

RIVER MURRAY ACT 2003 ANNUAL REPORT 2009 – 2010

Prepared for the South Australian Parliament by the Minister for the River Murray

Department for Water – September 2010



**Government
of South Australia**

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FOREWORD

The River Murray continued to experience record drought conditions in 2009-10, which threatened the integrity of the entire system particularly the Lower Lakes region. However, the response to these conditions across government and communities has been coordinated, positive and effective. I believe that this great effort has significantly increased the chances for the River Murray system to recover when sufficient flows return to the system and water levels improve.

I would like to commend the concerted effort across community and government to respond to these difficult conditions. A number of major programs were quickly implemented and involved significant levels of cooperation across government. This signals an enhanced capacity to manage the River Murray system and a strong ability to articulate and negotiate South Australia's interests in the Murray-Darling Basin community.

South Australia was effectively able to negotiate and drive management responses such as securing environmental flows to key sites, managing acid sulfate soils, ensuring appropriate river flow management, securing water for critical human needs, making water available for irrigators, and managing riverbank collapse and low river levels.

The *River Murray Act 2003* (SA) continues to play a key role in delivering a healthy River Murray, through the alignment of strategies, policies and activities with the objectives for a healthy River Murray. A strong on-ground presence along the river by authorised officers, coupled with stream-lined compliance and referral processes, led to the following positive outcomes:

- Increased community awareness of, and compliance with, a large number of Acts, programs and plans as they apply to the River Murray;
- Improved understanding of the potential impacts of activities and developments on the River Murray; and
- Prevention of activities that impact on water quality, environmental flows, bank stability and cultural values of the River Murray.

Over the next year we can build on the success of current programs and mechanisms to help the River Murray recover from the extreme drought conditions of the past few years. The release of the draft Basin Plan and South Australia's response will be a key focus during 2010-11. The Basin Plan must ensure a long term productive and environmentally sustainable future for the Murray-Darling Basin, requiring flows in the Lower Murray to be increased and better managed to maintain a healthy working River Murray system. South Australia will have significant input into this process including implementing appropriate sustainable diversion limits through the revision of the River Murray Water Allocation Plan.

The *River Murray Act 2003* Annual Report for 2009-10 is presented for consideration.

Paul Caica MP

MINISTER FOR THE RIVER MURRAY

CONTENTS

River Murray Act 2003 Annual Report 2009 – 2010	1
Foreword	3
1. Introduction.....	5
2. Overview.....	6
2.1. Overview of the River Murray Act.....	6
2.2. Overview of the Report	7
3. Progress against the Implementation Strategy.....	9
3.1. Abate the Clearance of Native Vegetation.....	9
3.2. Achieve an Environmental Flow Regime for the River	11
3.3. Improve Water Quality.....	13
3.4. Conserve and Protect Heritage Values.....	14
4. Achievement of The RM Act Objectives and ORMs	16
4.1. River Health Objective.....	16
4.2. Environmental Flow Objective	17
4.3. Water Quality Objective	17
4.4. The Human Dimension Objective.....	18
4.5. Protecting River Values through Related Policies and Regulation of Activities	19
5. Report on Relevant Matters.....	25
5.1. Referral of Matters to the Minister.....	25
5.2. Enforcement of the General Duty of Care.....	28
6. Emerging Issues for the River Murray Act.....	32
Attachment 1: River Murray Act Objects and Objectives for a Healthy River Murray.....	34
River Murray Act Objects	34
Objectives for a Health River Murray (ORMS).....	35

1. INTRODUCTION

This annual report provides an overview of activities in 2009-10 that contributed towards meeting the obligations of the *River Murray Act 2003* (SA) (the RM Act).

The RM Act was enacted in 2003 after recognition of the need for improved policy frameworks and integration of activities between agencies to ensure adequate protection of the River Murray.

This is the sixth annual report. Section 10 of the RM Act requires the Minister responsible for the administration of the RM Act, on or before 30 September of each year, to prepare a report on the operation of the RM Act for the preceding financial year. The Minister must provide a copy of the report to both Houses of Parliament within six sitting days of the report being prepared.

As per Section 10(2) of the RM Act the report must include:

- a. information on the implementation of the RM Act (taking into account the provisions of the Implementation Strategy);
- b. information on the extent to which the objects of the RM Act and the Objectives for a Healthy River Murray are being achieved; and
- c. report on the following matters for the financial year –
 - i. the referral of matters to the Minister under any related operational act;
 - ii. the enforcement of the general duty of care; and
 - iii. action taken by the Minister or an authorised officer under Part 8 of the RM Act (protection and other orders).

This annual report relates to the period from 1 July 2009 to 30 June 2010 and has been compiled from information provided from the Department of Water, Land and Biodiversity Conservation (DWLBC) (now Department for Water (DFW)) and other relevant agencies. Agencies contributing to the report are listed in the ***Supporting Document to the River Murray Act 2003 Annual Report 2009-10 (Supporting Document)***.

2. OVERVIEW

2.1. OVERVIEW OF THE RIVER MURRAY ACT

The RM Act aims to protect, enhance and restore the River Murray in South Australia, ensuring that its use and management are sustainable.

The River Murray is defined in the RM Act as the **main stem** of the River Murray and its associated natural resources.

The natural resources include:

- a) The River Murray system including all of its tributaries, anabranches, wetlands and floodplains;
- b) Soil, groundwater, surface water, air, vegetation and ecosystems connected with the River Murray system;
- c) Cultural and natural heritage, amenity and geological value connected with the River Murray system; and
- d) Minerals and other substances and facilitates subject to the *Mining Act 1971 (SA)*.

This definition recognises the range of River Murray values that need to be protected.

In addition, the RM Act also contains River Murray Protection Areas (RMPAs) (see Figure 1) which are defined areas for regulating activities and policies to ensure that they are consistent with the protection of River Murray values.

The RM Act has a set of key objects (See **Attachment 1**) to guide effective management of the River Murray. The objects cover the requirements to:

- Incorporate the principles of ecologically sustainable development into management and rehabilitation of the river;
- Ensure development does not compromise the values of the river;
- Recognise indigenous and local communities views of managing the river; and
- Ensure that strategies and plans developed take into account the river values.

The RM Act also sets out the *Objectives for a Healthy River Murray* (ORMs) which have been endorsed by the Murray-Darling Basin Ministerial Council. The ORM's describe some of the specific improvements being sought for the River Murray and are grouped under the following themes (See **Attachment 1**):

- River health;
- Environmental flows;
- Water quality; and
- The 'human dimension'.

The RM Act ensures that such objectives are met by enacting a legislative framework which ensures that all reasonable measures are taken to safeguard, restore and enhance the River Murray. This includes regulations, referrals, compliance tools and policies.

The RM Act plays a key coordinating role and interacts strongly with related operational acts, existing institutions and plans to improve the focus on the River Murray, in particular the protection of river values. The establishment of the referral mechanism for related acts to refer relevant issues to the Minister for the River Murray is central to the integration of the river's interest into the existing legislative base.

The administration of the RM Act aims to serve community based activities and plans as well as government programs.

A *River Murray Act 2003 Implementation Strategy* (the Implementation Strategy) has been formulated to help guide implementation of the RM Act. The Implementation Strategy:

- Sets out priorities that the Minister will pursue in order to achieve the objectives of the RM Act and to further the implementation of the ORMs; and
- Sets out strategies that the Minister intends to adopt to meet those priorities.

The key priorities as outlined in the Implementation Strategy are as follows:

- Abate the clearance of native vegetation;
- Achieve an environmental flow regime for the River;
- Improve water quality; and
- Conserve and protect heritage value.

The strategies which are deemed to be required for achieving the outcomes in each priority area are:

- Providing advice or direction;
- Promoting integration;
- Undertaking or promoting programs; and
- Enforcement and compliance.

The Implementation Strategy is due for review in 2011.

2.2. OVERVIEW OF THE REPORT

This report is structured around the reporting requirements as per section 10 of the RM Act.

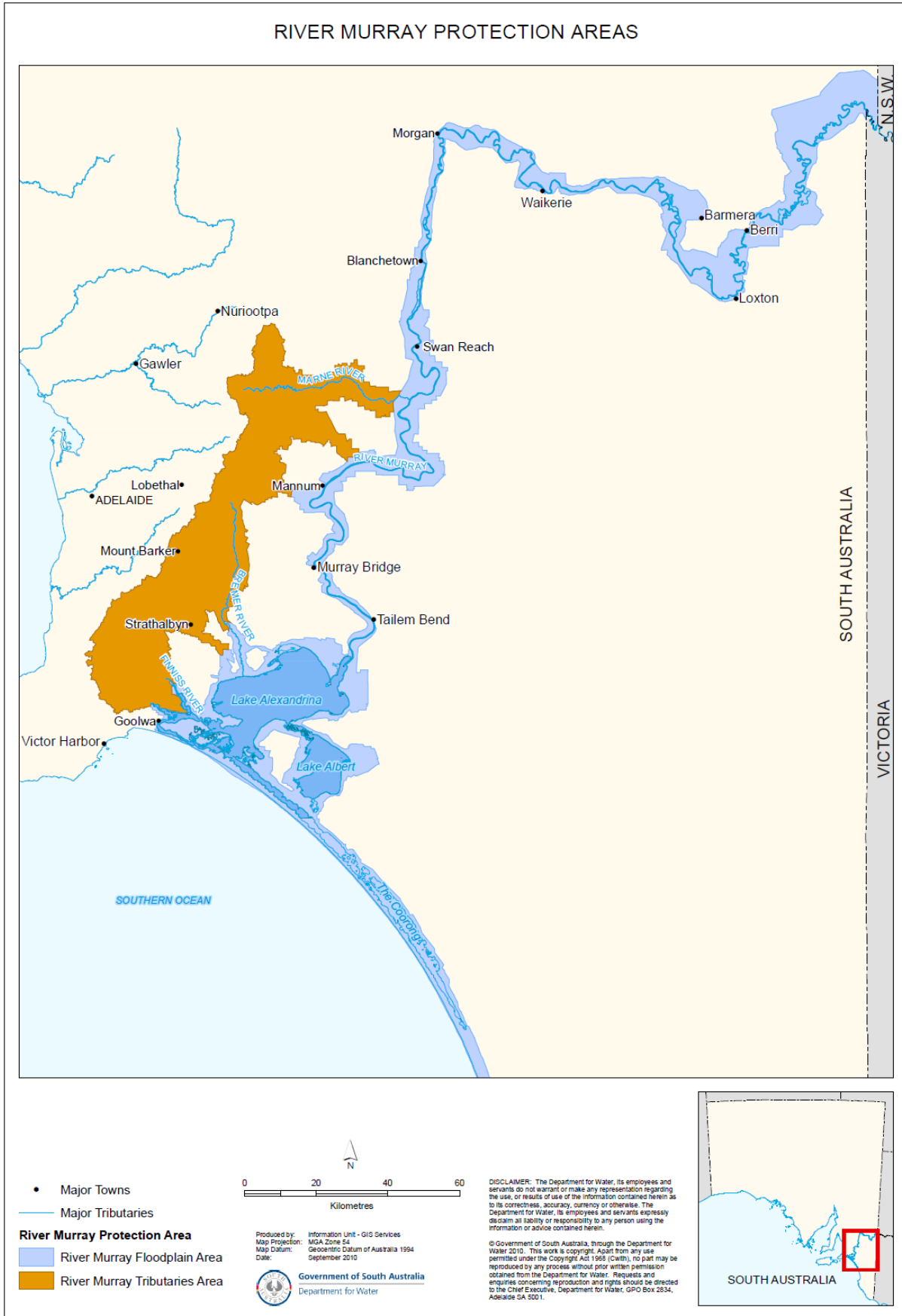
Section 3 of this report examines current progress against the Implementation Strategy with a focus on the identified priorities and strategies.

Section 4 explores the extent to which the objects of the RM Act and ORMs are being achieved to the extent that this is not covered in Section 3.

Section 5 reports on referrals of matters to the Minister under any related operational acts, the enforcement of duty of care and any action taken by the Minister or an authorised officer under part 8 of the RM Act.

Section 6 documents emerging issues that may potentially impact on future implementation of the RM Act.

Figure 1: River Murray Protection Areas



3. PROGRESS AGAINST THE IMPLEMENTATION STRATEGY

As described in Section 2 of this report, the Implementation Strategy outlines four key priorities for implementation of the RM Act. Evidence of progress against these key priorities is described in the following sections.

3.1. ABATE THE CLEARANCE OF NATIVE VEGETATION

The key outcome for this priority is:

“Controlled vegetation clearance to encourage the restoration, protection and management of native vegetation and habitats.”

This includes clearance of endemic native vegetation, and encouraging re-vegetation. It also includes controlling the clearance of non-endemic vegetation where vegetation significantly benefits an aspect of the river.

Clearance in this context is defined as any process which threatens the integrity of native vegetation systems. This encompasses a range of threats to integrity, including pest plants and animals, inadequate environmental flows and grazing pressure. Initiatives that involve active restoration such as re-vegetation are also considered to contribute.

LEGISLATION AND POLICY INITIATIVES

Native vegetation is protected from clearance through the *Native Vegetation Act 1991* (SA) (Native Vegetation Act) and *Native Vegetation Regulations 2003* (SA). Clearance is only allowed under circumstances prescribed in the regulations, or if approved through a vegetation clearance application.

In relation to protecting the River Murray, the principle for assessing native vegetation clearance applications as contained in Schedule 1 of the RM Act is:

“Native vegetation should not be cleared if, in the opinion of the [Native Vegetation] Council—... the clearance of the vegetation would cause significant harm to the River Murray within the meaning of the River Murray Act 2003.”

Development applications are referred to the Native Vegetation Council from a range of sources, including referrals directly from the Minister for the River Murray. Applications that fall within the RMPAs are treated in accordance with the principle outlined above.

In 2009-10 no large scale removal of native vegetation was detected despite compliance officers regularly patrolling the river. There were 11 cases of small scale unauthorised clearance of native vegetation from within RMPAs. These cases were administered by the Native Vegetation Council and resulted in measures ranging from educational letters to an expiation notice depending on the nature of the offence.

A number of development applications were also referred to the Minister for the River Murray requiring the removal of native vegetation in order to construct dwellings. Where

relevant, conditions were placed on these applications to ensure that native vegetation was protected from clearance.

The *Native Vegetation Regulations 2003* (SA) have recently been amended in relation to exemptions to clearance. As outlined in Regulation 5A - Fire Prevention and Control, a greater level of clearance is allowed around houses (up to 20 metres) and in accordance with a Bushfire Protection Plan. For 2009-10 there was one application referred for clearing native vegetation around dwellings where this regulation was activated.

The *Crown Land Management Act 2009* (SA) has replaced the *Crown Lands Act 1929* (SA). This new Act has a greater focus on environmental protection. This will increase the capacity to restore floodplain and riparian areas of the River Murray, as a significant proportion of these are on crown land.

The protection of native vegetation from pest plants and animals is legislated by the *Natural Resources Management Act 2004* (SA) (NRM Act). Staff from the South Australian Murray-Darling Basin Natural Resources Management Board (SA MDB NRM Board) administer these requirements and undertake regular pest plant and animal control programs.

Implementing a bio-security approach is an important principle in relation to protecting native vegetation. Branched Broomrape is recognised as a highly invasive weed within the region with the potential to spread and have a significant impact. Development applications referred to the Minister for the River Murray are assessed to determine if they reside within a Branched Broomrape zone and applicants are made aware of the relevant protocols and provided with a free decontamination service.

IMPLEMENTATION OF MAJOR PROJECTS AND PROGRAMS

A range of major government programs and projects contributed towards the native vegetation priority of the Implementation Strategy. This includes large scale re-vegetation and restoration of native vegetation through removal of grazing, management of pest plants and animals and the provision of environmental flows to wetland and floodplain habitats to prevent their further degradation. The relevant projects are listed below with key outcomes detailed:

River Murray Forests – A revegetation initiative re-establishing native vegetation on both private and public land (2,750 hectares currently). Land Management Agreements are negotiated as part of the scheme under the *Development Act 1993* (SA) (Development Act) to provide long term protection for vegetation.

Removal of Grazing on Crown Lands – A positive program to remove grazing from crown lands, targeting high value sites such as the Pike Floodplain and river frontages. For regions such as Pike this is an integral action to facilitate significant regeneration of the floodplain.

Environmental Flows – A program to return environmental flows to wetlands and floodplains. This has been essential for maintaining the health of high priority sites during an extensive drought period. A total of 537 GL of environmental water was provided to 34 sites (including Lake Albert) within South Australia in 2009-10 from Commonwealth and State sources.

Carp Eradication Programs – A number of projects were implemented to control Carp and to better understand future management requirements that can be applied at a broad scale. Carp are highly destructive to in-stream habitats.

Biosecurity – Initiatives including educational programs were implemented to ensure that new and emerging weeds are not established particularly in aquatic areas. This includes the detection and control of Golden Dodder (*Cuscuta campestris*).

3.2. ACHIEVE AN ENVIRONMENTAL FLOW REGIME FOR THE RIVER

The key outcome required for this priority is:

“Increased and manipulated flows to assist in protecting and enhancing ecological assets.”

This includes promoting formal allocation and management of environmental flows and promoting water use efficiency and water savings to reduce the level of reliance on River Murray water.

LEGISLATION AND POLICY INITIATIVES

The Living Murray is an intergovernmental agreement developed to address the over allocation of water in the Murray-Darling Basin and the requirement to achieve environmental objectives.

The Living Murray Initiative included a national water recovery target of an average of 500 GL per year for environmental purposes.

South Australia received 53 GL in 2009-10 through The Living Murray Initiative.

The *Water Act 2007* (Cth) outlines the requirement for the Murray-Darling Basin Authority (MDBA) to develop a Basin Plan. The plan will set a sustainable diversion limit for the amount of water that can be taken from all surface and groundwater systems in the Murray-Darling Basin. The sustainable diversion limits will be developed mindful of future projections of water resource capacity taking into account climate change. Water Allocation Plans (WAPs) for the South Australian part of the Murray-Darling Basin will be developed to comply with the new sustainable diversion limits and any other requirements to be outlined in the Basin Plan.

Strategies are in place to ensure a coordinated whole-of-government response from South Australia to the Guide to the Proposed Basin Plan and the proposed Basin Plan once they are released.

The NRM Act regulates the state-wide protection of water resources and water dependent ecosystems. The NRM Act stipulates the requirement to develop WAPs for prescribed water resources to ensure water resources are managed within sustainable limits. Within the River Murray system the Marne Saunders WAP was adopted in 2009-10. This WAP contains new initiatives to ensure adequate environmental flows including the installation of low flow bypasses for farm dams and restricting the capture of catchment run-off.

A number of development applications were received in 2009-10 for upgrades to existing structures on the floodplain. Such applications had conditions placed on the design of the structures to ensure that the future flood paths would not be impeded.

A number of development applications for jetties and moorings were also reviewed in light of the potential to impede flows and approval was sought from Crown Lands of the Department of Environment and Heritage (DEH) (now the Department for Environment and Natural Resources (DENR)). Where relevant, applicants for approvals referred under the RM Act were also made aware of their responsibilities under the NRM Act in relation to requiring a license to take water.

In relation to compliance issues in 2009-10, a major focus has been ensuring both holiday home owners and irrigators comply with enhanced water restrictions and diminished water allocations.

Authorised officers have been on the ground along the River Murray, educating irrigators and holiday home owners of their responsibilities. A large number of formal warnings, informal warnings and expiations were issued predominantly to holiday home owners for breaching water restrictions. Water usage was also monitored, with a meter audit conducted in the Lower Murray to identify water use and potential problems with meters.

IMPLEMENTATION OF MAJOR PROJECTS AND PROGRAMS

A range of programs and projects were implemented to achieve the environmental flow priority. This included a major environmental flow program and a number of initiatives to improve water use efficiency and facilitate water re-use in order to reduce the level of reliance on the River Murray.

Environmental Water Management – A program that includes the return of environmental flows to wetlands and the Lower Lakes. The program was essential for maintaining the health of high priority sites during an extensive drought period, with 93 GL secured for South Australian priority sites. Additional inflows into SA led to the provision of 26 GL for Lake Bonney and 418 GL for the Lower Lakes.

Floodplain Watering – Construction began on the Chowilla regulator to facilitate extensive future flooding of the floodplain. This is a significant test case to demonstrate that such areas can be rehabilitated through the provision of environmental flows.

On-Farm and Industry Water Use Efficiency Programs – Major enterprises along the River Murray were required to develop a water use efficiency plan as a condition of their water licence. A range of on-farm efficiency programs were run including educational programs, upgrade of infrastructure and event based irrigation software tools.

Implementation of Water for Good Actions – A range of initiatives were implemented from the *Water for Good* plan to reduce the reliance on the River Murray for urban water supplies. This included commencing the construction of the desalinisation plant, water re-use schemes and upgrades of wastewater facilities.

3.3. IMPROVE WATER QUALITY

The key outcome required for this priority is:

“Improved water quality through reducing salinity and all types of pollution.”

This includes preventing the impacts of salinity and reducing the likelihood of future salinity increases. It also includes the management and prevention of other water quality threats including acid sulfate soils, nutrification and contamination from chemicals and pesticides.

LEGISLATION AND POLICY INITIATIVES

The primary act which protects water quality within South Australian waters, including the River Murray, is the *Environment Protection Act 1993 (SA)* (Environment Protection Act) and associated Environment Protection (Water Quality) Policy (WQEPP) 2003. This sets the environmental values for the River Murray, the criteria for discharges, and through codes of practice, attempts to manage diffuse sources of pollution to the river.

This EPA Act has been amended to ensure that it is administered in a way that takes into account and seeks to further contribute to the objects of the RM Act and ORMs. The Environment Protection Authority (EPA) also has power of direction on all statutory referrals received through the *Development Regulations 2008 (SA)*.

In order to protect water quality values, the National Water Quality Management Strategy is currently being implemented in the River Murray region. This involves setting environmental values for the river through a process of community consultation. This will ensure that water quality thresholds are met to ensure the protection of the nominated environmental value.

Also in 2009-10 the EPA began a review of its WQEPP in order to place a greater focus on environmental protection. This includes potentially lowering water quality thresholds to achieve environmental objectives, working more cooperatively with industry and examining processes to integrate the regulation of both diffuse and point source pollution.

In relation to development applications, the EPA and DWLBC (now DFW) worked cooperatively to ensure that a consistent position was given in relation to protecting water quality. Conditions were placed on developments that involved dredging in the vicinity of the river to ensure that silt could not enter the main river. Spoil material from dredging was also required to be removed from the floodplain. In relation to compliance, in 2009-10 there were a number of incidences of sand dumping, chemicals being found unsecured on the floodplain and leaking diesel pumps that were referred on to the EPA.

South Australia is committed to delivering salinity management obligations under the MDBA Basin Salinity Management Strategy (BSMS) (Schedule B of Schedule 1 of the *Water Act 2007 (Cth)*). This includes keeping South Australia in a positive balance on the BSMS Salinity Registers. This requirement sets the framework for a range of actions which

create positive actions on the register, including salt interception schemes and irrigation efficiency programs.

In addition, the future Basin Plan will include a Water Quality and Salinity Management Plan. DWLBC has provided input into the development of the draft plan and will provide a coordinated whole of government response to this plan as part of the Basin Plan response.

IMPLEMENTATION OF MAJOR PROJECTS AND PROGRAMS

A range of major programs and projects were implemented by relevant government agencies to help achieve the water quality priority. This included a program to prevent acid sulfate soils, an integrated salinity program, protection of river frontages, reduction in wastewater discharges going into the river, prevention of sand dumping along the river and completion of rehabilitation of an irrigation region.

Drought Water Quality Salinity Monitoring – An integrated program of monitoring to ensure that water quality does not decline. Initiatives to maintain drinking water quality include infrastructure ‘scum booms’ to prevent water contamination at drinking water intakes.

Integrated Salinity Management Program – Overall the program kept South Australia in a positive balance on the BSMS registers. On-ground actions included salt interception schemes, irrigation efficiency programs and monitoring and investigations. Highlights for the last 12 months include securing funding for a major on-farm efficiency program, salt interception schemes progressing at Murtho and Loxton and the input into targets required for the Salinity and Water Quality Strategy for the Basin Plan.

Audit of Houseboats – A major program to audit houseboats along the river to ensure they comply with black-water and grey-water codes of practice and a related educational program. Grey-water codes of practice have recently been introduced.

Protection of Lakes and River Frontages – Continued management of lake and river frontages to protect them from cattle grazing with legislative mechanisms in place to ensure fencing is not removed.

Sand Dumping Educational Program – A major community educational program regarding provisions against dumping sand along the river.

Lower Murray Reclaimed Areas Irrigation Program – All on-ground works were completed and a post implementation review undertaken. This involved on-farm infrastructure improvements to 4,050 hectares including metering, run-off pollution capture and re-use. This resulted in significant improvements to water quality in farm outfalls to the river between Mannum and Wellington.

3.4. CONSERVE AND PROTECT HERITAGE VALUES

The key outcome required for this priority is:

“Heritage values of the River Murray are conserved and protected.”

This includes places of natural and cultural heritage value such as Aboriginal sites, historical vistas, significant landscape features and built heritage.

Aboriginal heritage in South Australia is protected through the *Aboriginal Heritage Act 1988* (SA) including blanket protection for Aboriginal remains and Aboriginal sites and objects of significance to Aboriginal archaeology, anthropology, history and tradition.

A key event for heritage values occurred on 4 May 2009 when Ngarrindjeri and the South Australian Government confirmed the cultural significance of the Hindmarsh Island area to Ngarrindjeri and registered it in accordance with requirements of section 12 of the *Aboriginal Heritage Act 1988* (SA). Following that, the State Government publicly acknowledged the Federal Court finding that the cultural beliefs held by Ngarrindjeri persons, in relation to the Hindmarsh Island Bridge Royal Commission, were genuine beliefs based on Aboriginal tradition.

A key part of the RM Act is to refer development applications to the Aboriginal Affairs and Reconciliation Division (AARD) of the Department of the Premier and Cabinet for assessment against a register of Aboriginal sites to ensure their protection.

A large number of development applications within the 1956 floodplain were referred to AARD. Applicants were notified if there were any aboriginal sites in close proximity and any issues regarding the protection of sites. In one case this involved halting a particular activity.

In 2009-10 some sites of Aboriginal ancestral remains were uncovered along the riverbank and surrounds due to erosion. The sites were recorded on the register and management plans negotiated and implemented with stakeholders.

The key legislation for the protection of non Aboriginal heritage is the *Heritage Places Act 1993* (SA) and *Historic Shipwrecks Act 1981* (SA). This protects cultural and natural heritage values of the region including visual amenity. In 2009-10 a number of development applications (40) were referred to the Cultural Heritage Branch of DEH (now DENR). A number of conditions were placed on developments to ensure that they retain the character and visual amenity of the site in question.

IMPLEMENTATION OF MAJOR PROJECTS AND PROGRAMS

A range of major programs and projects were implemented by relevant government agencies to help achieve the heritage value priority. This includes indigenous engagement and capacity building programs, management of sites of significance, development of management plans, integration of Aboriginal values into major programs and ensuring indigenous representation.

Aboriginal Partnerships Project – Employing indigenous people to work on a range of NRM projects including management plans and revegetation programs. This includes providing them with accredited training to support their skills development.

Lake Bonney Cultural Heritage Plan – Development of a cultural heritage plan for Lake Bonney in consultation with the First Peoples of the River Murray.

Indigenous Involvement in Coorong, Lower Lakes and Murray Mouth (CLLMM) – Indigenous facilitators are employed to assist in consultation and management of the relevant sites. Ngarrindjeri are key partners in the project with a consultation agreement

in place to ensure indigenous values are incorporated. This includes identifying sites of high social value. In addition, the arrangement has ensured that Aboriginal Heritage approvals are provided for relevant infrastructure works.

Membership on the Basin Plan Community Committee – An indigenous representative is on the community committee providing advice from the perspective of a traditional owner.

Heritage Directions Funding – Supports local councils to carry out or review local heritage surveys, undertake Heritage Development Plan Amendments and establish Local Council Heritage Incentive Schemes.

4. ACHIEVEMENT OF THE RM ACT OBJECTIVES AND ORMS

A large number of government programs and projects played a role to further progress the objects of the RM Act and the ORMs. These include both state-wide projects and projects focused on the River Murray region.

A range of government agencies were responsible to lead and partner in such activities according to their specific obligations and agency focus. Each government agency has been asked to provide relevant programs and projects under the four themes of the 'healthy River Murray'. These are fully detailed in the *Supporting Document*.

A number of community groups were also instrumental in the implementation of such projects including Local Action Planning Groups, Wetland Management Groups, Land and Water Management Planning Groups and Aboriginal Groups.

A summary of key outcomes is provided below, listed according to the four objectives of a healthy River Murray.

4.1. RIVER HEALTH OBJECTIVE

Major projects contributing to this objective in 2009-10 included on-ground works such as re-vegetation, fencing, pest plant and animal removal and the provision of environmental flows, as well as a major compliance program in the River Murray region of South Australia for locating breaches of duty of care.

For more detailed information please refer to sections in the *Supporting Document* relating to River Health.

Major achievements of the program for 2009-10 included:

- Rehabilitation of the Lower Lakes region through significant fencing, revegetation, pest plant and animal removal. This includes broad-scale aerial seeding of dry lake beds;
- Programs in place to remove grazing licences on crown land, in particular, on high value floodplain sites and river frontage areas;
- Major revegetation programs underway including the River Murray Forest Program and the Regent Parrot Program to reconnect existing habitats;

- A range of actions to protect native fish species of the region including; targeted environmental watering, reconnection of water-bodies to facilitate migration and fish recruitment, incorporating fish-ways into major engineering structures, protection of high value fish sites including the Murray Cod;
- Significant South Australian input into the process of developing the Basin Plan in order to protect River Murray values including defining key environmental assets, environmental water requirements and catchment risks; and
- Regular patrols of the river from the state border to the Murray Mouth to locate any relevant breaches to river health values including vegetation integrity, riverbank stability and integrity and obstructions to river-flow.

4.2. ENVIRONMENTAL FLOW OBJECTIVE

Major projects contributing towards this objective in 2009-10 included securing environmental flows and ensuring flows to the river mouth, constructing new environmental regulators at the Chowilla floodplain, developing water allocation plans, reducing reliance on the River Murray through water re-use and increased water use efficiency.

For more detailed information please refer to the sections in the *Supporting Document* relating to Environmental Flow.

Major achievements of the program for 2009-10 included:

- A significant level of environmental water secured for South Australia (537 GL) to water a range of floodplain and wetland sites including Lake Albert, Chowilla and Lake Bonney;
- Environmental watering facilitating protection of threatened species, prevention of acid sulfate soils and floodplain enhancement. Responses seen included improvement in vegetation health and recruitment of bird, fish and tree species;
- Chowilla Floodplain rehabilitation underway with \$40 million secured through the MDBA for installing new environmental regulators to enhance flooding of the floodplain;
- Continuation of dredging of the Murray Mouth after technical investigations reveal it is the most appropriate way to keep the mouth open;
- Completion of the Marne Saunders WAP and on-going development of the River Murray and Eastern Mt Lofty Ranges WAPs. This includes the incorporation of high level technical information regarding environmental flow requirements; and
- A range of programs implemented to ensure responsible use of River Murray water including water use efficiency for irrigators, industry water use efficiency plans and water re-use and recycling programs for local government.

4.3. WATER QUALITY OBJECTIVE

Major projects contributing towards this objective in 2009-10 included drought water quality monitoring, active intervention to prevent acid sulfate soils, continued audits of

river house boats, prevention of sand dumping on the riverbank and programs to improve on-farm water use efficiency.

For more detailed information please refer to the sections of the **Supporting Document** relating to Water Quality.

Major achievements made in this area in 2009-10 included:

- Initiatives undertaken at short notice to address acid sulfate soils including neutralising acid, pumping water into areas at risk of acidification (Lake Albert, Goolwa Channel), and building regulating structures;
- Comprehensive drought monitoring of water quality to ensure any potential threats or risks are picked up quickly and initiatives taken to ensure maintenance of drinking water quality;
- Audit of river boats including the requirement to comply with both black-water and grey-water regulations and the upgrading of river waste disposal stations;
- Continued work on the construction of salt interception schemes including further construction of the Murtho and Loxton schemes and preliminary investigations for the Pike scheme;
- In principle funding received for significant on-farm efficiency upgrades and major training provided for improving on farm irrigation efficiency;
- Significant investigations undertaken to improve the understanding of salinity processes, in particular floodplain processes and understanding the origins and sources of salt in the landscape;
- Comprehensive monitoring of algal blooms and actions taken to ensure they cannot enter drinking water supplies; and
- Completion of a major rehabilitation program of on-farm infrastructure in the Lower Murray to improve water quality, for example nutrient and bacterial levels, and reduce water use.

4.4. THE HUMAN DIMENSION OBJECTIVE

Major projects contributing towards this objective in 2009-10 included: community capacity building programs and indigenous engagement; high-level negotiations and programs to maintain water supplies and flows; monitoring and modeling programs underpinning management decisions; and initiatives developed to improve the economic viability of the region.

For more detailed information please refer to the sections of the **Supporting Document** relating to Human Dimension.

Key achievements in this program included:

- Ensuring appropriate management and coordination of the newly declared State Hazard - Riverbank collapse. Initiatives included developing a hazard plan, communications plan, telephone hotline and development of relevant work-safe practices;
- Building the capacity of local communities to participate in Natural Resources Management (NRM) initiatives such as wetland management, rehabilitation of the

- Lower Lakes, improvement in irrigation practices, threatened species programs and pest plant and animal management;
- Involvement of Aboriginal people in a range of on-ground NRM projects including active management of the Lower Lakes and Riverland regions;
 - Managing significant South Australian input into Commonwealth programs such as the Riverine Recovery program, Basin Plan and schedules of the *Water Act 2007* (Cth);
 - Negotiating critical water sharing arrangements and operational management for the River Murray system;
 - Unbundling of water licenses to promote trade and ensure more effective environmental management;
 - Supporting irrigators through drought including providing ‘top up’ water, water carry over in addition to water allocations provided through the River Murray’s Drought Allocation Framework;
 - Monitoring and modelling programs providing accurate and timely information, feeding into policy decisions and providing advice to the community and government;
 - Co-ordinating drought response planning to reduce reliance on the River Murray for drinking water supplies and ensure maintenance of current supplies; and
 - Developing tourism and economic plans to ensure long term economic viability of the River Murray region.

4.5. PROTECTING RIVER VALUES THROUGH RELATED POLICIES AND REGULATION OF ACTIVITIES

The RM Act includes a requirement to effectively manage development, or other relevant activities in order to protect river values, as follows:

- a) Development or activities that are likely to have an adverse effect are prevented from proceeding, are regulated or are brought to an end (Object (b)).
- b) Development or activities that are acceptable are conducted in such a way to have the maximum benefit on the river and also provide for the economic, social and physical well being of the community (Object (c)).

The RM Act contains legal mechanisms to ensure these Objects are achieved including regulating relevant activities or policies that potentially impact on the River Murray and its associated natural resources. Instruments include a duty of care mechanism, a referral process and a compliance process including River Murray Protection Orders and Reparation Orders.

COMPLIANCE MECHANISM – DUTY OF CARE

The RM Act contains a duty of care requirement,

“A person must take all reasonable measures to prevent or minimise any harm to the River Murray through his or her actions or activities.”

Harm includes risk of harm, future harm and anything declared by regulation to be harm.

When a duty of care is breached then a compliance process is enacted. The Investigations Unit of DWLBC (now DFW) is responsible for administering compliance for the NRM Act, the Native Vegetation Act and the RM Act. However, it refers matters to the EPA for water quality issues to allow for compliance to be achieved pursuant to the Environment Protection Act.

In the case of the compliance mechanism under the RM Act, a written or verbal warning is given if the problem can be quickly corrected in a short time and there is minimal impact on the river. If not, River Murray Protection Orders are issued initially as a 'stop work' order, requiring the damaging activity to be halted and appropriate processes to apply for approval of the activity.

If damage has been created by the activity then Reparation Orders are issued as a 'make good' order to repair damage created and prevent further damage. It may be a breach of the RM Act to fail to comply with either a Protection or Reparation order.

In 2009-10 there was a highly visible compliance presence along the river including three investigators authorised to conduct investigations into alleged breaches of the RM Act. They were also supported by 10 drought compliance officers, conducting daily compliance patrols along the river.

This provided a highly visible deterrent to persons who may commit offences under the relevant Acts the officers have direct responsibility for. In addition, to value add, officers were able to observe and report a myriad of river related issues to DWLBC (now DFW) and other relevant departments (DEH (now DENR), EPA, local councils, Natural Resources Management Boards). This ensured compliance with a wider range of legislation as well as also providing an essential first response approach to assessing reports of riverbank collapse/slumping.

The DWLBC (now DFW) Investigations Unit has a positive working relationship with these other agencies and stakeholders in protecting the River Murray and actively pursues good working relationships to ensure a high level of reporting of alleged offences continues.

In terms of compliance in 2009-10, the duty of care principle was applied to a range of issues including native vegetation clearance, sand dumping, chemical dumping and the construction of illegal moorings, jetties and riverbank retaining structures. A range of mechanisms were used to ensure compliance with the duty of care with a view to achieving a consensus approach and voluntary compliance. No prosecutions were undertaken as a result of this approach.

THE REFERRAL MECHANISM

The RM Act also contains a referral mechanism to protect river values and to ensure that the duty of care is met.

The RM Act (Section 6) outlines the requirement to refer a statutory instrument (plan, policy or program) or statutory authorisation (licence, permit) from a related operational act to the Minister for the River Murray. The Minister is responsible for ensuring that such instruments or authorisations are undertaken in accordance with and to further the objects of the RM Act and the ORMs. This may require external consultation with another agency in relation to approving authorisations (Figure 2).

STATUTORY AUTHORISATIONS

The RM Act currently requires the referral of statutory authorisations for comment or direction from the Development Act, *Mining Act 1971 (SA)*, *Petroleum and Geothermal Energy Act 2000 (SA)*, *Harbours and Navigation Act 1993 (SA)* and the *Fisheries Management Act 2007 (SA)*.

The majority of referrals come from the Development Act with a smaller proportion from the other Acts.

ONE STOP SHOP

The referral process involves consideration of a range of associated Acts in order to meet the objects of the RM Act and the ORMs. A one stop shop service (see Figure 2 – next page) is operated to facilitate this. DWLBC (now DFW), on behalf of the Minister is the central co-ordinating body, receiving referrals and sending them out for comment to relevant technical experts, both internally and to other government agencies. A consolidated response is then provided to the planning authority. For example, during the preparation of responses to development application referrals, input is sought from relevant government agencies that would not ordinarily have the opportunity to comment formally.

The eight week period to comment, as prescribed in Schedule 8 of the *Development Regulations 2008*, ensures that all relevant agencies are provided their statutory timeframe of six weeks to thoroughly review the application and advise of any legislation, policies or other requirements relating to the proposal. In addition, DWLBC (now DFW) may coordinate and facilitate meetings between the relevant agencies and the proponent, as well as site visits, which may assist in the assessment of an application.

The One Stop Shop Service also applies for statutory instruments such as Aquatic Activity Permits administered under the *Harbours and Navigation Act 1993 (SA)*, Fishery Permit Exemptions administered under the *Fisheries Management Act 2007 (SA)*, for mining exploration, declared equipment use, leases and licences administered under the *Mining Act 1971 (SA)* and in relation to the Statement of Environmental Objectives for activities arising from the *Petroleum and Geothermal Energy Act 2000 (SA)*.

PROVISION AND GUIDELINES

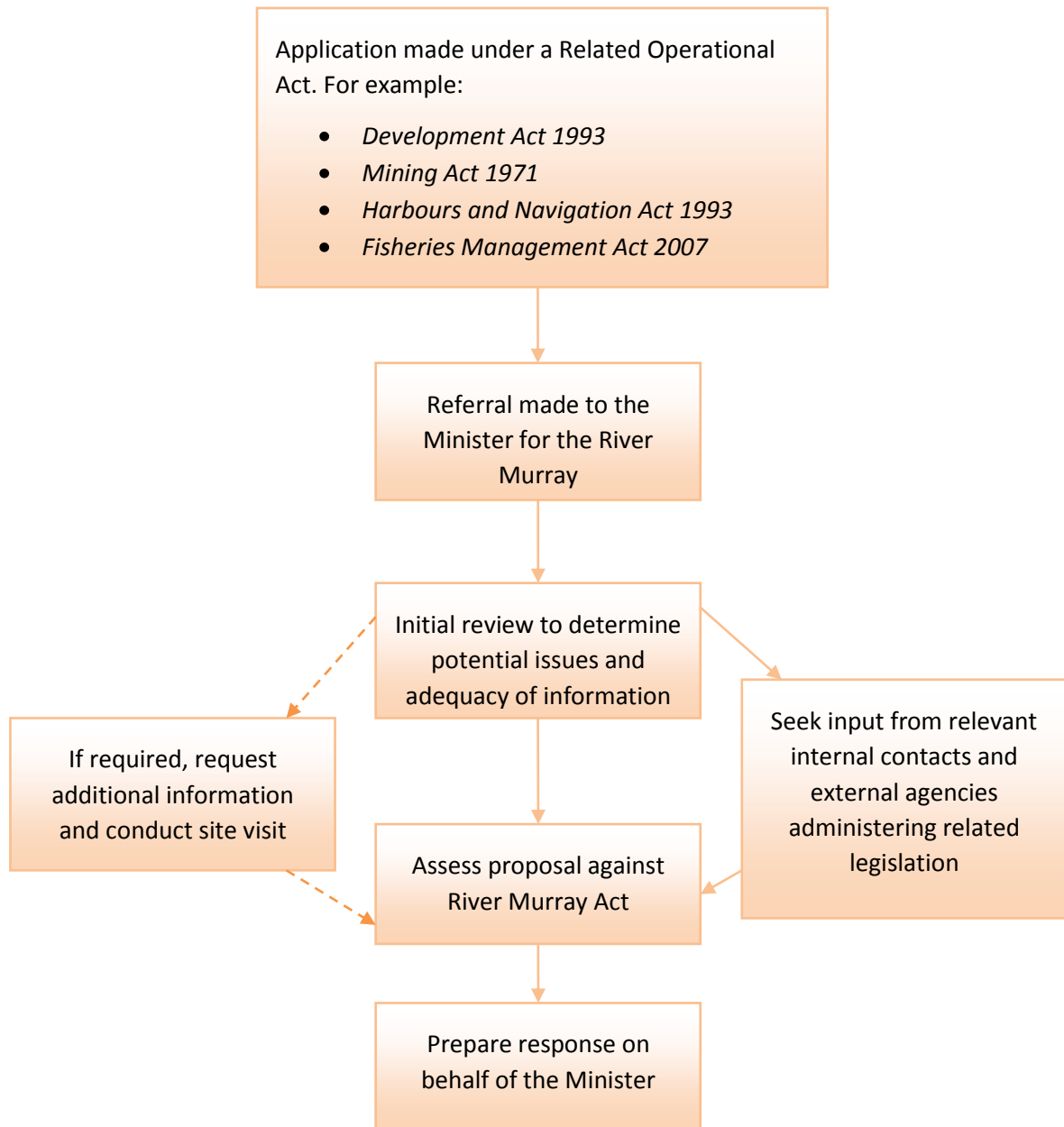
A number of provisions and guidelines have been developed to clearly outline how development applications will be assessed. These outline the required processes and are a useful reference tool for developers, legal advisors and other parties such as local councils. They include:

- **Overview and General Provisions** (April 2007) – provide a guide to how referred statutory instruments or authorisations will be assessed;
- **Neutral or Beneficial Effect Guidelines** (released as pilot April 2007) – Provide a guide on ensuring development is neutral or beneficial to the river;
- **Special Provisions** (released October 2008) – Provide specific criteria for the protection of Heritage, Coast, Aquaculture, and Wetlands and Floodplains; and

- **Activity Provisions** (released October 2008) – Address issues that relate to specific activities such as land division, construction of river structures, industry and the construction of buildings.

The activity and special provisions were promoted in 2009-10 through the internet and also by road-shows with local council staff.

Figure 2: Process for One Stop Shop Service for referrals from Related Operational Acts.



OVERVIEW OF 2009-10

In 2009-10 the referral process in combination with compliance activity ensured that a number of existing illegal developments were identified and submitted to the referral process and made to comply with relevant requirements.

The referral process also ensured that new developments were closely examined and where required, relevant conditions were placed on development applications to ensure that a range of river values were protected including native vegetation, maintenance of water flow and water quality and both Aboriginal and European heritage.

Studies show that the referral mechanism is a highly effective way of ensuring that river values are protected with 70% of applicants complying with the specific conditions voluntarily.

DROUGHT ASSISTANCE

A major focus in 2009-10 was to continue to provide assistance to communities impacted by drought. This involved modifying the normal approval processes for specific activities needed during restricted allocations.

For example, development applications involving the extension and/or relocation of pumping infrastructure, to facilitate continued access to River Murray water, were exempted from formal referral to the Minister. The Drought Initiative Emergency Moorings program administered by DWLBC and the Emergency Drought Dredging program administered by the EPA established a process whereby the assessment process was fast tracked and fees were waived. However, the Minister was still able to review the applications.

In addition, in the summer of 2009-10 the pool level of the river dropped significantly downstream of Lock 1, and exposed the riverbank fronting of many high-use shack areas. As a result this greatly increased the risk of erosion and potential riverbank collapse in these areas. To assist affected shack owners and ensure the safety for the broader community, the Minister facilitated a process to fast track the assessment of applications to install temporary erosion mitigation and riverbank stabilisation measures (such as geosynthetic sandbags) and waived the standard referral fee (\$300 in 2009-10).

COMMENTING ON KEY LEGISLATIVE PLANS AND STRATEGIES

Statutory instruments from a range of Acts are referred to the Minister for the River Murray for review including Development Plan Amendments and native vegetation matters referred under the Native Vegetation Act and Regulations.

There is a general requirement to ensure that the significance and health of the River Murray is considered when legislative plans and strategies are being developed or implemented (Object (e)).

In 2009-10, the *Native Vegetation Regulations 2003 (SA)* were reviewed in order to implement new policies in relation to clearance for fire protection. In addition, there was considerable input provided into the development of the Murray Mallee Regional Planning Strategy including participating in detailed planning workshops to achieve consensus on the outcomes.

The Development Plan Amendment for Forestry under the Development Act was reviewed by the Minister for the River Murray. This review identified that the amendment was not consistent with a newly developed state-wide forestry policy regarding plantation forestry within the vicinity of watercourses. As a result, major amendments were made to the Development Plan Amendment to ensure state-wide policy consistency and protection of River Murray values.

A major submission was provided to the MDBA, regarding the development of sustainable diversion limits. The submission advocated the use of appropriate science and models to determine sustainable diversion limits using an adaptive management approach.

DWLBC (now DFW) also provided a consolidated South Australian government position regarding ACCC rules pertaining to water markets, water charge rules and water grades. The *Water Act 2007* (Cth) requires the ACCC to provide advice on relevant rules. The rules are designed to reduce barriers to the water market in the Southern connected Murray-Darling Basin and expand this market. They will affect all traders of water.

5. REPORT ON RELEVANT MATTERS

An overview was provided (Section 4.5) of the relevant instruments of the RM Act which achieve river protection through relevant policies and regulation of activities.

This section provides a more detailed account of how these instruments were applied in 2009-10. This includes:

- Referral process for statutory authorisations and statutory instruments;
- Duty of care; and
- Action taken by the Minister or an Authorised Officer.

5.1. REFERRAL OF MATTERS TO THE MINISTER

OVERVIEW

In 2009-10 there were 597 referrals made to the Minister for the River Murray with the majority of referrals made through the Development Act (Refer Table 1).

Most referrals were for statutory authorisations including approvals for buildings, land sub-division, dredging, mining exploration and leases, aquatic activity and fishery permit exemptions. A smaller number of statutory instruments were also referred including Development Plan Amendments under the Development Act.

Table 1: Referrals in 2009-10 to the RM Act.

	Statutory Authorisations	Statutory Instruments
<i>Development Act 1993</i>	425	87
<i>Mining Act 1971</i>	36	
<i>Harbours and Navigation Act 1993</i>	33	
<i>Fisheries Management Act 2007</i>	16	
Total	510	87

More detailed information about the relevant referrals under the Related Operational Acts is provided below.

REFERRALS FROM THE DEVELOPMENT ACT 1993

STATUTORY AUTHORISATIONS

A range of applications for statutory authorisations were referred to the Minister for the River Murray including buildings (for example dwellings or sheds), river structures (some

examples include: jetties, pontoons, mooring posts, and boat ramps), earthworks within the floodplain, activities requiring River Murray water (for example irrigation, feedlots, or aquaculture) and land division (Refer Table 2). All referrals were assessed against the objects of the RM Act and the ORMs.

In addition a number of referrals were a result of the Investigations Unit finding illegal activities occurring along the River such as jetties, mooring and retaining walls. These activities were followed up with liaison with the local council to determine the most appropriate action. In most cases the issue was resolved by the applicant going through the development application process but in some cases the structures had to be removed immediately. In relation to those that went through retrospective applications, most received approval but often had to modify or amend structures.

Most referrals in 2009-10 were mandatory referrals (See Table 2) under Schedule 8 of the Development Act. These referrals were responded to within the required statutory time-frames (eight weeks).

Table 2: Mandatory, exempted mandatory and non-mandatory Development Act referrals to the Minister for the River Murray.

	Mandatory Referrals	Exempted Mandatory Referrals	Non Mandatory
Buildings, Structures and/or Earthworks	353		15
Land Divisions	59		101
State Heritage Places	3		
Emergency Drought Dredging		17	
Using Water from River Murray ¹	10		
Total	425	17	116

1-Applications included irrigation, aquaculture, horse keeping, forestry, and feedlots.

However, despite the tight time-frames additional information was required for about 20-30% of referrals and this was sought informally via telephone discussions, site visits or email. This ensured that referrals could be assessed against relevant criteria.

A more formal negotiation process was also required for about 10-15% of applications. This included sourcing additional information in some instances. Also, some applications did not meet mandatory requirements and were required to be amended. As per Section 37(2) of the Development Act, the process for these applications was halted until all the requested information was received.

Applications were initially reviewed to examine any key issues and decide whether specific advice would be required. Where required, advice on the referrals was sought from a range of specialist staff and groups both within the department and externally (Refer Table 3). This advice resulted in referrals being scrutinised in relation to their impact on a range of natural resource assets, for example water resources, environmental flows,

vegetation and cultural heritage. This resulted in activities either not being approved or approved but with conditions so that they would be conducted in a manner neutral or beneficial to the River Murray system.

Table 3: Specialist Groups/Agencies consulted in relation to referrals to Minister for River Murray

Referral Type	% of applications referred
Native Vegetation (DWLBC)	30
Crown Lands (DEH)	30
Aboriginal Heritage (DPC)	66
Water Licensing (DWLBC)	10
Environmental Water (SA MDB NRM Board, DWLBC)	5
Coastal Protection (DEH)	10
Riverbank Collapse (DWLBC)	13
Land divisions and activities involving taking water (SA MDB NRM Board)	25
State Heritage (DEH)	5
Shipwrecks (DEH)	10
Groundwater and surface Water (DWLBC)	5
Navigation Hazard (DTEI)	10
Biosecurity (DWLBC)	10

Applicants were also advised of their obligations under other legislation including *Crown Lands Act 1929* (SA), the NRM Act and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

For the majority of mandatory referrals, conditions were attached to the approval. The conditions generally required that during works the site be appropriately maintained, that waste material be properly disposed off and contained, and that the potential for erosion and sedimentation of water resources be minimised through responsible stormwater management.

As well as mandatory referrals there were also informal referrals of dredging applications from the EPA to the Minister. These were also closely examined and relevant conditions placed on these similar to the mandatory referrals.

A number of additional activities (land divisions and buildings) occurring within the RMPA's or broader SA Murray Darling Basin NRM Board region were also referred to the Minister for the River Murray as non-mandatory referrals. Applicants were advised of their obligations under relevant legislations and conditions were recommended.

STATUTORY INSTRUMENTS

A number of Development Plan Amendments (DPAs) were referred in 2009-10 to the Minister for the River Murray as required under section 24(3) of the Development Act. This included DPAs (45) and Statements of Intent (42) relating to land within the Murray-Darling Basin. Such instruments are important in determining future land use, with proposals scrutinised to ensure that any changes of land-use were appropriate. DWLBC responded to each of these referrals with comments and recommendations.

REFERRALS FROM THE MINING ACT 1971

A total of 36 mining applications were referred in 2009-10 including exploration licenses, declared equipment use and mining leases in accordance with the regulations of the Mining Act. In all instances, the Minister for the River Murray agreed with the Minister of Mining and Development regarding the outcome, but provided advice to applicants regarding their obligations regarding matters such as water use, Branched Broomrape and native vegetation.

The *Marine Parks Act 2007 (SA)* has recently amended the Mining Act so that applications adjacent to and within a specially protected area are now considered for referral to the River Murray Act. RMPAs are considered a specially protected area under the Mining Act.

The process is currently working well with each application considered on a case by case basis on the requirement to refer depending on the magnitude of the development and likely impact.

REFERRALS FROM HARBOURS AND NAVIGATION ACT 1993

A total of 33 Aquatic Activity Licenses were referred in 2009-10 in accordance with the regulations of the *Harbours and Navigation Act 1993 (SA)*. Activity licences typically included closing of part of the river for special activities such as rowing, wakeboarding, water ski-ing and swimming competitions. The role of the referral process here is to provide education regarding relevant responsibilities to the organisers and the public for protecting the river.

REFERRALS FROM FISHERIES MANAGEMENT ACT 2007

Activities that require a licence, permit or an exemption from a licence under the *Fisheries Management Act 2007 (SA)* must consult with the Minister for the River Murray.

In 2009-10 16 exemptions from a licence were referred. Most of the exemptions were for research projects aimed at the protection and reintroduction of species and these were supported.

5.2. ENFORCEMENT OF THE GENERAL DUTY OF CARE

The general duty of care principle is defined as:

‘A person must take all reasonable measures to prevent or minimise any harm to the River Murray through his or her actions or activities’.

In 2009/10 the duty of care was primarily enforced through a combination of referrals for new development applications, and a broad scale compliance process. This compliance process included a strong on-ground presence by authorised officers across the River Murray corridor.

The referral process is an important framework to ensure the duty of care. It places specific and enforceable conditions on activities and developments to ensure that they will not harm the River Murray, either as an individual action or in a cumulative sense. Cumulative impacts are particularly relevant for issues such as vegetation clearance, water extractions and sand dumping where impacts on site may be minor but can become significant when multiplied overall.

There is clear evidence that the referral process is an important framework to maintain a duty of care, despite limitations in the ability to enforce all of the specific conditions put in place. Random audits show that there is 70% voluntary compliance to the referral conditions established for landowners in the River Murray region.

This finding was also supported by the fact that in 2009-10 the majority of breaches of the duty of care were due to unauthorised activities occurring rather than a breach of referral conditions on a legal development. The referral and compliance process has integrated well in order to support the duty of care in this provision. Compliance officers remained vigilant to detect any new activities or works along the river and to check that such activities had gone through appropriate approval processes.

Officers were highly visible on the ground passing relevant issues on to supervisors or investigators. They were able to take photos, fill out incident reports and notify relevant authorities such as the local council. Issues were often resolved through a round table meeting between referral, compliance and the local council staff. The high on-ground presence also meant that issues could often be dealt with through consultation and voluntarily compliance by the proponent. However, in some instances applicants were required to repair damage caused by a specific activity.

Riverbank collapse, sand dumping and alleged breaches of water restrictions were targeted in 2009-10 to ensure that the general duty of care was met. In these instances educational and awareness raising campaigns were essential to educate relevant parties about their responsibilities and ensure their safety.

For example, in relation to riverbank collapse the compliance staff were first to respond to a report from the telephone hotline. They would examine site, take photos and measure cracks and initiate an appropriate response including notifying landholders that were in danger. Letters and broader information were also handed out directly to shack owners in impacted areas.

In addition, to these site by site cases, a broader duty of care principle was applied in 2009-10 through a whole of government response to the issue of drought. A concerted, quick action response was provided to record low water levels through the provision of environmental flows, to a number of areas particularly the lower lakes to prevent irreversible damage. This involved major interventions including the construction of water regulating structures, dredging and pumping. The work was undertaken in a way sensitive to associated River Murray values such as Aboriginal heritage.

There were also a number of significant government programs implemented to contribute to the duty of care principle. This included re-vegetation, fencing, grazing, pest plant and animal control, and control of point and diffuse sources pollution.

In 2009-10, 12 compliance officers ensured appropriate compliance to both the general duty of care and also to relevant referral conditions placed on a range of statutory authorisations. These officers are also trained compliance officers under related Acts, such as the NRM Act giving them a broader understanding and capacity to protect River Murray values.

The officers focused on maintaining an on-ground presence along the River Murray to ensure a responsive, thorough and well engaged compliance process.

Compliance issues were detected through river surveillance, following up specific complaints and undertaking targeted compliance programs. This resulted in 1,139 compliance matters being raised (Table 4). Matters are defined as any activity or incident that breaches a relevant act.

Table 4: Matters raised in 2009-10 through the River Murray Compliance Program.

Type of Compliance Matter Raised	Number
General (dealt with internally)	126
General (referred to external agency)	117
Drought (water use)	753
Metering Audit	143
Total	1139

Compliance matters found routinely through broad river surveillance were dealt with internally or referred to external agencies.

Compliance issues dealt with internally included illegal constructed moorings and jetties, alleged breaches of water restrictions, damage to native vegetation and riverbank erosion.

A major issue during 2009-10 was the extension of boat ramps, jetties and moorings without first obtaining development approval. Many of these activities failed to comply with approved specifications and posed risks to river health and to the public. Liaison with councils and relevant agencies ensured that residents were aware of their obligations.

A total of 25 matters were reported in relation to activities that were likely to cause damage to the river, including submerged objects in the river and the construction of structures on the floodplain. In 13 of these cases, site visits showed that the activity had caused harm to the river and would require some reparation such as site stabilisation and/or the removal of dangerous materials. In these cases reparation was done on a voluntary basis through effective negotiation without the need for a River Murray Protection Order to be issued.

Matters referred to external agencies included issues such as:

- (1) Sand dumping and the dumping of chemicals on the floodplain which were referred to the EPA; and
- (2) Illegal developments that were referred to the relevant local councils.

Another focus of attention for the Investigation Unit was monitoring water usage in nominated areas. A meter audit was also conducted in the Lower Murray Reclaimed Irrigation Area to identify water use and potential problems with meters. The audit found positive levels of compliance with only minor follow up inquiries required.

Through the drought program, drought compliance officers issued 371 informal cautions, 329 formal cautions and 53 expiation notices to holiday home owners for breaches of the water restrictions. This was achieved by compliance officers patrolling holiday home areas and an audit team supporting monthly water meter reads. The visible presence and accessibility of compliance officers improved people's voluntary compliance with legislation. For example, the officers also undertook foot patrols of holiday home areas and regularly spoke with home owners on issues ranging from drought, riverbank slumping, clearance of native vegetation, illegal development and water use issues.

Compliance officers also attended community meetings where they answered questions about drought conditions, low river levels and the resulting impacts on the river.

Compliance officers also acted as a conduit between local government and state government regarding actions and conditions placed on developments.

6. EMERGING ISSUES FOR THE RIVER MURRAY ACT

The main focus for achieving the Objects of the RM Act and the ORMs in 2010-11 will be the development of the Basin Plan and its associated Environmental Watering Plan and Salinity and Water Quality Plan. A key component of the Basin Plan will be sustainable diversion limits, which will have a significant impact on determining the future long term health of the River Murray system and the water quality and quantity of water that flows into SA.

The Murray-Darling Basin Authority's planned consultation around the Basin Plan provides an exciting and critical opportunity for SA to influence the long term management of the Basin's water resources. The Basin Plan must ensure a long term productive and environmentally sustainable future for the Murray-Darling Basin, requiring flows in the Lower Murray to be increased and better managed to maintain a healthy working River Murray system.

The River Murray WAP is currently being reviewed and will need to align with the Basin Plan and the sustainable diversion limit requirements. This will be a real opportunity to showcase best practice water resource management and benefit from the vast improvement in knowledge and management capability of the River Murray system in recent times. The completion of a new water allocation plans for other key parts of the SA Murray-Darling Basin will also be a major focus of attention.

The important question will be how the South Australian Murray-Darling Basin responds to a future with potentially less water for consumptive use. The Basin Plan may act as a trigger for structural changes in land use in the region, and it is here that the RM Act and its integrated approach to assessing activities and plans will have to demonstrate its value to ensure that these changes deliver sustainable outcomes for the River Murray system.

It is important that the momentum resulting from the drought in terms of integrated, coordinated and effective delivery of programs is not lost. The importance of a visible presence of authorised officers, having eyes and ears on the ground to educate, inform and ensure compliance cannot be underestimated. Options to continue an effective presence post drought will need to be considered.

The River Murray Act Implementation Strategy is due for review in 2011 and this provides an exciting opportunity to review and set priorities for the coming five years. With rapid developments in IT systems, the opportunity to create further efficiencies in the referral mechanisms will also be investigated.

Better alignment and integration between RM Act and the NRM Act, in terms of its referral mechanisms and other administrative instruments will also be further investigated in 2010-11.

Another emerging issue is the importance of applying the duty of care principle at a number of levels to achieve appropriate outcomes. Site by site regulation is critical, as is ensuring appropriate conditions are placed on activities and relevant planning instruments. The one stop shop concept ensures that this takes place in an effective and

efficient manner. However, the consideration of cumulative effects of multiple developments and activities remains a challenge.

Also, the duty of care requires government agencies to have clear roles and responsibilities and develop appropriate programs to maintain river health values. Often such programs involve significant cooperation across government and prioritisation of requirements. Through the drought response, agencies have shown a great capacity to work together, leading to significant outcomes. Processes which maintain or facilitate this integration are vital for on-going programs.

ATTACHMENT 1: RIVER MURRAY ACT OBJECTS AND OBJECTIVES FOR A HEALTHY RIVER MURRAY

RIVER MURRAY ACT OBJECTS

The River Murray Act 2003 is guided by a set of objects or guiding principles to ensure adequate protection of River Murray values.

- i. to ensure that all reasonable and practicable measures are taken to protect, restore and enhance the River Murray in recognition of its critical importance to the South Australian community and its unique value from environmental, economic and social perspectives and to give special acknowledgement to the need to ensure that the use and management of the River Murray sustains the physical, economic and social well being of the people of the state and facilitates the economic development of the state; and
- ii. to provide mechanisms to ensure that any development or activities that may affect the River Murray are undertaken in a way that provides the greatest benefit to, or protection of, the River Murray while at the same time providing for the economic, social and physical well being of the community; and
- iii. to provide a mechanism so that development and activities that are unacceptable in view of their adverse effects on the River Murray are prevented from proceeding, regulated or brought to an end; and
- iv. to promote the principles of ecologically sustainable development in relation to the use and management of the River Murray; and
- v. to ensure that proper weight is given to the significance and well being of the River Murray when legislative plans and strategies are being developed and implemented; and
- vi. to respect the interests and aspirations of Indigenous peoples with an association with the River Murray and to give due recognition to the ability of those Indigenous people to make a significant contribution to the promotion of the principles of ecologically sustainable development in relation to the use and management of the River Murray; and
- vii. to respect the interests and views of other people within the community with an association with the River Murray and to give due recognition to the ability of those people to make a significant contribution to the promotion of the principles of ecologically sustainable development in relation to the use and management of the River Murray, and
- viii. otherwise to ensure the future health, and to recognise the importance, of the River Murray.

OBJECTIVES FOR A HEALTH RIVER MURRAY (ORMS)

The RM Act also sets out a list of 'Objectives for the River Murray' (ORMS). The ORMS were developed by the Murray-Darling Basin Commission and endorsed by the Murray-Darling Basin Ministerial Council. They outline some of the specific improvements being sought for the River Murray.

RIVER HEALTH OBJECTIVES

There are four river health objectives collectively covering the issues of:

- maintenance, protection and restoration of key habitats and ecological processes;
- protection and restoration of River Murray environments, particularly high-value floodplains and wetlands of national and international importance;
- prevention of native plant and animal extinctions; and
- avoiding and overcoming barriers to the migration of native animal species.

ENVIRONMENTAL FLOW OBJECTIVES

Three environmental flow objectives address the matters of:

- reinstatement and maintenance of ecologically significant elements of the River Murray system natural flow regime;
- keeping open the Murray mouth in order to maintain navigation and fish passage and to enhance the health of the River Murray system and Coorong; and
- significantly improving connectivity between and within the environments constituted by the River Murray system.

WATER QUALITY OBJECTIVES

The four water quality objectives seek to:

- improve water quality within the River Murray system to a level that sustains the ecological processes, environmental values and productive capacity of the system;
- minimise the impact of salinity on the ecological processes and productive capacity of the River Murray system;
- manage nutrient levels within the River Murray system so as to prevent or reduce the occurrence of algal blooms, and to minimise other nutrient related impacts; and
- minimise the impact of potential pollutants, such as sediment and pesticides, on the environments within the River Murray system.

HUMAN DIMENSION OBJECTIVES

The human dimension objectives aim to:

- implement a responsive and adaptable approach to the management of the River Murray System, taking into account ecological outcomes, community interests and new information as it comes to hand;
- promote the health and proper management of the River Murray system by gathering, considering and disseminating the community's knowledge and understanding of the system;
- take into account the interests of the community by recognising indigenous and other cultural and historical relationships with the River Murray environs, and by ensuring appropriate participation in processes associated with the management of the system; and
- recognise the importance of a healthy river to the economic, social and cultural prosperity of communities along the length of the river, and the community more generally.