# Linking NRM and sustainable development at the community scale in the Avon River Basin
FINAL REPORT

Bruce Taylor, Nick Abel, Ben Harman, Sonja Heyenga, Judith Harvey and Rachel Williams

CSIRO Sustainable Ecosystems

February 2008

Acknowledgments

Enquiries should be addressed to:

Bruce Taylor, CSIRO Sustainable Ecosystems
Email: Bruce.Taylor@csiro.au

Citation

Taylor, B., Abel, N., Harman, B. Heyenga, S., Harvey, J. and Williams, R. 2008, Linking NRM and sustainable development at the community scale, Report prepared for the Avon Catchment Council, CSIRO Sustainable Ecosystems, Brisbane.

Copyright

Important Disclaimer

Photo credit front cover: Judith Harvey

Contents

Acronyms

ACC	Avon Catchment Council
ALGA	Australian Local Government Association
ARB	Avon River Basin
BOM	Bureau of Meteorology
CfOC	Caring for Our Country
CDOs	Community Development Officers
CSIRO	Commonwealth Scientific and Industrial Research Organisation
LAPs	Local Area Plans
LGA	Local Government Area
NAPSWQ	National Action Plan for Salinity and Water Quality
NHT	Natural Heritage Trust
NGOs	Non-Government Organisations
NRM	Natural Resource Management
NRMOs	Natural Resource Management Officers
ROC	(Voluntary) Regional Organisation of Councils
SCI	Sustainable Communities Initiative, CSIRO
WALGA	Western Australia Local Government Association
WAPC	Western Australian Planning Commission
WDC	Wheatbelt Development Commission

Executive Summary

Background

While there has been significant local government participation in natural resource management (NRM) planning and program implementation in the Avon River Basin (ARB), the region's large area and diverse character, with thirty-four local governments, creates significant operational and strategic challenges for local-regional cooperation. In looking to improve outcomes from working with local governments the Avon Catchment Council (ACC) recognises the need for a more comprehensive analysis to navigate the complex socioeconomic issues in this area.

This requires understanding current priorities, roles and practices of local governments in the region with respect to sustainable development and NRM, and secondly identifying how these currently and prospectively intersect with regional level agendas, roles and outcomes. Implicit in these more practical issues are some fundamental questions such as: how do local actors self-organise in response to processes of regionalisation under national level programs; and, how do regional actors balance the imperatives of efficiency and inclusion in large regions with dispersed human populations. The research project has been developed and implemented through collaboration between the ACC and CSIRO's Sustainable Communities Initiative (SCI). The project scope was agreed in late 2007 and the research commenced in early 2008.

Aims, objectives and approach

The aim of the project is to identify critical opportunities and constraints to improve partnerships between local governments in the ARB and the ACC. The specific objectives are to:
1. Understand the local context and issues including the capacity of existing arrangements to realise regional objectives, to address threats and adapt to opportunities;

2. Identify focal areas for cooperation including on substantive resource management issues (e.g. water, climate, biodiversity) and locations in the region;

3. Inform ACC strategies that seek to enhance adaptive capacity, legitimacy and effectiveness of regional partnerships and implementation arrangements;

4. Identify tools and processes (e.g. cost-sharing arrangements, engagement protocols) that enhance the structural and procedural dimensions of partnerships in the region.

The methods employed in the project involved
1) a review of the planning and policy context of the region with respect to local government, sustainable development and NRM;
2) a review of major social, economic and environmental pressures facing the region;
3) a desktop classification of the thirty-four shires in the region by indices of their relative NRM 'need' against their relative 'capability' in NRM;
4) twenty-one interviews with Shire representatives; and
5) determination of opportunities for improving local-regional partnerships,

This last task involved, in addition to a synthesis of main findings from the analysis, discussion with the ACC and Shires on implications of the preliminary findings from the research. These discussions were conducted in part at the following sessions:

- SLUM / SeaROC Beverley, 7th October, 2008
- RoeROC in Kulin, 23rd October 2008
- NewROC-WeROC, Southern Cross 28th October, 2008
- AROC, Northam 13th November 2008.

Key findings

Three clear themes were identified from the qualitative face to face interviews with twenty-one Shire representatives. The first of these is that shires ask, when considering working with the ACC - 'is it worth it for us?' In doing so they consider factors such as the presence of existing relationships, available technical expertise needed to 'run the business' at the Shire level, and the likely future of regional NRM. In this context, where the 'start-up' costs of relationships are considered high by shires, existing relationships and networks are favoured. This limits the likelihood of councils without a prior history of working with the ACC of initiating engagement. The second major theme centred on a perceived **mismatch between regional level priorities** and their relevance to shire level and local communities needs. This is despite the analysis identifying key issues of common concern to local and regional stakeholders such as sustainable agriculture, water security, managing climate variability and peri-urban land use change. Shires priorities were however strongly framed within a local **social sustainability discourse** which they regularly distinguished from a regional natural resource agenda. The third and final theme is the **preference of shires to work in cooperation with other local authorities** rather than regional bodies. This is most evident in the emergence of five voluntary regional organisations of councils (ROCs) across the ARB during the last decade, some of which have engaged with the ACC on delivery of NRM programs or projects.

Shires in the region were **classified by indices of their relative NRM 'need' against their relative 'capability'**. The classification differentiates shires in a way can inform engagement strategy design by the ACC. Many of the shires fell into identifiable groupings that reflected, for example, high need-low capability or low need-high capability relationships. The classification points to the quite high levels of need/capability difference both between and then within ROC groupings, with some ROC groupings showing greater internal diversity than others. This strongly suggests that a differentiated strategy of investment or engagement would be prudent, first between ROCs groupings and then within those groupings.

Opportunities for improved partnerships

The opportunities are not intended to be prescriptive but to catalyse and inform deliberation within the ACC and between the ACC and its current and prospective partners. They are not mutually exclusive in design or intent, with one or more able to be adopted and implemented in tandem. Each should be considered in relation to the strengths and weaknesses of the ACC, and major changes in the NRM funding environment resulting from:

- The new Caring for Our Country (CfOC) Commonwealth NRM program which introduces funding priorities that do not match well with the natural resource endowment of the ARB; and

- The recently announced increase of Western Australian (WA) Government NRM funding under criteria that are compatible with the resource endowments of the ARB.

The research identified four types of opportunity for the ACC:

Opportunity 1: Problems or assets as a focus for cooperation

Deep drainage, dealing with climatic variability and trends, and water security are key NRM issues for the shires (section 3.2.1.). Many in local government feel that the wider social and environmental consequences of deep drainage for salinity management, and the disposal of saline and sometimes acidic water, are being neglected by the State. It was suggested at one ROC meeting that the ACC could meet this need. It has the landscape perspective that the problem requires, and some of the technical capabilities.

Arguments against this proposal are the ACC's lack of legal authority to address the issues, and insufficient hydrological and engineering skills. The ACC might float the idea with State government and gauge the response. Meanwhile, the ACC is already positioned to engage communities on the issue, and to propose coordinated and strategic actions. Funding is more likely from State then Federal sources in our view.

Town water supply under climate change is another major issue identified in our interviews with the shires. Catchment rehabilitation, stormwater harvesting and grey water management are among the options. Lack of hydrological expertise at the ACC is a handicap, but this might be hired temporarily or, depending on demand, for the long term. Alternatively the ACC might explore potential demand by offering an integrated assessment capability.

Agricultural sustainability emerged as another major NRM issue (section 3.2.1.). There may be an opportunity for the ACC to deploy its knowledge and secure State or competitive Federal funding for managing landscape function through strategic plantings of native vegetation. There is an associated potential for integrated landscape assessment. Greening Australia and WWF are potential partners.

There may also be an opportunity for the ACC to serve a coordinating and strategic role in river management strategies. Water courses commonly cross shire boundaries, and the consequences of local actions impact downstream as decreased flows and pollution. The ACC has the conceptual framework and some of the knowledge to fulfil an integrating role. As with deep drainage, it lacks legal authority, but this need not hamper an organisation that is coordinating other players. The relationship of the ACC with WA Department of Water would need careful thought.

Opportunity 2: 'Social sustainability' and the development-environment gap

This opportunity speaks to the perceived gap by many shires between their local sustainable development goals and regional NRM agendas.

The research clearly shows a persistent and core concern amongst shires is the maintenance of social well-being and viability of their communities. Here, issues of amenity, provision of social and health services, adapting to reduced water availability, and managing the effects of growing or declining populations are paramount as are the implications these hold for community identity and cohesion, land use change and infrastructure. This divide is exacerbated by local government leaders' perceptions that a community mandate is lacking or that NRM is a 'top down' external agenda. There are two possible strategies that the ACC may employ. The first involves e*xpanding on existing programs that reflect local government priorities with staged natural resource benefits*. Building on successful recent project delivery models in the Avon this approach would see year one of the funding provided to councils is tied predominantly to shire priorities and in subsequent years additional works or management controls that deliver environmental benefit are introduced or activated by payment schedules. This provides a bridging function allowing shires to demonstrate the meeting of immediate community needs while facilitating the introduction of improved NRM practice on the back of social recognition, good will and momentum.

While the first strategy is focused on specific works with individual shires, bridging the development-environment gap also requires considering institutional arrangements and the new funding environment at the regional scale. A second strategy the research team proposes is stronger alignment between the ACC and the Wheatbelt Development Commission (WDC) who both rely on successful interaction with local players to achieve their 'sustainable development' agendas, with limited budgets, large scope, and affiliations with different sub-sets of shires in the region.

While not suggesting structural integration – that is a physical merger of the two entities - there is considerable scope to explore: i) the design of shared investment programs; ii) the identification of NRM criteria that may contribute to WDC development investment decisions; or, iii) opportunities for the two entities to cooperate in brokering external investment for the region. Improved cooperation *at the regional scale* would reduce institutional complexity for local governments seeking to invest in the sustainability of their communities and would present an opportunity to design a more balanced and externally competitive investment capability.

Opportunity 3: A 'sub-regional' engagement strategy - ROCs as partners

This opportunity seeks to address structural and procedural aspects of organisational interaction, issues with working between scales, and, practices of partnering and engagement. The existing networks of voluntary ROCs present a vital opportunity for the ACC to improve the effectiveness of its partnering strategy whilst also improving the efficiency of its operation. ROCs provide an existing, Shire-owned structure to develop a sub-regional interface for NRM involving local governments.

Benefits of moving from a single shire model include the obvious advantages of reducing the number of entities with which relationships require maintenance from the present thirty-four shires to the five primary ROCs, whilst maintaining face to face contact. ROCs have the advantage of providing a gateway to shire-shire cooperation; are an appropriate scale to negotiate landscape scale priorities and are self-organising. A number of ROCs already collaborate on NRM related planning and operational issues. The research also suggests that

some Shire concerns with working with regional groups – continuity, certainty and relevance – could be addressed through the negotiation of partnership or engagement protocols between the ACC and each ROC. These agreements provide the blue print for tailoring communication planning, general resource sharing and specific cooperation on investment proposals or projects and could be renewed bi-annually.

Opportunity 4: Strategic alignment of local and regional plans

The analysis suggests that attempts to improve the formal alignment between the regional NRM strategy/investment plan and local government planning schemes would be problematic. The low rate of success associated with the development of Local Area Plans as a strategy under the 2005 regional NRM plan further illustrates the inherent difficulties in adopting a formalised planning route in this context. Consistent with the advice being supplied by organisations such as WALGA, the more readily accessible 'local' planning instruments for achieving NRM outcomes are twofold. Firstly, the 'plan for the future' strategic plans prepared by Shires, where NRM information could be translated to identify NRM-related values and assets within local communities, helping to foster greater understanding and awareness, and community mandate for NRM investment. Secondly, the ACC seeking to engage in and support the development of cooperative multi-shire policies occurring through forums such as SevROC's Sustainable Land Use Management and Planning forum or the ROCs more broadly dealing with specific issues such as land use change and infrastructure provision in peri-urban areas.

1.0 Introduction

1.1 Background

Local governments play a vital role in supporting the sustainable development aspirations of their communities. In Australia and internationally, managing land, water and vegetation resources for their social, economic and environmental benefits is increasingly becoming part of local government business. At the same time the process of governing natural resources and development however is also relying more on the interaction of actors at regional, state and national levels. These actors are drawn not only from government but from private interests and civil society. Over the last decade in Australia, regional NRM bodies such as the ACC have come to occupy a central role in setting and investing in natural resource management priorities at the regional scale. This role requires, amongst other capabilities, developing and maintaining effective partnerships with local managers and institutions such as local government authorities, and, balancing the imperatives of development and environmental protection.

While there has been a significant track record of local government participation in NRM planning and program implementation in the Avon NRM Region, its geographically large and diverse character, with thirty-four local governments, creates significant operational and strategic challenges for local-regional cooperation. In looking to improve outcomes from working with local governments the ACC recognises the need for a more comprehensive analysis to navigate the complex socioeconomic issues in this area. This requires understanding current priorities, roles and practices of local governments in the region with respect to sustainable development and NRM, and secondly identifying how these currently and prospectively intersect with regional level agendas, roles and outcomes.   Implicit in these more practical questions are some fundamental questions such as, for example, i) how do local actors self-organise in response to processes of regionalisation under national level programs; and, ii) how do regional actors balance the imperatives of efficiency and inclusion in large regions with dispersed human populations.

CSIRO's Sustainable Communities Initiative (SCI) has jointly developed with the ACC a collaborative project around these issues. The project scope was agreed in late 2007 and the research commenced in early 2008. The SCI is pioneering collaborative approaches to address sustainability issues in Australian communities, working in partnership with communities, business, government and non-government organisations.

1.2 Project objectives

The project aims to identify critical constraints and opportunities for effective NRM partnerships with local governments in the ARB, and in doing so inform planning, investment and policy decisions. The specific objectives are to:

5. Understand the local context and issues including the capacity of existing arrangements to realise regional objectives, to address threats and adapt to opportunities;

6. Identify focal areas including on substantive resource management issues (e.g. water, climate, biodiversity) and locations in the region;

7. Inform ACC strategies that seek to enhance adaptive capacity, legitimacy and effectiveness of regional partnership and implementation arrangements;

8. Identify tools and processes (e.g. cost-sharing arrangements, engagement protocols) that enhance the structural and procedural dimensions of partnerships in the region.

1.3 The Avon River Basin: context for NRM and sustainable development

The ARB is located in the south west of Western Australia, east of the State's capital Perth. It is about 11.8 million hectares in area and forms a large part of a region that is referred to as the Wheatbelt in Western Australia.

The ARB is also one of six NRM regions in Western Australia (see Figure 1). Since 2002, the Government of Western Australia and the Australian Government have co-invested in regional scale NRM programs to address issues such as water quality, biodiversity and salinity through strategic regional investments. The ACC is the regional governing body for NRM in the ARB. It is a non-statutory body that has both community and government representatives on its Board.

Figure 1. Location of the Avon River Basin in Western Australia

The ARB has a Mediterranean-type climate with mild wet winters and hot dry summers. Most of the annual rainfall falls between May and September and is of relatively low variability (ACC 2005). However, recent years have seen an apparent decline in average winter rainfalls, creating a source of uncertainty for landholders in the ARB (O'Connor *et al*. 2004).

The ARB currently has a population of approximately 40,000 people (ABS 2006). Most of the people reside in four larger towns; Northam, York, Toodyay and Merredin. The population has been declining and ageing over the past few decades because many of the younger people leave the region to pursue an education or employment elsewhere. The region is also home to many Aboriginal groups, giving it a rich cultural diversity and history (ACC 2005). Aboriginal people are a growing proportion of the population within the ARB, rising to just over 5 percent in 2006 (ABS 2006).

There are thirty-four local government authorities in the ARB that are considered to be within the boundary of the Avon NRM region (see Figure 4). Most of these are also members of voluntary ROCs, which are 'partnerships between groups of local government entities that agree to collaborate on matters of common interest' (ALGA 2007a). Figure 2 shows the spatial distribution of local government membership in the six ROCs that operate in the ARB. The six ROCs are Avon Regional Organisation of Councils (AROC), North Eastern Wheatbelt Regional Organisation of Councils (NEWROC), Wheatbelt East Regional Organisation of Councils (WEROC), Central Midlands Voluntary Organisation of Councils (CMVROC), South East Avon Voluntary Regional Organisation of Councils (SEAVROC), and Roe Regional Organisation of Councils (RoeROC).
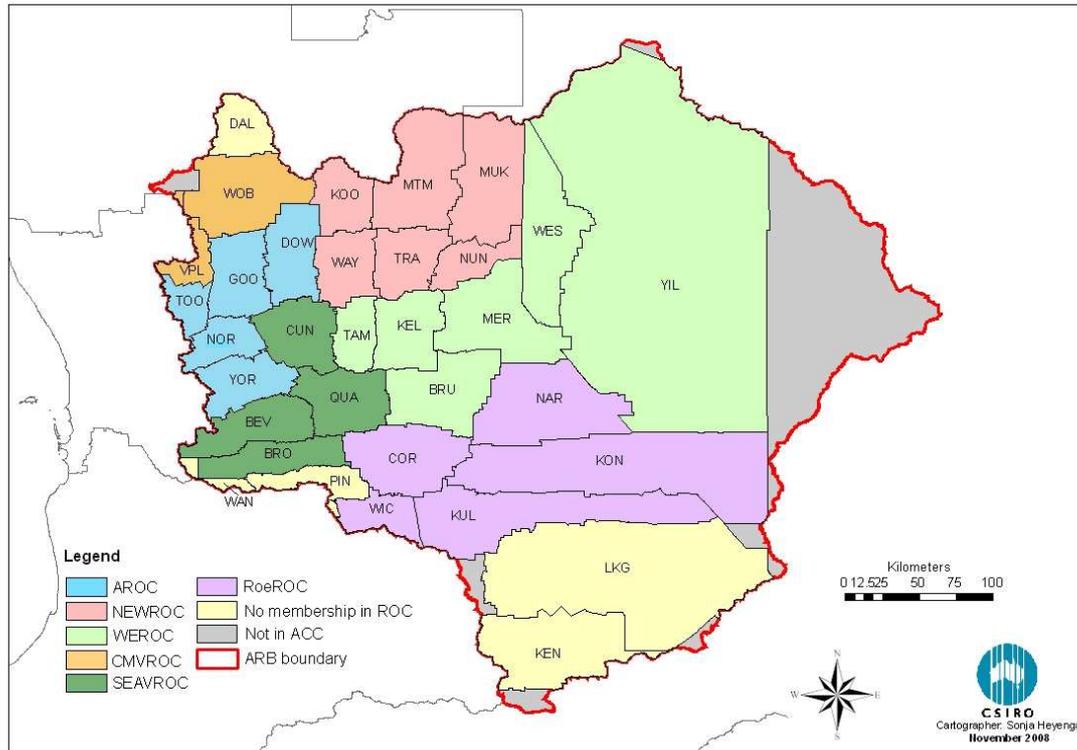
Figure 2. Local Government Authorities and their membership in Regional Organisation of Councils in the Avon River Basin. NB: Shire of York participates in both SeaVROC and AROC forums

The economy in the ARB is based on broad-acre agriculture. Production is dominated by rain-fed crops such as wheat and barley, together with wool and meat production from sheep and cattle (O'Connor *et al*. 2004). The area of land used for agriculture is roughly 8.3 million hectares, containing 25 percent of farms in Western Australia and contributing 34 percent of the State's gross value of agricultural production (ACC 2005). There are also smaller mining, commerce, manufacturing and tourism industries in the region. In addition, nearly 30 percent in the east of the ARB is mostly vacant Crown Land with a relatively small area of pastoral use.

The peri-urban rural shires along the northern and eastern borders of Perth have become known as the Avon Arc. This area is undergoing extensive change in population, land use and environment. Contrary to other areas within the region, the population in the Avon Arc is increasing. More intensive agriculture and recreational or lifestyle land uses are also becoming more prominent in the Avon Arc (ACC 2005).

The ARB is an area of increasing interest as management of water and salinity becomes critical to the region's future and that of the Swan-Canning Estuary downstream in Perth (O'Connor *et al*. 2004). Over the past 100 years nearly 70 percent of native vegetation has been cleared for agricultural production in the ARB. This has lead to rising saline groundwater, resulting in the loss of previously productive land to salinity and the reduction in water quality. Today, about 6 percent of agricultural land is affected by salinity, predicted to rise to nearly 30 percent by 2050 (ACC 2005).

Despite the large-scale clearing of native vegetation that occurred in the past, the south west of Western Australia, including the ARB, has been identified as one of 25 global biodiversity hotspots due to its high degree of endemism undergoing exceptional threat (Myers *et al*. 2000). For instance, there are over 4000 species of vascular plants within the ARB, with approximately 60 percent of these being endemic to the region (ACC 2005). Most of the region's biodiversity assets are confined to fragmented pockets of land in conservation reserves or on privately owned land.

1.3.1 Environmental and socioeconomic issues

A number of critical environmental and socioeconomic issues have emerged in the ARB over the past 50 years. Many of these issues require a management response at multiple scales (e.g. local government areas, catchments and broader regional scales). Developing effective responses to these challenges requires the design of effective partnerships in the region. This section outlines the major environmental and socioeconomic issues affecting the ARB, namely (i) salinity and deep drainage, (ii) climate change and related water issues, (iii) declining agricultural terms of trade and population decline, and (iv) the financial sustainability of local governments.

Issue 1: Salinity and Deep Drainage

In the ARB, the clearing of land for agricultural production has lead to rising saline groundwater, causing the loss of previously productive land to salinity and a reduction in water quality. Large-scale clearing of native vegetation commenced in the ARB after the First World War and extended into the late 1970s (Beresford 2001). Some argue that there is no other area in the world which has been cleared of its native vegetation over such a short time period (Beresford 2001; Conacher 1986). As a result, Western Australia today has the largest area of dryland salinity in Australia and also the highest risk of rising salinity over the coming 50 years (Land and Water Australia 2000). For instance, it is estimated that almost 6 percent of land used for agriculture in the ARB is currently affected by salinity. This could increase to nearly 30 percent by 2050 (ACC 2005).

The lapsed National Action Plan for Salinity and Water Quality (NAPSWQ) listed the Avon catchment as one of the twenty-one high priority regions to receive funding for addressing dryland salinity in Australia (COAG 2000). A national survey estimated the extent of land showing signs of salinity in the twenty-one high priority regions in 2002. The Avon catchment was found to be the NAPSWQ region that was the most severely affected by salinity, with 2,279 farms and 450,000 hectares showing signs of salinity (ABS 2002).

Rising salinity levels have caused the loss of productive agricultural land in the ARB. Large tracts of once productive land, particularly in valley floors, have become saline. Predictions show that shallow watertables and salinity may affect a third of agricultural areas in the ARB by 2050 (Land and Water Australia 2000). In addition, many rivers in the region are too salty for irrigation or consumption (Moore 1998). In comparison to other rivers in the south west of Western Australia, the rate of salinisation of the Avon River is particularly high (ACC 2005).

The very small human population and large size of the catchment area create additional challenges to address the salinity issues in the ARB (Williams 2006). The Avon NRM Strategy outlines a number of options that are available in order to manage salinity in the region. These include (i) the adoption of low recharge farming systems, (ii) the productive use of salt-affected resources and (iii) engineering solutions (ACC 2005). For example, deep open drains are increasingly being used in the region as an engineering option to control dryland salinity. The main objective of deep open drainage is the removal of excess groundwater from the landscape via excavated channels (Yandle 2004).

Research undertaken by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) shows that engineered drains can reclaim salt-affected land up to hundreds of metres either side of the drainage channel (Paterson 2005). However, the disposal of saline water draining from thousands of kilometres of drainage systems is a socially and politically contentious issue in the ARB. Whilst some argue that the acid sulphate can be discharged directly into natural waterways and the Indian Ocean others are concerned about possible impacts on aquatic ecosystems (ACC 2005). Furthermore, most of the drains have been constructed with limited planning and design and may significantly impact on areas further downstream (Ali 2006).

Issue 2: Climate Change and Water

Climate change and related water supply issues are also a suite of issues that requires closer local-regional cooperation in the ARB. According to the Avon NRM Strategy '*the potential for change in climate may be significant to natural resource management in the ARB although the extent to which this could occur remains uncertain*' (ACC 2005, p. 13). The Strategy also recognises that the agricultural industry is a substantial contributor of greenhouse gas emissions which are considered to be an important cause of climate change.

CSIRO and the Bureau of Meteorology (BOM) have undertaken major work to project Australia's future climate. They found that the south west of Western Australia is one of the regions that has suffered the worst decline of rainfall in recent years (CSIRO and BOM 2007). Research indicates that it has experienced a 10 to 20 percent reduction in rainfall and major reductions in runoff to water storage dams over the past 30 years (Hope and Foster 2005; Western Australian Greenhouse Task Force 2004). This reduction in rainfall has been accompanied by decreases in the number of rain days and extreme rainfall indices. According to CSIRO and BOM (2007) rainfall may decline by as much as 20 percent by 2030 relative to the 1960-1990 level. At the same time the number of winter rain days may decrease by up to 17 percent and the runoff into catchments in the south west of Western Australian may consequently decrease by between 5 and 40 percent. In addition, the ARB is likely to see more frequent extreme weather events such as damaging floods, which are projected to increase in magnitude and frequency (CSIRO and BOM 2007).

These climate projections have major implications for the social, environmental and economic character of the ARB. For instance, climate change is likely to affect agricultural production in the ARB through changes in water availability, water quality and increased temperatures. The ARB relies on good winter rainfall for crop and pasture establishment. Impacts on the wheat industry in the ARB could be particularly significant.

According to Crimp *et al.* (2008) the Australian wheat industry is highly sensitive to climatic influences and average crop yields can vary by as much as 60 percent in response to climate variability. The Garnaut Review (2008) considered 10 study sites across Australia's wheat-growing regions to evaluate the difference in magnitude of impacts on wheat yields. One of these case study sites is Wongan Hills in the ARB. The study showed that by 2100 there would be a significant decline in wheat yield of nearly 21.8 percent in Wongan Hills if mitigation measures against climate change are not taken (Garnaut 2008).

Climate change could also have major impacts on the limited water resources in the ARB and lead to significant water shortages. At present, the Goldfield Water Supply Scheme supplies a large part of town and farm water in the region. In addition, many town and farm water supplies are supplemented from harvested surface runoff. Potable groundwater supplies are limited to the west of the region and are generally of limited quantity (ACC 2005).

Due to the 10 to 20 percent reduction in rainfall since the 1970s in the south west of Western Australia, stream flows in the region have seen a sharp reduction of more than 50 percent. Over the period 1911 to 1974, the average annual inflow to the State's south west Integrated Water Supply System was 338 GL. Inflows were reduced to 177 GL annually for the 1975 to 1996 period and became even less, at 114 GL per year, for the 1997 to 2005 period (CSIRO and BOM 2007). Rainfall reductions have also lead to a probable decline in groundwater recharge (Western Australian Greenhouse Task Force 2004). The resulting decrease in surface water and groundwater availability has severely reduced regional water resources and is forcing major enhancements of water supplies (Hope and Foster 2005).

As a response to this, many local governments in the ARB have been increasing their efforts in harvesting surface runoff for potable and non-potable use. As mentioned above, more extreme weather events are predicted for the region, which will impact on harvesting technologies. Water reservoirs must be designed to store excess in times of ample runoff in order to meet demands in times of shortage.

There are also economic opportunities presented by climate change. For example, the increasing requirement to sequester carbon may provide the ARB with significant opportunities. The Kyoto Protocol includes provisions that enable the sequestration of carbon in soils and vegetation, to be used by Parties as one strategy to fulfil their obligations. It also allows for trading in emission reductions, and this opens the possibility that investment in greenhouse sinks can help to underwrite broader NRM objectives. Harper *et al.* (2006) argue that there is a significant potential for carbon sinks in Western Australia through the reforestation of farmland and the destocking of rangelands. Their research shows that for broad areas of the agricultural zone in the south west of Western Australia carbon sequestration is not profitable in its own right at a lower price of $5 and $15/t CO2-e. However, at higher carbon prices ($25 and $50/t CO2-e) carbon sequestration becomes profitable since this price covers the threshold costs of establishment and land rental. Agricultural areas, such as the ARB, are particularly valuable as adjuncts to reforestation schemes aiming to provide both conservation benefits and other commercial products including timber, paper or bioenergy. In many areas of the ARB more than 75 percent of land is available for carbon sequestration and could potentially be used as greenhouse sinks (Harper *et al.* 2003).

Issue 3: Declining agricultural terms of trade and population

Another important issue facing the ARB is the region's high dependence on broad-acre cropping and the decline of the agricultural terms of trade (O'Connor *et al*. 2005). As mentioned above, the development of broad-acre agriculture is the dominant land use feature in the area, employing 41 percent of the region's workforce and generating 58 percent of the region's wealth (ACC 2005). However, in recent years questions have emerged about the sustainability of the region's agricultural industries due to challenges such as declining terms of trade, climate change and a deteriorating environment. Declining terms of trade have been a long standing characteristic of Australian agriculture (ABARE 2008). The downward trend in the agricultural terms of trade began in the 1950s, but the rate of decline has slowed down since the early 1990s (Mullen 2007).

Western Australia is the major producer of wheat in Australia (Anderson and Garlinge 2000). The ARB, being a significant part of the Wheatbelt, is one of the key wheat-growing regions in Western Australia. In recent years, wheat production has varied significantly. Overall, wheat production in Australia fell by 58 percent to 10.6 million tonnes in 2006-07 due to the continued drought in many States (ABS 2007a). This trend could also be observed in Western Australia, where wheat production fell by just over 50 percent from 9.6 million tonnes in 2005-06 to 5.1 million tonnes in 2006-07 (ABS 2007b). Figure 3 shows the annual production of wheat in Western Australia since 2000. It clearly shows that wheat production has significantly been affected by severe drought conditions in 2002-03 and again in 2006-07. If the CSIRO and BOM (2007) climate projections eventuate, reduced rainfall and limited water supplies could potentially have serous impacts on wheat production in the ARB in the future.
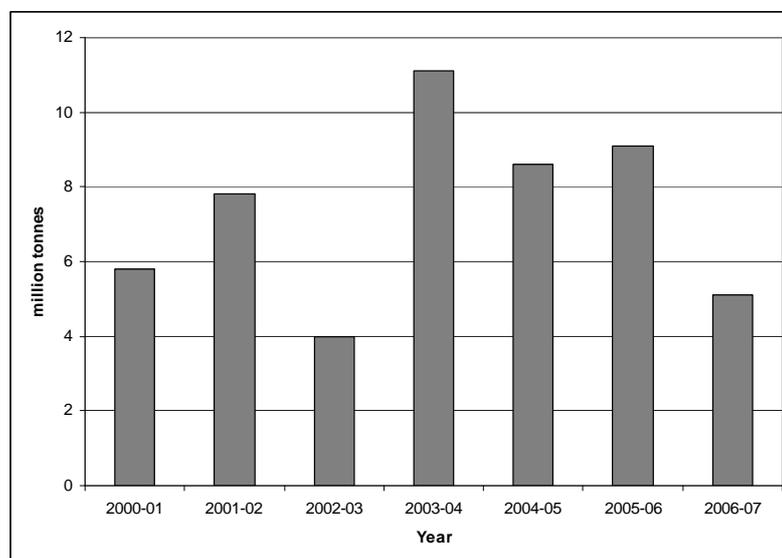
Figure 3. Wheat production in Western Australia (in million tonnes)
Source: ABS 2007b

The relative significance of agriculture in Western Australia has declined over the past few decades due to the increasing prominence of other industries, such as mining, services and manufacturing (Kural et al. 2002). According to Newman (2005) the Wheatbelt in Western Australia is faced with declining agricultural employment and declining economic output as a proportion of the State's economy. Agriculture now only contributes around 4 percent of Western Australia's Gross State Product (GSP) (Kural et al. 2002).

Overall, there are fewer farms in the ARB, and a higher proportion of large farms and fewer medium-sized enterprises (ACC 2005). For instance, the average total area of a farm holding in the Wheatbelt has increased by nearly 250 percent from 1,404 hectares in 1961 to 3,571 hectares in 2001 (WALGA 2008a).

Closely related to the declining agricultural terms of trade is the loss of approximately 15 percent of the ARB's population since the 1950s (ACC 2005). This decline is driven by farm amalgamations and decreasing job opportunities in primary and agricultural industries. As a result, people from the ARB either migrate to larger regional rural centres or to metropolitan areas such as Perth and Fremantle (PWC 2006). Young people, in particular, move to coastal areas and urban centres for education, employment and lifestyles. This is also evident in the fact that the number of schools and students has fallen in the ARB since the 1950s. The people that remain in the ARB are ageing and the average age of farmers is increasing (O'Connor *et al.* 2004). There is however a reversal of this trend in the western shires of the region, particularly the shires of the Avon Arc, with close proximity to Perth the area is facing increased demand for services and the challenge of managing increased development pressures for residential and lifestyle block subdivision. While pressures are somewhat latent, there are concerns of increasing issues with incompatible land uses, changes in visual amenity, greater demands on transportation infrastructure and management of land under absentee landholders. In addition the shires of the Arc are conscious of their location as Perth' hinterland and the opportunities and issues that brings for the location of infrastructure or facilities (such as regional waste management) to service the Perth's growing population.

The past few decades have also seen a loss of social services in the ARB. In many areas, infrastructure is deteriorating as investment has lagged behind that of urban centres. There has also been a withdrawal of services from the region. According to the Avon River Basin 2050 project (O'Connor *et al*. 2004), the region has seen a decline in rural health services. For instance, obstetrics services have been closed down in some hospitals. Other services, such as child care and respite care, are also insufficient for current demand (O'Connor *et al*. 2004).

A declining and ageing population also poses many challenges for local government. On the one had, it impacts on health care and related services as there is a greater need for these services. On the other hand, it erodes local government's rating base and reduces the potential for increasing cost of services per capita (PWC 2006). It also means that there is potentially a significant skills shortage in the region.

Issue 4: Financial sustainability of local governments

The fourth important issue facing the ARB is the long-term financial sustainability of the current system of 34 local government authorities. This issue can obviously have significant impacts on local-regional partnerships for sustainable development in the ARB.

Local governments throughout Australia have been under pressure from an ongoing reform agenda involving 'amalgamations, enhanced roles, accountability and devolution' (Wild River 2006). Most local government boundaries in rural and regional parts of Western Australia were established over 100 years ago and have not changed much since (WALGA 2008a). In the past few years only a small number of voluntary amalgamations have occurred. One recent example in the ARB is the merger of the Town of Northam and the Shire of Northam in 2007.

A number of investigations into possible local government amalgamations have occurred at the federal and state level in recent years. For example, the Australian Local Government Association (ALGA) undertook an independent analysis of the financial sustainability of local government in Australia in 2006. The study found that rural and remote councils with a high reliance on agriculture are more likely to be experiencing viability problems, whilst a significant number of urban fringe councils are also facing challenges. These councils were typically faced with a number of problems affecting their financial sustainability including (i) minimal or negative revenue growth, (ii) increasing costs due to wage rises and service diversification, (iii) increasing involvement in non-core service provision, and (iv) limited access to strong financial and asset management skills (PWC 2006).

A similar analysis was undertaken by the Western Australian Local Government Association (WALGA) in 2006. Their review of the long-term sustainability of local government found that 83 local governments in Western Australian were financially unsustainable based on their own-source revenue. In addition, it became evident that there are critical labour shortages in key technical and professional areas central to the role of local government. Also, there are significant challenges in recruiting and retaining staff and the situation is exacerbated by the strong economy and competition between authorities and from other sectors (WALGA 2008a). As a consequence, core local government services are now often supplied on a sourced basis from consultants and others. In addition, the local government workforce is ageing and the average age of councillors is 50 years and older in the ARB. Furthermore, due to the declining and ageing population across most regional and remote regions, local governments are challenged to sustain the full range of services and competencies required by them.

The Avon River Basin 2050 project (O'Connor *et al*. 2004) also identified that the current number of local governments in the ARB is not sustainable. They argued that 'amalgamations of LGAs and a move towards regional councils would improve efficiency and focus' (O'Connor *et al*. 2004, p. 92).

Indeed, recent years have seen the formation of voluntary ROCs in Western Australia. As discussed previously, there are six ROCs which cover local governments in the ARB. ROCs provide opportunities for neighbouring communities to associate and undertake cooperative planning and action for NRM (ACC 2005). The formation of ROCs in the ARB is further discussed in the following section, *Planning and policy environment*.

It is evident from the above that the major NRM and sustainable development issues facing the communities of the Avon NRM region require a cooperative response that is beyond the capacity of any single community, shire or organisation.

1.3.2 Planning and policy environment

This section presents a review of the organisations and institutions with roles and responsibilities for management, planning and policy functions for natural resources and sustainable development relevant to the ARB with particular emphasis on the local government sector.

Traditionally, local governments in Australia have been responsible for a set of narrowly defined services – roads, rates and rubbish (Aulich 1999). However, since 1989, significant changes in local government reform have occurred, resulting in greater responsibility and accountability in areas such as community development, economic growth and NRM (Wensing 1997; Binning et al. 1999). Local government's role in NRM is primarily established through its mandated functions in statutory land use planning and its direct management of key environmental reserves and assets (SGS Economics and Planning 2005; McDonald and Weston 2004; Binning et al. 1999).

Local governments are critical players in NRM and sustainability because they are the sphere of government closest to the community and the environment (Wild River 2005, 2006; Pini et al. 2007; ALGA 2007; Bates 1995; Adams and Hine 1999). As community leaders with a broad understanding of the issues within their municipality, local governments are, in principle, well positioned to promote and integrate NRM. There is a wide range of tools and mechanisms available to local governments to assess, plan and deliver sustainable NRM (Figure 4). Perhaps the most pertinent of these are i) plans (i.e. corporate, operational and planning schemes) ii) development incentives; and, iii) strategic partnerships (McDonald and Weston 2004). Local governments also have an opportunity to align their activities with regional NRM processes, priorities and actions (McDonald et al. 2005). However, as McDonald et al. (2005) note, linkages between regional NRM planning and local government can be highly variable across regions even with a single state jurisdiction depending on a range of factors including historical association between these players, and the needs and priorities of individual local government authorities.

- ***strategic planning*** through land use zoning and statutory controls on all freehold land and locally managed public open space
- ***development control*** of nearly all activities and works on freehold land and crown land (except national parks and state forests) through development consent powers
- ***enforcement powers*** for development consent conditions, waste management and unauthorised land uses (eg. land clearing, drainage, and filling)
- ***administrative responsibility*** for state agency coordination through integrated planning, licensing and development concurrence
- ***stormwater management*** and control; sewerage and drainage works, and flood control
- pest, plant and animal ***risk control measures***
- influence over land clearance patterns through ***incentive programs*** (planning amendments, rate differentials, levies, rural fire management and developer contributions)
- ***management of local open space*** to restore remnant vegetation and recreate habitat
- primary advocate for and ***coordinator of local community groups*** and interests

Source: ALGA 2007

Figure 4. Functions, powers and responsibilities to deliver sustainable natural resource management

It is important to note that while regional funding programs form the largest share of NRM funds, local government has not, by and large, been included as a participant in formal funding negotiations with the other levels of government under previous funding programs.

The Australian Government's intent however under the recent Caring for Our Country initiative is to increase the opportunity for local government participation in regional NRM delivery (Australian Government 2008), largely through the introduction of a more competitive (open) grant application process.

At present there are 141 local governments in Western Australia (19 Cities, 13 Towns and 110 Shires), 34 of which are located within the ARB (refer Table 1). Local government revenue is derived from three main sources, namely: taxes in the form of rates; charges for sale of goods and services; and grants from Federal and State/Territory governments.

Table 1. Local Governments in the Avon River Basin

Beverley Shire (3)	Brookton Shire (3)	Bruce Rock Shire * (4)	Corrigin Shire (5)
Cuballing Shire	Cunderdin Shire (3)	Dalwallinu Shire (7)	Dowerin Shire (6)*
Goomalling Shire (6)*	Kellerberrin Shire * (4)	Kent Shire (2) *	Kondinin Shire (5)
Koorda Shire * (1)	Kulin Shire (5)	Lake Grace Shire	Merredin Shire (4)
Mt Marshall Shire * (1)	Mukinbudin Shire (1)	Narembeen Shire (5)*	Quairading Shire * (3)
Northam Shire (6)	Nungarin Shire * (1)	Pingelly Shire	Victoria Plains Shire (7)*
Tammin Shire (4)	Toodyay Shire (6)*	Trayning Shire * (1)	Wongan-Ballidu Shire (7)
Wandering Shire	Westonia Shire * (4) (1)	Wickepin Shire (5)	
Wyalkatchem Shire * (1)	Yilgarn Shire (4)	York Shire (3) (6)	

Source: Adapted from ACC 2006a, ALGA 2007a

(1)   North Eastern Wheatbelt Regional Organisations of Councils (NEWROC)
(2)   Stirling Group – Informal Arrangement (other member councils include: Shire of Broomehill; Gnowangerup; Jerramungup; Kojonup; Tambellup)
(3)   South East Avon Voluntary Regional Organisation of Councils (SEAVROC)
(4)   Wheatbelt East Regional Organisation of Councils (WEROC)
(5)   RoeROC
(6)   Avon Regional Organisation of Councils (AROC)
(7)   Central Midlands Voluntary Regional Organisations of Councils (CMVROC)
*   employ Community Landcare Coordinators

The main roles and functions of local governments are set out under the provisions of the Western Australian *Local Government Act 1995* (the Act). While local government roles and responsibilities can differ from state to state they generally include:

- Infrastructure and property services (local roads, bridges, footpath, drainage, waste collection and management);
- Provision of open space (e.g. parks, sports fields, golf courses, swimming pools, camping grounds, halls etc);
- Health services such as water and food inspection (e.g. toilet facilities, noise control, meat inspection and animal control);
- Community services (e.g. child care, aged care, welfare services);
- Building services (site inspections, licensing, certification and enforcement);
- Planning and development approval;
- Administration of facilities (e.g. airports and aerodromes, ports and marinas, cemeteries etc);
- Cultural facilities and services (e.g. libraries, art galleries and museums);
- Water and sewerage services;

- Other services such as abattoirs, saleyards and group purchasing schemes (WALGA 2008c).

Under the provisions of the Act local governments can make laws in relation to land use planning and management of local areas (Meppem et al. 2002). As such, local governments have a legislative responsibility to their community to consider the environmental implications of all their decisions and activities. However, given that local governments are not formally recognised in the constitution, powers and roles of local governments are determined by the State (Pini et al. 2007). Thus, local governments' 'powers are limited by, or at least must conform to, state legislation' (Meppem et al. 2002).

Broader land use planning and management at the local and regional scale increasingly requires conformity with overarching state government planning legislation (Meppem et al. 2002). The Act also allows for the provision of regional local governments provided that two or more local governments feel this would be beneficial and the Minister approves[1].

Through an NRM lens, local governments offer a range of services that fall into the NRM spectrum. These include, but are not necessarily limited to: waste water and stormwater management; protection and management of waterways and wetlands; protection and management of land (soils), surface and groundwater; conservation of biodiversity and habitat; land use planning and development[2]; and waste management (WALGA 2008). More broadly, NRM can be integrated in local government planning processes through: indentifying environmental values and assets; identifying the potential impacts of development; outlining strategies to protect or minimise impact; and exploring the ability to address land management issues (WALGA 2008e).

Elected members of the local government are responsible for the development of council policies and also for setting project priorities. Council staff advise elected members on matters under discussion at meetings and administer day to day operations (WALGA 2008d). Most local governments will have an officer with an 'environmental' background to provide advice and support on NRM issues; however, some will have a dedicated natural resource management officer (NRMO). These positions are usually funded by the local government or through a joint-funded arrangement with the regional NRM group (WALGA 2008d). The Chief Executive Officer (CEO) is responsible for implementation of council policies, provision of accurate and timely advice to council, efficient administration of the council, and appointing, directing, managing and dismissing staff. The CEO can have a large influence on the level of support for NRM (WALGA 2008d).

Local Government Plans

Strategic Plans

Under the provisions of the *Local Government Act* 1995 all local governments in Western Australia are required to develop and implement a long-term strategic plan – A Plan for the Future. The strategic plan must set out the broad objectives of the local government for a

---

[1] s3.61 (1) *Local Government Act* 1995
[2] Land use planning has been widely acknowledged as a powerful tool through which local and state government can promote NRM matters in its decision-making processes. For more details see EnviroPlanning project (WAPC 2008).

specified period (minimum two financial years). It is important to note that the elected members of council and the ratepayers (community) are consulted during the development of, or amendments to, these strategic plans.

While the strategic planning framework is at the discretion of the particular local government, most apply the triple bottom line approach – social, economic and environmental values in the development of their plans. However, others may produce a plan that resembles a corporate plan with a focus on finance and business operations (WALGA 2008e). An annual budget is also prepared to reflect the activities set out in the strategic plan.

Consequently, if the strategic plan has dedicated some responsibility towards the environment then this can be reflected in its financial allocation (WALGA 2008e). Once there is a budgetary allocation for the environment then it becomes part of local government core business (WALGA 2008e).

Planning Schemes

Under the provisions of the *Planning and Development Act* 2005, local governments are required to prepare and administer a local government planning scheme. Local government planning schemes provide the necessary basis to guide growth and development to ensure the long term objectives of the strategic plan are achieved. Local government planning arrangements must also have regards to State Planning Policies (SPP) prepared under the *Planning and Development Act* 2005. It is also important to note that the Western Australia Planning Commission (WAPC), the statutory authority with state-wide responsibilities for urban, rural and regional land use planning matters, is responsible for approving all subdivision applications in the State (WAPC 2008a).

Key Legislation for planning in Western Australia

- *Local Government Act* 1995

- *Metropolitan Region (Town Planning) Scheme Act* 1959

- *Town Planning and Development Act* 1928

- *Town Planning Regulations* 1967

- *Planning and Development Act* 2005

- *Environmental Protection Act* 1986

Regional Organisations of Councils

As mentioned above, there are currently six Regional Organisations of Councils (ROCs) that operate in the ARB (see Figure 2). These ROCs are 'partnerships between groups of local government entities that agree to collaborate on matters of common interest' (ALGA 2007a). Nationally, key activities and practices ROCs engage in can include:

- 'research - underpinned by the advantage of taking a regional perspective on the many issues and developments which cross local boundaries;
- regional strategies integrating economic, social, environmental and cultural development;

- resource sharing is an integral part of a ROCs operation;
- advocacy - promoting and protecting their regions; and
- brokering or facilitating the development and implementation of programs of central governments' (ALGA 2007a).

The spatial distribution of the local government membership in ROCs points to at least six substantive groupings or networks at the sub-regional scale in the context of the ARB. It also points to other shires, often on the spatial periphery of the region that, due to proximity and social and cultural ties, seek cooperation and networking in other NRM regions adjacent to the Avon, such as the Northern Agricultural Region, Swan, or South Coast.

Western Australian Local Government Association (WALGA)

The Western Australian Local Government Association (WALGA) is a non-government body which lobbies and negotiates on behalf of local governments in Western Australia (WALGA 2007). The WALGA replaces the Municipal Association (1894), the Country Shire Councils' Association (1898), the Country Urban Councils' Association (1931) and the Western Australian Municipal Association (1989). Its mission is to:

- 'Provide strong representation for Local Government;

- Provide strong leadership for Local Government;

- Enhance the capacity of Local Government; and

- Build a positive public profile for Local Government' (WALGA 2007).

In terms of policy development WALGA operates within six key policy areas, namely: community and development; environment and waste management; governance; and infrastructure (WALGA 2007a). Priority areas for the environment relate to greenhouse gas emissions; sustainable development; NRM; and salinity (WALGA 2007b). Its goal is to:

> ensure local governments views on a wide range of environmental issues are heard by other spheres of government; enhance local government's understanding of environmental issues; improve local government's access to funding for environmental initiatives; and promote greater awareness of sustainability principles across all areas of local governments' operations. (WALGA 2007b)

Importantly, WALGA strives to ensure that local government is not seen as a competing stakeholder in the design and delivery of projects through regional NRM, but as a partner in the process (WALGA 2008b).

Local Government Reform in Western Australia

Local governments throughout Australia remain under pressure from an ongoing reform agenda involving 'amalgamations, enhanced roles, accountability and devolution' (Wild River 2006). Whilst not all local governments may favour reform, the overall agenda 'aims to equip local governments with the necessary skills and power to deal with increasing environmental, social and economic concerns' (Wild River 2006). The number of local governments in Western Australia peaked in 1909 at 147 (Government of Western Australia 2006). Since then, there have been 'dissolution of local governments and establishment of

new local governments', as a result, there are currently 142 (Government of Western Australia 2006).

<u>Regional NRM and the Avon Catchment Council</u>

Until June 2008, funding for NRM investment via regional NRM bodies was negotiated through bilateral agreements between the State and Australian Governments. There are six regional NRM groups or catchment councils in Western Australia that have developed regional NRM strategies and are now implementing them through regional investment plans. These include: Northern Agricultural Catchment Council; Rangelands; South Coast Regional Initiative Planning Team; South West Catchment Council; Swan Catchment Council; and the ACC (ACC 2006c).

The ACC is the regional NRM body responsible for NRM in the ARB which covers an area of approximately 117,700 sq km (Australian Government 2007a). The ACC is a non-government, non-statutory body 'responsible for delivering funding from the State and Federal Government through the Natural Heritage Trust (NHT) and National Action Plan for Salinity and Water Quality (NAPSWQ), to the region, to enable NRM projects and activities to occur within the ARB (ACC 2006a). Priority issues for NRM in the Avon region include:

- 'managing the increasing salinity, high sediment loads and nutrient enrichment threats to water resources

- dryland salinity which currently threatens more than five percent of agricultural land and is forecast to increase to more than 28 percent

- soil acidity, which threatens more than half the agricultural land

- biosecurity - weeds, disease and feral animals are impacting on agricultural production and the environment

- maintaining the existing natural diversity of the region including the remnant vegetation and threatened plants and animals' (Australian Government 2007a).

The ACC, in consultation with the local community, has developed the Avon NRM Strategy 2005 to address the abovementioned issues based on a whole-of-region approach which incorporates social, economic and environmental aspects (Australian Government 2007a). The plan has been accredited by the Australian and Western Australian Government Ministers. Whilst the ACC is the custodian of this Strategy many NRM related organisations in the region have aligned their activities to this Strategy (Australian Government 2007a). Federal NRM funding mechanisms and priorities changed from July 2008 under the newly elected Labour government. The great strategic implications of this for the ACC are discussed in section 4.

The ACC is made up of nine community members, three from each sub-region (Avon, Lockhart and Yilgarn), six agency members, two Indigenous NRM Members and three Local Government Members. These members are joined by a senior representative from each of the following departments: Department of Agriculture and Food (DAF); Conservation and Land Management (CALM); Department of Planning and Infrastructure (DPI) (including Main Roads); Department of Environment; *Wheatbelt Development Commission; and* Department of Education and Training (ACC 2005).

Regional Development and the Wheatbelt Development Commission

The state policy on regional development, *Regional Western Australia – A Better Place to Live,* released in November 2003 targets 'natural resource management' as one of four major areas of focus along with economic development, health issues and recreation (Government of Western Australia 2007).

The **Regional Development Council**, established under the *Regional Development Commission Act* 1993, is the State Government's peak advisory body on regional development issues (Regional Development Council 2007). The Act establishes the functions and responsibilities of the Regional Development Council as the advisory body to the Minister on all regional development issues:

- 'To promote development in all regions;

- To develop policy proposals on development issues affecting one or more of the regions;

- To facilitate liaison between commissions and relevant government agencies and the coordination of their respective functions;

- To promote liaison between local, State and Commonwealth government bodies with respect to regional issues, and the coordination of their respective policies on those issues; and

- To report to the Minister on matters referred to it by the Minister' (Regional Development Council 2007).

In 2007, Council membership comprised an independent chair, the chairs of the nine Regional Development Commissions, two representatives from WALGA and a representative from the Department of Local Government and Regional Development (Regional Development Council 2007). Nine regional development commissions that operate in Western Australia including the **Wheatbelt Development Commission** (Government of Western Australia 2007) the boundary of which has strong spatial association with that of the Avon Catchment Council.

The WDC is a statutory authority responsible for implementing the State's Regional Development Policy. The role incorporates project management and program delivery, coordination of community dialogue, strategic planning, promotion of investment opportunities and partnerships with **local government** (Wheatbelt Development Commission 2007).

Its mission is to 'maximise community well-being through self-sustaining regional development' (Wheatbelt Development Commission 2007). The board is made up of representatives from the community, local government, wheatbelt development commission and ministerial. The core objectives and functions of Regional Development Commissions are set out under the *Regional Development Commissions Act* 1993 (Table 2).

Table 2. Core Objectives and Functions of the Wheatbelt Development Commission

Objectives	Functions
• maximize job creation and improve career opportunities in the region;	• promote the region;
• develop and broaden the economic base of the region;	• facilitate coordination between relevant statutory bodies and State government agencies;
• identify infrastructure services to promote economic and social development within the region;	• cooperate with representatives of industry and commerce, employer and employee organizations, education and training institutions and other sections of the community within the region;
• provide information and advice to promote business development within the region;	• identify the opportunities for investment in the region and encourage that investment;
• seek to ensure that the general standard of government services and access to those services in the region is comparable to that which applies in the metropolitan area;	• identify the infrastructure needs of the region, and encourage the provision of that infrastructure in the region;
• generally take steps to encourage, promote, facilitate and monitor the economic development in the region.	• cooperate with departments of the Public Service of the State and the Commonwealth, and other agencies, instrumentalities and statutory bodies of the State and the Commonwealth; and local governments, in order to promote equitable delivery of services within the region.

Source: Government of Western Australia 2006a

As previously mentioned, the Avon NRM Strategy is based on a whole-of-region approach which incorporates a range of social, economic and environmental aspects. The WDC has been involved in the social and economic development aspects of three regional NRM groups, including the Avon NRM Strategy 2005. In particular, the WDC has worked with the ACC to finalise 'Nyungar Boodjar: Healthy Country People' which represents the indigenous NRM component of the ACC's investment Plan (Government of Western Australia 2006a). The WDC:

> 'is directly represented in an ex-officio voting role on the Avon Catchment Council, and contributes Wheatbelt region social and economic development content to the input provided by the Mid West and Peel Development Commissions on its behalf to the Northern Agricultural and South West Catchment Councils respectively'. (Government of Western Australia 2006a)

Key activities of the WDC with the ACC during 2005-2006 included:

- 'Contribution to the re-structure of the Council that has seen a reduction in the Board from twenty members to twelve, with the local government and indigenous representatives now recognised as community members and thus eligible for the positions of Chair or Deputy Chair;

- The involvement of the Commission led to a new way of thinking and engaging Indigenous people in economic development, advocating the same principles be used for NRM. This approach was endorsed by the ACC's Balladong NRM Working Group and utilised in the subsequent Indigenous component of the ARB NRM Strategy;

- Continued to broaden the ACC's awareness of NRM related activities occurring in the region by other organisations, particularly in the realms of renewable energy, biofuels production and waste management;

- Advocating greater participation of local government in regional NRM delivery by initiating discussion between the two sectors for the development of cooperative activities and capacity building; and

- Contribution to the development of a concept development working group under the ACC structure to analyse and develop new options for funding of NRM beyond core NHT and NAPSWQ' (Government of Western Australia 2006a).

2.0 Methods and approach to the study

In the previous section an overview of the region's physical and social characteristics and planning and policy environment is provided. In this section the major data gathering and analytical approaches are described. These involved firstly a classification of local government areas (LGAs) based on their relative need and capability; and the conduct of in-depth qualitative interviews with local government representatives. These, along with an initial scoping phase of the project and post-interview discussions with stakeholder groups, are described below.

2.1 Scoping phase and the project advisory committee

Due to the complex institutional environment in the ARB the research team conducted several scoping interviews with participants and key informants in the Avon region at the outset of the project. This assisted in contextualising the research questions and needs of collaborators, identifying important networks for the conduct of the project and refining communication strategies. It also assisted in gathering knowledge of recent or significant events in local government relations, development or NRM arenas that may create risk or add value to the project.

The Project Advisory Committee played a central role in refining and guiding the implementation of the project, particularly in its early stages. The Advisory Committee included members from the Wheatbelt Development Commission, Western Australia Local Government Association (WALGA), professionals working in the region as local government network facilitators, ACC officers and CEO. The Sustainable Communities Initiative Director also held a seat on the Committee. The Committee met on two occasions during the duration of the project (see Appendix 5), however the research team accessed advice and expertise as needed with individual members of the Committee during the project's implementation.

2.2 Classification of Local Government Areas by need and capability

To date research into local government contribution to NRM has focused largely on understanding capacity-related barriers to engagement (e.g. Pini et.al., 2007). Another separate stream of the environmental management literature has looked at means of prioritising areas of investment for allocation of limited funds to address NRM problems (e.g. Hajkowicz 2007; Hajkowicz and McDonald *et al*. 2006). What has not been proposed, however, is a means to bring together an assessment of NRM need with an appraisal of capacity of local governments to partner with regional organisations. Here, we present a classification of the thirty-four LGAs within the ARB. The approach used here provides a *relative* distribution of the performance of individual LGAs by differentiating between characteristics of NRM 'need' on the one hand and 'capability' of shires to address NRM on the other. The assessment was undertaken by constructing indices of need and capability that reflect recognised concepts and/or previously applied indicators to serve as attributes in the classification.

The NRM need index

The *NRM need index* is designed to differentiate between LGAs on the basis of threats or deleterious pressures on key natural resource assets in the region. This is reflected in the construction of the index by four subindices, namely:

i)   development pressure;

ii)   threats to biodiversity;

iii)   salinity; and,

iv)   threats to agricultural land.

Indices of this nature have been applied in previous assessments of threats to natural resource asset condition within a regional NRM program delivery context (Hajkowicz and McDonald 2006). These four subindices rely on a further suite of twelve attributes, the data sources and units of measure for which are outlined in Table 3 below. The higher number of biodiversity attributes creates bias towards this aspect of need within the index and the overall classification as a result. This ought to be considered when interpreting the results of the classification.

The Local Government capability index

The second major index informing the classification differentiates between local government's capacity to participate in regional level partnerships for NRM. The *capability index* is informed by four subindices:

i)   financial capacity;

ii)   human capacity;

iii)   network presence and membership; and,

iv)   history of regional cooperation/participation.

These subindices reflect well tested, operational concepts used to assess individual, sectoral and community level capability both in the fields of NRM (Lockie et al. 2002) and health service provision (Goodman et al. 1998). These concepts have also been applied analytically in studies looking to understand local government capacity for environmental management (Pini, River and McKenzie 2007). The subindices are informed by a total of six attributes (see Table 3 below).

Scoring and weighting the attributes

Attribute data for each LGA was collated within an Excel spreadsheet in raw form. From here each attribute data set was divided into three classes. For most attributes this involved generating line graphs of the datasets and identifying natural breaks by visual means. For other attributes, such as landscape stress, a three-point classification had already been assigned in the original spatial data, requiring an intersection with LGA boundaries using the ArcGIS software to assign the classes to each LGA. Table 3 below shows the resulting classes for each attribute. Scores of (3), (2) or (1) were assigned for each local government-attribute relationship. Within the need attributes, a score of (3) represents higher relative threat to asset condition, (2) moderate threat and (1) relatively lower threat. For the capability

attributes scores of (3) represents higher relative capability, (2) moderate capability and (1) lower capability for each attribute. These qualitative scores were then summed to provide an aggregate index for both need and capability.

No differentiation of weight was made between attributes *within* the major need and capability indices. However, since the classification used twelve 'need' attributes and only six 'capability' attributes, the latter were assigned twice the weight in order to equalise the influence of both indices in the classification outcome. Individual local governments were plotted using their indices scores in a two-dimensional plot.

Limitations and caveats on interpretation

The classification is designed to be a 'desktop' analysis, drawing on readily available data sources and being able to be replicated by a regional body on a regular basis. It is intended to be a rapid assessment that differentiates between local governments in order to inform regional engagement and development of partnership strategies by regional NRM bodies. The intent of the differentiation is not to rank or prioritise particular councils over others such as undertaken through a multi-criteria analysis approach. Instead, the intent is to reveal the diversity in the regional NRM delivery environment at the local scale and provide regional organisations a means to characterise this diversity for their own planning needs. As such, the results of the classification should be interpreted as relative only and not as absolute. Neither should they be interpreted as implying a good/desirable or bad/undesirable result for a given LGA. The classification is also intended to be employed as a point-in-time rather than predictive or explanatory appraisal and as such should not be used to extrapolate to future states or to interpret individual causal factors behind the classification outcome.

Also, it should be pointed out that secondary data on biophysical and demographic attributes relating to NRM need in the ARB were more readily available compared with data to inform capability related attributes. As such there are a higher number of attributes for need compared with capability.

The in-depth interview process is the major information gathering method in this research project (see section 2.3) and thus provides a more detailed understanding of relationship histories, dynamics, networks and motivations of local governments required to develop a more meaningful picture of partnership opportunities and constraints. The results of the classification should not be interpreted outside of the context and in-depth understanding provided by the interviews.

Table 3. Indices, attributes, their classification and data sources

Index	Sub-index	Attribute	Unit	Scores assigned to attribute classes	Source
Need	**Development pressure**	Projected pop^n trend 2006 - 2011	Trend by LGA	3-increasing; 2-no change; 1-decreasing	WA Planning Commission, 2005
		Lots in subdivision applications lodged 2005-06	Number by LGA	3 = 59-324; 2 = 7-58; 1= 0-6;	Adapted from WA Planning Commission 2007
		Building approvals 2005/06	Number by LGA	3=10-65; 2= 5-9; 1= 0-4	Adapted from WA Planning Commission 2007
	Threats to Biodiversity	Landscape stress	Stress classes	3 = High; 2=Medium;1=Low	Continental landscape stress class for each IBRA sub-bioregion (Government of WA 2003 , Attachment 1e) intersect with LGA Boundaries
		Proportion of unprotected land per IBRA bioregion	Protection Status	3 = High; 2 = Medium; 1=Low	Proportion of protected area network per IBRA sub-bioregion (note a). Based on IBRA regions - Government of WA 2003, Attachment 1f.) intersect with LGA Boundaries
		Remnant vegetation extent	Percentage of shire area	3 <10%; 2-10-30% 1 >30%;	WA Native Vegetation Extent, DAFWA, 2008
		Count of rare plant populations	Number of pop.	3 > 100; 2 40-100; 1 <40	GIS intersection of LGA Boundaries and DEFL point data Department of Environment and Conservation: Species and Communities Branch, 2008
		Count of rare fauna sightings	Number of sightings	3 = > 60; 2 = 60-20; 1= <20	GIS intersection of LGA Boundaries and DEFL point data (Department of Environment and Conservation, Species and Communities Branch, 2008)
		Area of threatened vegetation communities	Hectares by LGA	3=>7000; 2=3000-7000; 1=<3000hectares	DAFWA, 2008
	Salinity	Current extent of salt affected land by land resource sub-region	Percentage	3 = 6.1-8.4%; 2 = 5.1-5.8%; 1 = 1.7-3.3%	Land Monitor project Department of Agriculture, WA (2004) (note b)
		Road length in LGA currently impacted by salinity	Percentage length total roads by LGA	3=>20%; 2=5-20%; 1=<5%	Land Monitor project Department of Agriculture, WA (2004)
	Threats to agricultural land	Threat to major soil landscape zones versus agricultural land	Asset/Threat Matrix Rating	3 =Tier 1; 2 =Tier 2; 1 =Tier 3	Threat assigned using three-tiered ATS model (WA Government 2003) for major soil landscape zones intersected with LGA

		value			boundaries (note c)
Capability	**Financial capacity**	Total income by Shire area	$000 per square kilometre	3 = >$2000; 2 = $1000-2000; 1= $<1000	West Australian Local Government Association 2008
	Human capacity	Presence of NRMOs or Landcare Officer	Status by LGA	3 = current officer; 2 = position vacant; 1 = no position	Vernon, L and Arnold, G. pers comm, 2008; Dames, P. pers comm.2008
	Network membership	Presence of local land management network (Landcare, LCDC or similar (last 3 years)	Status	3 = active; 2 = in recess; 1 = none/no history	Arnold, G. pers comm.. Department of Agriculture 2008
		Membership of Regional Organisation of council or similar	Years of membership	3= >9years; 2= 4-9years; 1= <4years	WALGA 2008 and other sources
	Past cooperation with regional groups	Participation in / recipients of ACC and Wheatbelt Regional Development Strategy project funding between 2005-8	Number of projects	3 = 8-11; 2=4-7; 1=1-3.	ACC 2006; Wheatbelt Development Commission 2007

Notes:

a) Inverse of rating in original data source adopted – i.e from proportion of protected to *un*protected land to maintain consistency with other attribute scoring in the index

b) Extent for land resource areas transposed to LGAs for dominant LRA

c) Threat based on average of all threats (wind erosion, water erosion, land salinisation, soil structure decline/compaction, soil acidification for shires in major soli landscape zones versus agricultural land value – WA Government 2003, adapted from Hajkowicz 2003.

2.3 Qualitative interviews

In-depth qualitative interviews with representatives from twenty-one LGAs in the ARB were undertaken between June and August 2008. Most interviewees were local government CEOs with a small number of NRMOs and Community Development Officers (CDOs) also participating. Interviews were conducted across the region by a team of NRMOs, following discussion with the CSIRO team on appropriate interviewing protocols and methods. The protocol prepared to guide the interview process is documented in Appendix 2. Face-to-face interviews were recorded as digital voice files and transcribed for meaning prior to coding and analysis by the CSIRO research team. Each member of the research team analysed one or more particular themes within the interview transcripts.

The purpose of the interview analysis is to:

  i)   Assess the structural, process and capacity factors relevant to local government partnerships in the Avon NRM region; and
  ii)   Identify preliminary options and issues to inform local government workshops.

To achieve this purpose the analysis is organised around three main themes:
  i)   Priority issues for local governments and their capacity to respond (including strategic and operational planning needs);
  ii)   Local-regional dynamics: relationships between regional groups and local governments; and
  iii)   Organising around subregions: Voluntary Regional Organisations of Councils and other networks.

In order to maintain confidentiality, any direct use of text [quotations] in the analysis is attributed, not to individuals or individual shires but to groupings of local governments based on their association with one of five ROCs in operation in the Avon NRM region– namely AROC, SeaVROC, NewROC, WeROC, AROC and RoeROC. Five of the twenty-one interviewees are from shires that are not part of these ROCs. For the purposes

Table 4. Distribution of interviewees by ROCs	
Sub-regional groups	**Interviews conducted**
AROC and environs	5
SeaVROC and environs	3
NewROC	5
WeROC	4
RoeROC and environs	4
Total	**21**

of the analysis however they are identified with those ROCs based on their geographical proximity. While recognising the presence of a sixth ROC, Central Midlands Voluntary Regional Organisation of Councils in the Avon NRM region, responses of interviewees from shires within the grouping are included in 'AROC and environs' to maintain confidentiality. Table 4 shows the distribution of interviewees by ROCs and adjacent shires. Interviewees' statements are therefore often attributed for example to "AROC and environs" which includes AROC members as well as shires adjacent to AROC that participated in the interviews. Adopting these subregional groupings for the analysis also assists with developing a picture of subregional differences or patterns across the ARB.

2.4 ROC 'workshops' and options development

The following is a summary of major points of feedback received by the research team from local government stakeholders when presenting the preliminary findings to them. These presentations were made in conjunction with the ACC to four separate forums associated with operation of five voluntary ROCs during October and November 2008 in the ARB.

These occurred at the following locations:

- SLUM / SeaROC Beverley, 7th October, 2008
- RoeROC in Kulin, 23rd October 2008
- NewROC-WeROC, Southern Cross 28th October, 2008
- AROC, Northam 13th November 2008

The purpose of presenting the findings was twofold. First, to seek clarification and promote discussion on the team's interpretation of the analysis of qualitative interviews with local government participants, and second, to ask local government stakeholders to reflect on and refine a suite of general 'options' or strategies to improve local-regional partnerships. Attending the ROC meetings also provided an opportunity for the research team to observe and record other relevant themes of discussion that could assist with understanding the current function and focus of the ROCs. Further, members of the research team were able to debrief with ACC staff following each of the sessions on the partnership options proposed, and discuss their social and operational implications. Some of the key points of discussion at the ROC meetings are presented in Appendix 4.

3.0 Results and Analysis

3.1. Classification of local governments: need and capability

The results of classifying local governments in the ARB by indices of their relative NRM 'need' against their relative 'capability' is displayed in Figure and 6 below. The method used to conduct this is outlined in section 2.2. Figure 5 displays the classification results for individual shires. In Figure 6, the shires are labelled based on their ROC affiliations.

Following the preliminary analysis of the in-depth interview data it became apparent that ROCs formed significant and largely latent networks for regional engagement on NRM (see discussions in section 4.0). When the results of the classification are considered from this perspective it is possible to identify certain characteristics or patterns:

- In the case of shires affiliated with AROC, four of the six are above the median need value and five of the six shires are above the median capacity value. In this respect these shires can be collectively categorised as moderate to high need and high capacity.

- All NewROC shires are either on or above the median need value, while quite well dispersed across the range of capacity values. This suggests a collective categorisation as moderate-high NRM need yet with quite diverse capacity amongst shires.

- All except one of the neighbouring WeROC shires lie on or below median need value while four of the six shires display above median capacity values. This could be collectively categorised as moderate to low NRM need and high relative capacity.

- SeaVROC shires are well dispersed across the range of need values with three above and two below the median, while four of the five shires have median or above capacity values. This could be collectively categorised as a diverse need profile and moderate to high capacity amongst this group of shires.

- Three of the five RoeROC shires sit below the median need values and are dispersed across the middle to lower range of capacity values.

There are two overarching interpretations from the results of the classification. Firstly both figure 5 highlights the issue of diversity amongst local governments facing organisations such as the ACC seeking to engage with them. This diversity between shires may however be more easily grasped as subsets of local governments using existing associational networks (ROCs) as an interpretive filter (Figure 6). While diversity is still evident within these groupings there are distinct differences between them in their need-capacity relationships. As a benchmarking exercise this provides a sense where investment or engagement activities might be focused.

Classification by Individual Shires
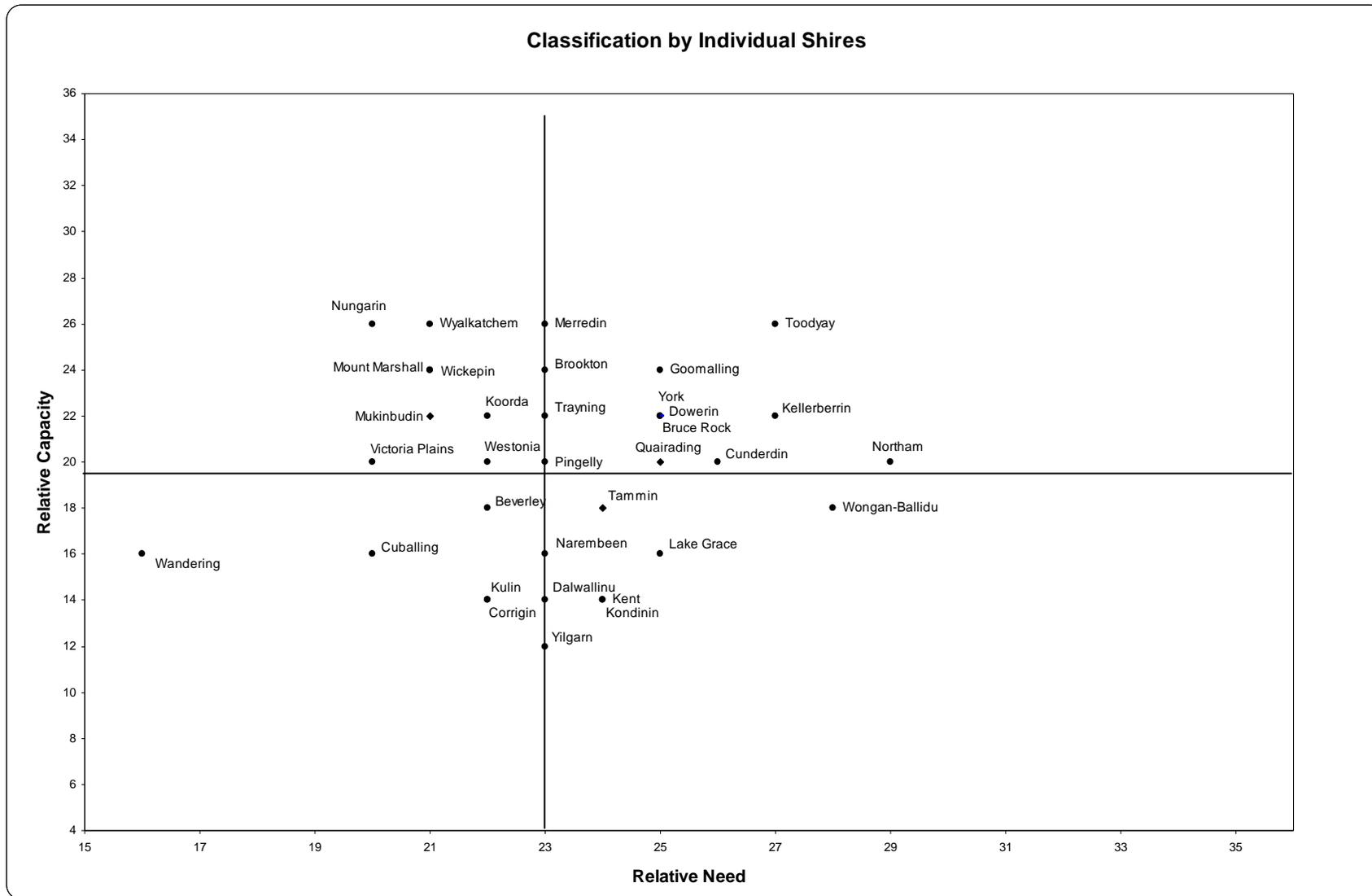
Figure 5 - Classification of local governments by relative need and capability for natural resource management
Legend: **N** – Shire in NewROC; **R** – Shire in RoeROC; **S** – Shire in SeavROC; **W** – Shire in WeROC; **A** – Shire in AROC; **C** – Shire in Central Midlands ROC; **O** – Shire in Avon NRM region but not currently a ROC member. **Note:** reference lines on plot are <u>median values</u> for need and capability index scores

Classification of LGAs by ROC Membership
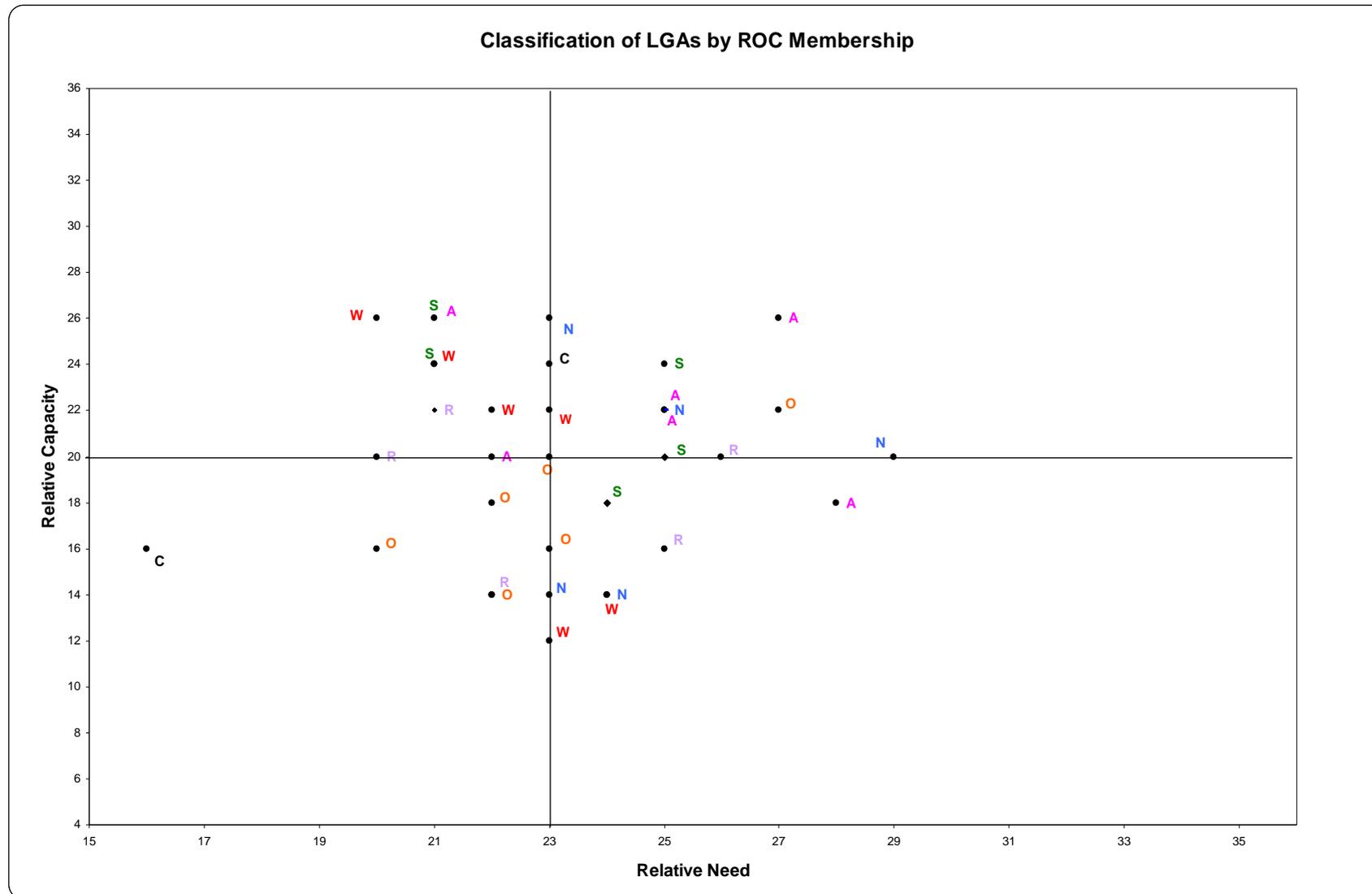
Figure 6 Classification of local governments by Regional Organisation of Council affiliations

Legend: **N** – Shire in NewROC; **R** – Shire in RoeROC; **S** – Shire in SeavROC; **W** – Shire in WeROC; **A** – Shire in AROC; **C** – Shire in Central Midlands ROC; **O** – Shire in Avon NRM region but not currently a ROC member. **Note:** reference lines on plot are <u>median values</u> for need and capability index scores

3.2. Analysis of local government interviews

The analysis of interviews with twenty-one local government representatives is organised around three main themes:

- Priority issues for local governments and their capacity to respond (including strategic and operational planning needs);
- Local-regional dynamics: relationships between regional groups and local governments; and,
- Organising around subregions: voluntary ROCs and other networks.

3.2.1 Changes confronting shires and their capacity to respond

Interviewees were asked what they considered the most pressing concerns or major changes facing their shire in both the short and longer-term. In the short term, a 3-5 year time horizon, change associated with environmental pressures was mentioned most often. This was followed by themes of employment, resource use and economy, infrastructure and services followed by population (see Table 1, Appendix 4 for more detail).

Similar themes are evident in their perceptions of major longer term changes facing their Shire. However in this 10-20 year time frame employment, resource use and economy is the most frequently mentioned sets of concerns followed by environment and then population. Much of this discussion was framed in relation to impacts and uncertainties of climatic change on land and water resources, economic activity and viability of human settlement in the region (see Table 2, Appendix 2).

Environmental change

Within the *environmental theme*, concerns most frequently mentioned in the short term horizon included salinity, with deep drainage as a recurring and frustrating issue for shires. One NewROC interviewee stated:

> Yes, salinity is a massive problem. It's eating up the land left, right and centre. There are little things you can do but you can't cure it as such. You can prevent it, but once it's there it's there. I think even a lack of knowledge comes into it.

> The people who are in their 70s and 80s who farm and have a salt lake, they think well we've got a salt lake and there's nothing we can do about it. They pass it onto their sons and to their sons… But getting that message [that something can be done] out is really hard because they're so stuck in their way of having all those salt lakes and believing that there's nothing they can do about it. They just put a fence around it and leave it (NewROC).

Drought was also mentioned with interviewees noting links between drought and the loss of farmers to the mining industry, with potential consequences for land use in their shire:

> We have, because of the economic issue about the viability of farms in extended drought periods we now have an impact of the mining industry which is dragging a lot of people out of the farming industry into the mining industry and putting farms in to some, almost under management control and limited involvement in some areas (AROC and environs).

Water resource development and climate change were also mentioned:

> Trying to ensure that we're sustainable water supply-wise would be a very big issue. We have looked at development of further bores; we've got the opportunity to maybe in the next three to five years of reuse of the effluent from the sewerage scheme, the water corp [sic] sewerage scheme, which we don't currently utilise. But we've got a very effective catchment area and all our sealed roads in town they all get down to our dams; there's no water lost outside the town site. But obviously we've got to be smarter with the use of our water. (SeavROC)

Perceptions about salinity and climatic change where again identified by shires as long-term changes to consider, for example in this quote from a RoeROC shire:

> I think issues about climate change, peak fuel, you know [availability] of fuel and then there are the whole changes in agriculture. That could affect us quite significantly. I mean if the core agricultural business changes then the community will change (RoeROC).

Population change

Population decline was mentioned by several NewROC Shires. One of these interviewees stated:

> …..we would expect the same amount of acreage to be used for farming but probably we will have less farmers, more corporations and large farmers taking over land on the periphery that's being abandoned. Not abandoned but families selling up so that's probably going to lead to some population loss. Socially, we have a very strong community here and I don't think that's going to be threatened in the immediate future but in the long term, as it affects government services and schools and health and things like that, there may be long-term effects down the track. When you start losing services it can often have a domino effect. We haven't got that yet and we will fight tooth and nail to avoid it but you never know (NewROC).

In contrast, there was a tendency for interviewees within the AROC and environs group of shires to mention population *growth* relatively often:

> Firstly, there's that extraordinary population growth. We've been running for 30 years at 3.5%, we suspect that's a little higher at the moment. One of our biggest issues is that 28% of our population are baby boomers. It's the highest level of baby boomers of any local government authority in Australia. So the subsequent implications associated with an aging population is right across the gambit from service revision to provision of recreation services, library services and all the issues ... all the other challenges (AROC and environs).

In the longer term another AROC shire suggested towns in the wheatbelt may only remain viable if, and through, major landscape changes occurred:

> Will there be a town there? Well, I think eventually with all these carbon and climate changes and stuff the shires are going to have to take a big step to… It's not only climate change. They're going to have to do something environmental wise, as in they're going to have to do massive revegetation projects (AROC and environs).

Employment, resource use and economy

In relation to short term change anticipated RoeROC shires, in particular, mentioned a decline in agricultural sustainability in their shires, one interviewee stating for example:

> I think there's been an awful lot of crop put in, and I think it's going to be making or breaking a lot of people. If the crops are good, if they fail there'll be a lot of farms on the market. And that's about how a fair percentage of them are travelling around here. Not really well (RoeROC).

Changes in land use associated with in-migration of urban residents seeking lifestyle blocks were also noted including by this SeavROC interviewee:

> You know there are lifestylers buying in the western shire basically. That was two whole farms disappeared so we've got ten dwellings on one. Ten to 15 thousand acres disappeared into hobby farms (SeavROC).

Preparedness to manage change

With reference to the change pressures anticipated by ARB shires, interviewees were asked to respond to the question "*How well positioned is the shire as a community to deal with these changes?*" (see Table 3, Appendix 2 for more detail). There was much rather general discussion of the need for 'more resources' to address the changes confronting shires. However, a number of specific issues about preparedness were mentioned. The first of these deals with issues of **mobilising the local community**, that is the perceived difficulties local governments have in promoting a longer-term agenda within their local communities in a way that will engender a constructive response. This quote from one NewROC interviewee of their shires was somewhat pessimistic on this point:

> The shire is aware of them [the changes]. The hardest thing is trying to get the community awareness, trying to get community awareness and people to focus on the future, especially in times like these people are just worried about what's happening tomorrow, let alone what's going to happen in 10 years time. It's hard to get people to see down the track instead of worrying about the day to day stuff. They need to sort of look further on (NewROC).

A fairly uncommon response by a different NewROC shire referred directly to boosting the effectiveness of existing planning instruments in the shire:

> We need to be more proactive through our planning schemes and policy statements in protecting our natural assets and the environment and our farm land (NewROC).

Some shires stressed, however, that their capacity to respond to major environmental changes was strongly reliant on the ability to attract and maintain a sufficient population in order to have the human resources necessary. This logic positions 'social and economic sustainability' or community viability at the centre of how some shires view their capacity to adapt. This logic is clearly evident in one RoeROC interviewee's response:

Probably the biggest thing is awareness and this local government is quite aware. So there are things being put in place now, through longer term planning and those sorts of things. So economically we are very strong. Our biggest thing is population. If we lose population then we're not going to be able to combat the changes that come with that – sustainability issues. If it happens like I think and we do get an increase in population then we're positioned pretty well. If we continue to put things in place as we go along, change the way we do things, we can adapt to the environmental change, the reduction in rainfall, the cost of fuel and everything else (RoeROC).

However, another RoeROC interviewee noted that the communities in their shire were:

….probably not situated too well. [Town A] is probably different, bit more resilient and self reliant and they have other incomes through tourism and that sort of stuff. We've got to look at moving into different areas, probably bigger manufacturing and business out there, moves here. Yeah I think it will be alright, but I don't know about [Town B] if things get too hard, I don't know how the town or community itself will survive (R?, RoeROC).

Strategic and operational planning priorities

Amongst the somewhat expected planning emphasis for the shires on provision of health services, housing, and managing residential development, it was interesting to note that planning for tourism growth as part of shires' future economic mix was raised along with several environmental and NRM foci. Water resource development and improving water use efficiency were most commonly mentioned amongst this suite of resource management concerns. One AROC interviewee noted their shire's dilemma in this regard:

One of the things we can se we're going to face in the future is a problem from government policy coming out about getting people to reduce water usage. So you bring in your dual flush toilets, you flush less water, you wash less, you cut your showers down which means we have less water going to our sewerage dam which means we've got less water to recycle, which means now we can't water our ovals anymore and we've got to pump in scheme water anyway. So really it's a catch 22 (AROC and environs).

The same interviewee flagged the importance of managing catchments for water yield in their Shire:

…..we have an old catchment area here that feeds into that dam……….. so we need to clear that out and reinstate it back to its original purposes as a water catchment. Some of the area will be utilised for industrial land then a buffer and then making better use of that old catchment area on the outskirts (AROC and environs).

Development and use of Local Area Plans

Under the Avon NRM Strategy the development of Local Area Plans (LAPs) is promoted as a key strategy for improving local government capability in NRM. Overall, only three of the twenty-one interviewees stated they had produced LAPs to any advanced stage of completion. And only one of them, a shire council within NewROC, is actively using the LAP on a regular basis and is convinced of its benefits:

We generally use our local area plan because it does cover road maintenance, gravel pit operations and rehabilitation. So yes, we do and it's been a great tool for us over the years (R22, NewROC).

In the other two cases where LAPs exist, they are not actively being used by the shire councils. For instance, one NewROC interviewee commented:

> Yes, we have a local area plan. I don't know whether it has been updated since it was written. We had one but I have to admit that I don't know what happened to it (R08, NewROC).

A small number of interviewees claimed they had 'unwritten' or 'informal' LAPs, whilst a few others noted that they had incomplete LAPs. In many cases, the question about LAPs seemed to cause a certain degree of confusion. Several interviewees were unsure about the meaning of LAPs and had not heard of it previously.

Environmental works undertaken by local governments

All respondents indicated that their shires had undertaken environmental works in the past. The most common types of environmental works undertaken by shire councils in the ARB included gravel pit rehabilitation and weed control. As one SeavROC interviewee revealed:

> Yes, we are quite active on the gravel pit rehabilitation. Also, we have been particularly strong over time with weed control. We used to have a community spray day that the adjoining landowners and catchment groups would assist us with because there were nasties on the side of the road (R14, SeavROC and environs).

According to the interviewees, other types of environmental works undertaken by the shire councils included bushland rehabilitation, water recycling, reserve revegetation, salinity management and rehabilitation of rubbish dumps:

> Well, the shire has always provided funding to farmers to take advantage of acquiring trees to plant along corridors of road reserves and railway reserves. They've also received funding for revegetation of a number of reserves, particularly the recreation reserve (R04, AROC and environs).

A number of interviewees revealed that environmental works by the shire councils had been undertaken around 10 years ago and that activities had slowed down in recent years. In fact, about one third of interviewees stated that no environmental works had been done in their shires in the past 2 to 3 years. They explained that the loss of NRMOs made it impossible for the shire councils to continue with their environmental works:

> In the last two to three years no environmental works have been done because we haven't had a Landcare Officer, basically. Four years ago the Landcare Officer disappeared when the NHT funding changed. The Landcare Officer left and no work's been done since then (R13, SeavROC and environs).

Human resources: employment of NRMOs

Nearly half of the interviewees' shires employ an NRMO. Only a few years earlier, the majority of shire councils had employed NRMOs or similar positions (eg. Landcare Officers) to coordinate and manage environmental works. However, when NHT funding arrangements changed, a number of shire councils decided to discontinue the position of an NRMO. According to the interviewees, the cut in funding had made the continued employment of an NRMO impossible. As one RoeROC and environs interviewee stated:

> I think one of the things that's killed NRM in local government over the last three, four , five years is the loss of facilitator funds. I think that whilst there were funds available, even a percentage of funds available, it enabled local governments to employ NRM Officers to do the coordination and I think that's still needed. I don't think there's any doubt. There are a lot of councils that, if the funding was there, they would certainly continue on with those programs and find the magic money (R02, RoeROC and environs).

Instead of completely abolishing NRMOs, a few shire councils decided to share an NRMO when funding arrangements changed. At present, there are several shared NRMOs in the Avon region that work on a part-time basis for three or more shire councils. They usually work one day per week at each of their respective shire councils.

Apart from changed funding arrangements, there are a range of other reasons why half of the shire councils do not employ NRMOs. For instance, some interviewees stated that there is sometimes not enough support or interest in the community to employ an NRMO. They claimed that even though some landholders might have a real interest in environmental issues, others just want to do their own thing and not listen to advice. For example, one shire council employed an NRMO on a contractual basis for two years to help farmers address NRM issues on their land. Due to a lack of interest from the community, funding for this position was eventually discontinued:

> What we tried to do was engage a contract person to come in and advise, where council would pay for that advice and everything. We put it on a two year trial, the bloke was only used occasionally by individual farmers who had a passion for Landcare or NRM but other than that because there was no interest it fell by the by (R20, WeROC).

Those shire councils that currently do not employ an NRMO were also asked whether they considered employing one in the future. This question received a mixed response. For some, the employment of an NRMO seems to be unlikely in the foreseeable future due to a range of issues. For instance, staffing appears to be an obstacle in a few shire councils. One RoeROC and environs interviewee noted:

> So, concerning the NRM Officer, no I haven't been able to consider employing one. The biggest problem here is you've got to get someone that is not only interested, but that has a bit of knowledge. And I can't even get staff in the front counter. So that's where we're at (R06, RoeROC and environs).

For others, the lack of funding is still going to be a major impediment to the employment of an NRMO in the future:

> The circumstance for employing an NRM Officer in the future would only be right if there was a more coordinated approach through the Avon Catchment Council and the funding was being made available (R03, AROC and environs).

Several shire councils, on the other hand, seem to have a more optimistic view about the future employment of NRMOs. A few interviewees stated that their shire councils were currently planning to employ an NRMO for the following financial year. The idea of a shared NRMO, in particular, seems to gain in popularity. A number of interviewees commented that they are in the process of working out shared arrangements with neighbouring shires. In these cases, financial resources have already been committed to fund part-time NRMO positions in the next financial year.

Comments on future NRM support needs

Without access to funds to employ NRMOs other means of accessing technical support would be required, as one SeavROC interviewee commented:

> For us, if we're not going to get the funding to have Landcare officers like we did before, [..]. We actually need a little bit more help because you need that technical support. If you don't have the technical support, there's no point in putting in an application, it all comes down to technical support which is the Landcare officers (R13, SeavROC and environs).

Several shire councils in the ARB emphasised the need for more expertise so that environmental programs can be professionally implemented and actual outcomes be achieved:

> I think if there is somebody with the expertise [like an NRMO] we could get so much more done with the limited funds as well (R21, AROC and environs)

The importance of providing funding for an NRMO on a continual basis was highlighted by many of the interviewees. For instance, one AROC and environs interviewee argued that NRMO funding should have long-term time commitments and also allow for career development opportunities:

> You need an NRM officer. You need – you must have, and this has been said over and over and over, it must be an officer who has a contract for a minimum of three years. So if they just start and then they're young people, and it's nothing to gain to them. But there's no stepping up for them. So they – you've got to have incentive that once they've done a one or two year that they can step up within their own job (R18, AROC and environs).

This view was supported by another AROC and environs interviewee:

> Our biggest single lacking is some sustained ongoing funding for the position of an environmental officer. One of the problems with some of the government funding programs, including Out Patch, is that they're project based, and will not necessarily run over concurrent financial periods. They certainly seem to be linked to election cycles (R15, AROC and environs).

Apart from paying for the position of an NRMO, shire council interviewees maintained that they also need financial assistance to pay for the day-to-day operation of environmental programs. This includes resources to pay for materials, signage and the time to actually implement programs.

Community support and mandate

Cooperation of the community is another critical support need mentioned by shire councils. Several interviewees emphasised that the continuous support of local farmers, landholders and catchment groups is vital for the successful implementation of environmental programs. However, gaining the interest and support of the community appeared to be challenging for some shire councils:

> We need the continued support of local farmers and catchment groups. It is a known fact that farmers are either burnt out or these projects – programs have been going for the past 20 years, and it's noticeable by council that farmers are seen to be burnt out. So we need to rekindle the fire or whatever you like to call it, to keep them very interested and ensuring that they continue with the reversal of land degradation, and improve the implementation of continuing to revegetate for the future generations of the district (R04, AROC and environs).

Other shire councils seemed to have difficulties in convincing the community that funding should be directed towards environmental initiatives and the employment of NRMOs. For example, a WeROC interviewee remarked:

> And I suppose it has to be council driven but when the council are finding it difficult to find their landholders - and that all comes down to rates and additional funds to employ these people (NRM Officers), because once upon a time we got the Land care coordinator because we were funded accordingly. Now it's up to the individual local government to fund it, and that's part of the program, is to convince your rate payers and residents that it's a necessity. Without someone in the district driving it, it's very hard to do it on an ad-hoc basis, so you need those people that are skilled in that area to drive NRM (R20, WeROC).

Overall, financial and human resources are the most critical support needs of shire councils to assist with the implementation of environmental programs. Community support and assistance from regional organisations, such as the ACC, are also important.

3.2.2 Local-regional dynamics: relationships between regional groups and local governments

Levels of past involvement with regional groups

Only two of the twenty-one local government interviewees reported they had little or no association with regional level groups such as the ACC or the WDC. Eleven of the twenty-one described instances of working with the ACC. Involvement of shires with the WDC was reported as more widespread (fifteen of the twenty-one shires).

There is also considerable diversity in the level of association or interaction between local governments and regional groups ranging from little or no contact, occasional advice or information seeking through to successive grant-funding arrangements or a strong working history of co-investment in particular shires. For example one shire reported:

> We've never had enough contact or interaction with them to develop a relationship, whether it be good, bad or otherwise. And that's unfortunate (R15, AROC and environs)

Then those shires that reported periodic or project-based involvement:

> …the ACC are probably a little more standoffish, but you do a project together with those people so if you haven't got a project, you don't go there. But I think overall…when you speak to them they're fine, (R7, RoeROC and environs)

And those who described well established and on-going involvement around funding local land management officers, advice or provision of tailored inventories of natural resource assets and their condition:

> Yes certainly we've worked with the Avon Catchment Council as far as like funding NRM officers and Landcare officers of the past…we've been successful on a few occasions. When the NRM or Landcare coordinators used to be funded on an annual or three years basis, we have had quite a few of those projects in place. We've also received a lot of general advice from them over the years which has been of great assistance (R12, New ROC).

Shires who had worked with the ACC referred specifically to cooperation on catchment demonstration projects, funding through *Our Patch, Eco-scapes, Rural Towns and Good / Liquid Assets* programs.

Shire involvement with the WDC, on the other hand, was often on health services and infrastructure, regional waste management, review of education services, consultation on transport (rail) infrastructure, funding construction or upgrades to visitor or recreation centres and other community facilities.

Perceived benefits of the ACC

Shires that had worked with the ACC noted several beneficial and potentially beneficial aspects of the organisations role and contribution. One aspect was the importance of a **catchment-wide** organisation such as the ACC to address resource management issues strategically and through regional cooperation:

> They've been a pretty good body to work with. Avon Catchment Council have been a very useful body with resource management issues and we hope to continue that relationship that we've got with them [inaudible] the federal and state government realise the importance of having that body in place as the only catchment-wide management authority that there is in the wheat belt…

> …we need a body like the Avon Catchment Council to provide a catchment-wide view of what we are doing. We can't work in isolation. The NRM officers across NEWROC work really well together and you need those links with wildlife corridors, drainage, salinity. They don't stop at shire boundaries. You need that body to oversee the whole catchment and to provide coordinated funding to act as a conduit for funding from other bodies like the state and federal government (R11, NewROC).

Another shire council interviewee pointed to underlying motivations for working with the ACC as a means to 'broaden' the base of their local community:

> I think Avon Catchment was also involved with the Good Assets project. I think they were heavily involved with our Liquid Assets project and the one before that I think. We have worked with them on a variety of projects to make our communities sort of broaden their base and make them a bit more sustainable. (R10, WeROC)

Both the ACC and WDC organisations were considered as funding sources in their own right or as gatekeepers to funds held by state and national government:

> If you don't then your opportunities of funding may not happen. You're forced now to seek their support in a whole range of funding applications. If you don't get their support, well basically the government's not even looking at projects. (R20, WeROC)

The same respondent, however, then indicated that a different way of operating may be more effective when acting on large or important development opportunities. In these cases a strategy of direct representation to Federal ministers was preferred over working through regional channels.

> For that particular project, funding the regional partnerships, I actually hopped in a plane and flew to Canberra to convince the minister because they don't understand - they live in Canberra - where we actually sit and what it's all about. So by doing that, that's how we ended up securing the funding. (R20, WeROC)

There is a sense, however, that several interviewees had a less-than-clear knowledge of what exactly the shire had worked on with the ACC in the past, with several citing legacy issues i.e. "before my time".

Changes in ACC standing over time

In describing their relationship with the ACC shires referred to how that had changed over time – with particular reference to the last three or so years. While acknowledging recent or current benefits they received, interviewees form several shires reported a 'waning' capacity of the ACC. They link this to uncertainty of government support for regional bodies, changes to funding strategies employed by the ACC itself (e.g. policies on sharing costs of local government NRM related staff) and the general profile of the organisation in the region. One shire CEO commented at length on these issues, saying:

> The Avon Catchment Council had a major change and restructured itself and I think in that process for the past three years probably lost its rating and recognition level within the region, this wheatbelt region. It's certainly got the capacity to move forward, as long as it doesn't get tied up in terms of perhaps trying to present programs beyond it's capability or means perhaps in some respects, to remain an effective advisory body, partnering body with local communities and local government and our relationship with, well individually we benefit usually from the Avon Catchment Council, there's no two ways about it. But in recent times it's waned because of their restructuring, their redirection, probably uncertainty from the State and Federal Governments in support of what they're trying to achieve and program setting and partnership setting has probably dropped off the radar a bit from those bodies that set them up in the first place. Therefore their contact or their benefit to the broader community within the shire has probably dropped off.

> It's been a cost…because the Avon Catchment Council particularly relied on the staff of the local governments to provide assistance with their servicing and the delivery of their service needs. So you would know, back in time where we had a 50/50 cost partnership with those bodies has become 100 per cent cost on the local government which is 100 per cent upon the cost upon the community. As result of that, the next stage was that the Avon Catchment Council abused or engaged local government staff to service their delivery needs - in simple terminology.

> So it has cost us, yes, and that's a cost shifting implication too, but in saying that, I think the Avon Catchment Council has got a great role to play in our region, but they need to restructure to get ground driven results [where] local government takes the coordination responsibility. Natural Resource Management was always a priority in any…community in the regional areas and rural areas, particularly where we're residing. So therefore the Avon Catchment Council must remain, but I think they need to prove the balancing act of [reduced] funding allocations [from governments] versus, the intent of to continue on with natural resource management…(R5, WeROC)

This excerpt also points to perceptions of regional groups such as the ACC being seen to co-opt local government staff for regional level business or outcomes, a sense which is heightened by the gradual removal of sharing employment costs with the shires.

Barriers to cooperation

Interviews identified a number of barriers to cooperation with regional groups from a local government perspective. These include access and communication to the ACC, and, in particular; inadequate funding provided to regional groups by state and national governments, especially in context of shires in the region and their challenges.

Other barriers included complexity of funding arrangements; conflict between regional and local objectives; and bureaucratic culture of regional organisations.

Access

Issues with perceived lack of access frustrated several shires. Even shires that had current projects or investments with the ACC commented on issues of **access** and communication as a hurdle:

> We have tried to work as closely as we can with ACC but it is difficult to get them involved on a continuing basis…There isn't any person that we can go to and establish a relationship with so that you have got an ongoing communication base there..(R1, SeavROC)

Funding and scale limitations

A recurrent theme mentioned by interviewees was a perceived lack of adequate funding to regional level organisations by state and national governments – which in turn impacted on groups like the ACC and their ability to support all shires in the region:

> Well I think probably the big thing always is communication and I think that's got to come from both sides, as I mentioned before. I know that they are limited in what assistance they can give naturally by the amount of government purse that's afforded to them. So unless they are funded adequately to support us, they can't do much more than what they're currently doing. (R12 NewROC)

And,

> I think we need to continue with the links. But some of the organisations need to – what's the word – I'm trying to – have more clout and ability to be worthwhile. ACC, WACC and WDC probably offer us the three biggest opportunities…but they're not adequately supported by the government…they are probably the three biggest organisations (R17, WeROC)

Underfunding exacerbated by a lack of continuity in funding arrangements was highlighted by a shire representative in the SeavROC area:

> Yeah it's the Wheat Belt Development Commission obviously it has great difficulty servicing the number of councils that it's got. It's considerably under funded compared to other development commissions. It's just getting more on the ground I suppose and that's the challenge for any of the regional organisations I suppose and just trying to drive their dollar as far as possible but they are significantly under funded compared to a number of the development commissions. ACC I'd like to yeah it'd be great if we could have some surety or the region to have some surety on funding not for projects only for us but for ACC to have a future because that seems to be fairly tenuous at the best of times. So to give their staff and their capabilities of recruiting people that they've got some surety. It seems to be every year or so funding is challenged again especially in the environment area so there must be a better way of doing that and having a better forward funding for those sort of activities (BH-Q8).

The time-consuming, fragmented and rule-changing nature of sourcing funds for community development or other works (including NRM) at the local level was also stated:

I guess that's why we have community project officers or project officers that work in those sorts of fields. That's their role. Part of NRM's role is to do that. I guess the difficulty that we have is that there's no one stop shop for things. You know you do the merry-go-round - if you want to get a big project up like the rec. centre for example, you go to the state, you go to the feds. and the state's got about half a dozen different - you know Lotteries Commission and so on and so forth. That can be pretty time consuming trying to do that and just learning how they tick. You've got to learn how they do things and that can be time consuming. Every time a government changes you have relearn it all over again because they change the rules again and so that can be a bit frustrating but that's the way it is. (R10, WeROC)

Regional versus local objectives

A third barrier to cooperation with regional groups for local governments revolved around views of a misfit of local level and regional priorities (or local government and regional body priorities). This included perceptions of the ACC agenda or investment scope as being fairly tightly defined, concentrating effort on particular projects which may or may not be in line with local interests:

> …there are representatives on the [Board], from the district, but no. Not as your project base. They come around, not much more, they've probably got, I know they've got a lot of money and they're looking at three or four projects and they're probably concentrating on those more than anything else. (R7, RoeROC and environs)

And, on the experience of one shire seeking funding through the WDC:

> …what it is, is that you put in an application with them and it has happened…had them approved but they're approved with *their* conditions and *their* slight on outcomes that they want out of it, which are not in sync with what we want. So as a consequence, given the tiny amount of money that they've got to discretionarily dispense anyhow, it's just not worth the effort. And we want *our* outcomes. We don't want to achieve *their* outcomes (R15, AROC and environs, emphasis added).

Again a strong emphasis was placed on the need for regional organisations to align their efforts to the strategic visions articulated by local governments:

> …they are important if - now let me put it another way. Council's got a particular way of…council has a strategic vision from where it wants to go...So if those organisations align with its strategic vision, then those alliances will continue to be fostered and develop. But if we want to go right and they want to go left, well that's going to cause some problems. Okay? That's I guess point A. Point B is if they become an organisation that ceases to provide funding or advice or guidance and that sort of stuff and their role changes, then there's no point in cultivating a relationship I guess (WeROC).

This may be associated with beliefs that regional groups lack an understanding of local government business and needs, and, the diversity amongst needs and modes of operation even amongst neighbouring shires in the Wheatbelt, as articulated by this interviewee:

> I think that both of those organisations might not have a really good understanding of local government. I know they've worked hard on that, but still there's a presumption. I think there's a lack of understanding that local governments are so different across the board. Even in the Wheatbelt, neighbouring councils are quite different in the way they operate. So I think that's probably it's failing, although I know things they've done to address it, I still don't think they're doing a fantastic job, and maybe because it's too big an area to cover, it's so wide and there are so many local governments it's difficult. (R2, RoeROC)

This is reinforced by perceptions that resources (human and financial) do not extend from the regional to the local level, making it difficult for local players to build a capacity even to assist with regional objectives

> The other one is having those local support people in the region at least. In the local region, not the Avon region, so the knowledge of the local communities like the resources that are set up – if that doesn't happen then it makes it very difficult for organisations like ACC and the Wheatbelt Development Commission and so on to function properly and to get the outcomes that they're looking for. (R1, SeavROC)

Bureaucratic culture

A fourth barrier to cooperation was reported as the cultural focus within the regional groups which is seen to inhibit on ground outcomes. As one interviewee from AROC and environs stated:

> …it's actually time to focus on outcomes and actually deliver some of those improvements on the ground. Failure to do so will just mean that the whole lot has just been a wasted investment. Now I don't believe inside the organisation that there's enough drive to deliver it on the ground. I think the public servants involved in both of the organisations are far more profitable in contracting out studies and things like that as opposed to driving change on the ground. And I think there needs to be some, not only some change of focus in terms of strategic direction, but I actually think there needs to be cultural change. I think that the Avon Catchment Council's best step would be to come out of the umbrella of the Department of Agriculture and that whole public service bureaucracy that's involved and the mentality that goes with it. Until it does, it won't achieve very much at all. You could say similar things about the Wheat Belt Development Commission for the same reasons. (AROC and environs)

Measuring and improving on-ground NRM outcomes

A small number of shires who had implemented several programs with the ACC commented on the need to clarify ways of measuring the **success** of these investments at shire level – particularly moving from program delivery focus to outcome focus. One shire commenting on the measures of success associated with the Eco-scapes program as farmer recruitment commented:

> And we have people come along, farmers come along and everything like that. We had a good meeting. And it's great program. And they started looking at things on their property that they might want to do…But, really at the end of the day, what was going to be the measurabl[e] result, I don't know. How do we know that that's exceeded? I don't know. Because there's nothing that was stated as this is going to show up, so you know we've done our job. And that is a lot of the problem with Avon catchment council, and anything coming out of Northam. (R18, AROC and environs)

Several shires considered previous projects. Reflecting on ACC funding to support rehabilitation of riparian areas on a major waterway in the region (fencing and revegetation) on private lands, one shire CEO commented:

> There was funding allocated to a number of farmers to fence along [the river] – possibly from council's point of view they would have liked to have made it mandatory rather than voluntary, because I think it was only voluntary. If that's the case then the protection of the [river] it's ad hoc, and the only sections that would be protected are the farmers that are interested in protecting the [river]. (R4, AROC and environs)

This suggests that shires in some instances may be willing to explore a regulatory action – under their own jurisdiction - that compliments or enhances voluntary or incentive-based initiatives of regional bodies. This raises a question as to whether in the design of NRM investment local government and regional bodies investigate if this scenario is likely or desirable for both partners.

Development funding and decisions

Quite different patterns of interaction with the Regional Development Commission were evident compared with local governments and the ACC. One shire representative speaks here of how the Shire wears the transaction costs of working with the WDC due to the high degree of alignment with the Shire's goals of securing development related resources:

> The benefit is not so much working with that group [the WDC]. It's that that group can facilitate an outcome. It's the *outcome* that gives you the benefit…That's why I'm saying that we've got to be more focused on outcome rather than on the process and consume too much money in the process. The benefit for the community, in our case given the nature or what we've been trying to achieve, the general community would not see a direct benefit at any given time within a short period. It's not like you're going to go out and plant a thousand trees in a reserve and you can see the thousand trees. Ours is more of a behind the scenes thing, trying to get industrial land developed, trying to get residential land developed, trying to get Government to recognise that they need to have a commitment to this particular area. To sell the reasons why they have to support you know, that growth at a time when wheat belt towns generally are suffering a decline in population and dare we say, a relevance to the larger population that sits on the coast. (R3, AROC and environs)

Quite counter to views voiced about the ACC, the WDC being 'part of government' was seen as advantageous by one shire:

> Being a regional body and part of the state government and the Department of Local Government and Regional Development, they've got access to funding that we don't will act as a conduit for us. They're useful there. (R11, NewROC).

Another shire interviewee commented that indeed the role of the WDC had been largely reduced to a lobby role given the small amount of funds it had to disperse within the region:

> …we get particularly frustrated with WDC simply because the government don't fund them adequately enough and they're basically really a lobby group and that's about as far as it goes. But where there's been a need we definitely have worked with those groups. (R20, WeROC).

Some shires perceived the lobbying function of the Regional Development Commission in a beneficial way along with the provision of "*the various grant programs and general political assistance when required*" (R12, NewROC).

Funds for development were also seen to be spatially concentrated or unevenly spread in specific localities or shires that had some strategic benefit - regional-mindedness in development concentrating on some and not other localities causing disaffection:

I think in the early ages it was pretty difficult because it seemed like everyone was doing lots of double things. There seemed to be that cross over all the time with them wanting a project, the council wanting a particular project and not working as an overall and I found that that was one of the problems and it's created a not getting along situation because the bigger picture was up in there we're saying for [Merredin] rather than for…the other shires, smaller type shires… I'm not going to go through all of them but I found that – and the strong regional focus was just on [Merredin]. (R6, RoeROC and environs)

The value proposition

Of those shires that had worked with the ACC, and considered the interaction to be beneficial, there was generally a sense that the 'costs' incurred in working with the ACC or WDC were not disproportionate to the benefit gained by the shire from cooperation (i.e. the in-kind, co-investment, staffing or resources provided by the shire were 'worth it' for the benefit gained). The following statements from three separate shires are indicative of this view:

If there was no money we might not bite. But they [the ACC] have provided us with some ground funding. There's always costs, but I think there's benefit that come with the cost. So it could be volunteer time, community time, actual funds from our council, putting our resources in to match theirs. But, you know, there's a benefit to that cost so it's been worthwhile I think. (R2 RoeROC)

And,

Certainly with the funding programs there's always a cost either by cash costs by the council and in kind which is, once again, plant or labour to a percentage of the program. There's been a cost but it's been a very beneficial cost…I think council is quite prepared to put in and of course it's a level that we could afford but we wouldn't have been able to do the whole project without the assistance of the regional [group] (R12, NewROC)

And,

It's really only time. We expect to have local contributions to projects with [dollars] and works that in setting up the links and talking to these people, it's just time. (R11, NewROC)

This group of interviewees mostly includes shires that appear to have an existing working relationship with the ACC and are 'in the loop' – as such there is a tested relationship, familiarity and ease to initiate new work or extend opportunities, for example:

…this most recent one with the ACC project that's fully funded to assess what work we've already done on [a previous project] so to that end there was no cost shifting on that one but we most probably would have carried out the work ourselves but the opportunity came for us to be the pilot project so we took advantage of that. But as and when we can the environment officer has they have done a number of projects for the ACC so that's obviously assisted us in funding the position as well (R14, SeavROC and environs).

This also highlights the importance of experienced staff at local government level that had previous experience in working with the ACC.

Conversely, several shires, particularly those that appear to have had limited, apparently negative experiences or 'failed' involvement with the ACC in the past (and WDC for that matter) report a strong sense that the 'entry costs' into the relationship with regional groups are quite high. These shires believe they need to be well equipped to even initiate a relationship.

This readiness involves understanding the 'system'; getting information on opportunities, writing the application and 'wearing' the associated costs if unsuccessful, having available (or access to) staff skilled at preparing applications; and, being prepared to give ground on local priorities or objectives for inclusion of regional ones.

As such, there appear to be two general cultures amongst the shires interviewed – those that consider the transaction costs as being 'part and parcel' of working cooperatively with regional groups and/or were generally happy to wear those costs if benefit was forthcoming, and a second group, those that appeared frustrated at 'wasted effort' and unwilling to wear these costs. Both these positions held by shire councils appeared strongly mediated by three factors i) previous experiences with the ACC and the presence or otherwise of a working relationship ii) degree to which a proposal is seen as core business for particular local governments and the iii) perceived extent of alignment of local priorities with regional objectives possible through cooperation.

Level and type of communication with Shires[3]

Shire councils have a wide range of opinions when asked about their satisfaction with the contact and communication with the ACC. Overall, the majority of interviewees indicated that they were not wholly satisfied with the contact and communication they currently have with the ACC. A number of reasons were provided to justify this relatively high level of dissatisfaction:

> We are not really satisfied with the existing contact with the Avon Catchment Council in recent times, … whether they're restructuring or trying to define a pathway forward I don't know, but certainly their regularity of contacts with their support staff, if I can use that word, they might have a different terminology, whether it's an area NRMO or a manager or capacity builder or facilitator, I think that that relationship needs to be re-defined and redescribed from my point of view (R05, WeROC).

Quite a large number of interviewees criticised the ACC for only using email and the Internet to communicate with shire councils. The consensus here seemed to be that it is very difficult to build relationships via the Internet. Instead of sending out impersonal emails, interviewees emphasised that the ACC should undertake personal visits and engage in face to face meetings so that better relationships could be build. As one AROC and environs interviewee put it:

> If I was in the Avon Catchment Council I would certainly be having more contact with my clients than they are having just as a bland email coming through. That's not enough, you've really, you should – there's personal contact things you've got to have. You need to be going to all the councils on a regularly basis, and to all NRM officers (R18, AROC and environs).

---

[3] This section presents analysis also reported in the Our Patch evaluation. As part of the Our Patch project evaluation shire representatives were also asked specifically about aspects of communication and information between local governments and the ACC, namely their assessment of its current value and future strategies to improve in these areas.

Other interviewees criticised the ACC for not contacting shire councils on a regular basis. They stated that communication could be improved if the ACC was more proactive and tried to initiate regular meetings with the shire councils in the Avon region. Personal and frequent meetings to consult with the NRMOs, in particular, were regarded as crucial means to improve relationships.

Another suggestion to improve contact and communication between shire councils and the ACC was made by a NewROC interviewee who proposed that the ACC should attend the ROC meetings to engage with shire councils on a regular basis:

> Often we've found that say on a NEWROC basis where a lot of our NRM eventuates from, we find with the ACC officers coming out and talking to CEOs and NRM officers, that this is probably the best point advantage (R12, NewROC).

A few interviewees conceded that their shire councils had not had much contact or direct communication with the ACC in the past.

> The only thing I've seen from [the Avon Catchment Council] in my two years is when that grant application [person] came out for assistance. That's the first thing I saw. I didn't even know we were in the [Avon] catchment and that's true. I didn't know until somebody actually said to me – well that came out and I said that we weren't even in it and they said that we were (R06, RoeROC and environs).

Importantly, a small number of shire councils appeared to feel marginalised or excluded from the activities of the ACC. One AROC and environs interviewee stated that the ACC had so far not undertaken any projects within their shire boundaries. Therefore, they did not really have any contact with the ACC and the electronic newsletter was not relevant to their shire.

Finally, some interviewees acknowledged that greater efforts should also be made by shire councils in the ARB to improve contact and communication with the ACC. They agreed that shire councils should not just rely on the ACC to provide them with information. Instead, it should be a two-way communication process and shire councils should be more proactive in contacting the ACC:

> I think it probably needs to be a two way improvement process as far as communication goes. I think we from local government probably need to reach out a bit to the Avon Catchment Council but we would have to see a reciprocal type arrangement from them as well (R12, NewRoc)

Means of communication

The importance of dedicated local government NRM liaison officers either within the ACC or associated with the ROC networks *(see also section 2.3)* was seen as a key strategy to improve interaction between local governments and the ACC:

> …but I think the establishment of a regular and reliable source, a contact source within the organisation is important. Knowing that person, knowing how well they work, having a good and amicable relationship. (R1, SeavROC)

And,

> I think they actually work quite well. The danger is that these bodies may lose some funding and some people on the ground and that they won't be able to talk to us the way they have in the past. One of the very useful things, especially as a WDC, is they will come to our Regional Organisation of Councils meetings like NEWROC and WEROC and talk to us as groups which is much more efficient than coming and seeing us individually. The Avon Catchment Council will meet with the regional groups of the NRM offices so I think that's how it needs to be addressed out here. There's 34 local governments in the Avon Catchment Council and I think 44 local governments that the WDC deal with. You can't expect them to meet with us individually. It's just totally inefficient so things need to be handled on a regional basis. (R11, NewROC)

Where several shires were satisfied with electronic means of communication (e-newsletters, emails and websites) a number of shires indicated face-to-face interaction was more desirable and effective:

> Maybe meeting them in person; whether they come out to each of the towns as a committee and they drive from town to town and meet with people, or they invite the CEOs and presidents of the shires to go to Northam and meet with them. Some sort of awareness raising of who they are and what they do. They operate probably a lot better at the level with NRM offices and people that are directly in the field with them, but they don't actually operate with others. (R16, NewROC)

And,

> I think maybe regular meetings and, like I said before, it has improved in the last three months …Avon Catchment Council, Paul and Natasha I think it was, they've been really good. On the ground it's been working well. (R21, AROC and environs)

Others noted that engagement via ROCs was more desirable, mainly due to the indirect nature of benefit they were likely to receive:

> Well I guess we'd be relying mainly on the NRM NewROC group to be the liaison. We're quite happy to work wherever we can, but I guess as much as anything else, we haven't been requested to and we haven't driven it and council hasn't seen the need to drive it because whilst perhaps some of the projects haven't be of immense benefit directly to [our shire] , there has been some very good benefits for the region and that's what we're trying to look at, on a regional basis, not an individual basis. (R8, NewROC)

Interestingly, the following statement differentiates between expectations of the WDC versus the ACC for this shire in particular. It is unclear if this is a widely held position or not:

> …the Wheatbelt Development Commission. I think they're there for us to go to them. They're not necessarily there for them to come to us. I think that the Avon Catchment Council should come to us. They should be more interactive in their shires that they have in their region, instead of just sitting in the office and waiting.

> They need to have somebody out there, doing stuff, getting involved in the shires and what they're doing, asking if there are any agendas that shire wants on our agendas, finding out any qualms they have, talking about their problems and what they can do.   (R19, NewROC)

3.2.3 Organising around subregions and networks

ROC membership, motivations and benefits

There are a number of ROCs that operate in the ARB. Some have been established for quite some time while others more recent. The majority of the local government interviews are involved in at least one of the ROCs operating in the ARB. The responses provided valuable insight into the perceived benefits and motivations behind being involved in ROCs. While there were some differences in opinions regarding their principal motivations for involvement, there were also a number of commonalities regarding the perceived benefits and reasons why they continue to stay involved.

It appears that perhaps the biggest political driver behind the establishment of, or involvement in, ROCs is the threat of state government intervention through forced amalgamation. Most local governments involved in ROCs see this as an alternative to council amalgamation. Despite this, empirical evidence around the nation suggests that there is, and will continue to be, pressure from state governments to forcibly amalgamate councils to improve local government efficiency. Five of the interviewees felt that political pressure (i.e. threat of amalgamation or structural reform) was a major motivator behind their initial involvement. As one NewROC interviewee stated:

> The initial reasons actually came from Victoria so you could contribute a lot of it to Jeff Kennett and what he did in Victoria back in 93/94. That got a lot of press through the Federal Australian Local Government Association which filtered back through the states and everybody realised that we needed to work at a regional level if we were to avoid the whole scale amalgamation process that happened in Victoria… So far we've done that quite well and if the state government has a serious look at what we're doing they'll continue to let us work as part of ROCs to get the best solutions through that process rather than amalgamating diverse and distant local governments (R11, NewROC).

These concerns about amalgamation also manifest in resistance to formalisation of ROCs by some shires. Overall, the majority said that they would continue to be involved in ROCs in the future because of the perceived benefits (e.g. cost savings, staffing issues etc). However, one of the interviewees clearly stated that they would continue to be involved provided that it remained a voluntary process:

> …WeROC was formed by mutual interest and benefit on a volunteer basis. That voluntary support and commitment will continue as long as it's voluntarily. We will not be formalised if it's pressured to bear to formalise… we'll probably withdraw because formalisation adds too many implications, let alone legislative, administrative burdens and funding implications (R05, WeRoc).

While it was evident that local governments perceive amalgamation as a threat to their identity there was also ample evidence to suggest that there were other **secondary motivators** behind their involvement in ROCs. In particular, as one SeavROC and environs interviewee indicated:

> …it was also lack of enough professional people within the region to be able to facilitate all the programs that are going. For example, planning, NRM, health officers, engineers...(R01).

Based on this response, and many others, there appears to be a critical shortage of skilled personal in the region, in particular NRMOs, planners and engineers, to facilitate the planning and management of day to day activities. Shires that are involved in ROCs are able to **share resources**, most notably human (e.g. staff) but also physical capital (e.g. heavy machinery) with other member shires:

> The council is looking at ways – because there seems to be cost shifting to local government by both state and federal governments, local communities are expecting their councils to do more to take up the slack – or to take up what is handed over by state and federal. That's putting a lot of pressure on councils to maintain its services. For that reason, council is looking at ways to share resources, particularly human resources, such as your position in fact is one; the coordinator is another, which is shared by three local authorities. We currently share with another local authority with shared ranges of services, and we also share our EHO with the Shire of… (R04, AROC and environs)

As well as sharing human resources there were also opportunities to increase **efficiencies** by sharing physical capital. Two of the interviewees identified the opportunity to share graders with other member shires:

> …to see whether there are some opportunities for efficiencies…so instead of everybody needing three graders, maybe you could come down to two or three shared amongst two or three councils. So improved efficiency perhaps is the motivation. (R10, WeROC)

And,

> The ability to share physical capital has enabled us to use the available resources that have been freed up to be put into other projects (R14, SeavROC and environs).

Being involved in ROCs also enables shires to **keep abreast** of what is occurring in neighbouring shires. As one interviewee from NewROC stated:

> I suppose they have contact with other shires and can remain aware of what is going on across the region; just ideas and I suppose support from other shires. (R19, NewROC)

Cooperation for collective action on development and NRM

The fact that there was mutual benefit in working with adjoining shires on regional scale projects was also recognised as an important component of being involved in ROCs. The most common areas for collective action were regional scale projects that related to waste management, roads and tourism:

> I suppose our primary project that sort of got us to the point of becoming a little more organised, a little more formal, was regional waste services. An establishment of a regional waste dump. We're working together on that. So that's been our primary thing. But from that though, because we meet regularly and talk more often, there have been other benefits of working together. The main thing is probably being able to do things we wouldn't have been able to do on our own but we can do collectively and get a collective benefit. (R02, RoeROC and environs)

Two of the interviewees directly recognised NRM as a benefit of working collaboratively with other shires involved in ROCs:

> So WeROC was formed to look at projects, yeah, I guess projects, that's of mutual benefit across the borders and it was more looking at human resources initially, roads in terms of combining the efforts of getting increased funding allocations, trying to look at human resources in terms of staffing issues, of shared staff, to IT perhaps in terms of promotion of tourism. More recently they've taken on the Natural Resource Management project or policy or business within that group to put it across the border, so we're adding more weight (R05, WeRoc).

And,

> I guess we've worked with mainly through NewROC rather than so much as an individual shire. We've tried to do it on a regional basis because the whole point of NewROC was to try and do things on a regional basis rather than individual. I guess at an NRM level, through New ROC, there's been benefit, certainly been regional benefits, also a benefit of the shire. (R8, NEWROC)

One other shire noted they participated in a sub-regional forum with the ACC and other stakeholders, including state government, that sought to address sustainable land use in their area (SLUM). However, at the time of the interviews this particular network was still maturing and developing its mandate:

> the Avon Catchment Council, a lot with the Avon River, but also their providing a support role as well. They call it SLUM meeting, it's like a land use management meeting, or sustainable land use meeting, which Avon Catchment Council have been actually participating in. Yes, we found that to be quite good. We work with the Department of Ag and various groups…

> There are ongoing benefits. I can't say that we've actually seen any yet, because it's all in the – we're sort of thrashing it out, just having a look at what benefits certain groups are and what information they have, and how we can link it all together and actually benefit the community. I wouldn't say there's been a lot at the moment, but it's ongoing. (R21, AROC and environs)

Importance of internal and external linkages into the future

Shire to shire linkages

The most important linkages into the future that were recognised by most of the interviewees[4] related to partnerships or linkages with neighbouring shires within established ROCs, outside of the ROCs, and even neighbouring shires outside the ARB:

> Collectively local government in the Wheatbelt, those links are very important. Not just at the ROC level, probably at the zone level…so working in a greater size, things like regional road groups, it's collectives, you know that's 12 or 14 councils together, so they're very important. (R02, RoeROC and environs).

One interviewee from SeavROC not only recognised the importance of linkages between neighbouring shires; but also of cross boundary relationships outside the Avon region and with regional organisations:

---

[4] Important to note that the question was asked in many forms with some interviewers failed to ask which links were important and why, other failed to include the word 'inside' and only asked about external 'outside' links while others provided examples such as ACC or WDC that may have influenced the responses.

I think it's essential to have those links. The immediate ones is our neighbours but not ignoring our eastern neighbours or our southeast neighbours because we have other partnerships with them so on particular projects so I don't see you're going to get stuck in these particular grouping and not be able to work with other people or other local governments. We have a city-country partnership with the City of Melville that the council fostered about two years ago. That provides an opportunity for city to come out and see some of our environmental works, experience agricultural lifestyle, those sorts of things. But likewise we can also get resources and advice from a very progressive city council that's got a massive amount of resources and the elected members are very keen on it from both councils and everyone right through the organisation's very keen. It doesn't mean we get City of Melville workers out but they may help us on a project. My staff can go and talk to their staff. We may get trainees from Melville come out here and do a rural unit for a few weeks just to get a taste of what we experience. So that's an important linkage and that's one council's very keen to continue to foster. But are plenty of other links with obviously WALGA as a peak body as well but linking with the ACC I see it's essential (R14, SeavROC and environs).

The importance of maintaining a communication link between other shires as a means of providing better services to the community was also recognised by an interviewee from AROC and environs who stated:

…we also have a link with the Shire of Kalamunda where I can call on those expert professional staff if I need assistance in either administration, finance, town planning, health and building issues. (R04, AROC and environs).

Not surprisingly, shires located in the fringe areas of the ARB were more likely to cooperate with neighbouring shires outside of the region.

Regional links

Apart from the recognised benefit of establishing linkages with other shires it was also believed that there were important linkages with regional groups and other agencies. These future regional level links were most likely though to revolve around specific major projects:

…it really is probably project based on where you're going, because at the moment we've got money coming from a Wheatbelt Development Commission with the rubbish site, so to us that's sort of a very important tie. But after that, we mightn't apply for any more money for a while…(R07 RoeROC)

There were mixed responses in regards to the importance of local government linkages with different regional organisations, with strongest association to ROC networks clearly evident:

Other groups like the Wheatbelt Development Commission, we don't put a high priority on that. We think they've lost a little bit of relevance. Avon Catchment Council, it's a very important group, but again a lot of their focus is on state agencies and we just sometimes feel we don't quite fit in there as a local government other than specific projects like Our Patch. We probably, on the base of it, don't put a high importance on those agencies and nor the Area Consultative Committee either. But amongst our regional local government groupings is probably our bigger focus. (R02, RoeROC and environs)

Conversely, one of the interviewees from WeROC highlighted the importance of building networks with regional groups such as the ACC and WDC principally because these longer term relationships were thought to build local capacity in sustainability, particularly for shires that considered themselves geographically isolated:

…As time has gone on in local government and when you've been in the game for a while, all these WDC, ACC, and …others, you have to build up a network with these to progress whatever you intend doing. And even if it's the Department of Local Government Regional Development, and others, you have to build up a network and if you don't then you're obviously going to be sticking out by yourself and not progressing or achieving…The ongoing involvement as we normally do with WDC and ACC - or RDA as they're called is important. I mean obviously we'd like to have some more involvement and get our people more involved with NRM issues. And I know some council's are very active in NRM and we're really lagging way behind in that area. So at some stage, our community has to get more involved in what's out there in NRM issues (R20, WeROC)

3.2.4 Summary of findings from interviews

Three key themes were evident from the analysis of interviews with Shire representatives in the ARB. The first is that shires applied a clear **value proposition** test in relation to working with the ACC - 'is it worth it for us?' Influential factors in their assessment included the presence – or absence - of an existing relationship. Many acknowledged that the 'start-up' costs of building relationships are high and with the ACC having stronger existing working relationships with some shires compared to others. Feeling marginalised either geographically or in terms of previous interaction with the ACC several shires indicated that their assessment of prospective partnerships was 'big effort for little gain'. The value proposition was also determined in part by some shires' view that 'regional groups' are generally under-resourced to achieve their stated agenda and the future of such groups was uncertain. This situation is further compounded for the ACC by the large number of shire councils, the diversity of their local capacity and experience in working with regional organisations. This includes, from the perspective of local governments, the all important but waning presence of local technical expertise needed to 'run the business' of NRM at local level.

The second major theme centred on a perceived **mismatch between regional level priorities** and their relevance to shire level and local community needs. Interestingly, many shires identified priorities that were highly correlated with NRM outcomes, such as sustainable agriculture, water security, managing climate variability and peri-urban land use change pressures. However, these issues and others, such as population change, either managing or promoting development, social service provision and amenity, were strongly characterised within a **social sustainability discourse** which local governments generally perceived as strongly differentiated from a regional natural resource agenda. Shires clearly stated, however, they would engage in regional projects where they saw clear local relevance and benefit, or where a strong community mandate to do so was present.

The third and final theme is the **preference of shires for horizontal rather than vertical cooperation**. This means that there is a greater tendency and motivation to work cooperatively with other local authorities, including in many instances the neighbouring shires. This is manifested in several ways, however, none as apparent as the staggered formation of voluntary ROCs across the ARB during the last decade. While motives here range from information sharing to coordination of 'regional' level business and co-investment to outright resistance to forced amalgamation, voluntary ROCs now form a substantial part of the institutional infrastructure of local government in the ARB.

Some of these networks have also been active in securing staff and advancing proposals for NRM related investment in the region. It is worth noting, however, that embedded in the stated preference for shire-to-shire cooperation is a general distrust in regional level organisations such as the ACC and WDC due to associations with state and federal governments and 'outside' agendas.

Appendix 4 reports on a series of discussions with the ACC and shires on these findings in order to progress the development of opportunities for improved partnerships, which are presented in the following section.

4.0 Synthesis of findings and assessment of opportunities

The scope of the project involves identifying critical opportunities and constraints to improved partnerships between the ACC and local governments in the Avon NRM region. In this section we synthesise the findings of the analyses from both the classification (section 3.1) and qualitative interviews (section 3.2) to propose a suite of opportunities for improved partnerships. In framing these opportunities we also consider the contextual understanding gained from a review of the policy and planning environment (section 1.3.2) and discussions with local governments and the ACC on the preliminary findings (Appendix 4), the strengths and weaknesses of the ACC, and recent changes in the funding environment. We discuss funding changes next since these changes provide important context for the ACC pursuing its operational and strategic goals, and by inference the opportunities presented below.

4.1. Implications of changed NRM program arrangements

The ACC has in the past been funded through the National Action Plan for Salinity and Water Quality (NAPSWQ), the National Heritage Trust (NHT), and the WA Government. Allocations from the NHT and NAPSWQ were made to each of the 56 regional bodies once their regional catchment management strategies were approved. From 2005 to 2008 the ACC received and spent $30.65m. Project management accounted for 8.1% and other overheads 3.9% of this total[5]. The priorities and funding of these two Commonwealth programs have been replaced by the new Caring for Our Country program.

The research team's current understanding of the new program and financial circumstances facing the ACC is that[6]:

- The Commonwealth and WA Governments are, or will be re-negotiating agreements over the contributions of the latter to NRM funding. Uncertainties about and reductions in Commonwealth NRM funding are compounded by those about State NRM funding;
- the 'average' annual allocation from Caring for Our Country to regional bodies for Base Funding will be approximately $2.5m. If the ACC receives this amount plus $3.5m from the State Government in operational and priority funding (for salinity for example), it will fall short of its 2005-08 annual average funding of $10.2m. This in affect reduces secure funding to 60% of previous operating budget. It may receive more or less than this from either or both State and Federal Governments;
- In addition the mode of securing further funding under Caring for Our Country program is competitive, and assessed against delivery on specific priority areas in the CfOC Business Plan; and,
- the Priority Areas chosen will certainly disfavour the ACC in the competitive bids, and may also disfavour it in the Base Funding bids. The ACC is likely to be constrained to spend the Caring for Our Country component of its allocation on

---

[5] P. Sullivan pers. com. 14/1/2009
[6] a more detailed outline of anticipated program and related funding changes is presented in Appendix 7.

Biodiversity and Natural Icons, Sustainable Farm Practices and the Community Skills, Knowledge and Engagement Priority Areas;

The Avon NRM Strategy (2005) has until now provided a direction for the ACC. It appears to still fit with State and new Commonwealth priorities when these are combined. However, the projected funding deficit, combined with a pre-existing desire by the ACC to have more effective relationships with the shires, requires a rethink of priorities to align the ACC better with the Shires and other potential partners, and when pursuing new options, to seek sources in addition to NRM funds.

The ACC faces this uncertainty and can seek new opportunities backed by major strengths. The ACC has a good understanding of the region as a social-ecological system, with a well integrated understanding of landscape functions that support biodiversity and production values, and a strong grasp of biophysical management priorities.

It has communication and environmental education capabilities. It also has technical capabilities in GIS, large data holdings, and some ability to analyse and integrate data sets. Its project management and funding application capabilities are a great asset in a region where these are scarce. The ACC has established positive links with a number of shires, and with State and Federal agencies. As such this positions the ACC well to fill a specific 'service provider' niche, in addition to and complementing its substantive objectives in NRM.

Along with these strengths are some weaknesses. First, the necessarily small size of the ACC, coupled with the need for it to take a holistic approach to the region, have resulted in a lack of specialist skills – in economics, hydrology, conservation biology and pest ecology, for example. Other weaknesses of the ACC from a local government perspective were identified through the interviews - mismatches of ACC and shire priorities in the past, lack of shire involvement in the Avon NRM Strategy (2005), and what some, but certainly not all shires, saw as lack of communication and consultation by the ACC.

The last weakness is a consequence of the structure and priorities of past Federal NRM funding, and is associated with priorities of the Avon Catchment Strategic Plan (2005), and also with the current membership of the ACC's board. If the ACC decides to strengthen its engagement with local governments in the future, it may need to modify the plan and seek a different board membership, perhaps seeking ROC representation. First, though, the ACC will need clarification of the State's NRM funding priorities, and assess their fit with the shires' priorities. We assess that the shires' priorities are unlikely to fit well with the Federal NRM Priority Areas of Biodiversity and Natural Icons, and Sustainable Farm Practices. They may match the Priority Area Community Skills, Knowledge and Engagement. The ACC could encourage the shires to consider realigning their own priorities, given that they are now eligible to bid for the competitive element of Caring for Our Country funding. The ACC's executive is already aware of the parallel need to explore the possibility of strengthening relationships with Greening Australia and WWF, and perhaps with State agencies, such as the Department of Water, that may benefit from the landscape perspective and community links of the ACC in developing water policies and projects. NGOs are now, of course, eligible to bid for competitive funds from Caring for Our Country, and if the ACC is to partner with them mutual benefits should be apparent. Meanwhile, so long as uncertainties around funding

and NRM priorities remain high, the ACC might be wise to remain opportunistic and flexible, suspending its past strategic emphasis for the time being at least.

4.2 Opportunities to engage with local government in the ARB

This section presents the main opportunities, identified from the analysis, to improve ACC engagement with the Local Governments in the ARB. The first section 4.2.1 identifies problems or assets as a focus of cooperation between local governments and the ACC. This opportunity talks directly to *Objective 2* of the project that aims to identify substantive resource management issues and locations in the region to focus engagement efforts.

The next opportunity in section 4.2.2 is concerned with addressing imperatives of social sustainability for local governments in order to bridge the development-environment gap in local government thinking towards NRM. This opportunity addresses, in part, *Objective 3* of the project on improving the legitimacy and effectiveness of regional partnerships.

The third and fourth opportunities identified and discussed in sections 4.2.3, and 4.2.4 describe the potential contribution of Regional Organisations of Councils as a vital future NRM engagement network, and, improving regional NRM influence through local planning and policy making. Both these options enhance the structural and procedural dimensions of partnerships in the region *(Objective 4)*.

The following discussion is not restricted to questions of *what* issues or problems prospective partners might work cooperatively on, but also *how* those partners might work, and, what opportunities can be identified in their broader institutional setting that might enhance or inhibit those partnerships, and therefore require attention. The opportunities we discuss are not discrete in that there are connections between issues, partnership rules and broader institutional change. Importantly, the opportunities presented here are not intended to be prescriptive but instead provide a platform for dialogue between the ACC and local government stakeholders and interests.

4.2.1 Problems or Assets as a Focus for Cooperation

Deep drainage, dealing with climatic variability and trends, and water security are key NRM issues for the shires (section 3.2.1.). Many in local government feel that the wider social and environmental consequences of deep drainage for salinity management, and the disposal of saline and sometimes acidic water, are being neglected by the State. It was suggested at one ROC meeting that the ACC could meet this need. It has the landscape perspective that the problem requires, and some of the technical capabilities. Arguments against this proposal are the ACC's lack of legal authority to address the issues, and insufficient hydrological and engineering skills. The ACC might float the idea with State government and gauge the response. Meanwhile the ACC is already positioned to do integrated assessments of deep drainage, engage communities on the issue, and propose strategic actions. Funding is more likely from State then Federal sources in our view.

Town water supply under climate change is another major issue identified in our interviews with the shires. Catchment rehabilitation, stormwater harvesting and grey water management

are among the options. Lack of hydrological expertise at the ACC is a handicap, but this might be hired temporarily or, depending on demand, for the long term. Alternatively the ACC might explore potential demand by offering an integrated assessment capability.

Agricultural sustainability emerged as another major NRM issue (section 3.2.1.). We do not see a future for the ACC as a provider of agricultural production advice, but there may be an opportunity for the ACC to deploy its knowledge and secure State or competitive Federal funding for managing landscape function through strategic plantings of native vegetation. There is an associated potential for integrated landscape assessment. Greening Australia and WWF are potential partners.

There may also be an opportunity for the ACC to serve a coordinating and strategic role in river management strategies. Water courses commonly cross shire boundaries, and the consequences of local actions impact downstream as decreased flows and pollution. The ACC has the conceptual framework and some of the knowledge to fulfil an integrating role. As with deep drainage, it lacks legal authority, but this need not hamper an organisation that is coordinating other players. The relationship of the ACC with WA Department of Water would need careful thought.

4.2.2 'Social sustainability' and the development-environment gap

While the desire for or articulation of NRM needs is diverse, there is a persistent and core concern amongst shires, which is the maintenance of social well-being and viability of their communities. Here, issues of amenity, provision of social and health services, adapting to reduced water availability, and managing the effects of growing or declining populations are paramount as are the implications these hold for community identity and cohesion, land use change and infrastructure.

Further, while some individual shires embrace or at least recognise the role of NRM in their strategic and operational planning, many others struggle to see its relevance and utility, particularly where local government leaders perceive the absence of a community mandate to do so, or perceive NRM as a 'top down' external agenda. The analysis suggests that there are two potential strategies the ACC may employ. Both rely on seeking stronger alignment between regional natural resource asset protection strategies and the social sustainability imperatives of shires.

1. *Expanding on existing programs that reflect local government priorities with staged natural resource benefits*

This is a strategy that requires direct engagement with individual councils, often linked to co-investment in specific works (there are several current examples of this occurring in the ARB e.g. in water efficiency infrastructure or technologies). Although previously successful these types of investments have created some concerns for the ACC with regard to perceived bias towards development rather than immediate environment benefits, and therefore accountability to funders. An approach where graduated environmental targets for the works are specified in contractual arrangements may assist here. That is, in year one of the investments the funds are tied predominantly to shire priorities and in subsequent years additional works or management controls that deliver environmental benefit are introduced or activated by payment schedules. This provides a bridging function allowing shires to

demonstrate the meeting of immediate community needs while facilitating the introduction of improved NRM practice on the back of social recognition, good will and momentum.

To address related concerns identified from the interviews, a greater focus by the ACC to document and report outcomes from these investments making them 'visible' to other shires, local communities and potential investors is critical. In addition, ensuring these investments are made in priority locations in the landscape with respect to NRM condition or threat assessments is prudent.

2. *Integrated regional investment in sustainable development*

While the previous opportunity is focused on specific works with individual shires, bridging the development-environment gap also requires considering institutional arrangements at the regional scale. These arrangements include the operation of State and Commonwealth supported regional entities such as ACC and WDC who both rely on successful interaction with local players to achieve their 'sustainable development' agendas.

Responses in the interviews pointed to several arguments for stronger alignment between regional level players in the ARB. These arguments included recognition that both the ACC and WDC worked across large geographical areas with ambitious agendas but with limited financial and human capacity relative to the mandate of both organisations. It was also evident from the interview analyses that shires had quite different alliances and affiliations with the two organisations, partly based on historical working relationships or the perceived degree of alignment with local priorities. As such, shires that might be considered 'unreachable' by one of the regional entities may be accessible through the other's networks or funding programs. While a suggestion of structural integration – that is a physical merger of the two entities - is unlikely to be feasible, desirable or necessary, there is considerable scope to explore: i) the design of shared investment programs; ii) the identification of NRM criteria that may contribute to WDC development investment decisions; or, iii) opportunities for the two entities to cooperate in brokering external investment for the region.

A more cooperative approach increases the 'catchment' of potential shire participants. Improved cooperation would reduce institutional complexity for local governments seeking to invest in the sustainability of their shires and communities and would present an opportunity to design a more balanced investment portfolio that is able to respond to social and economic drivers of resource degradation. Institutional fragmentation is well recognised in the Australian and international literature as a key barrier to sustainability. In practical terms, this approach may also assist the ACC to access shires with affiliations with the WDC via co-investment with the WDC.

This is not without potential challenges. One potential barrier to such a course of action noted by regional level players is the history of 'siloed' development between the organisations. Different shires stated concerns of 'a regional takeover', distrust or perceptions of neglect from one or more of the regional groups. A second is the prospect of moving into a more competitive funding environment over next five years, reducing the prosects of cooperation. This second barrier, however, may provide also a catalyst for stronger regional cooperation.

With limited human capacity relative to size, distances and magnitude or resource management issues a strongly integrated and focused capability for regional scale strategic investment where resources are pooled and priorities clearly negotiated and set would appear

prudent. However, social relationships and networks are such in the ARB that providing more than one 'entry point' for shires seems necessary.

4.2.3 ROCs as partners

1. ROCs as a subregional interface for NRM

The responses provided by the key informants during the interviews indicated that the ROC level was the most appropriate scale to negotiate landscape level outcomes. In the ARB there are five entry points for the ACC to engage and negotiate NRM through the ROCs. However, as indicated by our analysis, there is diversity across the landscape in local government's ability to respond and engage in NRM. While ROCs were considered the most appropriate scale to negotiate landscape level priorities it is also important to note that there is heterogeneity between, and within, the individual ROC networks. As such, the ACC may need to strategically target their investment and engagement with ROCs and also particular local governments within each ROC depending on NRM need and capability.

It will be equally important for the ACC to build on existing shire cooperation and relations at the ROC level. As such, the ACC will need to tailor investment packages to 'sub-regional' ROC groupings – based on issues of subregional relevance. The ability to utilise ROCs as critical networks to engage with local government will minimise transaction costs whilst maintaining important face to face contact and relations. Moreover, this will enable a practical project focus and move to a more strategic working relationships with local governments in the ARB.

There are some limitations or potential risks with adopting this approach. The first is associated with the internal heterogeneity or diversity amongst local government interests and capability *within* ROCs. In seeking to negotiate joint action, deliberation may result in the 'acceptable' rather than optimal courses of action being agreed. However, engaging through ROCs may be seen instead as a gateway to partnering only *some* member councils. It does not necessarily imply an 'all in' agreement is desirable. The second limitation is that the ACC may seek to differentiate involvement with different ROCs. That is in relation to a given ROC the ACC may determine that the "best type of partnership may be no partnership" if certain circumstances prevail. These circumstances may include when transaction costs are high, the imperative for 'regional' investment is low (i.e. a relatively low value resource asset), and/or a poor social connection with a given ROC due to historical or geographically identity.

2. Partnership and engagement protocols between ROCs and ACC

ROCs appear to have quite distinct agendas and also 'cultures'. This influences their preferred mode of interaction with the ACC, expectations of communication, and perceptions of the extent of 'overlap' with the ACC's regional priorities. As such, a specific approach could be negotiated between the ACC and individual ROCs in the form of *partnership and engagement protocols*, agreed and signed by the ACC Board and members of the ROC. This process and the resulting documentation would provide the basis for tailoring communication planning, general resource sharing and specific cooperation on investment proposals or projects. In addition, agreed for a set period with explicit review dates (e.g. biannual) this would provide greater continuity and 'certainty' for ROCs, and strengthen ties between ROCs and the ACC generally. ACC staff, in particular the CEO or key Board members, may take responsibility

for their development and negotiation as this may form a critical part of broader organisational business planning and governance process.

Expected benefits include greater efficiencies for the ACC reducing a potential 34 sets of negotiations to five biannual or tri-annual agreements. These agreements would also serve as a prospectus to other possible partners or investors such as NGOs, state and federal agencies and other regional development bodies on local government relevant NRM and development interests in specific 'sub-regional' geographies of the ARB. The recent round of discussions with the ROCs provides a contemporary and useful platform to progress these agreements.

ACC also noted that the relationships with the different ROCs would be quite distinct reflecting the different NRM orientation of the ROCs e.g. SLUMP with its policy and planning coordination focus and NEWROC-WEROC NRM education and extension emphasis.

4.2.4 Strategic alignment of local and regional plans

The review of policy and planning architecture (section 1.3.2) suggested that at least one component of the options presented from this research would reflect some proposals to improve alignment between formal structures and instruments for planning at local and regional level – namely the regional NRM strategy and investment plan and local government planning schemes/strategic plans. Although possible in principle, and even desirable, the evidence gathered through the analyses largely negates this as a viable option for most shires in the region with perhaps the exception of a small number of shires within the Avon Arc. In working directly with shires, the principle limitations here are firstly the absence of professional planning capability within most local governments, and secondly, the centralised nature of planning scheme preparation (and development assessment) through the Department of Infrastructure and Planning and Western Australian Planning Commission.

While LAPs presented an initial opportunity to improve alignment between local and regional planning, the analysis supports the anecdotal evidence that LAPs - with one exception – were not used throughout the ARB. Shire interviewees cited the absence of professional planning capability as one key reason for this. In addition, subsequent discussions at ROCs suggested local government had not been adequately involved in the original design of that mechanism prior to and during the (2005) regional NRM strategy's development.

There may still, however, be some opportunities for the ACC to influence local planning schemes for example at their scheduled periodic reviews by, for example, the provision of natural resource asset information, as successfully undertaken by the ACC previously. This material may also be useful for informing local community deliberations in the writing of shires' strategic plans (plan for the future). This approach will increasingly contribute to cooperative policies and studies becoming more common amongst neighbouring shires on future land use, transport infrastructure or waste management issues. In addition to the *provision* of information however to assist local governments, there is also the need to support the effective *translation* and use of this into schemes, strategic plans or policies. It is in this instance, however, that transaction costs for the ACC may become too high in working with individual councils. This would then suggest that working through or partnering State agencies or organisations such as WALGA – who already support shires' planning activities

in the region - may be more efficient. Another option is the ACC seeking to translate its NRM knowledge and capabilities into multi-shire policy development occurring cooperatively within ROCs in response to major regional pressures or land use change. Unless concerned with the protection of a specific, highly localised asset, then these approaches may be more effective compared to seeking influence in the formal revision of planning schemes or like instruments on a shire by shire basis.

References

Adams, G., and Hine, M. 1999, 'Local environmental policy making in Australia', in Walker, K. and Crowley, K. (eds.) *Australian environmental policy: studies in decline and devolution* (2nd edition), UNSW Press, Sydney.

Anderson, W.K. and Garlinge, J.R. 2000, *The Wheat Book: Principles and Practice*, Department of Agriculture, Western Australia.

Australian Bureau of Agricultural and Resource Economics (ABARE). 2008, *Australian Commodities*, vol. 15, no. 1, March Quarter, (online), Available: http://www.abareconomics.com/interactive/08ac_march/pdf/overview_2.pdf (11 November 2008).

Australian Bureau of Statistics (ABS). 2007a, *Principal Agricultural Commodities*, (online), Available: http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/6CFC4F4D3489A7C9CA25 73B6001F7956/$File/71110_2006-07.pdf (5 November 2008).

ABS. 2007b, *Agricultural Commodities*, (online), Available: http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/BC368442A5431DDECA25 74560014CA50/$File/71210_2006-07.pdf (10 November 2008).

ABS. 2006, *Census of Population and Housing 2006: Avon Natural Resource Management Region – WA*, Cat. No. 2068.0, (online), Available: http://www.abs.gov.au/websitedbs/D3310114.nsf/Home/census (25 October 2008).

ABS. 2002, *Salinity on Australian Farms*, Land Management and Salinity Survey, (online), Available: http://www.abs.gov.au/Ausstats/abs@.nsf/7d12b0f6763c78caca257061001cc588/e3c 62b38c2b153aeca256c8b0081eb9b!OpenDocument (23 October 2008).

Australian Local Government Association (ALGA). 2007, *National Resource Management*, (online), Available: http://www.alga.asn.au/policy/environment/nrm/localGovRole.php (3 October 2007).

ALGA 2007a, *Regional organisations of councils (ROCs)*, (online), Available: http://www.alga.asn.au/links/regionalOrgs.php (5 October 2007).

Ali, R. 2006, *Evaluation of the impacts of deep open drains in the Narembeen area, Wheatbelt of Western Australia*, CSIRO Land and Water, Perth.

Ali, R. and Hodgson, G. 2007, *Impacts of regional drainage, climate change and revegetation on water and salt in the Avon basin*, CSIRO Land and Water, Public Seminar Series, 29 October 2007, Perth Laboratory.

Aulich, C. 1999, From convergence to divergence: reforming Australian local government, *Australia Journal of Public Administration¸* vol. 58, pp. 12-23.

Australian Government. 2007, *What is Natural Resource Management*, (online), Available: http://www.nrm.gov.au/nrm/index.html (4 October 2007).

Australian Government. 2007a, *Avon-Natural Resource Management region*, (online), Available: http://www.nrm.gov.au/nrm/wa-avon.html (4 October 2007).

Australian Government. 2008, *Caring for Our Country*, (online), Available: http://www.nrm.gov.au/publications/factsheets/cfoc-general.html (29 May 2008).

Avon Catchment Council (ACC). 2005, *The Avon Natural Resource Management Strategy.* The Regional Natural Resource Management Strategy for the Avon River Basin. Avon Catchment Council.

ACC. 2006, *Local Government*, (online), Available: http://www.avonnrm.org.au/stakeholders/local_government.html (3 October 2007).

ACC. 2006a, *About Us*, (online), Available: http://www.avonnrm.org.au/about_us (4 October 2007).

ACC. 2006b, *Members*, (online), Available: http://www.avonnrm.org.au/about_us/members (4 October 2007).

ACC. 2006c, *Regional NRM Groups*, (online), Available: http://www.avonnrm.org.au/stakeholders/regional_nrm_groups.html (4 October 2007).

Bates, G. 1995, *Environmental Law in Australia,* Butterworth, Sydney.

Beresford, Q. 2001, Developmentalism and its Environmental Legacy: The Western Australia Wheatbelt, 1900 – 1990s, *Australian Journal of Politics and History*, vol. 47, pp. 403-414.

Binning, C., Young, M., and Cripps, E. 1999, *Beyond Roads, Rates and Rubbish: Opportunities for local government to conserve native vegetation,* National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report, 1/99, Environment Australia, Canberra.

Conacher, A. 1986, 'Dryland agriculture and secondary salinity', in W. Hanley and M. Cooper (eds), *Man and the Australian Environment*, McGraw-Hill, Sydney.

Council of Australian Governments (COAG). 2000, *Our Vital Resources: A National Action Plan for Salinity and Water Quality*, Department of Agriculture, Fisheries and Forestry and Environment Australia, Canberra.

Crimp, S., Howden, M., Power, B. *et al*. 2008, *Global climate change impacts on Australia's wheat crops*, Report prepared for the Garnaut Climate Change Review, CSIRO, St. Lucia.

CSIRO and BOM. 2007, *Climate change in Australia*, Commonwealth Scientific and Industrial Research Organisation and Bureau of Meteorology, Canberra.

Garnaut, R. 2008, *The Garnaut Climate Change Review*, Final Report, Cambridge University Press, Port Melbourne, Victoria.

Goodman, R. M., M. A. Speers, K. McLeroy, S. Fawcett, M. Kegler, E. Parker, S. R. Smith, T. D. Sterling, and N. Wallerstein. 1998. "Identifying and defining the dimensions of community capacity to provide a basis for measurement." *Health Education & Behavior* 25:258-278.

Government of Western Australia. 2006, *Local government structural and electoral reform in Western Australia: Ensuring the future sustainability of communities*, (online), Available: http://www.subiaco.wa.gov.au/uploads/06.08.01%20Council%20Attachments%201.pdf (4 October 2007).

Government of Western Australia. 2006a, *Wheatbelt Development Commission Annual Report 2006*, (online), Available: http://parliament.wa.gov.au/publications/tabledpapers.nsf/displaypaper/3712007a33ea9a0e712619fe482571f700341a41/$file/wheatbelt+development+commission+ar+2005-6.pdf (5 October 2007).

Government of Western Australia. 2007, *Regional Development Commissions*, Department of Local Government and Regional Development (online), Available: http://www.dlgrd.wa.gov.au/RegionDev/RegionDevContacts/Commissions.asp (4 October 2007).

Hajkowicz, S., and G. T. McDonald. 2006. "The Assets, Threats and Solvability (ATS) Model for Setting Environmental Priorities" *Journal of Environmental Policy & Planning* 8:87-102.

Hajkowicz, S. 2007, Allocating scarce financial resources across regions for environmental management in Queensland, Australia, *Ecological Economics*, vol. 61, pp. 208-216.

Hajkowicz, S., McDonald, G. and Smith, P. 2000, An Evaluation of Multiple Objective Decision Support Weighting Techniques in Natural Resource Management, *Journal of Environmental Planning and Management*, vol. 43, pp. 505 - 518.

Harper, R., Beck, T., Barrett, D. *et al*. 2003,*Opportunities for the Western Australian land management sector arising from greenhouse gas abatement*, CRC Greenhouse Accounting, Canberra.

Harper, R., Beck, A.C., Ritson, P. *et al*. 2006, The potential of greenhouse sinks to underwrite improved land management, *Ecological Engineering*, vol. 29, pp. 329-341.

Hope, P. and Foster, I. 2005, *How our rainfall has changed – The south-west*, Indian Ocean Climate Initiative, Western Australian Department of Environment, Perth.

Kural, H., Matthewson, M. and Rebeiro, S. 2002, *Structure of the Western Australian Economy*, Western Australian Department of Treasury and Finance, Perth.

Lockie, Stewart, Geoffrey Lawrence, Allan Dale, and Bruce Taylor. 2002. "'Capacity for Change': Testing a Model for the Inclusion of Social Indicators in Australia's National Land and Water Resources Audit." *Journal of Environmental Planning and Management* 45:813 - 826.

Land and Water Australia. 2000, *Australian Dryland Salinity Assessment*, National Land and Water Resources Audit, Commonwealth of Australia, Canberra.

McDonald, G. and Weston, N. 2004, '*Sustaining the Wet Tropics: A Regional Plan for Natural Resource Management'* Volume 1: Background to the plan, Rainforest CRC and FNQ NRM Ltd.

McDonald, G., Taylor, B., Bellamy, J., Robinson, C., Walker, M., Smith, T., Hoverman, S., McAlpine, C., Peterson, A., and Dawson, S. 2005, *Benchmarking Regional Planning Arrangements for Natural Resource Management 2004-2005: Progress, Constraints and Future Direction for Regions*, Tropical Savannas CRC, CSIRO, DNR&M.

Meppem, T., Bellamy, J., and Gorddard, R. 2002, *A Pilot Study of the Implications for Local Government of Changing Regional Governance Structures*, CSIRO Sustainable Ecosystems, Canberra, Australia.

Moore, G. 1998, Soil salinity. In 'Soilguide - A handbook for understanding and managing agricultural soils' (ed. G Moore). Agriculture Western Australia, Bulletin 4343, pp. 146-158.

Mullen, J. 2007, *The Importance of Productivity Growth in Australian Agriculture*, Presented at the 51st Annual Conference of the Australian Agricultural and Resource Economics Society, February 13 – 16, Queenstown, New Zealand.

Myers, N., Mittermeier, R.A., Mittermeier, C.G., Da Fonseca, G.A.B. and Kent, J. 2000, Biodiversity hotspots for conservation priorities, *Nature*, vol. 403, pp. 853-858.

Newman, P. 2005, The city and the bush – partnerships to reverse the population decline in Australia's Wheatbelt, *Australian Journal of Agricultural Research*, vol. 56, pp. 527-535.

O'Connor, M.H., McFarlane, M., Fisher, J., MacRae, D and Lefroy, T. 2005, The Avon River Basin in 2050: scenario planning in the Western Australian Wheatbelt, *Australian Journal of Agricultural Research*, vol. 56, pp. 563-580.

O'Connor, M.H., McFarlane, M., MacRae, D. and Lefroy, E.C. 2004, *Avon River Basin 2050: four regional scenarios for the next half-century*. Report prepared for the partners of the ARB2050 project, CSIRO Sustainable Ecosystems, Canberra.

Paterson, J. 2005, Saline water disposal next step in drainage debate, *Farming Ahead*, vol. 159, pp. 55-57.

PriceWaterhouseCoopers (PWC). 2006, *National Financial Sustainability Study of Local Government*, Commissioned by the Australian Local Government Association,

Pini, Barbara, Su Wild River, and Fiona M. Haslam McKenzie. 2007. "Factors Inhibiting Local Government Engagement in Environmental Sustainability: case studies from rural Australia." *Australian Geographer* 38:161 - 175.

Regional Development Council. 2007, *The Western Australian Regional Development Council: Strategic Priorities 2007*, (online), Available: http://www.dlgrd.wa.gov.au/Publications%5CDocs%5CRegionalDevelopmentCouncilPriorities2007.pdf (4 October 2007).

SGS Economic and Planning. 2005, *Improving the Coordination between local and regional NRM planning: Facilitation paper*, Australian Local Government Association (online), Available: http://www.alga.asn.au/policy/environment/nrm/planing/NRM_PlanningReport.pdf (19 February 2007).

Western Australian Local Government Association (WALGA). 2007, *About WALGA*, (online), Available: http://www.walga.asn.au/about (3 October 2007).

WALGA. 2007a, *Policy*, (online), Available: http://www.walga.asn.au/about/policy (4 October 2007).

WALGA. 2007b, *Environment and Waste Management*, (online), Available: http://www.walga.asn.au/about/policy/environment_waste (4 October 2007).

WALGA. 2008, *Drivers for Local Government participation in Natural Resource Management*, (online), Available: http://www.walga.asn.au/news-publications/publications/nrm/lg_nrm_factsheets/walga_factsheet_1.pdf (29 May 2008).

WALGA. 2008a, The *Journey: Sustainability into the Future. Shaping the Future of Local Government in Western Australia*, Systemic Sustainability Study, Western Australian Local Government Association, West Perth.

WALGA 2008b, 'About WALGA' (online), Available: http://www.walga.asn.au/about (29 May 2008).

WALGA. 2008c, *Understanding Local Government roles and responsibilities*, (online), Available: http://www.walga.asn.au/news-publications/publications/nrm/lg_nrm_factsheets/walga_factsheet_2.pdf (29 May 2008).

WALGA. 2008d, *Local Government processes and engagement tips*, (online), Available: http://www.walga.asn.au/news-publications/publications/nrm/lg_nrm_factsheets/walga_factsheet_3.pdf (29 May 2008).

WALGA. 2008e, *Planning for the future*, (online), Available: http://www.walga.asn.au/news-publications/publications/nrm/lg_nrm_factsheets/walga_factsheet_4.pdf (29 May 2008).

Wensing, E. 1997, 'The process of local government reform: legislative change in the states', in Marshall, N. and Dollery, B. (eds.), *Australian local government reform and renewal,* Macmillan Education Australia, Melbourne, pp. 89-102.

Western Australian Planning Commission. 2008a, *Western Australia Planning Commission: About Us,* (online), Available: http://www.wapc.wa.gov.au/About+us/default.aspx (30 May 2008).

Western Australian Greenhouse Task Force. 2004, *Western Australian Greenhouse Strategy*, Perth.

Wheatbelt Development Commission 2007, *About us*, (online), Available: http://www.wheatbelt.wa.gov.au/aboutus.php (4 October 2007).

Wild River, S. 2006, *The role of local government in environmental and heritage management*, (online), Available: http://www.deh.gov.au/soe/2006/integrative/local-government/index.html (2 October 2007).

Wild River, S. 2005, Enhancing the sustainability efforts of local governments, *International Journal of Innovation and Sustainable Development,* vol. 1, pp.46-62.

Williams, J. 2006, *Success Attributes of Regional NRM Systems in Australia*, PhD Thesis, School of Natural and Rural Systems Management, University of Queensland.

Yandle, G.F. 2004, *Evaluation and design of deep open dryland drainage in the Western Australian wheatbelt*, 1st National Salinity Engineering Conference, 9-12 November 2004, Perth, Western Australia.

Appendix 1: Project fact sheet

Appendix 2: Interview questions and protocol

Taylor, B. and Abel, N. CSIRO Sustainable Ecosystems, June 2008

Designed for face-to-face qualitative semi-structured interviews of approximately 40mins-1hr duration; Thirty-four respondents targeted. To be applied in conjunction with the attached protocol, following interviewer training; Data to be digitally recorded and transcribed for analysis.

1. Looking ahead what do you consider the major social, economic or environmental changes facing the shire into the future;

    a. Firstly, over the next 3-5 years and
    b. In the longer term, say 10-20 years?

    Note to interviewer: If need can prompt with e.g. climate, pop decline/pressure, salinity, health services etc

2. How well positioned is your shire, as a community to deal with the types of likely changes you identified above?

    Note to interviewer: If need can prompt with e.g. financially, human resources, planning capability, partnerships, technical/engineering skills?

3. In terms of the shire's current strategic and operational planning what are the current priorities? Why these?

    a. [Supplementary if needed] Are there land and water management issues that are particularly important or pressing for the shire? Why are these so critical?

4. Regional level organisations such as the ACC, Wheat belt Development Commission, operate in the Avon NRM Region

    a. Have you worked with these regional groups in the past?
    b. To address what issues?
    c. Were their benefits to your shire or local community?
    d. What were the costs to you, your shire and local community?

5. What, in your view, would improve the working relationship between your shire and groups such as the ACC and Wheat belt Development Commission in the future?

6. Is your shire a member of a voluntary Regional Organisation of Councils? If so, what initially motivated your shire to participate in the ROC and why do you continue to stay involved?

7. And lastly, looking ahead, will links to other organisations (inside or outside the region) become more or less important? Which ones, and why?

8. Before we finish up, is there anything else you'd like to add that we haven't touched on in the questions above?

Interview protocol

This protocol outlines some issues for discussion amongst CSIRO, NRMO and GA staff conducting interviews with Local Government representatives during June-July 2008. Its main purpose is to provide some guidance on a common and effective interview approach that will meet the needs of all participants and produce a good evaluation / research outcome.

The three main areas outlined here include 1) ethical issues; 2) data recording and management; 3) style or technique. Lastly it looks at how these issues can be addressed in practice when interviewing.

Ethical Issues

The first ethical issue is **confidentiality**. As the interviewer, you must ensure the trust the interviewee puts in you and the research is not misplaced. That is, you respect that people may be providing views and opinions that they would not otherwise disclose publically, outside of the interview process. This means in practice:

- Using the information collected for the stated purpose(s) only
- Keeping your interview notes or recordings secure
- In reporting the data or findings you would not link an individual's name to a specific comment or remark (generally unless permission was explicitly gained to do so), but use a label such as "Respondent 23" or "r23" or "Northern Wheat belt Councillor" or similar[7].

The second main ethical issue is seeking and gaining **informed consent.** This means explicitly asking the interviewee if they agree to participate in the interview or not. Importantly this happens only once they understand what the research is about and how the information is going to be used. This information needs to be provided to the interviewee either before the interview or at the start of the interview itself.

Data recording and management

Written note taking and voice recording (i.e. taping interviews) are both valid ways of **recording interviewee's responses** to questions. Both have advantages and disadvantages. Note taking is often less confronting to the person being interviewed but requires considerable skill to capture the dialogue whilst maintaining the flow of the conversation. Taping interviews can provide better quality of data – by recording and transcribing exactly the words used by the interviewee – and also helps to 'free-up' the interviewer to ask follow up questions and relax into the conversation.

If note taking, working in pairs can help overcome some of the limitations (one writes and one asks questions) as can capturing any additional information immediately after the interview that was 'missed' while writing and talking.

If recording make sure the interviewee knows and agrees to being taped (see above). Position the voice recorder in a "middle ground" position to help capture the sound without being too threatening. Make sure you have enough "time" left on the tape BEFORE staring the interview. Also be clear when you turn the tape off – let the person know / let them see when you turn the tape off.

---

[7] This may not be an issue for part A of the interview on Our Patch evaluation as you'll probably want to report on specific sites and experiences?

Importantly to prevent valuable data being lost, it is best to copy or move the file to a safe location as soon as after the interview permits (after every 2 interviews or at the end of the day) – such as copy a voice file onto your computer to a specially marked folder. Remember to ensure this information is only accessible to the project team / other evaluators as it must be treated confidentially.

Interview style

As an interviewer it is your aim to get the best answers to your questions. Best in terms of quality of information provided, an understanding of the interviewees issues and clarity in not simply *what* is said but *why* it is is said. Things like body language during the interview can greatly influence the response. Being relaxed but attentive in your listening is important. Present an "open" body language (e.g. avoiding crossed arms) and acknowledge you're are still listening when taking notes by nodding or verbal cues.

If you want more information on something or want to clarify an answer given it is good practice to ask:

- That's interesting; can you tell me more about that?
- Could you explain what you mean by "blah", please?
- If people give yes/no answers, it is good to follow up with:
  - Why do you say that? Can you give me an example of when that happened? Etc

Remember it's an interview. You can provide background information for the interviewee, talk about the project and why you are interested in *their* opinion etc but don't fall into the trap of responding to an interviewee's answer by laughing, being disrespectful or by saying:

- "Well, what I reckon is…" or
- "No, that's not correct, I disagree , what really happened was….".

Putting these into practice: *A possible introduction to the interview…*

- Thanks [Jim] for agreeing to participate / speak with us today, appreciate you time

- We are really interested in the views and experiences of Local Government players because….

- The interview should take roughly 40mins-1hr.

- Information from this interview will contribute to the *Our Patch* project evaluation as well as a CSIRO research project, *Linking NRM and Sustainable Development at the community scale* currently running in the Avon (fact sheet and contacts attached).

- We are interviewing Local Government CEOs / planners / representatives across the region over the next month or so…to help understand, gather their views on etc etc

- Your responses will remain confidential- that is they won't be linked directly to you or your organisation in any public reports or material

- We are wanting to record interviews to make sure we gather the information accurately. ***Do we have your permission to record the interview?***

- ***I'll start the tape now…'***
- Give a brief outline of the interview… let people know where you're going…. E.g. The interview will begin with some specific questions on the your shire's involvement in the Our Patch project. We'd then like to hear about your experiences with NRM more broadly, and then look ahead to future issues and opportunities.
- Do you have any questions for us or about the interview before we start?

At the end of the interview be sure to:

- Thank the person for their time
- Leave contact details for yourself / project
- Check if they have any remaining questions or concerns about the process
- Remind them when the results will be available and ask if they would like to be kept informed about the outcomes of the interviews
- Ask if they would be OK about being contacted again (by phone) in the next month or two to gather some more detail or follow up on some more information relating to the answers they provided.

Appendix 3: Tabled responses of priority issues stated by local governments

Table 1: Short term changes: ranking of shires and themes

	Short term changes expected in:	Rank order, highest frequency on left, lowest on right				
Themes ranked from highest at the top	Environment	NewROC	AROC	RoeROC	SeavROC	WeROC
	Employment, resource use and economy	AROC	NewROC	RoeROC	SeavROC	WeROC
	infrastructure and services	RoeROC	AROC	NewROC	SeavROC	WeROC
	population	AROC	NewROC	SeavROC	RoeROC	WeROC
	Governance	WeROC	NewROC	RoeROC	AROC	SeavROC
	Energy	AROC	SeavROC	WeROC	NewROC	RoeROC
	uncertainty, planning and leadership	AROC	NewROC	WeROC	RoeROC	SeavROC
	Society	AROC	RoeROC	SeavROC	NewROC	WeROC
	Shire resources	WeROC	Other shires zero			

Table 2: Long term changes: ranking of shires and themes

	Long term changes expected in:	Rank order, highest frequency on left, lowest on right				
Themes ranked from highest at the top	Employment, resource use and economy	AROC	RoeROC	WeROC	NewROC	SeavROC
	Environment	RoeROC	SeavROC	WeROC	AROC	NewROC
	population	AROC	NewROC	RoeROC	SeavROC	WeROC
	Energy	RoeROC	SeavROC	WeROC	AROC	NewROC
	infrastructure and services	SeavROC	NewROC	RoeROC	AROC	WeROC
	Society	AROC	Other shires zero			

Table 3: Ability of shires to adapt: ranking of shires and themes

	Ability of shires to deal with changes in:	Rank order, highest frequency on left, lowest on right				
Themes ranked from highest at the top	uncertainty, planning and leadership	NewROC	RoeROC	SeavROC	AROC	WeROC
	Shire resources	AROC	NewROC	RoeROC	SeavROC	WeROC
	Employment, resource use and economy	RoeROC	SeavROC	NewROC	WeROC	AROC
	infrastructure and services	NewROC	AROC	RoeROC	SeavROC	WeROC
	Society	AROC	NewROC	RoeROC	other shires zero	
	Environment	NewROC	other shires zero			
	population	RoeROC	WeROC	Other shires zero		
		AROC	NewROC	RoeROC	SeavROC	WeROC

Table 4: Ranking of operational and strategic planning priorities by shires and themes

	Shires' strategic & operational planning priorities	Rank order, highest frequency on left, lowest on right				
Themes ranked from highest at the top	Environment	AROC	NewROC	RoeROC	SeavROC	WeROC
	infrastructure and services	NewROC	RoeROC	AROC	WeROC	SeavROC
	Employment, resource use and economy	NewROC	Other shires equal			
	Shire resources	AROC	NewROC	SeavROC	RoeROC	WeROC
	population	NewROC	WeROC	RoeROC	SeavROC	AROC
	uncertainty, planning and leadership	SeavROC	RoeROC	Other shires zero		
	Governance	SeavROC	WeROC	Other shires zero		
	Society	All shires zero				
	Energy	All shires zero				

Table 5: Short term changes expected (next 3-5 years)

	AROC	NewROC	RoeROC	SeavROC	WeROC	TOTAL
ENVIRONMENT						
climate change	1	2	1	0	0	4
salinity	0	5	1	1	2	9
deep drainage	0	2	0	0	0	2
water quality	0	0	0	1	0	1
native vegetation decline	0	0	0	0	0	0
native vegetation rehabilitation	0	1	0	1	0	2
native vegetation conservation	2	1	0	0	0	3
drought	1	2	2	0	1	6
flood	0	0	1	0	0	1
water resource development	0	2	0	2	0	4
reserve management	1	0	0	0	0	1
TOTAL	5	15	5	5	3	33
UNCERTAINTY, PLANNING AND LEADERSHIP						
insufficient knowledge on climatic change	1	0	0	0	1	2
insufficient knowledge on salinity	0	1	0	0	0	1
TOTAL	1	1	0	0	1	3
POPULATION						
population growth	3	1	0	3	0	7
population decline	2	3	2	0	1	8
population ageing	1	1	0	1	0	3
TOTAL	6	5	2	4	1	18
SOCIETY						
social networks insufficient	1	0	1	0	0	2
social conflict	0	0	0	1	0	1
TOTAL	1	0	1	1	0	3
ENERGY						
energy need	0	0	0	1	0	1
energy costs	2	0	0	0	1	3
new energy sources	0	0	0	0	0	0
TOTAL	2	0	0	1	1	4
INFRASTRUCTURE AND SERVICES						
infrastructure insufficient	1	0	1	1	0	3
health services insufficient	2	4	7	2	1	16
voluntary services insufficient	2	0	0	0	0	2
recreation infrastructure insufficient	2	0	0	0	0	2
sharing services	0	1	1	0	0	2
rubbish	1	0	0	0	0	1
rail service	0	1	0	0	0	1
TOTAL	8	6	9	3	1	27

SHIRE RESOURCES						
Federal support insufficient	0	0	0	0	1	1
State support insufficient	0	0	0	0	1	1
TOTAL	0	0	0	0	2	2
EMPLOYMENT, RESOURCE USE & ECONOMY						
declining agriculture	1	1	3	0	1	6
costs of inputs	1	0	1	0	0	2
life stylers' increasing	1	0	1	3	0	5
land use conflicts	0	0	0	1	0	1
increasing farm size	0	1	0	0	0	1
new agricultural and horticultural land uses	0	1	0	1	0	2
residential development	0	0	0	2	0	2
industrial development	0	0	0	1	0	1
tourism	1	0	0	0	0	1
new businesses	0	2	0	0	0	2
skills shortage	0	0	2	0	0	2
impact of mining on jobs	1	0	1	0	1	3
mining booms and busts	0	0	0	0	0	0
TOTAL	5	5	8	8	2	28
GOVERNANCE						
shire amalgamations	0	1	1	0	2	4
Federal and State policies not coordinated	0	0	0	0	0	0
Shire-State conflicts	0	0	0	0	0	0
policing	0	1	0	0	1	2
TOTAL	0	2	1	0	3	6

Table 6: Long term changes expected(next 10-20 years)

	AROC	NewROC	RoeROC	SeavROC	WeROC	TOTAL
ENVIRONMENT						
climate change	0	1	3	1	2	7
salinity	1	1	1	0	1	4
deep drainage	1	0	0	0	0	1
water quality	0	0	0	0	0	0
native vegetation decline	0	0	0	0	0	0
native vegetation rehabilitation	0	0	0	0	0	0
native vegetation conservation	0	0	0	1	0	1
drought	0	0	0	0	0	0
flood	0	0	0	0	0	0
water resource development	0	0	0	1	0	1
reserve management	0	0	0	0	0	0
TOTAL	2	2	4	3	3	14
UNCERTAINTY, PLANNING AND LEADERSHIP						
insufficient knowledge on climatic change	0	0	0	0	0	0
insufficient knowledge on salinity	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

POPULATION						
population growth	2	0	1	1	0	4
population decline	1	3	2	0	0	6
population ageing	0	0	0	0	0	0
TOTAL	3	3	3	1	0	0
SOCIETY						
social networks insufficient	1	0	0	0	0	1
social conflict	0	0	0	0	0	0
TOTAL	1	0	0	0	0	1
ENERGY						
energy need	0	0	1	0	0	1
energy costs	0	0	1	1	1	3
new energy sources	0	0	0	1	0	1
TOTAL	0	0	2	2	1	5
INFRASTRUCTURE AND SERVICES						
infrastructure insufficient	0	0	0	1	0	1
health services insufficient	0	1	1	1	0	3
voluntary services insufficient	0	0	0	0	0	0
recreation infrastructure insufficient	0	0	0	0	0	0
sharing services	0	0	0	0	0	0
rubbish	0	0	0	0	0	0
rail service	0	0	0	0	0	0
TOTAL	0	1	1	2	0	4
SHIRE RESOURCES						
Federal support insufficient	0	0	0	0	0	0
State support insufficient	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0
EMPLOYMENT, RESOURCE USE & ECONOMY						
declining agriculture	1	0	3	0	1	5
costs of inputs	0	0	0	0	1	1
life stylers' increasing	0	0	0	1	0	1
land use conflicts	0	0	0	1	0	1
increasing farm size	1	0	0	0	0	1
new agricultural and horticultural land uses	1	1	0	0	1	3
residential development	1	0	0	0	0	1
industrial development	0	0	0	0	0	0
tourism	0	0	0	0	0	0
new businesses	1	2	1	0	0	4
skills shortage	0	0	0	0	0	0
impact of mining on jobs	1	0	0	0	0	1
mining booms and busts	0	0	0	0	1	1
TOTAL	6	3	4	2	4	19
GOVERNANCE						
shire amalgamations	0	0	0	0	0	0
Federal and State policies not coordinated	0	0	0	0	0	0

Shire-State conflicts	0	0	0	0	0	0
policing	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

Table 7: Ability of shires to deal with the short and long term changes

ENVIRONMENT	AROC	NewROC	RoeROC	SeavROC	WeROC	TOTAL
ENVIRONMENT						
Well placed because of strong NRM emphasis in the past	0	1	0	0	0	1
Protect natural assets	0	1	0	0	0	1
TOTAL	0	2	0	0	0	2
UNCERTAINTY, PLANNING AND LEADERSHIP						
New CEO has ideas and drive	0	1	0	0	0	1
lack of community awareness reduces ability to adapt	0	2	0	0	0	2
Poor - cannot influence economy or climate	0	0	0	0	1	1
Shire is coming from behind	0	0	0	1	0	1
Learn from other councils that have already experienced similar pressures	0	0	0	1	0	1
Doing their best	0	0	0	1	0	1
Uncertainty is a problem	0	0	1	0	0	1
Are aware and will be proactive	2	2	1	0	0	5
Can adapt as we go	0	0	1	0	0	1
TOTAL	2	5	3	3	1	14
POPULATION						
Well positioned due to good population base	0	0	0	0	1	1
Decline in population would reduce adaptive capacity	0	0	1	0	0	1
TOTAL	0	0	1	0	1	2
SOCIETY						
Strong community, proactive people, grassroots actions	1	1	1	0	0	3
SERVICES						
Share services with other shires	1	2	0	1	0	4
More of a user pays approach for services	0	0	1	0	0	1
Well placed because belong to a ROC	0	0	0	0	0	0
TOTAL	1	2	1	1	0	5
SHIRE RESOURCES						
Need State support for infrastructure and services	1	1	0	0	1	3
Need Federal support for infrastructure and services	1	1	0	0	0	2
Poor financial state makes it hard	0	0	1	0	0	1
Lack of resources a major problem	0	0	0	1	0	1
Strong financial state outs it in a good position	1	0	0	0	0	1
More NRM capacity needed	0	0	0	1	0	1
TOTAL	3	2	1	2	1	9
EMPLOYMENT, RESOURCE USE & ECONOMY						
Already have a strong economy	0	0	1	0	0	1
Need new and bigger businesses including manufacturing	0	0	1	0	0	1

Need tourism	0	0	1	0	0	1
Solar energy is a business opportunity	0	0	0	0	1	1
Try to stop broadacre farms becoming hobby farms	0	1	0	1	0	2
TOTAL	0	1	3	1	1	6

Table 8: Shires' priorities for strategic and operational planning, compared with all issues identified[8]

	AROC	NewROC	RoeROC	SeavROC	WeROC	TOTAL
ENVIRONMENT						
climate change	0	1	0	0	0	1
salinity	0	0	1	0	0	1
deep drainage	0	1	0	0	0	1
water quality	0	0	0	0	0	0
native vegetation decline	0	0	0	0	0	0
native vegetation rehabilitation	0	1	1	1	0	3
native vegetation conservation	0	0	0	0	1	1
drought	0	0	0	0	0	0
flood	1	0	1	2	0	4
water resource development	4	3	2	2	1	12
waste management	1	0	0	2	0	3
reserve management	0	0	0	0	0	0
use of environment for economic benefits	1	0	0	0	0	1
environmental conservation and protection	1	2	0	0	2	5
agricultural land degradation	0	0	1	0	0	1
impact of mining on land	0	0	1	0	0	1
degradation of the Avon River	1	0	0	0	0	1
TOTAL	9	8	7	7	4	35
UNCERTAINTY, PLANNING AND LEADERSHIP						
insufficient knowledge on climatic change	0	0	0	0	0	0
insufficient knowledge on salinity	0	0	0	0	0	0
strategic planning	0	0	1	2	0	3
development control	0	0	0	1	0	1
TOTAL	0	0	1	3	0	4
POPULATION						
population growth	0	0	0	0	0	0
population decline	0	0	0	0	0	0
population ageing	0	1	0	1	0	2
attracting people in	0	0	0	0	1	1
getting people to stay	0	1	1	0	1	3
TOTAL	0	2	1	1	2	6
SOCIETY						

---

[8] This table lists all the short and long term changes plus all the operational and strategic priorities identified by all shires. When there is a zero in a cell, none of the shires in that ROC identified that issue as a priority. When there is, say, a 2 in a cell, it means 2 shires in that ROC identified that issue as a priority for strategic or operational planning.

social networks insufficient	0	0	0	0	0	0
social conflict	0	0	0	0	0	0
TOTAL						
ENERGY						
energy need	0	0	0	0	0	0
energy costs	0	0	0	0	0	0
new energy sources	0	0	0	0	0	0
TOTAL						
INFRASTRUCTURE & SERVICES						
infrastructure insufficient	2	0	0	1	0	3
health services insufficient	0	1	0	1	0	2
voluntary services insufficient	0	0	0	0	0	0
recreation infrastructure and services insufficient	0	3	1	0	2	6
sharing services	0	0	0	0	0	0
rubbish	0	0	0	0	1	1
rail service	0	0	1	0	0	1
road maintenance, new roads	1	1	4	0	1	7
transport network insufficient	1	0	0	0	0	1
maintaining levels of all services	0	1	0	1	0	2
TOTAL	4	6	6	3	4	23
SHIRE RESOURCES						
Federal support insufficient	0	1	0	0	0	1
State support insufficient	0	1	0	0	0	1
set finance aside for mantenance of infrastructure	1	0	0	0	0	1
retaining staff	0	0	1	0	0	1
sharing NRMO with other shires	0	0	0	1	0	1
sharing road maintenance equipment with other shires	0	0	0	1	0	1
getting developers to contribute to infrastructure and amenity	1	0	0	0	0	1
TOTAL	2	2	1	2	0	7
EMPLOYMENT, RESOURCE USE & ECONOMY						
declining agriculture	0	0	0	0	0	0
maintain agriculture	0	0	0	0	0	0
costs of inputs	0	0	0	0	0	0
life style increasing	0	0	0	0	0	0
land use conflicts	0	0	0	0	0	0
increasing farm size	0	0	0	0	0	0
new agricultural and horticultural land uses	0	0	0	0	0	0
new agricultural and horticultural processing industries	0	0	0	0	1	1
residential development	1	0	1	1	1	4
industrial development	0	0	1	0	0	1
town development	0	0	0	1	0	1
tourism	1	3	0	0	0	4
new businesses	0	0	0	0	0	0
skills shortage	0	0	0	0	0	0
impact of mining on jobs	0	0	0	0	0	0
mining booms and busts	0	0	0	0	0	0
TOTAL	2	3	2	2	2	11
GOVERNANCE						

be pro-active in formation of regional councils	0	0	0	0	1	1
Federal and State policies not coordinated	0	0	0	1	0	1
Shire-State conflicts	0	0	0	0	0	0
policing	0	0	0	0	0	0
TOTAL	0	0	0	1	1	2

Appendix 4: Discussions of initial findings with ROCs

The following is a summary of major points of feedback received by the research team from local government stakeholders in presenting the preliminary findings to local government stakeholders. These presentations were made in conjunction with the ACC to four separate forums associated with the operation of five voluntary ROCs during October and November 2008 in the ARB.

The purpose of presenting the findings at these meetings was twofold. First, to seek clarification and promote discussion on the team's interpretation of the analysis of qualitative interviews with local government participants, and second, to ask local government stakeholders to reflect on and refine a suite of general 'options' or strategies to improve local-regional partnerships. Attending the ROC meetings also provided an opportunity for the research team to observe and record other relevant themes of discussion that could assist with understanding the current function and focus of the ROCs. Further, members of the research team were able to debrief with ACC staff following each of the sessions on the partnership options proposed, including their social and operational implications. Some of the key points of discussion at the ROCs are present below.

Sustainable Land Use & Management (SEAVROC) 7th October Beverley

CSIRO: Bruce Taylor. ACC: Peter Sullivan & Liz Kington; Project Advisory Group Members: Jessica Sheppard, WALGA

- *Priority issues and focus for partnerships*: Some shires face pressure for intensification of land use in form of lifestyle subdivisions in extensive cropping zone, compounded by absentee landowners. Where development pressures are less forceful, shires still note an increasing diversification of land use within their shire. One CEO noted "the rate of development is catching us out" with subdivisions occurring adjacent to inappropriate land uses with a need to "keep an eye on peri-urban pressures of common interest". There were also concerns associated with over-extraction of water from paleo-channel and implications for environmental flows in the Avon River.

- There were also several *existing cooperative ventures* either underway or under discussion that were raised at the SLUM meeting. These included:
  - It was noted by one participant that "SLUM started with a desire to promote coordinated land use and management". It had an original focus on sustainable agriculture and MRM issues but has evolved to focus increasingly on development and land use planning with NRM implications;
  - Sustainable tree farming options are being assessed including their required infrastructure and future land use implications. Impact of tree farming development on land ownership and values – timber farming requires heavier road limits (i.e. 120 ton rather than 82 ton). This "creates two classes of land ownership – those with and without timber truck access"

- A proposal to develop a 'sustainable water use plan' across five shires was planned for submission under the March 2009, Caring for our Country funding calls.
- Seeking to implement a 'sustainable land use planning framework' incorporating GIS capability and shared principles to provide consistent decision-making on development and land-use across the member shires – WALGA and DPI support
- Noted that neighbouring AROC planners "getting together to look at uniform planning provisions and policies…available for everyone to look at"

- Members are currently exploring feasibility of making SEAVROC a corporate entity with executive officer and common information technology platform – allows more efficient and professional management of the 'alliance' whilst maintaining autonomy and identity of individual member shires;

- Number of cases mentioned where SLUM was currently active in coordinating different levels of government involvement on land use planning issues:
  - Local governments initiating dialogue with state agencies – less concerned about being "bossed around" in that way;
  - Suggestions to seek strategic attendance of local councillors and to "flush out" state agencies, state or federal politicians to get direct engagement, and political support, in key issues – particularly before "they hit the council table" or other decision-making spaces;

- SLUM as a place to "bring the local government and state agency threads together for our region" (Quairading, CEO); "can go to zone meetings but not going to get the same purchase as sitting around the ROC table" (WALGA).

- SLUM members considered it valuable to have a number of corporate landowners and managers participating in the forum e.g. AVONGRO

- Several productive tensions were evident in discussions about the current and future role of the SLUM/SEAVROC:
  - i) Should SLUM principally operate as a decision making or information sharing forum? The group currently saw one of its functions as a 'responding and filtering role' or 'reacting and commenting' on state and federal policies and plans.
  - ii) Ought it adopt a more formalised structure (being considered as part of SeaVROC feasibility study) or maintain informal network status; and,
  - iii) maintain focus on process - as in (i) above - or develop and report against a clear statement of results on a regular basis that focus on local planning policies, integrated responses to key development issues (transport, water, clearing vegetation) and supporting formal change such as scheme reviews etc.

RoeROC, 23rd October Kulin

CSIRO: Ben Harman; ACC: Liz Kington

- *Priority issues:* RoeROC members re-iterated that agricultural sustainability was seen as the most critical issue for NRM in their region, closely linked to climate adaptation. The second major issue raised at the forum was that of deep drainage seen as politically contentious yet required clear government leadership at the state level which was seen to be lacking.

- Themes of relevance and urgency raised in the interviews were again underlined by RoeROC members. Essentially, local governments are dealing with more pressing issues on a day-to-day basis around maintenance and governance of their towns. As such, local governments will engage on a as needed basis only. The absence of a clear community mandate to act or invest on NRM over and above other more pressing issues also hindered progress. Future working relationships need take account of the transaction costs of 'engagement' for shires and local communities. The timing and pace of engagement is seen as critical. Adopting a 'periodic' or engagement in 'spits and spats' mode of cooperation rather than continual engagement was preferred as the latter is considered too taxing for participants. The second consideration here is that it takes a long time to generate momentum, build relationships and trust - continual changes to funding arrangements and priorities at regional level hinder this.

- On the proposal to use ROCs as focal point for ACC engagement, this was well received by the RoeROC members. The view was re-enforced that cooperation at the ROC level is more efficient and effective as the ROC network draw on strong social cohesion based on shared community and sense of place.

- Discussions on linking development and NRM objectives showed that the group believed this may work for certain specific projects but not for broad scale sustainable agriculture applications as it is too diffuse. Where development goals and NRM might be aligned via stronger cooperation between the ACC and WDC, this was considered as undesirable by some ROC members due to some shires preferences not to work with the WDC or its representatives due to past dealings with WDC representatives.

NewROC and WeROC, joint meeting, 28th October, Southern Cross

CSIRO: Nick Abel & Rachel Williams; ACC: Liz Kington & Peter Sullivan;
Project Advisory Group Members: Bruce Whittber and Helen Westcott

- Group discussion recognised that the new funding arrangements under the *Caring for Our Country* (CFOC) program would see a greater need for cooperation given the likelihood of decreasing funds. The ACC is seen as having scientific expertise and a strategic perspective that increases chances of accessing funds. Local governments stated their lack of expertise to be a major constraint in accessing and using funds, or being able to determine what constituted a 'good project' as far as funders were concerned. A fear was expressed in the discussion of losing the expertise and knowledge of the ACC as a result of diminished funding under the CfOC program.

- Cooperation between the ACC and local governments at ROC level received broad support as collaboration with individual shires is seen as too hard. Further, the ROC was seen as the appropriate forum to initiate dialogue on cooperation or possible joint project proposals with other NGOs such as Greening Australia.

- Deep Drainage was considered by the ROC as a critical NRM and development issue and it was stated that the "ACC is dropping the ball on deep drainage", and there is a lack of knowledge where that issue was headed. The ACC responded by stating firstly, the work by the Wheatbelt Drainage Council is stalled by change of State Government, and secondly, the ACC does not have the statutory status and resources to undertake this role – it could however make a contribution but uncertainty is a problem.

- More broadly, sustainable agriculture was seen again as the priority issue for cooperation historically. There was a view that "we've made little progress in making agriculture sustainable – lots of activities, but how has it helped?"

AROC 13th November, Northam

CSIRO: Nick Abel; ACC: Liz Kington & Peter Sullivan

- Previous engagement mechanisms and strategies were discussed. These included comments that local governments relied too heavily on NRMOs for the link to ACC. It was acknowledged that an additional, more direct link would was also be necessary. AROC members re-iterated the different scales and priorities of respective organisations (e.g. local government has to deal with flooding and waste management at local scale). A synergy here was considered possible, however, local governments stressed the need to "know the local benefits and costs of broader scale projects". Further, uncertainty of funding for ACC makes engagement unattractive to shires as did the 'fractured nature' of the ACC's agenda.

- In relation to priority issues for cooperation it was clear that the ROC members associated ACC with a 'sustainable agriculture' agenda, which the shires did not consider to be "shire business". However, several other existing or proposed opportunities for cooperation between the ROC and ACC were raised, these included seeking State Government funding for the Mortlock River North project which involves the ACC. The project crosses shire boundaries and there is a downstream salt impact, so a good opportunity for inter-shire collaboration with ACC.

- As at the NEWROC / WEROC forum a suggestion was made that the ACC should adopt a statutory authority status and "becomes the authority responsible for NRM" in the region and advise on the NRM impacts of projects and proposed developments (such as the Water Authority currently does). It was stated that the ACC "must get away from multiple small projects…and should operate as the manager of the Avon Catchment". This would assist in the alignment of local government and ACC plans and the ACC link through the ROCs to provide this advice through the ROCs.

- The imperative to cooperate rather than compete was re-iterated by ROC members some noting "the risk to the ACC is that local governments can go it alone". A view was put that too much effort was already wasted by shires competing against each other.

ACC perspectives on partnerships in a changing institutional environment

Discussions at the ROC meetings between researchers and ROC members catalysed further discussions between the research team and ACC officers. Much of this discussion focused on the issues facing the ACC in operating under the new program arrangements of CfOC and its implications for ACC business into the future. The following is a summary of some of the more salient points from those discussions that have implications for partnership design.

ACC officers reported that their earlier expectations of a continuation of NHT3 'style' program and funding arrangements under the Australian Government were not realised. Instead, over the last twelve months a policy shift in program design towards a more competitive and prescriptive model, in terms of narrowed investment priorities, under CfOC has eventuated. In addition, the ACC officers were cognisant this shift has been accompanied by a bifurcation of state and federal government interests in funding regional NRM delivery, resulting in two sets of funding models and priorities set by each level of government. The major implication for regional bodies such as the ACC is that where previously local stakeholders were somewhat obliged to work through the ACC under a 'cooperative' model to access government funds, they could now apply directly to governments and thereby they may essentially compete with regional bodies for the same funds.

One ACC officer commented that these new "policy settings unwound the mandate for regional bodies". It was also believed that "federal politicians have weighed up the political costs of withdrawing support from the regions [as] small and short lived". A second implication for the ACC is the risk of significantly reduced operational and investment budgets to free-up program dollars under the competitive tendering component of the CfOC program, but further impacted by the relatively poor 'fit' of Australian government funding priorities under their business plan with major NRM issues in the Avon.

These two pressures, first a reduced financial capacity due to 'poor fit' with CfOC priorities; and second, the shift to a more competitive funding model intersects, creating something of a double bind for regional bodies such as the ACC. The reduced security in funding means regional bodies need to move from a previous gatekeeper role to adopt a more collaborative, co-investment model with other stakeholders (such as local governments). Paradoxically, the shift in national program logic towards a more competitive model actively works against this cooperation, effectively undermining a culture of cooperation.

ACC officers also believed that the asset based strategy adopted in the regional NRM plan had often placed the objectives and priorities of the ACC "at odds with those of the shires". It was mentioned that the ACC now expected competition from local governments as well as NGOs such as Greening Australia and WWF as alternate service providers to the region.

Several responses noted by ACC officers to this new business environment included:
- Cross-regional alliances have emerged or been proposed to negate competitive behaviour between regional bodies and to 'flush out the capability of different organisations';
- The need to secure an increased 'mandate to operate' from local stakeholders;
- A "fundamental shift from 'strategic' comprehensive planning to a business plan with clear funding priorities"; and

- The need to move from generic 'broad' collaborations to specific collaborations with communities of interest.

ACC officers also noted these responses have implications for specific funding priorities and partners:

- Reflections on 'sustainable agriculture' investment in the ARB, and neighbouring regions, suggest this investment provided significant on-farm benefit, but unclear public benefit. In the ARB working on sustainable agriculture requires management of a "disjointed asset of around 12, 000ha" that is production focused and diffuse, making reporting measureable progress against resource condition targets problematic.

- The ACC has had strong cooperative relationships and therefore investment with particular councils or ROCs historically. This was based, however, on support for the provision of one-on-one extension models of program delivery to landholders. These transaction costs under the new funding environment may not be justifiable unless a high value asset is being protected, particularly when considered in conjunction with the point above.

This appendix outlined some of the direct responses by the ROC forums to our preliminary analysis and also some related points of discussion with the ROCs and the ACC that arose in the course of, and reflecting on those discussions. These points assisted greatly in providing a stronger context and understanding of the opportunities to improve local-regional partnerships and engagement for NRM and development.

Appendix 5: Extract from 'Our Patch' project evaluation

In total, 16 of the 21 shire councils that were interviewed had participated in the Our Patch investment project. Interviewees indicated that there were a range of reasons why their respective shire councils had applied for Our Patch funding. While some wanted to rehabilitate gravel pits and revegetate road reserves, others wanted to preserve cultural heritage. For instance, one AROC and environs interviewee commented:

> [The reasons were] to assist with the reversal of land degradation and increase the amount of vegetation within the shire. I suppose that's it, in a nutshell. I mean they're the two most important factors I would have thought (R04).

Overall, interviewees indicated that Our Patch funding made it possible for shire councils to successfully achieve on ground outcomes. A relatively small number of interviewees also commented that their shire councils had participated in Our Patch to raise awareness about the conservation of environmental assets within the community. Furthermore, one interviewee from a WeROC shire council noted that it was only through discussions with the ACC that the interest in Our Patch was eventually developed:

> I suppose it was really through discussion with ACC staff that it brought the interest out and then it started from there (R20)

Interestingly, our analysis also showed that all shire councils that had participated in the Our Patch investment project would apply for this type of funding in the future. Most interviewees noted that there was an ongoing need for Our Patch funding in the region. It was frequently indicated that funding received from future Our Patch investment projects could be used for similar works in other places where priority remnants had been identified. Overall, interviewees were convinced about the effectiveness of the Our Patch project. As one NewROC interviewee stated:

> Yes, we would apply for it because … people have responded very well to the work that's been done. It provides more work avenues for the NRM officer and generally it's a way of making sure the locals, especially farmers, know that we are serious about NRM because we want them on board (R11).

This view was supported by a WeROC interviewee:

> Why? Well, because there are funds available, and the actual program wasn't too bureaucratic. It was a good process and we can see outcomes (R17).

A number of interviewees emphasised the urgent need for similar types of funding so that shire councils could undertake environmental works and implement on ground works. For instance, one WeROC interviewee commented:

> Can I be absolutely mercenary because we don't really care what funding program there is, okay? We don't care whether you call it the blue ring funding program or you call it natural heritage grant. We just think that funding for these types of projects need to occur. … Dollars to do environmental stuff is all we want (R10).

Only two interviewees stated that they would not apply for Our Patch funding in the future. Both of these interviewees were from shire councils that had not participated in the first round of Our Patch funding. Lack of capacity and lack of expertise were the two main reasons that were provided for this decision. As one AROC and environs interviewee noted:

> The only reason that we haven't applied is that we don't have the capacity to deliver. It's no reflection on the program or what it could be utilised for. It's just a reflection of priorities that I inherited and our just sheer lack of capacity to undertake these projects (R15).

Appendix 6: Project engagement record

Event	Location	Research team	Date
Inception briefing with ACC and scoping interviews with key informants,	Northam, Corrigin and York	Bruce Taylor, Nick Abel, Judith Harvey	11-14th February, 2008
Project Advisory Group Meeting # 1	Local Government House, Perth	Bruce Taylor, Nick Abel, Judith Harvey	11th February, 2008
NEWROC / WEROC presentation and briefing,	Koorda	Bruce Taylor, Judith Harvey	22nd April, 2008
RoeROC presentation and briefing	Kondinin	Bruce Taylor, Judith Harvey	24th April, 2008
EnviroPlanning Workshop, DIPE and ACC	Northam	Bruce Taylor, Ben Harman	14th May 2008
Interviews with Local Gov't representatives (21)	Shire offices throughout Avon region	Linda Vernon and team	July-September 2008
Project Advisory Group Meeting # 2: progress report and milestones	Teleconference	Bruce Taylor, Ben Harman	23rd September, 2008
SLUM / SeaROC presentation and options discussion	Beverley	Bruce Taylor	7th October, 2008
RoeROC presentation and options discussion	Kulin	Ben Harman	23rd October 2008
NewROC-WeROC presentation and options discussion	Southern Cross	Nick Abel, Rachel Williams	28th October, 2008
AROC presentation and options discussion	Northam	Nick Abel	13th November 2008

Appendix 7: Funding and program context

The ACC has in the past been funded through the National Action Plan for Salinity and Water Quality (NAPSWQ), the National Heritage Trust (NHT), and the WA Government. Allocations from the NHT and NAPSWQ were made to each of the 56 regional bodies once their regional catchment management strategies were approved. From 2005 to 2008 the ACC received and spent $30.65m (see Table 4). 8.1% on project management, 3.9% on other overheads.

Table 4. ACC Income and Expenditure 2005-08.

	Total $ x 1000	Annual mean $ x 1000	%
Direct project expenditure			
Landscape and vegetation management & rehabilitation	14026	4675	45.8
Integrated water management (waterways, groundwater, salinity)	8618	2873	28.1
Sustainable agriculture (pests, soils)	4128	1376	13.5
Indigenous NRM	204	68	0.7
Overheads			
Program and project management	2474	825	8.1
ACC board, CEO, executive support, and other overheads	1200	400	3.9
Total	30650	10217	100.0

Source: Peter Sullivan email 14/1/09

Regional bodies were the conduits through which funds were allocated to on-ground projects by individuals, Landcare and other groups, local governments and NGOs. This flow of funds through the regional bodies inevitably caused a measure of dependency of recipients on the regional bodies, and affected their relative power and influence. The priorities and funding of these two Commonwealth programs have been replaced by the new Caring for Our Country program. The implications of this change for the ACC are uncertain, but the level of secure funding was already decreased during 2008-09 to a guaranteed minimum for each regional body of 60% of the average annual allocation received under NHT and NAP - $6.13m for the ACC. A pool of additional discretionary funding totalling $10.8m/year is potentially available to regional bodies to facilitate the transition to the new funding arrangements.

The Business Plan for Caring for Our Country (2008) allocates **up to** $140.4 each year for the next four years to *Base Funding* among 56 regional bodies such as the ACC, an average of about $2.5m each. However, on page 8 the Business Plan states that this guaranteed funding must be aimed at *Targets* for 2009-10 identified in the Business Plan. The annual Targets are intended to contribute to these long term *Priority Areas:*

1. the National Reserve System;

2. Biodiversity and Natural Icons;

3. Coastal Environments and Critical Aquatic Habitats;

4. Sustainable Farm Practices;

5. Natural Resource Management in Northern and Remote Australia;

6. Community Skills, Knowledge and Engagement.

Targets in the Biodiversity and Natural Icons Priority Area should be addressed, according the Business Plan, within *Priority Regions.* These are not defined in the Business Plan. However, the Business Plan does map some under-represented bioregions (page 45) that fall within the Avon River Basin. Part of the 'priority areas' (sic) for reducing the risk of wind erosion through Sustainable Farm Practices also fall within the Avon River Basin.

A literal interpretation of the Business Plan is that the ACC would qualify for Base Funding only if it addresses Targets from the Biodiversity and Natural Icons (specifically the Southwest Biodiversity Hotspot identified in the Business Plan as an investment priority, particularly if Indigenous people or other community groups are involved), and the Sustainable Farm Practices Priority Areas, since its geographical location and natural endowment do not seem to qualify it for other Priority Areas. The ACC should also qualify for Base Funding if it addresses the Community Skills, Knowledge and Engagement Priority Area. This interpretation may be wrong. Clarification was sought from Caring for Our Country, and it was confirmed by email that "Regional bodies will continue to receive secure base-level funding under Caring for our Country. We expect all regional bodies will be in a position to address at least one priority area".

Apart from the Base Funding component, access to Caring for Our Country funding is competitive, within the limitations resulting from the Priority Areas and the natural endowments of the NRM regions. The Business Plan is unclear about the total amount of Caring for Our Country funding that the ACC can compete for against other organisations in 2009-10 (i.e. in addition to its Base Funding). It is apparent though, that the Priority Areas chosen will certainly disfavour the ACC in the competitive bids, and may also disfavour it in the Base Funding bids. We have noted above that a discretionary pool of $10.8m/year is potentially accessible by regional bodies that find the transition to the new funding arrangements difficult.

Caring for our Country does not invest in activities that fall under the Commonwealth's Water for the Future Plan, including projects designed to deliver water efficiencies and savings. Caring for Our Country will continue to invest in water quality provided it contributes to a Priority Area, which in our interpretation precludes the ACC from applying.

Landcare projects will be funded through Caring for Our Country under a specific budget allocation of about $38.2m/year across Australia, provided they contribute to the Priority Areas. The NRM Facilitator Network will continue to be funded where the facilitators contribute to the Priority Areas, so the ACC may be somewhat disadvantaged here too.

The Commonwealth and WA Governments are, or will be re-negotiating agreements over the contributions of the latter to NRM funding. Uncertainties about and reductions in Commonwealth NRM funding are compounded by those about State NRM funding. Of the $30.65m the ACC received 2005-2008, only 4.3% was from the WA Government, but a press release from the WA Department of Premier and Cabinet announced on 8th January "an injection of $6m to protect and care for the Western Australian environment", to be allocated as follows:

- $1.5m for the "ongoing operation" of the six WA regional bodies;
- $1m for the operation of the WA NRM office, the coordination of Aboriginal engagement in NRM, and a review of the NRM arrangements; and
- $3.5m for immediate high priority projects, such as salinity, weeds, or threatened species. Business cases are required for these projects.

It is unclear what period the $6m covers. Additional funding of up to $15m was also announced for addressing WA natural resource priorities in 2009. Again, release of funds depends on the submission of business cases. Assuming both amounts are to be spent in a year, an average allocation to each of the six WA regional bodies is $3.5m.

Our current understanding of the new financial circumstance facing the ACC is that:

- the average annual allocation from Caring for Our Country to regional bodies for Base Funding will be $2.5m. If the ACC receives this plus $3.5m from the State Government, it will be far short of its 2005-08 annual average funding of $10.2m. It may receive more or less than this from either or both State and Federal Governments;
- the ACC is likely to be constrained to spend the Caring for Our Country component of its allocation on Biodiversity and Natural Icons, Sustainable Farm Practices and the Community Skills, Knowledge and Engagement Priority Areas; and
- the same Priority Areas will limit the ability of the ACC, local governments, NGOs and other groups working in the ARB to secure additional funding through competitive Caring for Our Country bids.
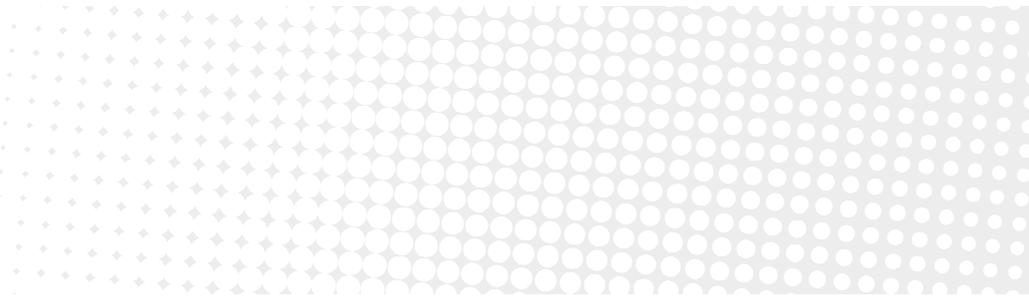
Your CSIRO

Australia is founding its future on science and innovation. Its national science agency, CSIRO, is a powerhouse of ideas, technologies and skills for building prosperity, growth, health and sustainability. It serves governments, industries, business and communities across the nation.