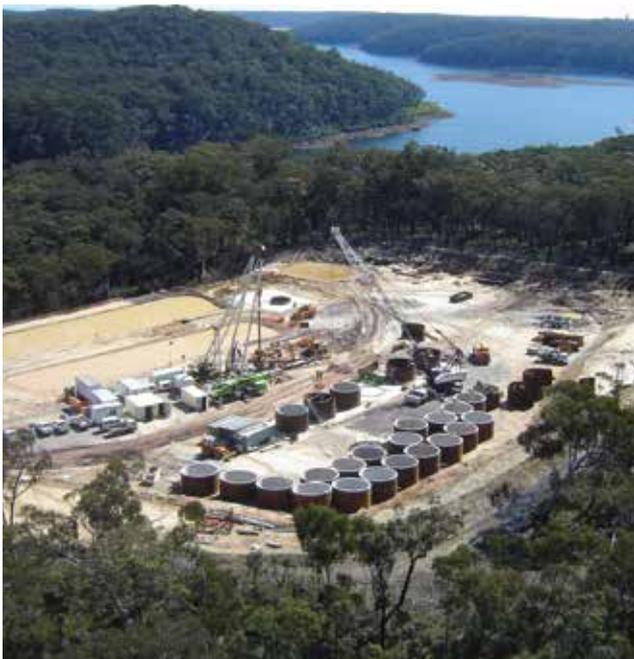
3

Mining, coal seam gas activities and related infrastructure:

Coal mining in the Southern Coalfield about the Illawarra escarpment commenced in 1848 and is likely to continue under the Special Areas into the foreseeable future. The coal resources in the Southern Coalfield are high quality hard coking coal. Large parts of the Metropolitan and Woronora Special Areas as well as the eastern and north western fringes of the Warragamba Special Area have been the subject of mining, both historically and currently.

The NSW Department of Planning and Environment, NSW Department of Industry, Skills and Regional Development's Division of Resources and Energy and the Planning Assessment Commission are responsible for the assessment and approval of mining and exploration related activities within mining or coal seam gas titles granted by the Division of Resources and Energy.

Production and exploration mining titles extend across the majority of the Woronora and Metropolitan Special Areas. Longwall coal extraction has affected the local water quality of impacted rivers and streams through increases in iron and manganese concentrations, the formation of bacterial mats and fine sediment accumulation.



Surface and subsurface fracturing of the bedrock has seen the loss of surface water flows from some sections of rivers during low flow times. There is evidence of an increase in the interconnectivity of surface and groundwater sources. These changes have the potential to cause impacts on local ecological processes and contribute to increased concentrations of metals.

Whilst the rehabilitation of stream beds is attempted, the long term success is unproven. To date, there is no documented, reliable and practical rehabilitation technique for returning the pre-mining water balance to impacted swamps.

Mining has also resulted in the destabilisation of cliff lines above longwall operations resulting in rock falls in some locations. It is not feasible to repair such damaged cliffs.

Mining and coal seam gas operations also result in the clearing of vegetation for exploration programs, road establishment, monitoring equipment and infrastructure such as mine ventilation shafts (as seen below). These activities have the potential to contribute pollutants to waterways through erosion and the unintended discharge of drilling fluids, wastewater, fuels and chemicals.

There have been no impacts on the ability of WaterNSW to deliver water quality of an agreed standard to its customers as a result of the mining impacts seen to date, however, the long term and cumulative impacts on storage water quality cannot yet be quantified.

WaterNSW has established a position that underpins its decision making in relation to managing mining and coal seam gas impacts on catchment infrastructure works and the Special Areas. WaterNSW's approach is available on its website.

As landowners, the joint sponsors actively contribute to the planning assessment process for both mining and coal seam gas proposals including exploration activities in the drinking water catchments. The joint sponsors provide advice to assessment authorities, including where appropriate seeking to amend proposals and the inclusion of conditions of approval that will avoid or minimise impacts on water quality, quantity and ecological and heritage values.

The joint sponsors work with the Department of Planning and Environment, the Division of Resources and Energy, the Environment Protection Authority and the OEH to monitor mining activities and ensure approval conditions are met. They conduct regular compliance programs to ensure mining operations are not in breach of the WNSW Act, *Protection of the Environment Operations Act 1997* or the NPW Act. WaterNSW has enforcement powers to issue warnings, Clean Up Notices, Penalty Infringement Notices or launch prosecutions. Several mining companies have been the recipients of WaterNSW Penalty Infringement Notices and Clean Up Notices for matters such as damage to vegetation and potential pollution of waters. NPWS can also take appropriate regulatory action in conjunction with OEH.

WaterNSW and OEH will continue to undertake relevant agency research programs to support its decision making and advice to assessment authorities.



3.10 Climate change

Changes in climatic conditions have been predicted to include increased climate variability, altered rainfall distributions, and increased frequency and intensity of extreme weather-related events. Climate change may have broad impacts on catchment and stream health, bushfire risk, biodiversity, and may accelerate changes in land use and regional development. These changes may impact on the relative contributions of pollutants across the different sources. Land management programs and use of statutory tools will act to protect water quality by reducing the incidence, extent and transport of pollutants within the catchments.

Climate change has been listed as a key threatening process under the *Threatened Species Conservation Act 1995* (NSW). Climate change may significantly affect biodiversity by changing population size and distribution of species, modifying species composition and by altering the geographical extent of habitats and ecosystems. Fire, pest and weed management, public access restrictions and other programs undertaken by agencies can increase the ability of native plants and animals to cope with future disturbances from climate change.

The joint sponsors implement responses to threats induced by climate change. To date, such responses have included programs to secure the conservation status of lands suitable to support species migration and species specific research into the effects of climate change on habitat values.

4 Strategic direction

4.1 Vision

The Special Areas are successfully managed to provide high quality raw water in reservoirs, by protecting the ecological integrity, and natural and cultural values of the areas.

4.2 Elements

The vision's core elements, namely 'management', 'high quality raw water', 'ecological integrity', 'natural values' and 'cultural values', along with water quantity, are inter-related and mutually dependent. For example, the protection of ecological integrity is both an outcome of, and a requirement for, the maintenance of high quality water within the Special Areas. The cultural assets of the Special Areas are a unique and independent value to those that support water quality but remain intrinsically connected to the natural environment.

4.2.1 Management

The vision requires the effective management of the Special Areas. The joint sponsors will need to:

- Maintain a collaborative relationship built on comprehensive liaison, coordination and governance arrangements.
- Develop an integrated program of land management activities.
- Determine management priorities on an adaptive basis using the best available science, data and local knowledge.
- Utilise each others skills and capacities to best effect.
- Maintain the capacity to jointly respond to emerging issues.

4.2.2 High quality water

The Australian Drinking Water Guidelines (NHMRC and NRMMC 2011) adopt a multi-barrier approach to address risks to water quality. The primary role of the Special Areas in maintaining water quality is to reduce the risk of priority pollutants being transported into the raw water supply. The vegetated and relatively undisturbed landscapes that comprise the Special Areas provide a significant barrier to the entry of pollutants into the water supply storages by minimising the effects of activities and processes that may pose a risk to water quality.

The quality of water within the Special Areas is intrinsically linked to the maintenance of the quantity of water delivered from the catchments (sometimes called Catchment Yield). Ensuring the hydrological integrity of the Special Areas supports the maintenance of the ecological values of these areas.

4.2.3 Ecological integrity and natural values

The lack of historic disturbance across much of the landscape within Special Areas has resulted in a high degree of overall ecological integrity. The lack of large scale disturbance, combined with the bioregional location of the Special Areas, has resulted in a high diversity of natural values including many species and ecological communities that are elsewhere threatened. The ongoing maintenance of ecological integrity and natural values will depend on programs and projects to address threats such as fire, pests, weeds and inappropriate human activity, as well as research and monitoring to improve knowledge and measure the effectiveness of management programs.

4.2.4 Cultural values

The Special Areas contain a wide range of Aboriginal and historic objects, sites and cultural landscapes. These cultural values are of ongoing significance to Aboriginal and other local communities. The maintenance of the cultural values of the Special Areas will require the conservation of significant objects, sites and cultural landscapes in consultation with local communities and other stakeholders.

4.3 Strategic management objectives

Nine strategic management objectives have been identified to support the vision and its elements.

- **Pollutants** are controlled so that impacts on water quality and natural and cultural values are minimised.
- Surface and groundwater sources and their interactions will be better understood so decisions are made that seek to minimise impacts on Special Areas **hydrological integrity**.
- **Pests and weeds** are controlled so that impacts on water quality and ecological integrity are minimised.
- Measures are in place to minimise the impacts of built **assets** within the Special Areas on water quality, ecological integrity and cultural values.
- **Access** to the Special Areas is controlled to protect water quality and ecological integrity while providing for appropriate visitor opportunities.
- **Fire** management within Special Areas maximises protection of life and property, and minimises impact on water quality and ecological integrity.
- **Ecological integrity** including threatened plant and animal species, endangered populations, endangered ecological communities, geodiversity and other natural values are maintained.
- **Cultural heritage** values are acknowledged and conserved, and community associations supported.
- Management of Special Areas is supported by appropriate **policy, planning and evaluation**.

The matters identified in Section 3 may be addressed by a combination of one or more of these strategic management objectives.

The strategic management objectives are unlikely to change over time but will be considered each review cycle. The process to identify and determine priorities and actions to address the strategic management objectives is described in **Section 6**.



5 Joint management arrangements

5.1 Joint management arrangements

This plan provides a strategic framework for management of the Special Areas. This plan does not direct actions on private lands within the Special Areas.

Effective management of the Special Areas relies on coordinated and cooperative action between the joint sponsors. To achieve this, they will maintain joint management arrangements for the Special Areas as the basis of a cooperative working relationship.

5.1.1 Objective

The joint management arrangements facilitate a cooperative working relationship and provide for a coordinated approach to the management of the Special Areas.

5.1.2 Responsibilities

WaterNSW is responsible for all aspects of land management on WaterNSW lands, and the water storages. WaterNSW has primary regulatory responsibility for managing access to the Special Areas. WaterNSW, under the Water NSW Regulation 2013 (NSW), regulates conduct in Special Areas to protect the quality of the water supply. WaterNSW provides advice and direction in regard to the protection of water quality and quantity.

The NPWS is responsible for the management of lands reserved under the NPW Act, including national parks, state conservation areas, regional parks, nature reserves, karst reserves and Aboriginal areas.

5.1.3 Planning, implementation and review

Each agency has an established policy, planning and procedural framework to meet their respective statutory and land management responsibilities. The joint management arrangements build on this by establishing a cooperative framework for land management planning, implementation and review.

5.1.4 Liaison, coordination and decision making

The joint management arrangements will provide structures and mechanisms for liaison, coordination and decision making between the two agencies. A Special Areas Operations Group (SAOG) will liaise at an operational level to recommend land management priorities, and provide effective program coordination and evaluation. An Executive Steering Group (ESG) will oversee the implementation of the SASPoM and joint management arrangements.

5.1.5 Policy and operational protocols

The joint management arrangements will articulate shared policy and operational protocols to support the work of the two agencies in the Special Areas.

5.2 Benefits of joint management

Joint management recognises the separate and mutual interests of the joint sponsors in protecting the Special Areas, and recognises that there are shared and complementary strategic and operational opportunities for both. Both sponsors bring their particular technical strengths to the relationship: WaterNSW's strengths are in water quality and quantity and Special Area regulation; and the NPWS's strengths are in the management of natural and cultural values. Both have expertise in core land management activities such as asset, pest and weed and fire management. As part of OEH, the NPWS also has the capacity to draw upon skills, knowledge and expertise within the broader agency.

Other benefits of joint management of Special Areas include efficiencies achieved through:

- Joint planning and reporting processes.
- Coordinated delivery of programs and projects, including efficient application of resources for training, research and communications.
- Provision of technical advice and agency experiences in relation to operational approaches and work, health and safety.
- Shared access protocols between WaterNSW and NPWS.
- Data and information sharing.



6 Planning and reporting framework

6.1 Planning and reporting cycle

The planning and reporting cycle for the implementation of the SASPoM is illustrated in **Figure 3**. The cycle seeks to fulfil the strategic management objectives of the SASPoM by identifying land management priorities, developing and implementing annual work plans and evaluating and reporting on performance. The process uses milestones and deadlines to integrate the planning and reporting cycle for the Special Areas into the broader corporate planning and reporting cycles used by the respective agencies.

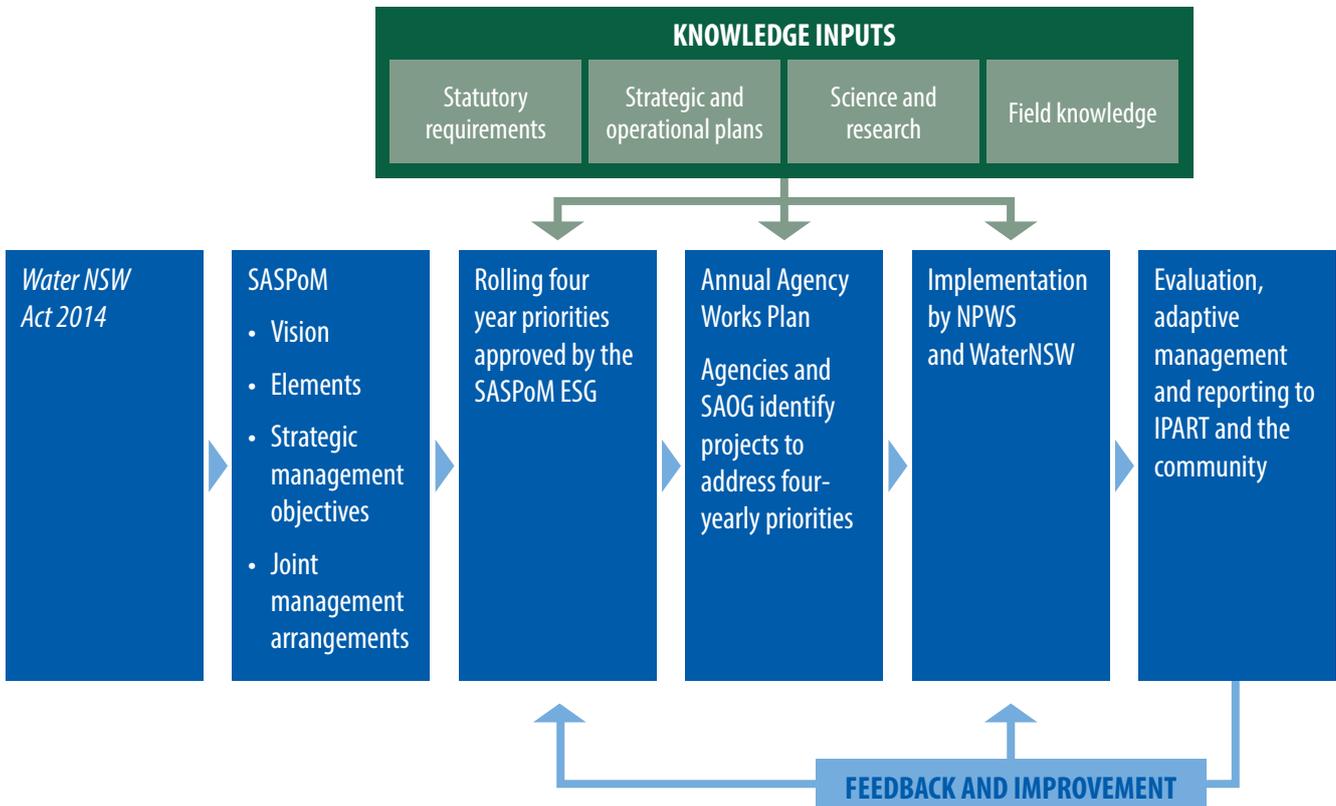
Guidelines will support implementation of the SASPoM planning and reporting cycle.

6.1.1 Four year land management priorities

The joint sponsors will develop a rolling set of four year land management priorities for the Special Areas, consistent with the strategic management objectives. This process will ensure a strategic approach to planning, a common approach to land management and consistency between the agencies in addressing shared issues across the Special Areas. The land management priorities will be approved by the ESG.

An annual review will provide opportunities for adaptive improvements and responses to major events within the Special Areas. The update will be undertaken by the SAOG with recommendations approved by the ESG.

Figure 3: SASPoM planning framework



This approach will provide agencies with the opportunity to forecast and plan work activity in the forward period and generate efficiencies in work flow and the deployment of staff and contractual resources.

6.1.2 Operational implementation

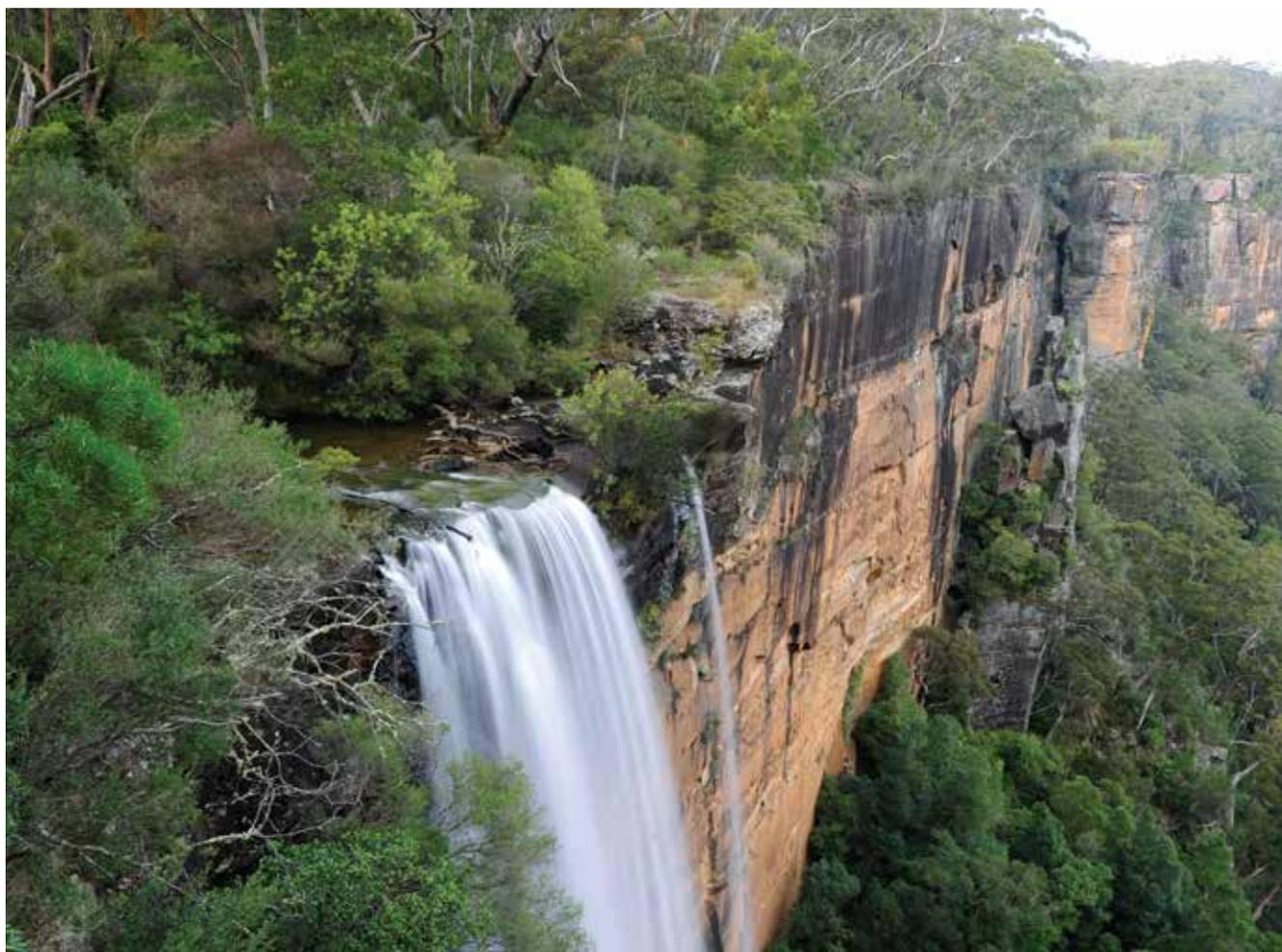
Projects contributing towards the fulfilment of the shared land management priorities will be articulated in annual agency works plans for the Special Areas. Some projects may involve a program of works requiring completion over a number of years.

Joint sponsors will utilise their respective corporate planning processes to prepare works plans, drawing upon the detailed and area specific planning within

existing agency planning documentation (such as reserve plans of management, operations plans, fire management strategies and pest management strategies) and considering the broad range of factors that influence priority setting detailed in **Section 6.2**.

Collectively, the respective sponsors plans form the annual work plan for the Special Areas.

The joint sponsors will implement their annual work plans independently. The coordination of programs across agencies, or with others, will be managed by the SAOG at scheduled meetings. The number of projects that can be implemented within a given year will be influenced by available resources and seasonal factors.



6

6.2 How priorities are determined

The SASPoM strategic management objectives set out in **Section 4.3** provide context and direction for the planning and prioritisation of programs and projects in the Special Areas. A variety of factors are considered by the two agencies when determining project priorities. Some of the more significant factors are shown in **Figure 4** and explained below.

- Statutory requirements – These are prescribed in a range of legislation that applies to the values of the Special Areas. Some are discussed in **Section 3**.
- Existing strategies, plans, policies and guidelines – a range of existing planning instruments guide the management of Special Area lands such as reserve plans of management, operations plans, fire management strategies and plans, pest management plans, and operational procedures.
- Strategic elements and objectives – identified in **Section 4**.
- Community interest and stakeholder participation – the sponsors will continue to consult and where appropriate, actively involve neighbours, stakeholder groups, other agencies and the broader community in the management of Special Area lands.
- Risks to the values of Special Areas – the joint sponsors seek to manage the risks to values, staff, contractors and the public in the Special Areas using risk management frameworks and a range of tools to formally or informally assess the types of risks within the Special Areas.
- History of previous action and investment – many of the objectives of this plan can only be fulfilled through an ongoing investment in maintenance or work activity. The joint sponsors assess the value of past work and the cost of not continuing with ongoing investment into such work activities.
- Feasibility to implement – the joint sponsors will consider the feasibility of achieving the preferred outcome in program areas.
- Return on investment – the joint sponsors evaluate the full range of costs and benefits associated with investment in work activities to ensure that a sound return on investment is achieved.
- Available data and information – decisions on priorities are informed by the results of recent research, monitoring and the knowledge of operational staff.

Figure 4: Factors considered in priority setting



6.3 How we measure, evaluate and report performance

6.3.1 Performance measurement

The joint sponsors will use output indicators to measure the extent of work completed within the Special Areas on an annual basis. Outcome indicators will provide information on trends in the condition of values within the Special Areas and the effectiveness of management in maintaining those values every three years.

6.3.2 Performance evaluation

Each year, the joint sponsors will jointly evaluate progress made towards completion of the annual works program, the management outputs achieved and emerging management priorities. The information will be used to adjust priorities and inform projects for the forthcoming year.

6.3.3 Performance reporting

WaterNSW functions under an Operating Licence granted under Section 11 of the WNSW Act. The Operating Licence and associated reporting manual detail the reporting required by IPART. Specifically, WaterNSW is required to report to IPART on planned and actual catchment management and protection activities, expenditures and outcomes. Reporting under the SASPoM is informed by these requirements. Every year each agency will report its planned and actual work activity in the Special Areas, and WaterNSW will compile this information for submission to IPART.

As part of the Annual Water Quality Monitoring Report, WaterNSW will report on water quality trends every two years. Every three years a State of the Special Areas Report will be prepared that assesses the condition of Special Area values, management effectiveness and trends over time. These reports will be made available to the public on WaterNSW's website.

6.4 Term of this plan

This plan will be formally reviewed every five years. It applies to all Special Areas managed by WaterNSW and NPWS, and will apply to any new or amended Special Areas. Minor amendments in the form of updates and changes to procedural matters not materially affecting the management of the Special Areas may be made to the plan to maintain its currency. Where the review process recommends material changes to the management of the Special Areas, the plan will be redrafted and publically exhibited in accordance with the WNSW Act.

6.5 More information

The references section lists some other plans and policies that inform management of Special Areas. More information is also available on the websites:

www.waternsw.com.au

www.environment.nsw.gov.au

References

Commonwealth of Australia 2001. A Directory of Important Wetlands in Australia 3rd ed. Environmental Australia, Canberra.

DECCW 2010. Audit of the Sydney Drinking Water Catchment. Report to the Minister for Water.

DECC 2008. Effects of Climate Change on Bushfire Threats to Biodiversity, Ecosystem Processes and People in the Sydney Region. Prepared as part of the Climate Change Impacts and Adaptation Research Project.

DECC 2009. EIA Procedures for DECC and SCA Lands in the Special Areas.

DECCW 2010. Priorities for Biodiversity Adaption to Climate Change.

NHMRC and NRMCC 2011. Australian Drinking Water Guidelines 6 National Water Quality Management Strategy. National Health and Medical Research Council and Natural Resource Management Ministerial Council. ISBN: 186496118X.

NPWS 2008. Parks and Wildlife Group Protected Areas Climate Change Statement and Action Plan 2008/09 – 2009/10.

NPWS 2011. Plan of Management Manual: Procedures and Guidelines for the Development, Public Exhibition and Adoption of Plans of Management.

NPWS 2010. Sustainable Tourism Action Plan – NSW National Parks and Wildlife Service.

NSW Office of Water, 2010. Climate change impacts on water supply and demand in Sydney. NSW Office of Water in collaboration with the Commonwealth Department of Climate Change, the Department of Environment Climate Change and Water, Sydney Water Corporation, Sydney Catchment Authority, University of New South Wales and CSIRO.

SCA 2010. Climate Change Impact Assessment 2010. Sydney Catchment Authority, NSW.

SCA 2012. Healthy Catchments Strategy 2012-2016.

SCA 2012. Water Quality Risk Management Framework 2012-2017. Sydney Catchment Authority, NSW.

SCA and DEC 2007. Special Areas Strategic Plan on Management 2007.

SCA and DEC 2007. Wingecarribee Swamp and Special Areas Strategic Plan on Management 2007.

SCA and DECC 2012. Special Areas Strategic Plan of Management Resource Document.

Photo credits

Photo credits

Adam Hollingsworth © WaterNSW – cover, 1, 3, 8, 10 (dam), 11 (weed control), 13, 16 (old homestead), 17, 23, 25

Andrew Bengsen © DPI – p9 (feral pig)

D Croft © OEHL – p12

Ken Stepnell © OEHL – p13 (spotted tiger quoll)

Tony Kondek © SCA – p16 (rock grinding groove)

