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Learning from cross-border mechanisms to support climate change adaptation in Australia
Final Report

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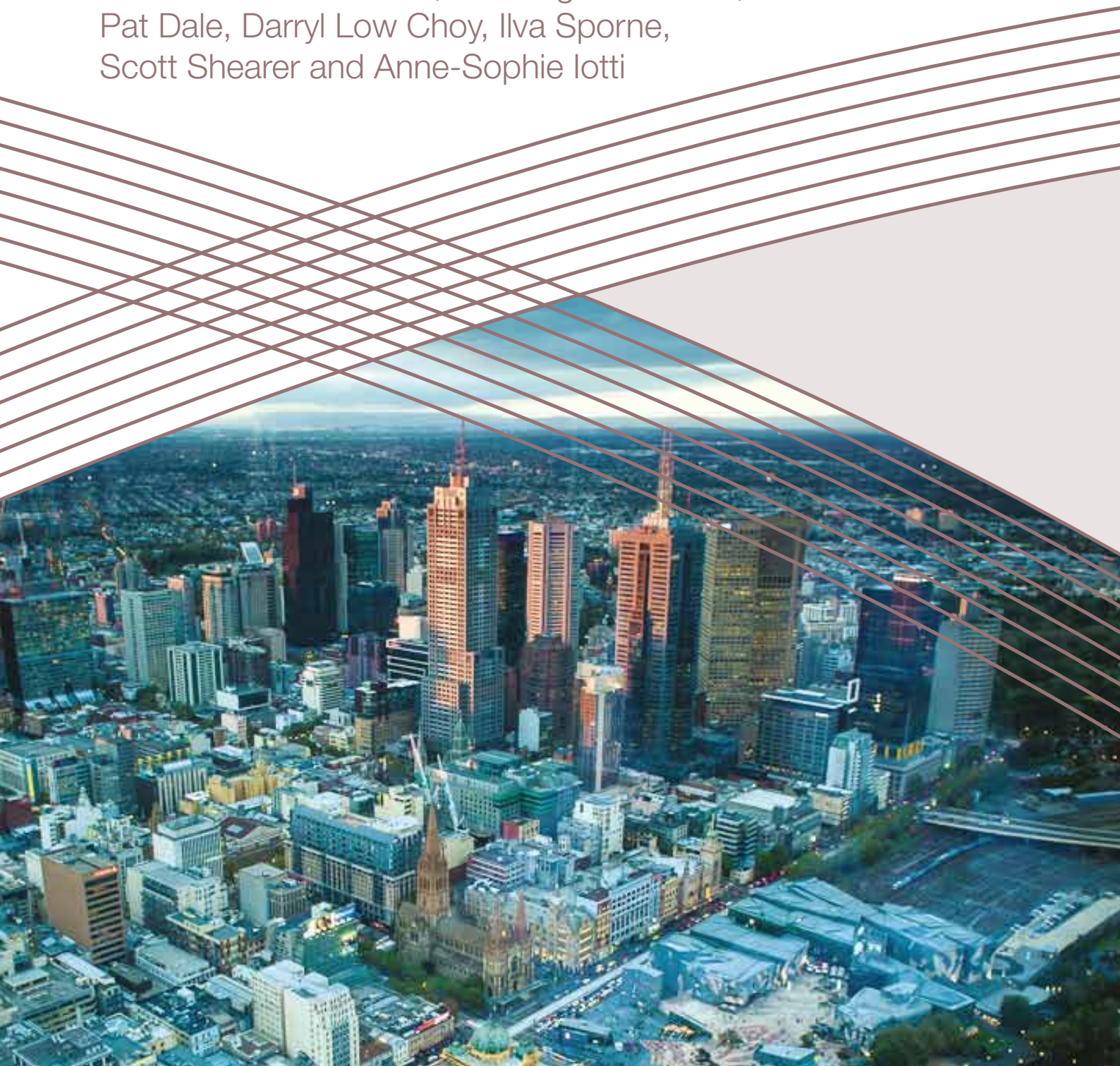
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ABSTRACT

The impacts of climate change do not adhere to conventional governance boundaries. Floods for example do not stop at the state border, nor are storm surges contained within local government jurisdictions. Whilst this may appear self-evident, this 'inconvenient institutional truth' poses considerable challenges to existing and deeply embedded governance frameworks. Despite growing recognition that implementing effective adaptation initiatives will require transcending artificially imposed bureaucratic and/or administrative boundaries, the cross-boundary implications of climate change adaptation have been largely ignored within the Australian context (partly as a result of the historical context and nature of Australian federalism). There are significant implications for the evolving national role in climate change adaptation, and the relationship to cross-border state issues that this project identifies and highlights. This project focuses on learning from existing cross-border regulatory mechanisms with a view to strengthening and improving cross-border climate change adaptation practices in Australia.

EXECUTIVE SUMMARY

This research is funded by the *National Climate Change Adaptation Research Facility (NCCARF) Adaptation Research Grants Program (ARGP) 2011-2013.* The focus is what can be learnt from existing cross-border regulatory mechanisms with a view to strengthening and improving cross-border climate change adaptation practices in Australia. There is currently little understanding of the range of cross-border mechanisms and regulatory innovations, the efficacy of how they work, nor the key lessons that could be gleaned and adapted from existing initiatives for the purposes of climate change adaptation.

The emphasis of this three-stage project is identifying and collating the lessons learnt from existing Australian examples of regulatory reform models, authorities and mechanisms that have emerged to address cross-border issues at the national, state and local level. Using an institutional learning framework, the research offers key insights into the evolution, challenges and potentialities of cross-border governance for Australian-based climate change adaptation.

The cross-border governance problematique focuses primarily around two key agendas: [i] the novel re-articulations of power that cross-border innovations pose, involving diverse groups of actors and networks; and [ii] the benefits and dis-benefits of informal collaborative transboundary arrangements as compared to more formalised regulatory state mechanisms. To this end, conceptual *and* practical understandings of cross-border governance and regulation can be seen to converge in their focus on the political and institutional processes of re-territorialisation.

A number of key findings have emerged from the research as a means of better supporting and promoting climate change adaptation in Australia as a cross-border agenda. These include the following:

➢ Climate change impacts do not adhere to set administrative boundaries yet adaptation as a cross-border issue is not well addressed within the context of the 3-tier government system that characterises Australian federalism.

➢ There are significant challenges impeding cross-border collaboration in Australia (legal, institutional, cultural, historical) particularly at the state level.

➢ There are benefits *and* disbenefits of informal collaborative transboundary arrangements as compared to more formalised regulatory state mechanisms. The majority of cross-border arrangements in Australia at present do not have statutory effect.

➢ Time critical issues, such as emergency response, point towards a top-down response that cuts across all institutional and bureaucratic barriers.

➢ The cross-border landscape in Australia is shifting however with: [i] *new national legislation* (i.e. Murray Darling Basin); [ii] *new roles* (i.e. NSW cross-border commissioner); and [iii] *new regional organisations* (i.e. Regional Development Australia) – these initiatives can be used to implement climate change adaptation activities as part of a broader mainstreaming adaptation agenda.

➢ The benefits of greater cross-border collaboration in key areas related to climate change adaptation such as emergency management, natural resource management and urban planning and development is significant in terms of *equity*

and fairness (distributive, procedural and participatory) and *efficiency* (resources, communication, duplication).

Key findings to emerge that were novel and/or unanticipated during the project include.

➢ Significant adaptation issues are regional and cross-border in scale (not local) as typically reflected in the climate change adaptation literature.

➢ There is a growing national role in cross-border issues – particularly related to funding, legitimacy and arbitration across state borders in an era of encroaching 'competitive federalism'.

➢ Local-level cross-border arrangements often exist and flourish 'under the radar' based largely on informal networks around areas of identified need.

➢ Cross-border arrangements comprise *communities of interest* (i.e. climate change adaptation) and *communities of practice* (regional harmonisation) – these need to be better understood in context.

The complexity of cross-border governance requires the coordination of policies vertically as well as horizontally. Key climate change related issues such as water security demand new ways of thinking across-borders, institutions and regulatory regimes. The creation of cross-border regions through regulatory reform strategies and institutional practices involves, according to Gualini (2003, p. 46), "the loosening of jurisdictional boundaries and scales within a change in relationships between supranational, national and sub-national authorities".

As Forster (2011) notes previous governance structures may no longer be viable in the face of increased pressures due to the impacts of climate change. The governance of climate change adaptation or key resources such as water thus offers "a useful 'learning laboratory' for developing understandings and practices necessary for embarking on new governance trajectories" (Tisdell, 2009, p 3972).

To this end the mere existence of multiple levels of government and/or governance is not in and of itself enough. Church and Reid (1999) have emphasized the need for cross-border governance to focus on the nature and integrity of co-operation; the nature of power relationships among actors; and the recognition of organisational diversity. Key to this dialectic is the strategic interplay of a number of factors including: access to resources and funding; policy exchange; political lobbying; cost-benefit sharing and positioning of intergovernmental relations.

Regardless of the style and type of governance approach and/or mechanism deployed, cross-border regions are best understood as ever-emergent territorial and functional arrangements, rather than discrete stand alone initiatives equipped with self-governing capabilities. Within the Australian context the capacity to support and promote climate change adaptation through cross-border mechanisms at the regional scale is still an evolving agenda within the current governance framework.

We have not given up our expectations for what good governance can achieve...

(Pusey, 2009, p.29)

There is increasing awareness that we have to understand the nature of borders and how they are changing in order to appreciate the need and the opportunities for cooperation across them... how networks of trust can be established, and how the democratic governance of cooperation can be realised...

(Anderson et al., 2003, p.vii)

1. OBJECTIVES OF THE RESEARCH

1.1 Research rationale

The impacts of climate change do not adhere to conventional governance boundaries. Floods for example do not stop at the state border, nor are storm surges contained within local government jurisdictions. Whilst this may appear self-evident, this 'inconvenient institutional truth' poses considerable challenges to existing and deeply embedded governance frameworks. Despite growing recognition that implementing effective adaptation initiatives will require transcending artificially imposed bureaucratic and/or administrative boundaries, the cross-boundary implications of climate change adaptation have largely been ignored within the Australian context.

The three-stage project outlined in this report focuses on learning from existing cross-border regulatory mechanisms with a view to strengthening and improving cross-border climate change adaptation practices in Australia. Cross-border governance frameworks have already been applied to key areas related to water security, ecosystem significance and functioning, biodiversity and nature, disaster management, human health, economic transition, urban infrastructure, planning and development, and trade and energy supplies. These arrangements provide opportunities to examine the challenges of climate change adaptation, especially their cross-sectoral, multi scalar nature. Yet there is currently little understanding of the range of cross-border mechanisms and regulatory innovations, the efficacy of how they work, nor the key lessons that could be gleaned and adapted from existing initiatives for the purposes of climate change adaptation within the Australian context.

The research rationale is not to try to reinvent the 'institutional wheel' (cf. Dovers, 2009, Dovers and Hezri, 2010), but rather to build from current practice by identifying and learning from innovative examples that already exist in other related areas – and to apply the insights in order to support and promote cross-border climate change adaptation regulatory instruments, reform, planning and practice. By making explicit the links between existing cross-border regulatory practices and climate change adaptation, the project makes a contribution to better understanding the potential for best practice in adaptation within the Australian context, and beyond.

1.2 Research aim

The overarching aim of the project is to identify and collate the lessons learnt from existing examples of regulatory reform models, authorities and mechanisms that have emerged to address cross-border issues at the national, state and local government level in Australia – and critically consider the implications of this for supporting and promoting climate change adaptation in Australia. The sub aims for the project are to:

- Collate and critically examine diverse examples of innovative cross-border regulatory initiatives, particularly focused on those within Australia at the state level (i.e. the range, type, location);
- Identify and distil the key challenges/opportunities for cross-border regulatory reform within the context of climate change adaptation; and
- Facilitate the synthesis and dissemination of key lessons learnt from diverse institutional practices that support or impede a cross-border regulatory; approach to climate change adaptation in Australia – and at what scale.

To this end the project responds directly to Research Priority 12 of the Social, Economic and Institutional Dimensions National Adaptation Research Plan produced by the *National Climate Change Adaptation Research Facility* (NCCARF) which focuses on 'understanding how laws and legal institutions, including regulatory instruments, support or impede adaptation planning and practice, and identifying reforms needed to reduce obstacles'.

1.3   Research approach

This project adopts an *institutional learning approach* to the challenges and opportunities of existing cross-border regulation and reform, and the application for climate change adaptation planning and practice. One of the strengths of the new institutional approach is that it seeks to transcend the conventional dichotomies such as structure/agency, micro/macro, policy/practice and process/content by casting a wider methodological and empirical net. New institutionalism thus operates as an empirical lens for understanding and learning from complex questions related to why particular governance agendas emerge, how they form, become mobilised and translated into action, including the role of key actors and collaborative networks.

Within the Australian context (Connor and Dovers, 2004) have developed a set of principles specifically oriented towards learning about institutional practices. To this end they identify four different types of institutional learning frameworks:

1. *Instrumental learning* – focuses on a better understanding of the design and use of particular policy instruments as a means of affecting sustainable outcomes;
2. *Government learning* – draws attention to organisational dynamics, structures and processes of departmental re-structuring as opposed to an analysis of the instruments themselves;
3. *Social learning* – encompasses the policy problem itself, the scope of the policy or policy goals as well as the wider policy network that participates in sustaining the prevailing social construction of the problem; and
4. *Political learning* – builds on the notion of advocacy coalitions whereby political actors work together to construct more effective strategies for getting their concerns onto the policy agenda (Connor and Dovers, 2004).

All four types of learning emphasise the need for increased understanding that goes beyond mere mimicry from one policy situation to another. Connor and Dovers (2004) further identify two key conceptual and practical principles designed to progress institutional change for sustainability. First is *problem re-framing* which focuses on the institutional accommodation of a sustainability discourse, normative change in group-held values and legal change (including international law and policy as drivers). The second is *(re)-organising government* which involves the integration of policy and practice, subsidiarity of decision-making, and reiteration of processes as part of a long-term adaptive institutional learning agenda for sustainability.

These principles were developed into an institutional learning framework that directs the emphasis of the research towards how a particular approach or strategy (such as cross-border collaboration) works to support and promote climate change adaptation/sustainability within particular contexts (see Steele, 2011). Specifically, the framework offers a structured approach for examining and learning from the way particular strategic agendas (i.e., cross-border mechanisms and regulatory reform initiatives) are brought to bear as a means of engendering sustainability within the context of climate change. The application of this framework to cross-border reform initiatives is outlined in Table 1 below.

Table 1: Institutional learning framework: application to cross-border initiatives

Institutional levels of analysis	Indicative guiding questions
Evolution (Problem re-framing)	How are understandings about cross-border governance re-framed through regulatory reform strategies and institutional practices?
	What type of regulatory reform strategies and institutional practices emerge in the governance of cross-border regions?
Challenges (Governance-organisation)	How do regulatory reform strategies and institutional practices re-organise the governance of cross-border regions?
	What are the key challenges for the re-organisation of cross-border governance in practice?
Potentialities (Transformative change/learning)	What and how can we learn about cross-border strategies and practices to support and promote climate change adaptation?
	What are the opportunities for transformative change and learning from existing cross-border governance initiatives and mechanisms within the context of climate change?

The first level of analysis focuses on the institutional *evolution* of a particular strategy through problem reframing. Indicative principles include the institutional accommodation of new values and discourses through the strategy, changes to institutional practices, processes and understandings, as well as the possibility of legal change. By contrast, the second level of analysis focuses on the institutional *challenges* associated with the governance re-organisation necessary to accommodate the new strategy. A key guiding question for this level focuses on how a strategy (i.e., cross-border collaboration) works to (re)shape governance capacity around the agenda of sustainability/climate change. Indicative principles include institutional efforts to integrate policy and practice, and an emphasis on the principles of subsidiarity.

Finally, the third level of the strategy-making for sustainability framework turns to the *potentialities* of a strategy (i.e., cross-border collaboration). The strategic function is the possibility for transformational learning and/or change. In particular the guiding question focuses on unpacking what and how we can learn about the activities and enterprise of cross-border strategy-making. Indicative principles include but are not limited to, the adoption of an adaptive learning process, recognition of institutional mess and disjuncture, as well as the need for critically reflexive practice leading to institutional praxis.

The *institutional learning framework* thus offers a pragmatic way of bringing the activities of strategy-making – the practices, discourses and initiatives - into the spotlight. It is useful, as Healey (2007, p.21) observes, to separate out a series of analytical levels through which governance activity is performed. To this end, each level is able to form a discrete institutional research focus in and of itself but the three levels together constitutes the institutional learning framework used to underpin and guide this project focused on how to support and promote climate change adaptation as a cross-border agenda.

1.4   Research significance

Despite growing recognition that implementing effective adaptation initiatives will require transcending artificially imposed bureaucratic and/or administrative boundaries; there has been little attention to the cross-border dimensions of climate change adaptation or to understanding the type and role of cross-border regulatory mechanisms within the Australian federal context. As Brown and Bellamy (2007, p.3) highlight in their assessment of cross-border institutional and regulatory processes in Australia, "far from simple questions of local administration, the effectiveness, legitimacy and efficiency of new regional approaches are big ticket issues on the contemporary political landscape".

Brown and Bruerton (2009) focus specifically on the issues of cross-border governance with an emphasis on issues of equity and coordination at the community scale. Their research examined the governance arrangements of the three most populous Australian cross-border communities: 1) Gold Coast (Qld)–Tweed Shire (NSW); 2) Albury (NSW)–Wodonga (Vic.); and 3) Canberra (ACT)–Queanbeyan (NSW). The key questions raised by Brown and Bruerton (2009) include:

- Are there significant problems of cross-border coordination affecting the equity and effectiveness of government service delivery and regulation in particular communities in Australia? and
- To what extent, and how, are such problems being addressed and overcome?

They concluded that many of the mechanisms that currently exist in Australia at the cross-border level are informal in nature, and that as a result, "greater institutional support for cross-border collaboration is desirable as a means of placing this collaboration on a more permanent and sustainable basis" (2009, p. 65).

The research significance of this project lies in better understanding the cross-border regulatory implications for climate change adaptation within an evolving multi-scalar Australian governance framework. This governance agenda includes diverse institutional and political milieu of (at times competing) interests, initiatives, actors, resources and issues at the cross-border level. Whilst there is an emergent international literature in the climate change arena around *transnational* cross-border governance (see Andonova et al., 2009, Bohman, 2007, Bulkeley, 2005), there has been little research within the Australian context that has sought to make clear the links between cross-border governance and regulatory practices at the sub-national level and the implications for climate change adaptation.

A focus on how to better integrate strategic co-ordination of climate change adaptation in Australia - horizontally (across different sectors) and vertically (between different hierarchical levels) – is crucial. But how to engage with the democratic needs of shared resources and a differentiated public at the cross-border scale within the context of federalism is the Australian governance challenge and opportunity. This project directly contributes to this with reference to the three key climate adaptation-related areas of emergency management, natural resource management and urban planning and development.

2. RESEARCH ACTIVITIES AND METHODS

The research activities and methods used in this project are embedded within a three-staged process underpinned by a comprehensive literature review. This involves two separate empirical stages encompassing: 1) a desk-top review and case analysis of four different cross-border arrangements; and 2) an in-depth case-study of the Gold Coast-Tweed. Stage 3 culminates in the analysis and synthesis of the key learnings across Stages 1 and 2 as outlined in this report. A basic schema of the three-stage research design for the project is outlined below in Figure 1.

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PROJECT LITERATURE REVIEW

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Figure 1: Simple schemata of the 3-stage design of the project

In *Stage 1* the empirical net was cast wide to collect and collate a variety of cross-border initiatives within Australia. This was undertaken primarily through a desktop analysis of key literature and existing Australian cases including: (i) the Murray Darling Basin Agreement; (ii) the Australian Alps Cooperative Management Agreement; (iii) the Australian Capital Territory (ACT) and New South Wales (NSW) Regional Collaboration; and (iv) the Cross-border [disaster management] Sub-Plan 2010 between the Gold Coast City, Queensland (Qld) and Tweed Shire Councils, NSW. This stage was completed between October 2011 and March 2012.

In *Stage 2*, the project deployed a contextualised case-study focused on the Gold Coast (Qld)/Tweed (NSW) cross-border region. The use of interviews and workshops provided the basis of a participatory research framework focused on learning from cross-border regulatory reform mechanisms in practice. This involved participants from local and state government, as well as community groups and the private sector. The timeline for this stage was between April 2012 and October 2012.

Stage 3 combined the learning insights from both empirical phases (1. desk-top review, and 2. case-study research) and the literature review. These findings are collated in this final project report and will be disseminated through the project website and publications.

2.1 Project literature review

The review of the literature was undertaken to inform the research and build the conceptual agenda. This was undertaken using publicly available books, journal articles, reports, media, websites, laws and regulations. Specifically the literature review entailed: scoping and contextualising key issues and themes around cross-border governance and regulation, and application to climate change adaptation, within Australia; establishing the theoretical and conceptual context for understanding cross-border regulatory practices, opportunities and challenges; and developing and refining the key research themes and questions that will be used in the subsequent stages of the project. Across the breadth of the project this involved a focus on the following key areas:

- *Climate change adaptation in Australia* **–** How does adaptation decision-making occur and at what scale? In what ways is it a cross-border agenda?

- *Multilevel governance in Australia* **–** Understanding the federal system and the role of the state. How does this impact on a cross-border issue like climate change adaptation?

- *Cross-border mechanisms at the state level in Australia* – Why and how do they develop in key areas related to climate change adaptation? What regulatory tools are employed? What type of reform agenda is supported? Who are the key actors/emergent networks?

- *The cross-border agenda more broadly* - What are the characteristics of cross-border governance arrangements? What are the key mechanisms? How does the EU function as an iconic cross-border agenda and initiatives such as the Water Framework Directive? What is the application of this literature to climate change adaptation and the Australian context?

The literature review involved the generation of a number of thematic Endnote libraries and an annotated bibliography focused on international cross-border governance and selected case examples highlighted in the literature. This included an extensive review of the relevant academic literature (i.e. journals and books) as well as grey literature in the form of reports, newspapers and online material.

2.2 Stage 1 – Selected desk-top case review

Stage 1 involved the selection, review and analysis of four strategic cases within the Australian cross-border regulatory context. Within the context of the *Institutional Learning Framework*, four cases at different scales were selected to maximise the range and type of Australian cross-border institutional arrangements at the cross-border scales (see Figure 2 below).
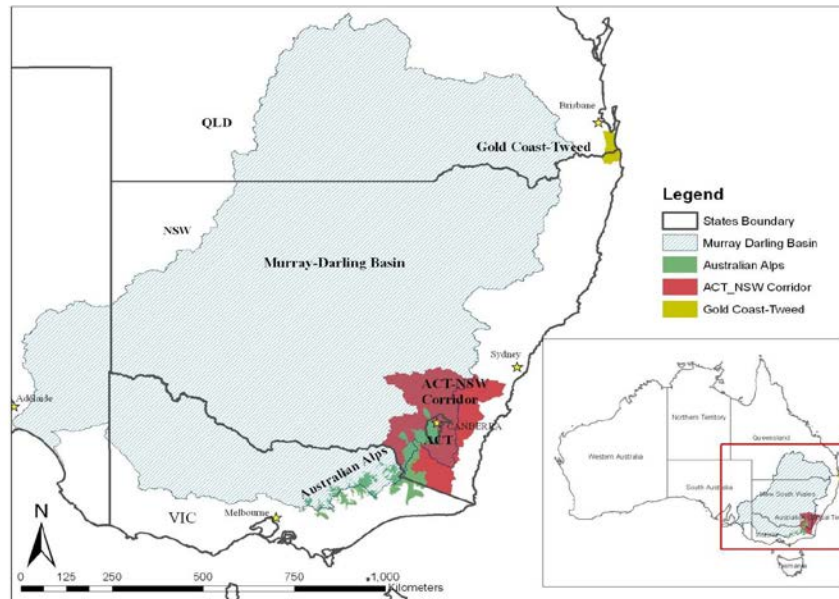
Figure 2: Location map of the four case studies

As a research method, Flyvberg (2001) recommends researchers select *critical* cases which can be examined to enhance the quality of the research, and that it must be a case of something – be it individual, group, organisation, community, policy or process – that requires a deeper examination or insight. The four cases selected include: [i] the *Murray Darling Basin Agreement*; [ii] the *Australian Alps Cooperative Management Agreement*; [iii] the *Australian Capital Territory (ACT) and New South Wales (NSW) Regional Collaboration*; and [iv]the *Cross-border [disaster management] Sub-Plan* 2010 between the Gold Coast City, Queensland (Qld) and Tweed Shire Councils, NSW.

Collectively these cases offer a rich variety of examples from the local to national as well as voluntary to regulatory across a range of adaptation key themes such as emergency management, urban planning, natural resource management and nature conservation and biodiversity. The four cases were selected because they offered different characteristics in terms of institutional scale, thematic scope, level of formality and socio-spatial complexity. Table 2 below summarises the key characteristics for each of the four cases.

Table 2: Australian cross-border case selection for Stage 1

Case	Governance level	Thematic area	Application to climate change adaptation
Murray-Darling Basin Agreement	National	Water security	Yes
Australian Alps Cooperative Management Agreement	State	Conservation, fire and biodiversity management	Yes
Cross-border sub-regional strategy ACT and NSW	State	Urban growth and planning	Yes
Cross-border disaster management sub-plan Gold Coast City and Tweed Shire	Local	Disaster and emergency management	Yes

These cases are all significant and chosen for this stage of the research because they encompass the following four characteristics: [i] within Australia they are regional cross-border arrangements that cut across local and state borders; [ii] they each have a history of collaborative stakeholder engagement and the development of cross-border institutional arrangements; [iii] they operate at different scales and levels of formality; and [iv] they all encompass identified areas of significance and action in terms of climate change adaptation.

The emphasis for the Stage 1 cases was the institutional and regulatory arrangements themselves. By contrast the Stage 2 case-study context of the Gold-Coast Tweed focused on the cross-border region and the implications of this for institutional and regulatory processes and reform-led change. The Stage 2 case-study involved two key methods: 1) a one day stakeholder workshop; and 2) a suite of semi-structured interviews focused primarily on the Tweed/Gold Coast local government areas.

2.3   Stage 2 – Gold Coast/Tweed case-study

Stage 2 focuses on the quality and depth of the single case – the Gold Coast (Qld)/ Tweed (NSW)/ cross-border region (see Figure 3). A case study is useful in illustrating and understanding complex issues (Gilgun, 1994). Considering the complexities associated with cross-border governance, studying a single case provides a greater understanding of the opportunities and challenges of cross-border dynamics within context. As indicated in the work by Feagin et al. (1991) the single case study allows for the grounding of observations and concepts about institutional action and structures in natural settings situated at close hand.
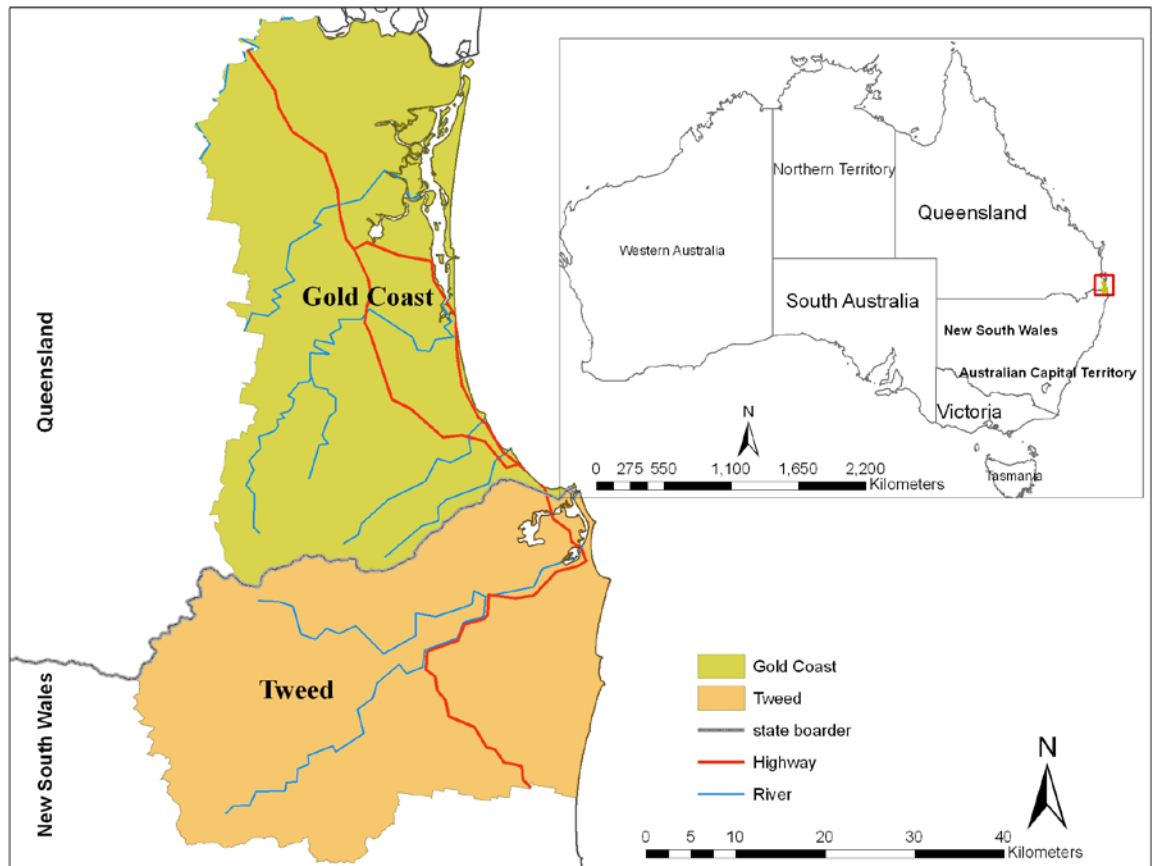
Figure 3: The Gold Coast/Tweed cross-border region

The Gold Coast and Tweed Local Government Areas are in one of the fasted growing regions in Australia and straddles the Queensland and New South Wales border (Department of Climate Change, 2009, Gleeson and Steele, 2010). Urban development and land use changes associated with rapid population growth will exacerbate the effects of climate change in a region that has also been described as a 'biodiversity hotspot' (Commonwealth of Australia, 2007).

According to the Intergovernmental Panel on Climate Change (IPCC) the cross-border region is one of the six regions in Australia most vulnerable to the effects of climate change. A simulated sea-level rise inundation gives some indication of the scale of one of the impacts of climate change in the urban cross-border region of Tweed Heads on located on the Queensland/New South Wales state border (see Figure 4). The region thus offers a 'critical' case of existing cross-border collaboration with application for climate informing change adaptation.

Figure 4: Images of Tweed Heads in 2009 and with simulated inundation from sea-level rise of 1.1 metres and a 1 in 100 storm tide © CNES 2009/imagery supplied courtesy of SPOT Imaging Services and Geospatial Intelligence PTY LTD

2.3.1 One-Day Stakeholder workshop

The key objective of the one-day workshop was to draw on actual cross-border experience in the Gold Coast-Tweed region in key climate change adaptation related areas such as natural resource management, disaster management, and urban planning. Part of the broader context for the workshop was that despite a range of existing cross-border arrangements – including the recent appointment in NSW of the first cross-border commissioner – there is currently little understanding of the different types of cross-border agreements and mechanisms in the area. To this end the workshop attendees considered topics such as: the key cross-border issues; the challenges, barriers and opportunities offered by different cross-border agreements at the state/regional/local scale; and institutional models for cross-border collaboration in the Gold Coast-Tweed.

Twenty-five people attended the one-day stakeholder workshop including representatives from: the Tweed and Gold Coast local governments; Queensland departments of Primary Industries and Fisheries, Environment and Resource Management, Community Services and the NSW Department of Premiers and Cabinet, Office of Environment and Heritage, the Rural Fire Service and State Emergency Service. NRM bodies, Regional Development Australia and local community environment groups were also in attendance[1]. A summary of the participant is outlined below in Table 3.

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[1] Due to a change in government a number of these departments have changed names since the workshop was conducted

Table 3: Workshop participant overview

Data Collection Method	Stakeholders	NSW	QLD
Workshop	Local Government	4	2
	State Government	8	6
	NGOs	3	2

The identification of potential participants related to the following criteria and included those who: 1) worked in local government or in State government with responsibilities focussed within the case study region; OR 2) worked within a regional organisation or represent a community interest group operational within the case study region; AND actively involved within natural resource management, urban planning, climate change policy development, or emergency management sectors.

The workshop was divided into three sessions (see Appendix A for a detailed program). The first session focused on identifying the challenges / barriers and opportunities / benefits that people have experienced or observed from existing cross-border arrangements (across State borders). Each person was given three post-it notes and asked to write down the three most pressing challenges that they were aware of or have encountered whilst initiating, developing or implementing cross-border collaborations. Participants individually presented 'their challenge' to the group and stuck the post-it on the wall (see Figure 5).
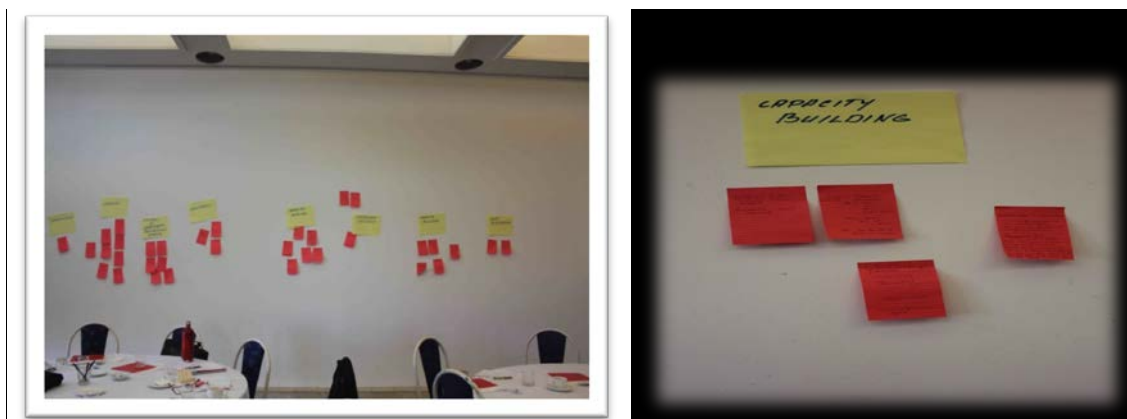
Figure 5: Session 1 cross-border workshop activity – Post it note brainstorm

In the situation where similar challenges identified on post-its and stuck on the wall, the facilitators organised them into groups or themes. The process was repeated for *Opportunities / Benefits* in which participants were asked to write down two key benefits or opportunities that they were aware of or had experienced resulting from existing cross-border collaboration. The second session was a plenary which included presentations from the research team discussing the findings from the first stage of the research project as well as external presenters invited to brief workshop participants on existing cross-border arrangements in the Gold Coast-Tweed region. These presentations were used as prompts for wider group discussion about different cross-border governance models and the application to climate change adaption in particular thematic areas. In particular the emphasis was on the relationship between the different issues and themes were highlighted on a whiteboard (see Figure 6).
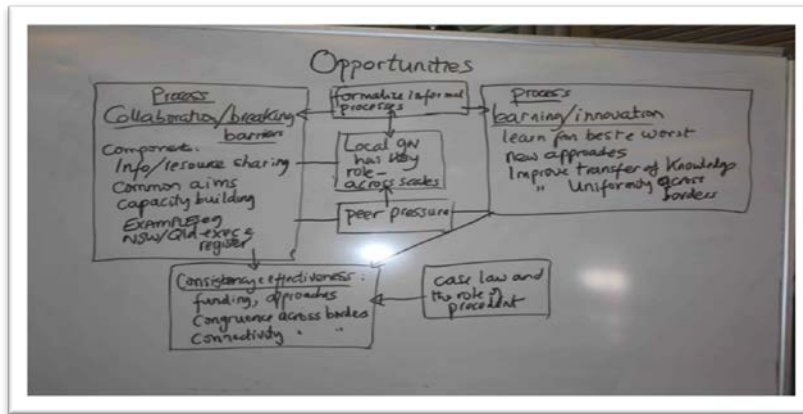
Figure 6: Session 2 cross-border workshop activity – Whiteboard group brainstorm

The third session focused on developing different models for cross-border collaboration. The participants were grouped into the three themes relevant to their field of employment: natural resource management, emergency management and urban planning and asked to consider a local cross-border issue of national significance. In groups participants were then asked to devise a 'cross-border collaborative structure' to address the issue of concern with an emphasis on the roles and responsibilities of each of the various actors / stakeholders that need to come together to progress a cross-border issue of national importance.

- Indicative guiding questions for the session included:
- Who should facilitate and enable the collaboration and the arrangement that is developed?
- Which stakeholders should participate in the collaboration?
- Do they have equal standing?
- Who should fund the development of the arrangement and any activities identified as urgent by the collaboration?
- Can the arrangement be informal (e.g. MoU's) or does it need to be formal (e.g.: regulatory)?
- Has the arrangement been developed via a top-down or bottom-up policy development process? And can this arrangement be applied to climate change adaptation?

Each group was then asked to map their response on butchers' paper and this was then presented back to the wider group for discussion and reflection. Following the workshop a summary was circulated to participants for review and comment.

2.3.2 Semi-structured interviews

To gain a greater understanding of the cross-border challenges, arrangements and opportunities in the Tweed / Gold Coast a series of semi structured interviews using open ended questions were conducted (Mason, 2002). The interview objectives were two-fold: [i] to drill down into the details of existing cross-border arrangements in the case study region; [ii] to elicit an understanding of the complexities of cross-border arrangements across scales (from national to local); and [iii] to investigate how cross-border arrangements could promote or support climate change adaptation in the Gold Coast/Tweed.

Twenty-nine semi-structured interviews were conducted between May-July 2012. The interviews were undertaken face to face or over the telephone. Interviewees were purposely selected to include practitioners from the Tweed Shire and Gold Coast City Councils, from regional bodies operating in the case study region, local Councillors and Members of Parliament, and not-for profit groups. Table 4 displays the range of interviewees who participated in the research.

Table 4: Semi-structured interview participant overview

Data collection methods	Stakeholders	NSW	QLD
Interviews	Local Government	6	5
	State Government	5	6
	NGOs	1	0

The flexibility of semi structured interviews allows for the interviews to be structured in line with the overall research approach – the learning framework - whilst still allowing for the exploration of unexpected themes (Auerbach and Silverstein, 2003). The relatively unexplored terrain of cross-border governance arrangements in relation to climate change adaptation meant that unexpected themes were expected to arise during the course of the interview process. Indicative interview questions are outlined in Table 5 below.

Table 5: Stage 2 Indicative Interview questions (semi-structured)

1. *Cross-border involvement/arrangements*
   - In what ways are you involved (or have been involved) in cross-border issues and/or institutional arrangements? What is the focus of the cross-border arrangements?
   - How have these cross-border arrangements evolved? Are they formal/ informal? Were you part of this? In what ways?
   - Is it possible to identify the different actors and organisations involved and identify them as either a lead organisation (driver) or secondary actors in the cross-border arrangements; formal and informal?
   - Do you believe these cross-border arrangements are/will be effective? Why? Why not? Are they still evolving?

2. *Cross-border challenges and opportunities*
   - What are the main *challenges* that you are aware of in regard to developing and implementing cross-border arrangements?
   - What are the main *barrier*s that exist with regard to developing and implementing cross-border arrangements? How can these be overcome?
   - What are some of the *opportunities or benefits* arising from cross-border arrangements? How can these be achieved? Where should the funding come from to implement these strategies?

3. *Cross-border reform*
   - What do you see as opportunities or triggers for cross-border reform (e.g. issues that facilitate/encourage the development and implementation of cross-border agreements)? Please provide examples. Should this be a voluntary or regulatory agenda in your opinion? What are the pros and cons for each?

5. *Climate change adaptation as a cross-border agenda*
   - Who do you think should have the responsibility for developing and implementing *climate change adaptation* in your region?
   - In your opinion, is there potentially a climate change application from existing cross-border agreements? Why/why not?
   - How could cross-border arrangements work to better support and promote climate change adaptation?

The emphasis for this research was on using the interviews to gain greater insight into the different perspectives that arise from personal stories or accounts. A further aim of the interviews was to purposefully engage stakeholders with an interest in the Gold Coast/Tweed in reflexive thinking around the activities and mechanisms of existing cross-border arrangements. The semi-structured approach provided a framework and guiding direction for the interviews, whilst still allowing participants the space to shape the interview process by taking the interview in new or hitherto unforeseen directions (Patton, 1990). On average, interviews lasted between 30 – 60 minutes, were recorded and transcribed verbatim. The transcripts were then imported into Nvivo 9 (QSR) software. The software helps to systematically organise the data according to the previously identified and/or emergent research questions and themes that arise from the data.

2.4   Data analysis

Across the two key stages was analysed with reference to the guiding questions outlined in the Learning Framework. In particular four key strategies were used to organise the data: 1) chronological; 2) thematic; 3) relational; and 4) discursive (see Figure 7 below).
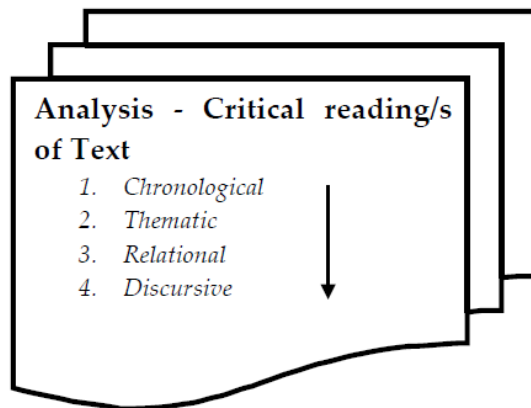
Figure 7: Levels of analysis – critical reading/s of text

The emphasis of the first stage of analysis is on building a temporal sense of the sequence of events surrounding the mobilisation of activities and enterprise around cross-border practices and mechanisms in each of the cases. The result is a *chronological* overview in which the key events or documents are identified and ordered. The focus is the historical evolution of particular cross-border initiatives in context. By contrast a different reading of the cases focuses on the *thematic* dimensions of the text. Here the emphasis is on main ideas or topics that emerged and were repeated and reinforced throughout the relevant literature. The third level embedded within the institutional framework focuses on the *relational* dimensions emerging from the literature as applied to each case. This moves the analysis beyond the chronological and thematic analysis towards a deeper understanding of the interrelated relationships between the key actors and agendas involved. The final critical reading of the case literature is a *discursive* or *discourse* approach to analysis focused on the way in which particular issues or problems are constructed and framed as particular cross-border institutional and regulatory arrangements within the Australian context (see (see Hajer, 1995).

2.5 Ethics

This project was approved by the Griffith University Human Ethics Research Committee for Ethical clearance to undertake the workshop and interview components of the research project from 2/04/12 to 21/12/12, Reference Number ENV/15/12/HREC. An informed consent process complying with Griffith University ethical requirements was used in which participants were required to sign a written consent form. All participants were also given an information sheet prior to providing their informed consent (see Appendix B). The consent instrument included an agreement to be audio-recorded and the capacity to voluntarily withdraw from the research at any stage. The outputs of the research have undergone internal peer review by senior mentors at the professorial level, and a summary of findings circulated to participants for review and comment. Specific outputs from the project in the form of conference papers and journal articles have been subject to external peer review.

3. RESULTS AND OUTPUTS

Cross-border governance mechanisms exist and operate in a variety of ways to address environmental planning and management issues (see Albrecht, 2010, Davoudi, 2009, Van Assche et al., 2011). In key areas related to climate change adaptation such as water security and supply, ecosystem significance and functioning, biodiversity and conservation, and pollution and disaster management, cross-border mechanisms involve a diverse range of institutional actors, networks and political arenas. Located somewhere between international voluntary agreements, nation-state constitutional obligations and local government resources and directives, cross-border regions navigate across diverse spatial, biophysical, cultural, linguistic, and politico-administrative lines.

The project results and associated outputs focus on developing a better understanding of cross-border institutional regulatory mechanisms within the Australian context and their application to climate change adaptation in three interlinked ways: 1) by building a conceptual framework through key related literature; 2) through the review of selected Australian cross-border cases that cross state-based boundary lines in climate-related thematic areas; and 3) by better understanding the complexity of cross-border issues and mechanisms in a single case study of the Gold-Coast Tweed – an identified IPPC climate hotspot. The results of each of these key areas of focus will be outlined in the sections below. This is followed by a summary of the outputs of the project and the strategies utilized to communicate the results of the literature review and the data collection and analysis in stages 1 and 2.

3.1 Key literature – Building the conceptual framework

The key literature underpinning this project focused on cross-border regulatory mechanisms to support and promote climate change adaptation resulted in the development of a three-fold conceptual framework. The conceptual framework makes explicit the links between previously separate bodies of literature and practice in this area. In particular the framework brings together selected literature on *cross-border governance* with the growing literature on *multi-level governance* and *climate change adaptation and reform* in Australia as a way of better understanding cross-border governance mechanisms as a means of supporting and promoting climate change adaptation (see Figure 8 below).
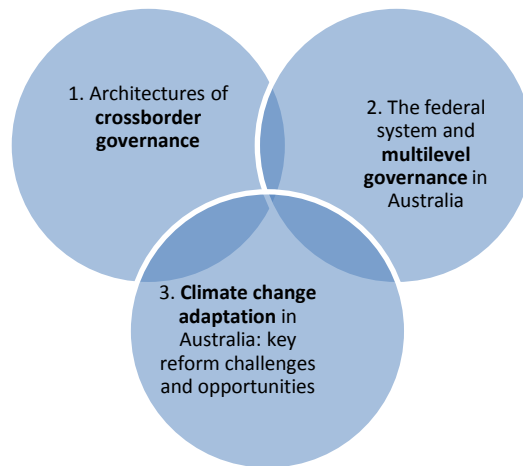
Figure 8: Developing a conceptual framework for the project through key literature

3.1.1 Architectures of cross-border governance

A key theme within the social sciences literature over the last two decades has been the issue of cross-border regional territorialisation: the demarcation of borders around particular places and spaces; how these are best governed; and at what scale. Territoriality "classifies, communicates and controls by drawing borders, assigning things to particular spaces, and regulating cross-border movements and access" (Anderson et al., 2003, p.6). Re-territorialisation by contrast refers to processes which are altered, reconfigured and rescaled. The processes of re-territorialisation have been described by Brenner (1999, p. 431) as "an expression of a politics of scale that emerges between the processes of spatial settlement restructuring and state territorial restructuring."

At the regional scale Gualini (2003, p. 46) describes cross-border governance and mechanisms as symbols of "the loosening of jurisdictional boundaries and scales within a change in relationships between supranational, national and sub-national authorities". The effect is a trans-boundary reimagining of state structures and sovereignty that blurs conventional governance hierarchies and understandings in order to achieve particular political aims. The cross-border region and governance mechanisms can thus pose challenges to established democratic processes.

The re-framing of borders through cross-border regional governance is an institutional construct resulting from complex processes that do not fit neatly into mainstream governance frameworks. Regulating across conventional territorial borders becomes "a challenge that calls for innovative solutions while still being highly dependent on a wider system of institutional relationships" (Gualini, 2003, p.45). The establishment of cross-border regions and their associated governance mechanisms and initiatives offer insights into the emergence of innovative and novel institutional arrangements that operate both within and between established administrative boundaries.

As a social-constructive process, developing robust cross-border governance mechanisms involves: [i] the identification of common interests; [ii] capacity building through networking and coalitions; [iii] the building of new cross-border alliances; [iv] the development of concrete cross-border initiatives; and [iv] the emphasis on innovative cross-border outcomes; and the role of bottom-up processes. To further delineate the focus Gualini (2003, p. 44) developed a series of strategic questions for

probing and guiding inquiry into the efficacy of cross-border governance and regulatory reform initiatives and mechanisms:

- Are *initiatives in cross-border co-operation stable* enough for building effective forms of partnership?
- Are the *incentives for cross-border co-operation sufficient* for promoting innovative forms of collective action, realising an effective concurrence of resources, and building new coalitions and governance regimes?
- Are *cross-border coalitions and governance regimes stable* enough to address forms of institutionalisation that may grant them both autonomy and accountability? and
- Are *cross-border initiatives embedded into broader multi-level patterns* of relationships, from which they can derive formal (input-oriented) legitimisation and sustained political-institutional support?

Previous work by Church and Reid (1999) also emphasised the need for cross-border institutional processes to focus on the nature and integrity of co-operation; the nature of power relationships among actors; and the recognition of organisational diversity. Key to this dialectic is the strategic interplay of a number of factors including: access to resources and funding; policy exchange; political lobbying; cost-benefit sharing and positioning of intergovernmental relations.

Work by Blatter (2004) differentiates between territorial and functional governance: whereby the former emphasises geographic and spatial scale (spaces of place) and the latter the more diffuse notions around cross-border intentions and purpose (spaces of flow). Two key questions in the consideration of specific cross-border arrangements include: How far does the inclusion of actors from the private and the non-profit sectors take place in institutions of cross- border governance?; and what institutional ties and mechanisms hold together the actors involved?

Within the contemporary cross-border governance literature, the growing centrality of the role of the nation-state has been highlighted in a changing global world context where existing borderlines are increasingly ambiguous, paradoxical and contradictory (Finger et al., 2006). Three key premises about cross-border regions and governance arrangements and institutional dynamics have been summarised by Perkmann (1999) as follows:

1. Cross-border regions are an aggregate outcome of various relatively decentralised processes of institution building with strong involvement by non-local actors;
2. Cross-border initiatives cannot be assumed to have single and coherent objectives but rather, a multiplicity of actors operates in an institutional context of opportunities and constraints that is not predominantly of their own making; and
3. Cross-border institutional settings undergo continuous changes resulting in often irreversible and historically specific trajectories (p.4-5).

3.1.1.1 Cross-border governance arrangements

The purpose of cross-border governance arrangements is to enhance collaboration amongst diverse stakeholders in particular areas or around particular interests. Specifically, this allows for greater coordination and consolidation of cross-border initiatives, and therefore alignment of objectives and interests (Bellamy, 2007). For example, coordination of emergency services means more efficient and effective delivery of services in cross-border regions (Brown and Bruerton, 2009, p.51). This is particularly important when addressing issues which cover a large spatial area across

different jurisdictions, and require a long-term collective response across interconnected public, private and community sectors (Bellamy, 2007).

Cross-border arrangements can alleviate cross-border differences and "coordinate region-wide policies" (Brown and Bruerton, 2009, p 58). State-based emergency services (fire, ambulance, and police) through their various arrangements and agreements can operate in cross-border regions. This then "closes the potential legal gap for state-based service delivery and complements the efforts undertaken by local authorities to ensure that cross-border communities are not adversely affected purely on the basis of geography" (Brown and Bruerton, 2009, p.63).

Cross-border arrangements therefore have diverse benefits and opportunities for managing a shared resource. First, as pointed out by Crabb and Dovers (2007) and Good (1992), cooperative arrangements can facilitate cross-border law enforcement. Second, they provide opportunities for networking, sharing of knowledge, and peer support (Crabb and Dovers, 2007, Good, 1992). Third is that "the efficiency and effectiveness of management effort is enhanced, by avoiding duplication, and by encouraging complementarity and enabling activities beyond the capacity or mandate of single agencies" (Crabb and Dovers, 2007, p.217). Fourth, the financial burden placed on states is alleviated through "equitable financial support from the individual States" (Good, 1992, p.345). Fifth, cooperative arrangements provide the space to prepare a single or complimentary management plan(s) over a cross-border region (Good, 1992). Finally, cross-border arrangements create consistency in public awareness, education, and participation in the planning process (Good, 1992).

In summary, the architectures of cross-border governance involve diverse actors and interests operating at a regional scale that sits both inside and outside multi-governance frameworks. Key to this cross-border governance dialectic is the strategic interplay of a number of factors that must be considered in situ including: access to resources and funding; policy exchange; political lobbying; cost-benefit sharing and the political positioning of intergovernmental relations (Church and Reid, 1999). Within the Australian context intergovernmental relations are framed within a multilevel governance context that sits within the system of federalism which must be understood in context.

3.1.2 Multilevel governance in Australia

In Australia climate change adaptation is a multi-level governance agenda involving all three tiers of government (local, state, national), as well as input from the private and community sectors working in concert together (Forster, 2004). In practice there is neither the power nor influence at any single level of government to tackle the complex issues of climate change.

Multilevel governance represents a shift away from the centralized state to the dispersal of authority and decision-making at local and regional levels. This includes diverse forms of transnational public-private partnerships which link the local to the international. However despite this key questions remain around how best to adapt, how to overcome barriers to adaptation and how to improve the effectiveness of adaptation in practice within the Australian federal system. As Jones (2011, p.5) drawing on the work of Ross and Dovers (2008) observes:

> ...the record of involvement in complex environmental and sustainability issues by Australian governments is not encouraging for climate change initiatives. Lack of coordination and leadership by federal and state governments has contributed to a situation where, despite the existence of regulatory measures and strategies, the lack of policy integration and

coordination between governments continues to be a central weakness in successful implementation of environmental sustainability policy.

The Australian system of federalism established under the *Constitution of the Commonwealth of Australia* in 1901, provides for definition of federal government powers (s51) with the residual powers vested in the states and territories. At the *national* level for example the focus for adaptation is the stewardship of the economy and promotion of Australia's national interests. *State and Territory Governments* by contrast deliver and administer a broad range of services, including legislation and asset and infrastructure management. This includes 'ensuring appropriate regulatory and market frameworks are in place, providing accurate and regionally appropriate information, and delivering an adaptation response in areas of policy and regulation in key areas of service delivery and infrastructure, such as emergency services, the natural environment, planning and transport' (Australian Government, 2012a, p3). The third level of government is the *local level* responsible for the administration, management and implementation of a wide range of services, legislation, assets and infrastructure as a response to climate change adaptation.

Australian has established the context for what has been described as 'co-operative federalism'. Wanna et al. argue (2009) that to address Australia's social, economic and environmental challenges 'effective federalism' will require the following key elements:
1) collaboration between governments to deliver national solutions that are sustainable over the long term" (p.2);
2) an architecture of co-operation consisting of three interrelated components: principles to guide cooperative federalism, supporting legal and institutional arrangements, and appropriate cultural practices and attitudes" (p.3) (.see figure 9 below); and
3) arrangements where where "common interests [between the states] dominate their separate interest" (Keating and Wanna 2000, p.151)

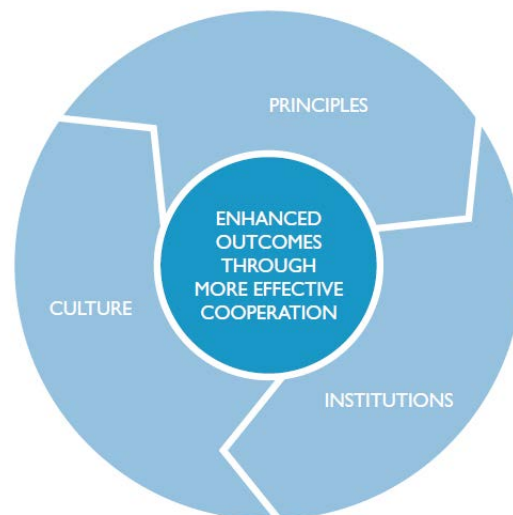**Figure 9: The key elements of effective co-operative federalism (Wanna et al. 2009)**

While cooperation seems like a logical choice, there are significant barriers for implementing and operationalising cooperative arrangements within the Australian federal system. In particular establishing cooperative arrangements in spheres of state responsibility (e.g. energy production, water management, metropolitan planning) within

the context of Australian federation is difficult. Differences within and across scales for example have all proven to be a challenge for co-operative federal policy initiatives on issues of national significance (Jones, 2009). Section 100 explicitly constrains the Commonwealth government in the management of water resources stating that:

> **100.** *The Commonwealth shall not, by any law or regulation of trade or commerce, abridge the right of a State or of the residents therein to the reasonable use of the waters of rivers for conservation or irrigation.*

On the other hand, while limited in powers over the management of natural resources, the Commonwealth has gained the right to grant financial resources to the States and Territories under Section 96 stating that:

> **96.** *During a period of ten years after the establishment of the Commonwealth and thereafter until the Parliament otherwise provides, the Parliament may grant financial assistance to any State on such terms and conditions as the Parliament thinks fit.*

This financial power has been widely used to affect the behaviour of the States, particularly in the management of cross-border common-pool resources. For example particularities in the division of powers and inconsistencies in funding provision can impede rational cooperation (Forsyth, 1998). When the incentives to cooperate (financial or otherwise) are outweighed by the perceived benefits of not cooperating this also becomes a major barrier to cooperation. Similarly where governments have different issues, and the actions of others are uncertain, this can create substantial obstacles to cooperation (Painter, 1998). Furthermore, "[c]o-operation in a context where the economic incentives are perverse […] is likely only to compound the distortions and inefficiencies, encouraging collusion, and further blurring transparency and accountability" (Sproule-Jones cited in Painter, 1998, p.27).

An iteration of federalism described as centralised federalism is achieved by establishing new structures and arrangements which reinforce Commonwealth's dominance as demonstrated in the Murray Darling Basin (Anderson, 2008). Under this model where federal governments have greater power, the critique made is that smaller, less populated states have more to lose. This led to a process that Painter (1998) describes as 'creeping centralisation'. With the Commonwealth's increasing power, if weaknesses are not adjusted for, cooperative agreements would be weighted in favour of the Commonwealth.

Trust is therefore an important factor in the success (or otherwise) of Australian federalism (Keating and Wanna, 2000). If trust is limited there is a need to establish respective roles and responsibilities (Keating and Wanna, 2000). This leads to 'competitive' rather than collaborative federalism whereby the power relations of cooperative agreements are viewed to be unevenly weighted in favour of the federal government and therefore needs to be actively redressed (Painter, 1998).

In Queensland the recently elected Liberal National Party, led by Campbell Newman, has reignited the federalism debate by denouncing the cooperative federalism concept in favour of competitive federalism (Mckenna, 2012). Newman believes "intergovernmental relations should start with every state's right to seek a competitive advantage over each other, using lower taxes and less regulation to attract business and secure investment" (Lane, 2012, Mckenna, 2012, p.1). Newman is not the first state premier to promote competitive federalism.

Ted Baillieu, the current Victorian Government premier, said "Victoria will seek to pursue a competitive approach to the federation" (Dunckley cited in Rimmer, 2010, p.234). As Kasper (1993, p.1) observed two decades ago "to find out how administrations can best compete we must hand the States more sovereignty over how they administer their own destinies." In many ways this reflects Tiebout's competition argument, which states that competition among multiple local jurisdictions leads to more efficient provision of local public services (see Tiebout 1956).

The Australian Constitution does not mention local government as a separate level of governance. As a result, the powers and roles and responsibilities of local government are determined by the State governments. The major interaction between the Commonwealth government and local governments occur through the provision of federal grants. However as Brown and Bruerton (2009, p. 50) observe "local authorities remain the closest level of government to the community and in areas such as planning...it has fallen to these local government authorities to overcome capacity constraints to deliver for the cross-border communities as a whole". This they argue has resulted "in a range of policy and service areas, many not anticipated at federation, questions of cross-border equity and coordination continue to arise" (p.48).

The polycentric nature of governance characterised by 'duplication of functions' and 'overlapping jurisdictions' (cf. Ostrom, Tiebout et al. 1961) has a significant implication for supporting and promoting climate change adaptation at the regional scale. The decentralized provision of goods and services for example is limited to a specific jurisdiction and follows the preferences of the constituencies. This will have a higher economic welfare than if the services were provided uniformly by the national level. Local governments are closer to the people and the geography of their respective jurisdictions. Hence, they possess a more accurate knowledge of the local preferences and conditions (Oates 1999). The logic behind this idea is that decentralization promotes inter-jurisdictional competition. However, this competition can lead to a 'race to the bottom'.

3.1.2.1 The Council of Australian Governments (COAG)

In response to some of the challenges of federalism Australia has developed The *Council of Australian Governments* (COAG) to help direct and coordinate major reforms across the different levels of government. Established in 1995 COAG is the peak intergovernmental forum in Australia which includes the Prime Minister, State and Territory Premiers and Chief Ministers and the President of the Australian Local Government Association (Australian Government, 2012a).

There are competing arguments around COAG in relation to cooperative and competitive federalism. COAG was established to encourage greater co-operation among states and federal government. Rimmer (2010) however argues that COAG in fact encourages greater competition between states. Others argue whilst COAG does promote cooperation, it is done so under the terms of the Commonwealth government and that the co-operative federalism rhetoric has been used by the federal government to secure more power and central control (Anderson, 2008 Kildea and Lynch, 2010).

Thus while COAG was established to enhance Commonwealth collaboration with states, it has also been criticized as a mechanism used to further the competition policy agenda, particularly the National Competition Policy (NCP) (Anderson, 2008). For example, COAG financially rewarded high performing states, which encouraged competition between states. Consequently, according to Rimmer (2010, p.234)

> ...the COAG reform agenda encourages competitive tensions between service providers, such as individual schools and hospitals. This is achieved

by delving below the jurisdictional level and focusing on the organisational dynamics of large service delivery systems, such as education or health systems, managed by the States.

As part of the COAG intergovernmental framework the *Select Council on Climate Change* (SCCC) was formed in February 2011 to: support an effective response to climate change policy issues with national implications, and provide a forum for the Australian Government to engage with states, territories, local government and New Zealand on program implementation issues (Australian Government, 2012b, p.1). This is a very recent initiative with the first SCCC meeting held in Canberra on the 4 May 2012 and the results on the ground as yet to be determined. As Chordia (2012, p.1) argues:

> ...to effectively facilitate cooperation, COAG and its sub-institutions need to be reformed. They need legally-binding rules governing when they will meet, what they will discuss and how the states can place items on the agenda. Detailed accounts of debates and meeting agendas should be released to the public to improve accountability. Key issues should not be left to the Commonwealth to decide unilaterally. Instead, consensus amongst the states should be the priority.

However as Wanna et al (2009. p.2) reinforce in their report *Common Cause: Strengthening Australia's Cooperative Federalism*, "over the coming decades, Australia will face significant social, economic and environmental challenges" and "meeting these challenges will require collaboration between governments to deliver national solutions that are sustainable over the long term". This they argue entails a need to move away from 'blame game politics' towards real policy action over key issues such as climate change and water and stay attentive to the three guiding principles: [i] engagement and cooperation; [ii] alignment of responsibilities; and [iii] subsidiarity – proximity of government to the community (p.4).

3.1.3 Climate change adaptation in Australia: key reform challenges and opportunities

A third key component of the conceptual framework underpinning the project is climate change adaptation reform in Australia. The Intergovernmental Panel on Climate Change (IPCC, 2007, p. 869) defines climate change adaptation as "adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities".

In the Australian context climate change adaptation recognizes that the "many decisions we make today can increase or decrease our vulnerability to future climate change"; and that "decisions about land use, infrastructure design, location and management of parks and reserves, investment in agricultural systems, and rules about water management all need to take future climate change into account" (see Australian Government, 2010a, p.6).

There are growing calls within the Australian context for better integration of climate change adaptation across key governance scales and sectors (Durrant, 2010, Eburn and Dovers, 2012, Eburn and Jackman, 2011, Gurran et al., 2011, Measham et al., 2011). The need to better integrate or mainstream climate change adaptation into policy, planning and decision-making processes is palpable in the face of:

1) scientific evidence on climate variability and change and projected future impacts on natural as well as socioeconomic systems;

2) increasing knowledge on how such impacts may jeopardize and/or compromise the achievement of key strategic policy and planning goals, and

3) concern that adaptation activities undertaken in isolation may lead to 'maladaptation' – an increase in exposure and/or vulnerability to climate change – either by overlooking climate change impacts, or by undertaking climate change adaptation actions that fail to adequately address the impacts of climate change (UNDP, 2010, p.8).

Research into the mainstreaming of activities such as emergency management by Eburn and Jackman (2011) however highlights that whilst mainstreaming does exist; the strength of mainstreaming as a strategic adaptation agenda is at present 'unclear and contestable' (cited in Eburn and Dovers, 2012, p.3). As part of their assessment of the state of practice of climate change adaptation in coastal Australia outlined in *The National Sea Change Taskforce Report*, Gurran et al. (2011) point to a number of initiatives that broadly support the idea of mainstreaming in coastal settlement areas including:

- *The House of Representatives Inquiry into climate change in coastal Australia* in 2009;
- *The First Pass National Assessment on Climate Change and Coasts* by the Department of Climate Change 2009);
- *A Coasts and Climate Change Council* established in late 2009 to assist with stakeholder community engagement and to advise the Commonwealth Government; and
- A forum to develop a national coastal adaptation agenda brought together local, state and federal decision makers emphasizing the need for cooperative government leadership and communication coordinated by the Department of Climate Change and Energy Efficiency (2010).

Despite these initiatives Gurran et al. (2011) conclude that "concern regarding the inadequacy of the current policy and legislative framework for addressing climate change, across all levels of government, was the major theme to emerge" (p.50). Specifically the Report highlights the following key impediments: [i] the major inconsistencies and weaknesses across the spectrum of Commonwealth, state and territorial climate change policy and law that undermine local adaptation action; and [ii] the lack of a clear and consistent national level framework for integrated coastal planning and management, as well as inadequate and uncertain state and territorial policy and legislation for climate change adaptation, combined with significant resource constraints. (p.50)

The solution they argue is the development of a [w]holistic climate change adaptation planning strategy – one that draws together "existing sources of data on specific, local level climate risks and vulnerability; as well as a set of strategies for future action.... and a strong policy and legal framework is needed to inform, guide, and legitimise local adaptation action and decision making" (Gurran et al., 2011, p.16). Yet such a framework would need to be supported by a broader multi-governance framework operating within the particular conditions of Australian federalism. As outlined in the section above this offers some significant challenges in terms of institutional co-operation, statutory power-sharing and fiscal responsibility.

This however presumes the pre-existence of a co-ordinated and coherent governance and policy framework. Within Australia there is a notable absence of a clear system of governance for the nation's metropolitan areas. Most Australians live in sprawling cities that extend along the Australian coastline. These coastal settlements accommodate

approximately two-thirds of the nation's population and are highly vulnerable to the impacts of climate change be they through floods, heat waves, bushfires and/or drought. The challenge for cross-border regulatory reform mechanisms that seek to support and promote climate change adaptation is to find better ways of achieving effective and equitable results in the face of this governance deficit.

> With so many climate change effects already being felt, Australia has had to begin experimentation with many new and innovative governance approaches but conversely has also reverted to some previous 'dependencies'. Overall Australian....'experiments' under the 'pressure cooker' of climate change provide a fascinating basis in research and policy, and social learning, that can inform other parts of the world in moving towards more systemic and adaptive governance in an era of climate change." (Tisdell, 2009, p. 3973)

In their report on *Cross-Scale Barriers to Climate Change Adaptation* Gero et al. (2012) identify that although there is much activity occurring in Australia regarding adaptation particularly at the local scale, overall there is a complex and confusing institutional and legislative landscape that differs across state and territory borders. "While COAG's National Climate Change Adaptation Framework provides general guidance, Australia currently lacks a strategic approach on which policy makers can base their adaptation planning on and the result is a fragmented approach to adaptation planning that is not supported by legal basis for action" (p.8).

As Dovers (2011) argues the adaptation task in Australia is demanding and variable requiring multiple policy interventions that recognize huge variation across jurisdictions, sectors and places. This is reflected in the final report for the Informing Adaptation Policy Workshop organized by ANU on behalf of the co-sponsors (NCCARF, DCCEE and ANU) and held in Canberra on 3-4 May 2012. Based on the input of over 50 participants from different sectors and interests the report identified that:

- The level of maturity of adaptation response in Australia is low overall and patchy;
- At the local government level the urgency to respond to climate impacted decisions is not assisted by the slow pace of reforms and lack of coordinated guidance at higher levels of government;
- There is a need to shift from a tactical focus on individual adaptation decisions to a more strategic and transformational focus on many issues;
- Within government Commonwealth, state and territory agencies should be required to explicitly include and report on climate change adaptation in their own activities;
- There are significant gaps in knowledge to support effective decision-making;
- Across all levels of government and other sectors there is a clear need for more effective sharing of knowledge, experience and research findings;
- A continuing level of funding for adaptation specific research is necessary, with some shifts to reflect progress and findings from current programs;
- More overt, clearly communicated, consistent and coordinated Commonwealth adaptation policy leadership and intent is required; and
- There is a need to clarify roles and responsibilities at all levels of government based on legitimacy, competence and corresponding resource allocations

A salient recommendation to emerge from the report was need to clarify adaptation-related roles and responsibilities at all levels of government. Specifically that:

Collaboration horizontally and vertically across all levels of government and with other stakeholders (industry, community) is critical....There is also a need to recognise the appropriate scale (spatial, temporal) in decision-making. In this respect climate change **is increasing the focus on coordinated regional approaches** (smaller than states, bigger than individual councils) (NCCARF, 2012, p.4) (bold inserted)

3.2 Stage 1 – Selected cross-border arrangements in Australia

This section focuses on articulating the results that emerged from stage 1 of the data collection focused on identifying key characteristics of select regional cross-border mechanisms and arrangements that currently exist within the Australian context. This involved a detailed desktop analysis of four Australian cross-border cases that operate at different levels of scale and complexity including: the *Murray Darling Basin Agreement*; the *Australian Alps Cooperative Management Agreement*; the *Australian Capital Territory and New South Wales Regional Collaboration*; and the *Cross-border Sub-Plan 2010* between the Gold Coast City, Queensland, and Tweed Shire, New South Wales.

Directed by the learning framework the results in each case focus on the evolution of the cross-border arrangements and the institutional mechanisms developed. The significance of each will be outlined in turn, followed by the key characteristics. Key findings across the four cases includes an emphasis on (1) the arrangement, development or formation process which results in (2) the adoption of particular arrangement leading to (3) implementation outcomes and (4) 'on the ground' effects.

3.2.1 Murray-Darling Basin Agreement

The purpose of the Murray–Darling Basin Agreement is to 'promote and coordinate effective planning and management for the equitable, efficient and sustainable use of the water and other natural resources of the Murray-Darling Basin' (Clause 1) (Murray-Darling Basin Authority, 2008)

The Murray-Darling Basin (MDB) is a cross-border region of national significance that cuts across four Australian state borders (New South Wales, Victoria, South Australia and Queensland) and one territory (Australian Capital Territory). It contains Australia's three longest rivers (the Darling, the Murray and the Murrumbidgee), and includes 23 major rivers as well as important groundwater systems (Australian Bureau of Statistics, 2008). A number of the Basin wetlands are recognised under the Convention on Wetlands of International Importance (otherwise known as the 'Ramsar Convention') (Murray-Darling Basin Authority, 2008). The Basin is also Australia's most important agricultural area, producing over one–third (38%) of Australia's food supply or national agricultural produce.

The establishment and evolution of the Murray-Darling Basin cross-border management arrangements has been driven by the interplay of various socioeconomic, as well as political and institutional factors. Growing scarcity of water resources, predominately caused by the expansion of irrigated agriculture and drought, and resulting competition between the States is the theme that flows through the evolution of the arrangement which spans nearly a century and can be traced back to the beginning of the 19th century. Significant cross-border agreements were reached in 1915, 1987, 1993, and most recently in 2007 with the *Murray–Darling Basin Agreement* (see Figure 10 below).
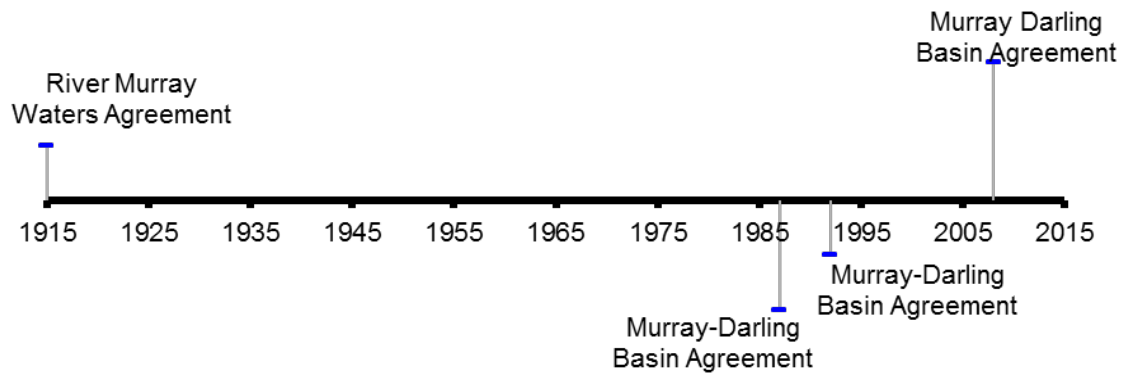
Figure 10: Murray Darling Basin cross-border arrangements

In 1994 the COAG adopted the *Water Reform Framework with* objectives that included the development of tradable water entitlements and corresponding reform of institutional and administrative systems. Ten years later in 2004 the COAG concluded the *Intergovernmental Agreement on a National Water Initiative* extending the reform framework. Among other shifts in policies affecting the MDB management was the *National Action Plan for Water Quality and Salinity* (NAP) proposed by the Federal Government and agreed to by the State governments in 2000. The implementation of the Plan occurred through 35 regional natural resource management bodies. Importantly, the environment was recognised as a legitimate user of water during this time.

In 2007, in response to a prolonged drought, the Federal Government announced the *National Plan for Water Security* (NPWS) which provided for $10 billion funding to address water efficiency and over-allocation in rural Australia. The 10-point plan included commitments to address water over-allocation, reform existing governance arrangements, invest in irrigation infrastructure and provide for a sustainable cap on surface and groundwater use in the Murray-Darling Basin. Significantly the NPWS encouraged an agreement with the relevant State governments to transfer their powers in relation to the Murray-Darling Basin Commission which would enable the Federal Government to centralise water management further formalizing the cross-border arrangements and agreements and ultimately resulting in legislation.

The introduction of the *Water Act 2007* (Cth) and the *2008 Water Act Amendment Act* incorporating the new *Murray Darling Basin Agreement* (Schedule 1) set a broad scope of objectives including: prioritising the Murray-Darling Basin as an area of national interest; giving effect to international agreements; returning to 'environmentally sustainable levels of extraction'; protecting, restoring and providing for ecological values and ecosystem services of the MDB; maximising net economic returns to the community; as well as improving the water security for all uses in the region. Following the Agreement and subsequent statutory amendments, the management of the Murray-Darling Basin was centralised under the Murray-Darling Basin Authority (MDBA) responsible for the development of the Basin Plan. In late 2011 the draft Basin Plan was released. Review and consultation of this plan is currently occurring (in 2012).

3.2.2   The Australian Alps Cooperative Management Agreement

The Australian Alps have been recognised for their special values with National Heritage Listing and recognition as a National Landscape. Located on a high undulating plateau in the south-east of mainland Australia, the Alps cover approximately 25,000 square kilometres and traverse two States and one Territory -

NSW, Victoria, and the ACT (Australian Government, 2005). In addition, specific sites within the Alps are recognised internationally as Ramsar Wetlands (Worboys and Pulsford, 2011). Kosciuszko National Park which lies within the Alps was given international significance by being declared a World Biosphere Reserve by UNESCO in 1997 (Australian Government, 2005).

The cross-border arrangements for the Australian Alps have had a quite different trajectory and evolved from informal arrangements in the 1980s to a series of Memoranda of Understanding (MoU), the most recent one being revised and re-signed in 2003 (see Figure 11 below).
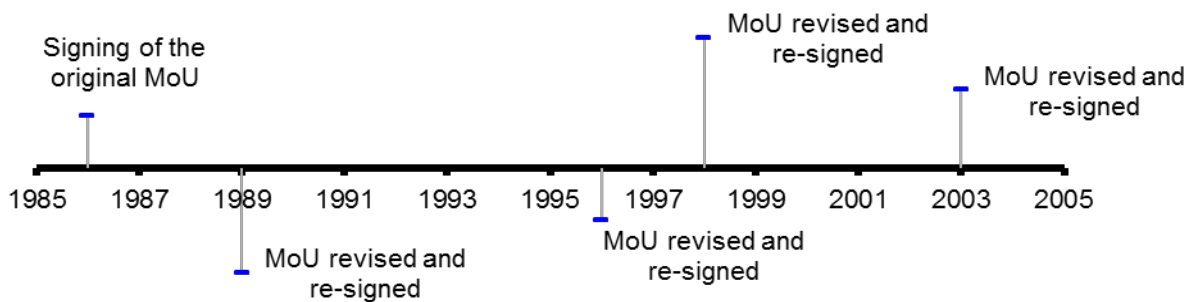
Figure 11: Evolution of the Australian Alps National Park Memorandum of Understanding

By the 1980s, it was understood that the fragmented, state-focused management of the Alps was not providing sufficient protection, and therefore an integrated environmental planning and management approach involving the various interstate agencies was required to coordinate management of the Alps as a whole bioregion (Good, 1992). The previous *ad hoc* and isolated management practices led to a raft of cross-border environmental, social and economic issues within the Australian Alps (Anderson and Atkins, 2010). Specific cross-border issues of concern included: feral animals; pest plants; water management and security; fires; tourism; and grazing.

The first formal institutional arrangement for the cooperative management of the Australian Alps emerged on 4 July 1986 with the signing of the Memorandum of Understanding by the Ministers representing four agencies: National Parks and Wildlife (Federal level), National Parks and Wildlife Service of NSW, ACT Parks and Conservation Service and Department of Conservation, Forests and Lands of the State of Victoria. This and subsequent MoUs were not legally binding for State governments (Clause 6). Initially, parties agreed to 'pursue the development of a formal inter-governmental co-operative management agreement for the purpose of protecting the nationally important values of the Australian Alps National Parks'. As Crabb (2003) notes, the parties intended to operate under the MoU for two years before developing a more formal and binding legislative Agreement based on the example of the Murray-Darling Basin. However, after several years of negotiations and attempts to find appropriate institutional mechanisms, in 1989 the Ministers agreed to redraft and re-sign the current MoU.

Overall the MoU provides a framework, which has evolved iteratively over a twenty year timeframe, for the cooperative management of the Australian Alps by the respective governments. The vision of the Australian Alps co-operative management program is of "Agencies working in partnership to achieve excellence in conservation

management of its natural and cultural values and sustainable use through an active program of cross-border co-operation" (Australian Alps National Parks, 2011, p.101).

3.2.3 The Australian Capital Territory and New South Wales Regional Collaboration

> *This agreement [the 2011 Memorandum of Understanding on Regional Collaboration] is not intended to remove power to make policy decisions from either government. Final policy decisions remain with each jurisdiction.*
> *(ACT Government and NSW Government, 2011)*

Canberra and the surrounding region have experienced substantial population growth over the last fifty years (ACT Government 2013, Birtles, 1990). Canberra's high population growth has placed pressure on the need for land outside the ACT border to accommodate this growth. Likewise, Queanbeyan, located on the NSW-ACT border has experienced, and is projected to continue to experience, significant population growth (Birtles, 1990). Further, the Sydney-Canberra Corridor is projected to experience population growth, and, according to the NSW Government Department of Planning (2006, p. 32), "is one of the fastest inland growth areas of NSW". The recent history of cross-border institutional arrangements in the ACT-NSW region spans twenty years from the Sydney-Canberra Corridor strategy in 1995 to the Memorandum of Understanding for regional collaboration in 2011 (see Figure 12).
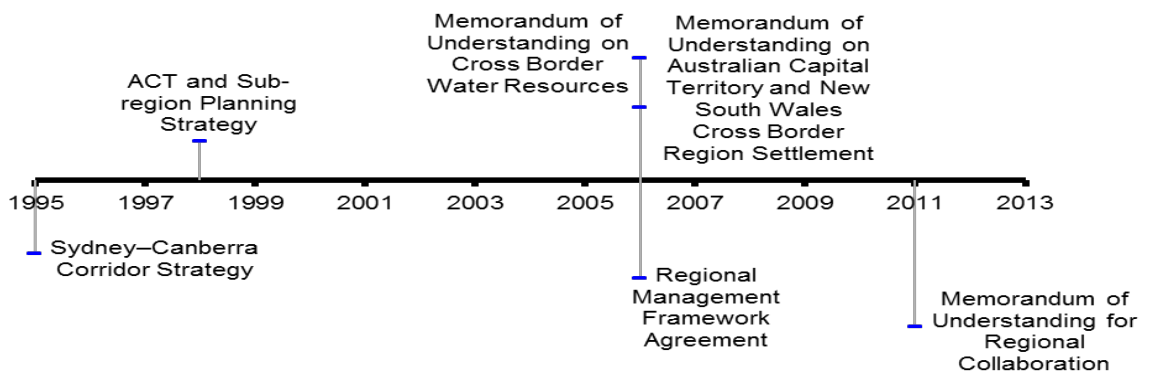
Figure 12: Evolution of ACT-NSW cross-border arrangements and regional collaboration

A key milestone in cross-border cooperation occurred on 30 January 2004 when the Premier of NSW and the Chief Minister of the ACT reached an agreement about the development of a framework for strategic regional management. The NSW and ACT Governments "agreed to develop a new framework for strategic regional management to address cross-border issues" (Australian Capital Territory Government and New South Wales Government, 2006, p.1). This led to the *ACT-NSW Regional Management Framework Agreement* (RMF) which was signed in March 2006 between NSW and the ACT to resolve cross-border matters and facilitate cooperation between both State and Territory governments. The RMF outlines several strategic themes which are water and catchment management, settlement patterns, infrastructure, economic development, service delivery and emergency and consequence management.

Among other outcomes, The RMF sets the framework for implementation of another agreement signed by NSW and the ACT in March 2006 which is the *Memorandum of Understanding on Australian Capital Territory and New South Wales Cross-border*

Region Settlement. The Settlement MoU sets the principles for the management of future urban growth in the Cross-Border Region. In addition to the Regional Management Framework agreement, The Settlement MoU coincided with the NSW adoption of the *Sydney-Canberra Regional Strategy 2006-2031*. More recently the establishment of the South East Regional Organisation of Councils (SEROC) and the network of RDA Boards have added a further dimension to regional engagement and opportunities for collaboration (Australian Capital Territory Government and New South Wales Government, 2011, p.2).

In 2011, the Memorandum of Understanding on Regional Collaboration (MoURC) between the ACT and NSW Governments was signed. This replaced the 2006 Regional Management Framework, and provides a framework for economic development and service delivery (Regional Development Australia - Australian Capital Territory, 2011). Specifically the ACT-NSW MoU for Regional Collaboration seeks to "identify key regional issues that impede efficient and consistent service delivery to communities, where attempts to resolve such issues at a identification of key regional issues that impede efficient and consistent service delivery to communities, where attempts to resolve such issues at a local level have been unsuccessful, or where a strategic government-to-government approach is required" (Australian Capital Territory Government and New South Wales Government, 2011, p.3).

3.2.4 The Gold Coast / Tweed Cross-border Sub-Plan 2010

Whilst the Gold Coast City Council and Tweed Shire Council are separated by the Queensland and New South Wales State border there are no significant geographic features separating the two States. To address cross-border issues, the Gold Coast City Council and Tweed Shire have adopted a bilateral approach to the coordination of cross-border service delivery at a local level for services such as planning, tourism and economic development. However, "many critical areas of service delivery in cross-border communities [are] with state governments" (Brown and Bruerton 2009, p. 61). As a result, there was a lack of coordination and cooperation among state and local government agencies regarding delivery of key infrastructure, social, and emergency services across the border region (Stuckey, 2011). The evolution of the Gold Coast – Tweed Shire Cross-border Sub-Plan is relatively short and specifically linked to a 2010 Federal funding initiative as in indicated in the timeline below (see Figure 13).
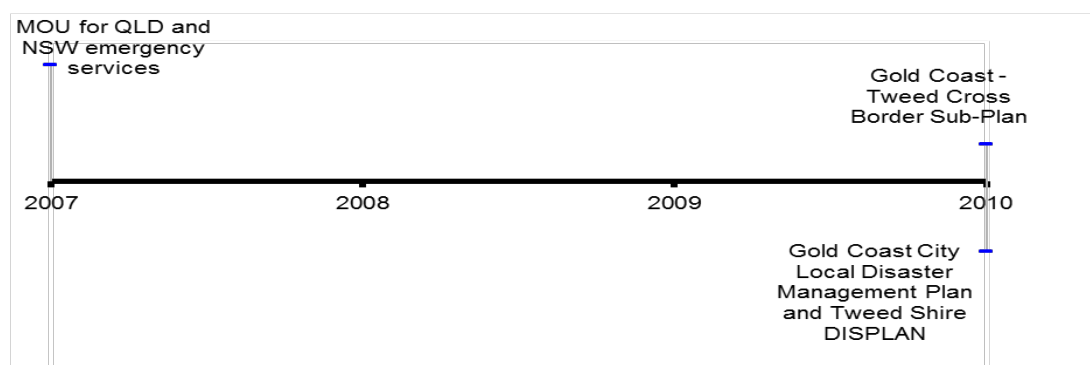
Figure 13: Evolution of the Gold Coast-Tweed Cross-border Sub-plan

Prior to the Sub-Plan an MoU for Qld and NSW emergency services (fire, police and ambulance services) was established in 2007 in the border region that allowed for respective State agencies to respond to cross-border emergencies. In the 2008/09 financial year, Gold Coast City Council and Tweed Shire Council were funded $16,000 by the *Australian Government Natural Disaster Mitigation Program* (NDMP) to develop

a cross-border sub-plan in response to a range of potential cross-border disasters identified as most likely to occur in the region with significant consequences – bush fire, flooding, and storms (Tweed Shire Council, 2010). This involved undertaking a study to: identify the nature of the joint risks faced by Gold Coast City and Tweed Shire Councils; to scope appropriate common mitigation measures; and develop and test formal cross-border arrangements between the two jurisdictions (Australian Government, 2010b).

The resulting Gold Coast-Tweed Shire Cross-border Sub-Plan is based on the premise that "although emergency management arrangements already exist on each side of the State border, there are differences in the command and control structures, language and communication, which reflect the requirements of each State's legislation" (Tweed Shire Emergency Management Committee and Gold Coast City Local Disaster Management Group, 2011, p.1). Specifically the plan has been developed recognising that "these differences can pose significant challenges to coordination of disaster response and recovery in the cross-border area, should a disaster simultaneously impact both sides of the State border" (Tweed Shire Emergency Management Committee and Gold Coast City Local Disaster Management Group, 2011, p.7).

The Sub-Plan was prepared by two local agencies: the Tweed Shire Emergency Management Committee and the Gold Coast City Local Disaster Management Group. In 2010 the Sub-Plan was incorporated into local disaster management plans of both councils: *Gold Coast City Local Disaster Management Plan* (6 May 2010) and *Tweed Shire DISPLAN* (October 2010). The plan must comply with the *Disaster Management Act 2003* in Queensland and with the *State Emergency and Rescue Management Act 1989* in NSW. Most recently in 2011, in addition to the Sub-Plan, the Queensland-New South Wales Memorandum of Understanding Cross-border Collaboration (MoUCbC), based on "a direct recommendation from the Queensland Floods Commission of Inquiry to improve disaster management and emergency response and will cover the whole border, not just the local region" (Stuckey, 2011, p.1), was signed.

The Qld-NSW Cross-border Collaboration MOU will facilitate: [i] identification of key cross-border issues that may impede efficient and consistent service delivery to communities, now or in the future, and where attempts to resolve such issues at a local level have been unsuccessful, or where a strategic government-to-government approach is required; [ii] examination and prioritisation of cross-border issues for consideration; [iii] consultation with cross-border communities, businesses and local councils along the border, and State Government Ministers and government agencies (including Commonwealth Government agencies if required); and [iv] the development and implementation of proposals for policy change, planning or service delivery initiatives.

3.2.5 *Cross-border drivers and key variables*

A comparison of the four Australian cross-border cases at different scales - [i] Murray Darling Basin Agreement; [ii] the Australian Alps Conservation Management Plan; [iii] the sub-regional strategy between ACT and NSW; and [iv] the disaster management sub-plan 2010 between the Gold Coast City (Qld) and Tweed Shire (NSW) – highlighted four major stages or steps in the causal chain linking institutional development/change to produced impacts. The four stages are: (1) arrangement development or formation process which results in; (2) the adoption of particular arrangement leading to; (3) implementation outcomes and; (4) 'on the ground' effects. Each stage reveals different opportunities and challenges for the development and

operation of particular cross-border institutional arrangements. Figure 14 below illustrates the major analytical variables that have emerged.
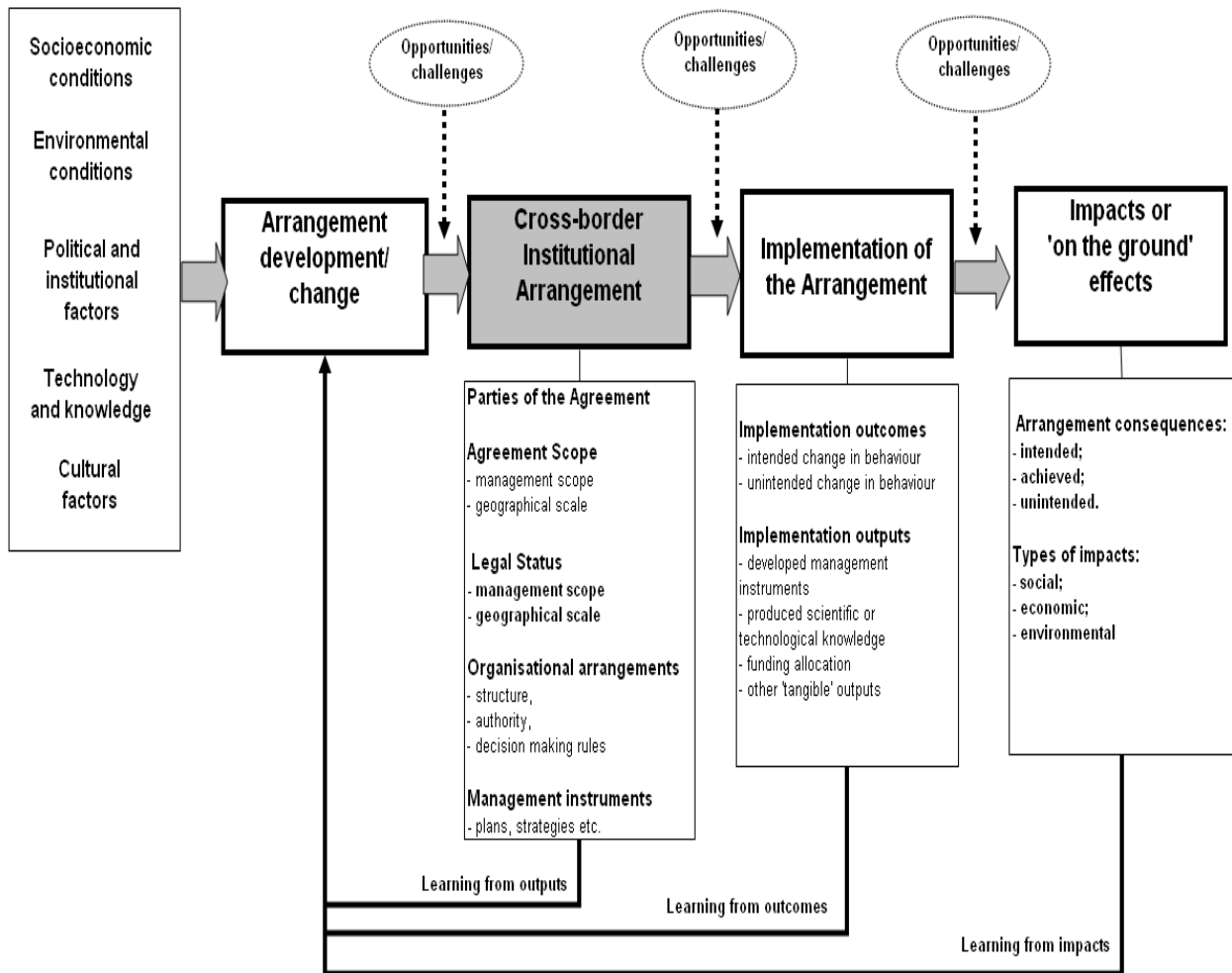
Figure 14: Cross-border drivers and key variables derived from the four Australian cross-border cases

The development process of institutional arrangements involves a variety of drivers, institutions and interactions between institutional actors and networks. Cross-border institutional arrangements, which are the outputs of the policy processes, are summarised based on five elements which are: involved parties; legal status; management scope; geographical scale; organisational arrangements; and management instruments developed for the implementation of the arrangement. These elements can be identified in all case studies and they reflect the approach to the resolution of particular cross-border issues. The implementation of particular cross-border arrangements can be described in terms of behavioural change of institutional actors, as well as produced 'tangible' outputs as prescribed by the arrangement.

While institutional change cannot, in many cases, be observed directly, it can be identified by such outcomes as meetings conducted, establishment of the committee, information exchange, funding allocation, as well as outputs produced such as protocols, plans, monitoring reports, etc. The arrangements may also produce other changes in behaviour which are not prescribed, but may affect the implementation or

lead to the problem-reframing of the arrangement. Thus, implementation outcomes may form another important cycle in the institutional learning process.

Finally, impacts or 'on the ground' effects describe the broad scope of consequences resulting from the implementation of the arrangement. The impacts may be intended or prescribed by the arrangement or they may be unintended. For example, implementation of the arrangement in natural resource management may produce positive or negative social or economic effects or contribute to the learning experience. In general, impacts through changes in the institutional and regulatory arrangements provide the learning cycle which, depending on the nature of the effects, may occur over a long time period. It should be noted that not all institutional arrangements may be directly linked to particular impacts.

3.2.5.1 Cross-border institutional arrangements: Key differences

Across the four cross-border cases, different initiatives have developed to address different management issues at various governance levels. Specifically this entails key differences in governance scale and level, the type of cross-border arrangement, the historical context and timeline for the evolution of cross-border mechanisms, and the planning focus. Key differences can be identified in the stages along an arrangement-development – effects continuum.

The MDB Agreement for example has been designed to address water resource allocation problems. As a result, 'on the ground' effects or impacts form a significant part of the institutional arrangement. The Australian Alps management scope is restricted to the development and implementation of particular management programs. Therefore, environmental change resulting from implementation may have little impact on the formation and change of the arrangement. By contrast the ACTNSW framework sets broad strategic direction without undertaking to produce direct effects. Finally, the Gold Coast - Tweed arrangement does not require major behavioural change until the activation of the Sub-Plan.

The four cross-border arrangements differ in their legal status. The MDB Agreement is a binding statutory inter-governmental arrangement requiring approval by the state/territory governments and ratification of the Parliaments. The Australian Alps and ACT-NSW arrangements operate on the basis of Memoranda of Understanding which are not legally binding. Finally, cooperation between Gold Coast Council and Tweed is based on a so called 'Sub-plan' agreed upon by both parties and incorporated into established institutional arrangements of each party. These boundaries determine the scope of potential lessons which can be derived from the development and operation of the arrangements at each level (see Figure 15).
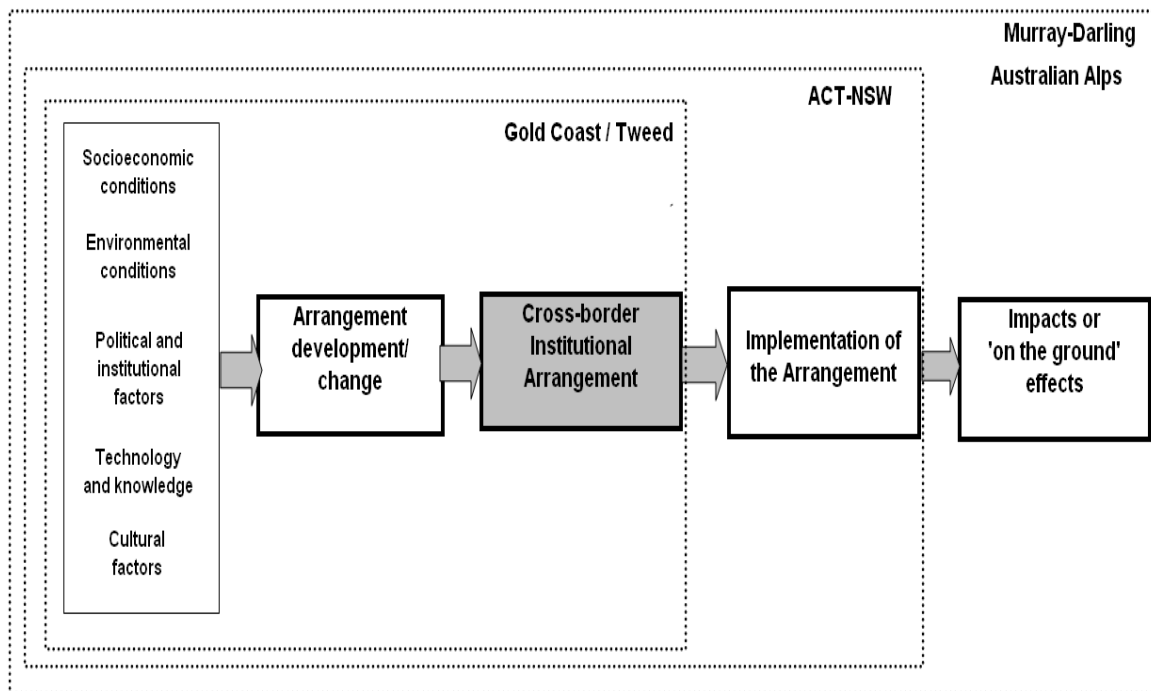
Figure 15: Cross-border Institutional arrangements from the four selected Australian cases

3.2.5.2 Cross-border context and key drivers

Quite different contextual factors or drivers have affected the formation and change of the four cross-border regulatory institutional arrangements. This section summarises this influence based on the five drivers identified and discusses their effects on the problem-framing process, as well as the formation of the institutional arrangements. This is based on five groups of key drivers identified by Bellamy et al. (2001), which, to differing degrees, affect the formation of and change to cross-border institutional arrangements and include: socioeconomic factors, environmental change; political and institutional arrangements; change in technology and knowledge; and cultural factors. Of note is that, while these factors are distinguished separately, they are interlinked and may produce 'cumulative effects' causing shifts in institutional arrangements.

The establishment and evolution of the *Murray-Darling Basin* cross-border management arrangements has been driven by the interplay of various socioeconomic, as well as political and institutional factors. Growing scarcity of water resources, predominately caused by the expansion of irrigated agriculture, and resulting competition between the States is the theme that follows through the whole history of the evolution of the arrangement. Both the conflicts and the solutions are primarily driven by the economic interests of the States supporting expansion of irrigation-based industries and growth of rural communities. These interests have significantly affected the agreement scope and scale, organisational arrangements, as well as the overall pace of the institutional change process.

As the history suggests, institutional and political factors are significant drivers, as well as obstacles in the processes of the problem framing and (re)design of the arrangements. Power over the water resource management and independent water allocation systems of the States have been discussed as major obstacles to the sustainable management of the resource. On the other hand, growing financial powers

of the Commonwealth Government have allowed provision of necessary incentives to address emerging management problems and to reach agreements. The design of the management instruments and policies has been significantly influenced by major changes in national policies such as the National Competition Policy and National Water Initiative driven by the Commonwealth Government and the COAG.

The development of technological knowledge and growing understanding about the environmental processes can be identified as another driver that has influenced policy choices and the scope of the agreement. For example, while the infrastructure developments have been a major source of conflict, they have also provided the ground for cooperation between the States to improve availability of the resource (water security). Finally the attempts at cross-border governance have exposed a range of quite different cultural groups, with strong relationships and links to the MDB region. Rather than 'one community', the MDB is characterised by fragmented interests and diverse community coalitions around the appropriate value placed on, and best use of, the water in the region.

The protection and conservation of the *Australian Alpine* ecosystems has been driven by different groups spearheaded by the conservation movement. The development of the cross – border arrangement has been triggered by the need to manage established protected areas (national parks) as one bio-geographical entity and to respond to various pressures on these areas. The geographical and management scopes of the arrangement are determined by both the boundaries of the national parks, as well as established management boundaries of the agencies.

The political and institutional factors have significant influence on the cross-border arrangement. While there is little conflict of interests between the parties involved, established inter-agency cooperation is determined by the overarching institutional frameworks of the respective States. As a result, formation of the arrangement as well as its implementation depends on the political support provided by the State governments. Funding allocation has been mentioned as one of the biggest challenges for the operation of the arrangement. Recent inclusion of the Australian Alps in the National Heritage List has produced another shift in the roles of involved institutional actors leading to increasing involvement of the Commonwealth Government in the management of the Australian Alps.

In the *ACT-NSW cross-border sub-plan* the formation of the cross-border institutional arrangements is dominated by socioeconomic and political/institutional drivers. The need for the cross-border arrangement emerged with the establishment of the ACT as a separate Territory. Population growth and cross-border expansion, shared infrastructure and services, as well as changing land use patterns have required a common strategic direction. The sources reviewed do not indicate particular challenges in the development or change process of the cross-border arrangements. This may be explained by both mutual benefits as well as the broad strategic direction of the arrangement whereby both parties retain control over the implementation and 'on the ground' change in their territories.

Finally, the problem-framing of the *Gold Coast – Tweed sub-plan arrangement* has been determined by the nature of joint vulnerability of both local governments to natural hazards such as bush fire, flooding, and storms, as well as the mutual benefits of cooperative action. One of the direct drivers in this case is the funding opportunity offered under the *Australian Government Natural Disaster Mitigation Program* (NDMP). However, it can also be argued that the development has been influenced by existing experience in cross-border cooperation in other management areas. While no issues have been reported with regard to the institution formation process, institutional factors

such as regulatory frameworks for the emergency management in each State determine the scope and scale of the arrangement.

3.2.5.3 Cross-border arrangements

Key elements of cross-border arrangements include an understanding of the management scope, scale, organisational arrangements and management instruments which differ across each of the selected cases. In the case of the *Murray-Darling Basin* the *Water Act 2007* (*2008 Water Act Amendment Act)* establishes an independent Commonwealth authority Murray-Darling Basin Authority (MDBA) responsible for water planning for the whole basin. Refer to Figure 16 for an outline of the organisational structure of the Murray Darling Basin Agreement.
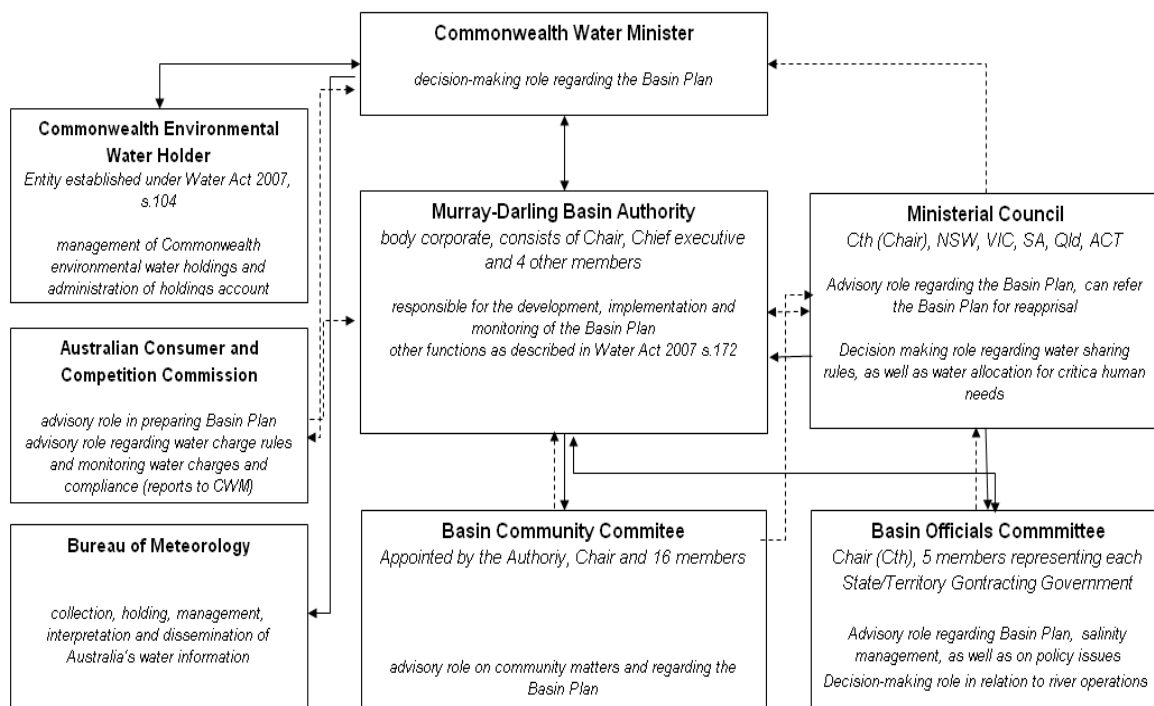
Figure 16: Murray Darling Basin Agreement organisational structure 2012

The MDBA reports directly to the Commonwealth Minister for Water. The Murray-Darling Basin Agreement (Schedule 1 to the Water Act 2007) establishes the Ministerial Council which consists of the Commonwealth Minister (the Chair) and one minister from each of the States and the ACT. The Act establishes two advisory committees: 1) Basin Officials Committee (BOC); and 2) Basin Community Committee (BCC). The overall evolution of the MDB institutional arrangements can be characterised by the expansion of the geographical scale and management scope. Growing complexity of the management scope has led to the major changes in both organisational arrangements and management instruments. The design of the organisational structure has also been influenced by conflicting interests of the involved parties. Particular challenges have emerged with the decision-making rules requiring consensus. This has been discussed as a major obstacle to an effective response to the management problems.

On the other hand, it has been argued that difficulties in reaching agreement have contributed to innovative solutions in the management instruments and approaches

(Turral et al., 2009). While the development of several management instruments (e.g. water markets) can be attributed to changes in the broader institutional context, overall changes in the MDB institutional arrangements can be described as a response (i.e., reactive) to the decline in the resource availability and environmental quality.

By contrast in the *Australian Alps* the "development, coordination, and implementation of the cooperative management" (Crabb, 2003, p.42) is facilitated by the Australian Alps Liaison Committee. Refer to Figure 17 below for an overview of the organisational arrangement. The cross-border institutional arrangement (MoU) for the management of the Australian Alps establishes broad scope for inter-agency cooperation which does not change significantly in the institutional evolution process. Similarly, minor changes have been made in the established organisational arrangements and management instruments. Major changes have been made with regard to the expansion of the geographical area. While initially the MoU has been seen as the first step towards the development of more formal arrangement, the parties have arrived at the decision that the selected type of the arrangement does not create obstacles to implementation. Later versions of the MoU also include the provision for shared funding to secure implementation of agreed management programs.
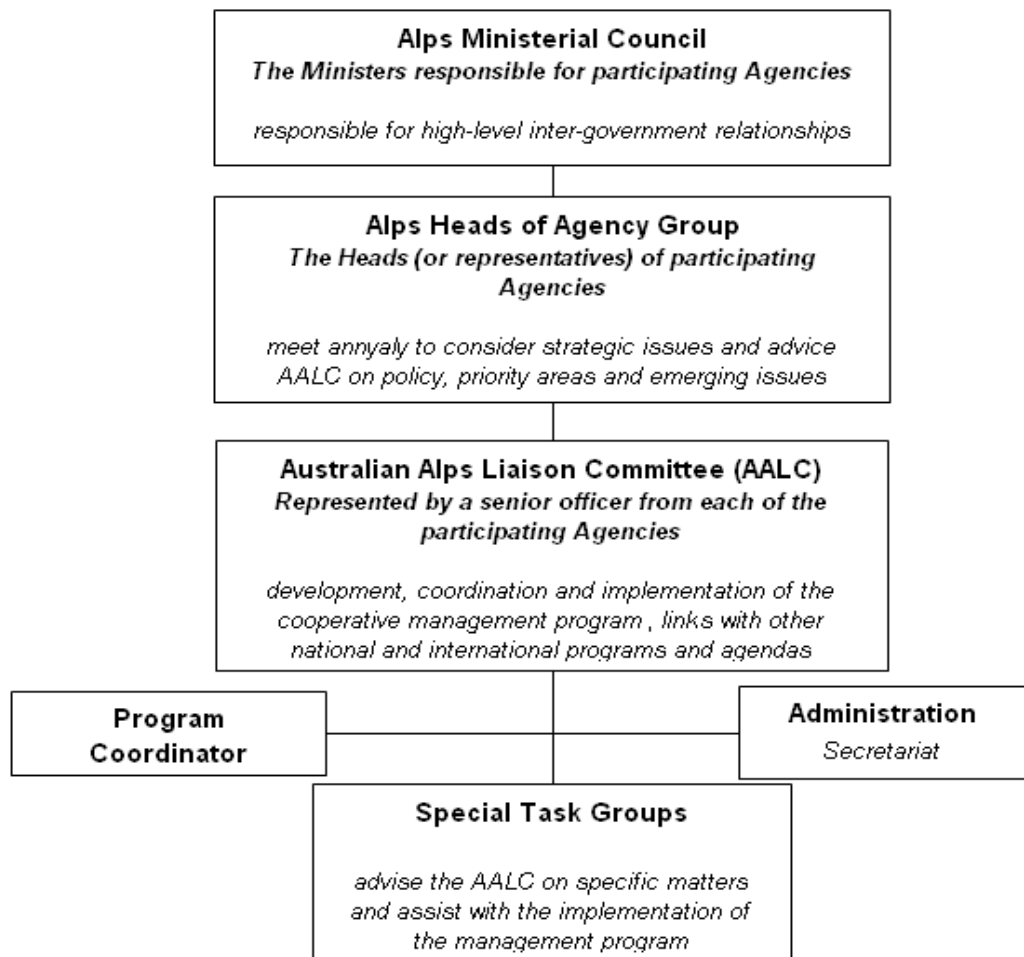
Figure 17: Australian Alps cooperative arrangement organisational structure 2012

The *ACT-NSW Regional Collaboration* does not have a formal organisational body each relevant state/territory agency is responsible for delivery and planning of state

services. Taskforces are established, if required, to address specific issues. Refer to Figure 18 for an overview of the roles and responsibilities of the ACT and NSW Governments. The ACT-NSW cross-border institutional arrangements establish major strategic directions and principles guiding cooperation of the parties. They do not provide for shared funding or establishment of a separate organisational body.

Compared to the 2006 Regional Management Framework, the recent MoU (2011) includes more general provisions with regard to the organisation of the cooperation and coordination processes. It should be noted that the available sources do not provide for assessment of the operation of previous arrangement and do not include detailed information about the reasons underpinning recent institutional change. While the 2006 Settlement MoU and Water Sharing MoU remain in force, performance assessments or other reports on operation of these arrangements have not been found.
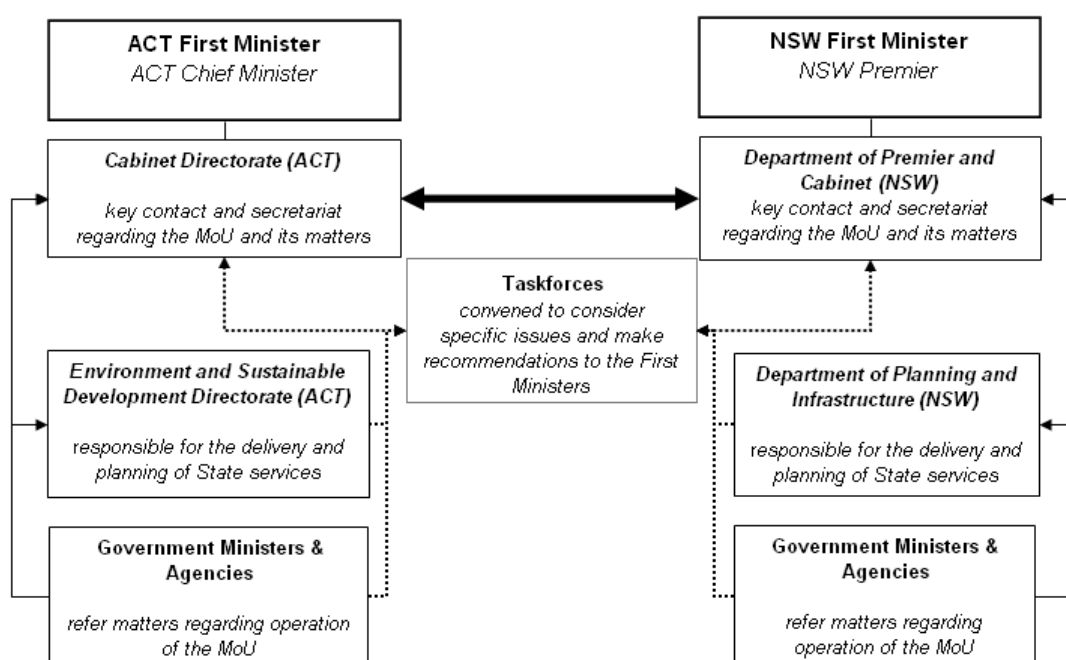
Figure 18: ACT-NSW Regional Collaboration organisational arrangements 2012

Finally, the *Gold Coast-Tweed Cross-border disaster management arrangement* does not have a formal organisational body or bind other agencies; it identifies the potential scope of cooperation and coordination between various agencies operating at other governance levels. Refer to Figure 19 for an overview of the management arrangement. Gold Coast – Tweed cross-border institutional arrangement covers a limited management scope and is predominately based on processes of information exchange and cross-border coordination of the activities in the case of a disaster event. The agreement does not provide for any resource sharing provisions or particular organisational arrangements for periods when the Sub-Plan is not activated (except for shared participation in meetings). Therefore, major challenges and opportunities emerging from operation of this arrangement can only be hypothesised.
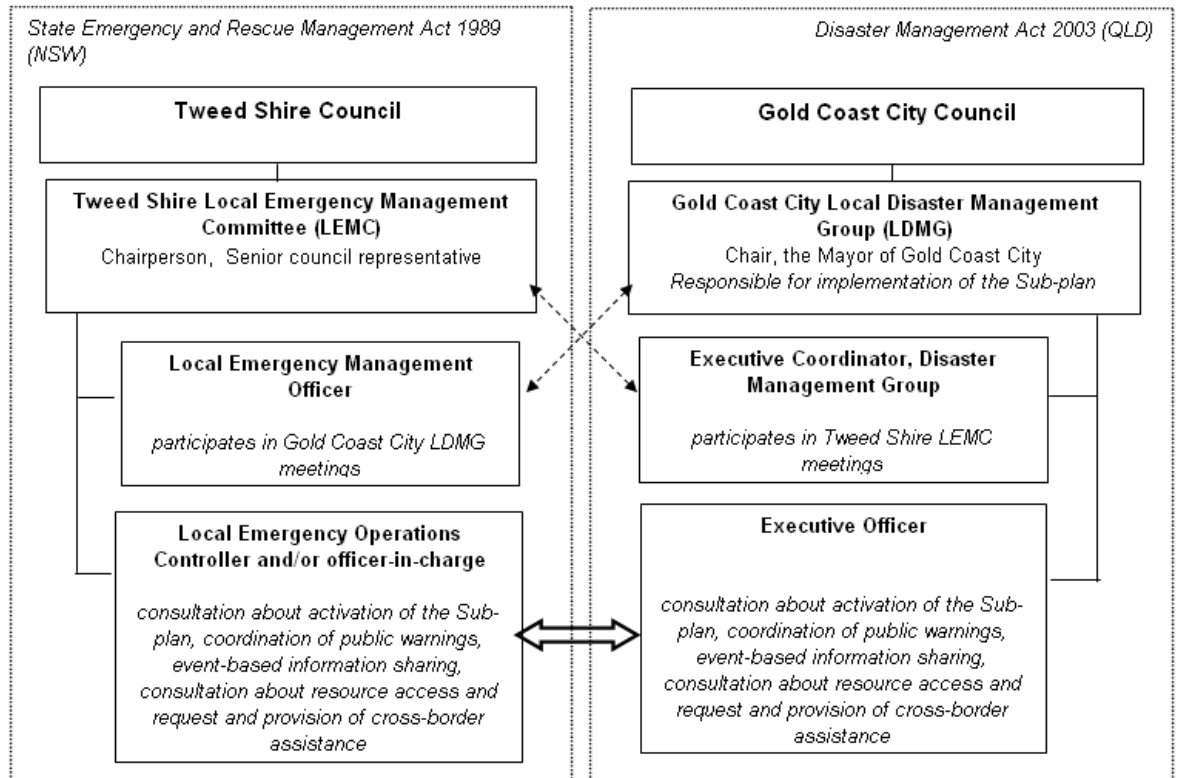
Figure 19: Gold Coast-Tweed Cross-border sub-plan organisational arrangements 2012

3.2.5.4 Implementation/impacts of cross-border arrangements

The analysis of the implementation of outcomes of the cross-border institutional arrangements focuses on their role in the evolution of institutional arrangements. Implementation outcomes are identified as behavioural change of institutional actors and/or outputs produced.

The implementation of the *Murray-Darling Basin Agreement* can be assessed based on various management activities, such as construction and management of water diversion structures, development of water sharing rules and markets, implementation of a public consultation process, investment in the development of technological and scientific knowledge and monitoring approaches and similar. It should be noted that all implementation outcomes may offer potential learning for the management of cross-border resources. Detailed description of these 'learning cycles' however is outside the scope of this report.

The achievement of the outcomes which would lead to improved water or environmental quality has remained as one of the biggest challenges for this cross-border arrangement. As reported in the literature, apart from some progress in salinity management, strategies focusing on 'integrated resource management' have not produced any significant implementation outcomes. This failure has contributed to the major shift in the institutional arrangements leading to the centralisation of the water management powers under the Commonwealth Government.

The implementation of the *MDB Agreement* can be directly linked to observable changes in resource availability and the related quality of the environmental systems.

While the *MDB Agreement* can be characterised by its slow evolution and long response time frames to changes in the resource abundance and quality, 'on the ground' changes have led to the reframing of the management problem and institutional change. The shortage in the availability of the water resources contributed to the extension of the geographical scale, development of technological knowledge, as well as introduction of new market mechanisms to address resource distribution and conservation.

On the other hand, emerging environmental quality problems led to the shift in the management scope from (water sharing - integrated resource management), investment in research focusing on environmental quality, as well as development of new management mechanisms and monitoring approaches. Major challenges experienced in this learning curve however include slow and reactive response, in particular to environmental quality problems and perception of the environment as another 'competitor' in resource extraction producing negative social and economic consequences.

In the *Australian Alps* annual reports on the implementation of the management programs contain a list of various activities, including improvement of scientific knowledge, public education, information exchange as well as coordination of particular 'on the ground' management activities. However, while these activities contribute to the learning of involved institutional and non-institutional actors, they have not triggered major shifts in the cross-border institutional arrangements. 'On the ground' effects produced in the Australian Alps may result from the implementation of particular management programs developed under the MoU. It can be argued that while they contribute to the 'learning curve' of implementing actors, they have not contributed to changes of the cross-border institutional arrangements.

In the case of the *ACT-NSW arrangement* the implementation outcomes cannot be easily identified, as the desk-top study could not access evidence of the behavioural change in form such as reports, meeting minutes or information on the websites. The *Sydney-Canberra Corridor Regional Strategy* is one of the few outputs evidencing implementation of the 2006 Settlement MoU. Due to limited information it is hard to assess whether and to what extent this arrangement has moved from the formulation of the management problem to its solution. It also may be assumed that the implementation outcomes are not the major driver of the problem framing or institutional change. Whilst he *Gold Coast-Tweed* arrangement requires minimal behavioural change until its activation, the opportunities and challenges of the implementation/impacts cannot yet be described.

The arrangements in the four selected cross-border cases cover differing complexities of management problems and respectively differ in the approaches to the design of the organisational structures and management instruments. Separate organisational structures have been created only in two cases and these require management of shared resources and funding. Implementation of the arrangements can be regarded as one of the most challenging steps. In the Murray-Darling case failure to produce the response to emerging environmental problems has contributed to the final reform of the arrangement which has changed the roles of involved institutional actors. In contrast, in the Australian Alps case implementation challenges can be related to the external drivers such as the institutional context. In the NSW-ACT case the implementation outcomes do not seem to drive (re)formulation of the management problem or institutional change.

In summary selected cross-border institutional arrangements differ significantly in their contexts, evolution history, legal status and structure. In summarising major findings,

the interplay of various contextual factors is a significant driver of the arrangement formation process. The cross-border institutional arrangements are embedded in a broader contextual and institutional framework which significantly affects the scope and the scale of the arrangements. The socioeconomic and political factors play a significant role in the formation of the *MDB Agreement*, as well as in the ACT-NSW arrangement. However, in the latter case these factors do not seem to be creating any barriers to institutional development and change. Finally, 'on the ground' impacts are significant drivers of problem formulation and institutional change.

3.3   Stage 2 – The Gold Coast/Tweed cross-border case-study

...for governments wishing to take a more regional or place-based approach to planning and service delivery, borders present a myriad of cross-jurisdictional complexities and coordination problems – particularly at the state and local levels.

(Gold Coast City Council, 2012, p.1)

The results from stage 2 of the data collection focus on a case-study of the Tweed / Gold Coast which is comprised of two rapidly developing local government areas situated across an Australian State border that divides Queensland (Qld) and New South Wales (NSW). The Gold Coast/Tweed region has been identified as a climate vulnerability hotspot (Hennessy et al., 2007) expected to experience higher temperatures, sea level rise, greater intensity and frequency of storms leading to accelerated coastal erosion, regional flooding and bushfire. Whilst Stage 1 data was obtained through a desk-top review, Stage 2 draws on the experience of participants through in-depth interviews and a day-long stakeholder workshop

As a whole cross-border region the Gold Coast and Tweed Shire are bounded by Queensland Local Government Areas (LGAs) of Logan City Council to the north and the Scenic Rim Regional Council to the west; and the New South Wales LGAs of Byron Bay, Lismore, and Kyogle to the south and with the Coral Sea forming the eastern border of both LGAs. Whilst divided by different state boundaries the proximity of the cross-border region as a whole is to the state of Queensland and thus strongly influenced by the burgeoning SEQ metropolitan region in terms of growth and development.

There are no significant geographic features separating the two States within the urban zone. The Tweed local government area consists of 37 kilometres of natural coastline wetlands and farming land including the entire Tweed River basin, an ancient volcanic caldera and three world heritage listed areas (Tweed Shire Council, 2012). The region has been identified as a biodiversity hotspot – "one that supports largely intact natural ecosystems where native species and communities are well represented and where a high diversity of locally endemic species persists" (Department of Environment Climate Change Water NSW, 2010).

The more recent settlement pattern in the Tweed / Gold Coast comprises a complex network of largely suburban/urban connectivity form meg- regional areas (Steele et al., 2011). Following two to three decades of sustained urban growth, there has been significant population growth across the region. The high population growth experienced over the last few decades in both the Gold Coast and Tweed has led to an increasing demand that has resulted in a low density "urban tidal wave" moving out of the major urban centres and into the peri-urban areas (Low Choy, 2006).

The extension of the urban realm of the Tweed / Gold Coast cross-border region is further intensified by new arrangements such as significant recent developments like

Cobaki Lakes: the master planned 'mini-city' on the Queensland/New South Wales border (see Figure 20 below). When complete the $3 billion+ development will have the capacity to house an additional 12,000 new residents in the region (Cobaki Lakes) (see www.cobakilakes.com). The on-going development of SALT/Casuarina beachfront estates in the climate-constrained coastal strip between Kingscliff and Cabarita in NSW, and plans for a further $2 billion master planned community outside Pottsville just south of Cabarita further extend and reinforce the increasing densification of the urban coastal corridor along the Eastern Australian coastline.

3.3.1 Cross-border arrangements

Responses to the cross-border regional growth and development vary across the state borders. In key areas such as urban planning, emergency management and natural resource management there are quite different legislation and policy frameworks that exist in Queensland as opposed to New South Wales. These disparities are further replicated at the sub-state scale. In SEQ for example the first Australian statutory regional plan in 2005 (replaced in 2009 by the 2009-2031 Plan) identifies an urban footprint which took statutory effect over all other SEQ Local and State government planning instruments.

In Queensland, the SEQ Regional Plan does acknowledge, albeit briefly, growth and development dependency between the SEQ region and the Tweed shire and calls for: [i] potential cross-regional development issues to be considered in a broader planning context; and [ii] arrangements to be put in place to address these issues. Furthermore, in explaining the regional significance of the Gold Coast, the plan highlights that "the Gold Coast's urban development is concentrated between Yatala and Coolangatta, and *continues south beyond the Queensland border into the Tweed Shire'* (Department of Infrastructure and Planning, 2009, p.19, italics for emphasis).

Across the state border a quite different narrative was offered in New South Wales at the regional scale in the Tweed Strategic Plan 2004-2024 *Tweed Futures (Tweed Shire Council, 2004)*. This document emphasized that "*in many ways the Tweed is part of South-East Queensland*" (p.8)(italics added) and acknowledged the significant issues in planning for sustainability that this co-dependency raises specifically related to dealing with the challenges of growth pressures and spill-over development (Tweed Shire Council, 2004). The plan identified the need for better cross-border governance arrangements to address these issues citing the example of the planned mini-town Cobaki Lakes which is located predominantly in NSW but will rely on QLD for key infrastructure services. As the *Tweed Futures* plan succinctly observed at the time: "*currently there is no formal arrangement to integrate planning and service delivery for the Tweed and Gold Coast*" (Tweed Shire Council, 2004, p.21).

The Tweed / Gold Coast cross-border regional institutional landscape is changing however. It is important to note that current planning arrangements for QLD, including the SEQ region are under review by the recently elected state government. Changes in current legislation, including state planning policies and the Regional Plan are expected to be implemented as an outcome of this review. In NSW the State Government appointed the state's first *Cross-Border Commissioner* in 2012 recognition that there are 'a range of unique issues facing people living in border towns and regions' and as a means by which to provide 'advocacy for businesses, organisations and residents in border communities' (New South Wales Government, 2012). Identified cross-border issues highlighted on the Commissioners' website include the following identified areas:

- different road rules and transport legislation between States;
- regulations and truck transport weight legislation;

- the impact of daylight saving time differences on businesses and schools;
- state tax anomalies and legislative differences; and
- health, education and law enforcement service differences (NSW Government, 2012)

In August 2011, the *Cross-border Memorandum of Understanding (MoU)* between the NSW and QLD Governments was established to specifically address the key cross-border issues facing NSW and QLD communities and strengthen cross-border relations. The MoU is a state government initiative between NSW and Queensland that involves other key stakeholders as required. Local governments on either side of the border in particular are recognised as 'crucial stakeholders'. As outlined in the MoU, "mechanisms for consultation with, and involvement of, local governments and other government stakeholders will be developed under the MoU") (Queensland Government New South Wales Government, 2011, p. 4).

The aim of the MoU is to strengthen cross-border arrangements and reinforce the relationship between QLD and NSW in the following priority areas: [i] health (including hospital and ambulance services); [ii] transport; [iii] energy; [iv] primary industries, including biosecurity; [v] water resources; [vi] emergency management and response; [vii] transport and limited freight into and out of flood areas); [viii] policing and security; [ix] social services (e.g. child safety notifications, youth justice services); [x] services such as finance and business services; and [xi] administrative and regulatory issues that affect both jurisdictions.

In developing the he NSW and Queensland Governments acknowledge the work of COAG as a mechanism for addressing cross-border issues (e.g. under the Seamless National Economy National Partnership). Specifically the terms of reference for the MoU include the following key areas of strategic focus which do not preclude an emphasis on climate change adaptation now or in the future:

- Identification of key *cross-border issues that may impede efficient and consistent service delivery to communities,* now or in the future, and where attempts to resolve such issues at a local level have been unsuccessful, or where a strategic government-to-government approach is required;
- Examination and *prioritisation of cross-border issues for consideration consultation with cross-border communities, businesses and local councils along the border*, and State Government Ministers and government agencies (including Commonwealth Government agencies if required); and
- The *development and implementation of proposals for policy change*, planning or service delivery initiatives (Queensland Government New South Wales Government, 2011, p.3)

The MoU builds on a small number of cross-border initiatives and projects that already exist at the state and sub-state level in the Gold Coast/Tweed cross-border region. Select examples raised by stage 2 participants are outlined below.

3.3.2 Cross-border initiatives in the Tweed/Gold Coast

A number of examples of cross-border arrangements or projects raised by the workshop and interview participants in the GC/Tweed region include: [i] Nightlink Bus Service; [ii] Coral Sea Fibre Optic Project; [iii] Contiguous Local Authority Group; [iv] Tweed River Entrance Sand Bypassing Project; [v] Border Ranges Alliance and Biodiversity Management Plan; and [v] The Dumaresq - Barwon Border Rivers Commission. The arrangements/projects are described below in terms of what issue they have been developed to address, which organisations are

involved in the collaboration, when the project was initiated, where the funding for the project is derived from and whether the arrangement has a formal protocol to support its functions (e.g.: legislation, terms of reference, memorandum of understanding) (see Appendix C). Where appropriate supporting quotations have been included from the interviews undertaken to expand on particular thematic areas such as 'funding' or 'levels of institutional formality'*.*

- *Nightlink Bus Service*

The Nightlink bus service is no longer in operation due to lack of patronage, but was originally jointly funded by the Gold Coast City Council and Tweed Shire Council and supported by TransLink, Surfside Bus lines, Queensland Police Service, local licensed venues and the Southern Gold Coast Chamber of Commerce. The bus service responded to the public transport and community safety concerns across the border region particularly in the early hours of Saturday and Sunday. The bus operated as a regular Translink bus service with defined pick-up points between Coolangatta (QLD) and Kingscliff (NSW).

- *Coral Sea Fibre Optic Project*

This initiative began when a Gold Coast City Council was approached by a private company to support their intention to connect a fibre optic network between Sydney and Guam via the Gold Coast. Tweed Shire Council was engaged and agreed to support the project by lobbying the NSW State government for support. Similarly the Gold Coast City Council enlisted the support of Regional Development Australia – Gold Coast for support. RDA Funding was identified as a likely source of funding to modernise the public infrastructure required to support the fibre optic cable. Although this project is at concept stage only, the development of an institutional arrangement around this business opportunity resulted quickly. The process would need to be formalised via contractual arrangements and funding.

- *Contiguous Local Area Group (CLAG)*

The CLAG has been in operation since the late 1970s and initially comprised of an informal alliance between mosquito control professionals, local governments and researchers to consider mosquito control issues. In 1999, the arrangement became formalised which may have been initiated by Tweed Shire Council's successful funding application. Local government membership consists of Tweed Shire Council in NSW, the Gold Coast City Council, Logan City Council and Redland Shire Council. Queensland has legislation in place requiring local governments to address mosquito control (*Public Health Act 2005*). This is not the case in NSW and it was through public persuasion that Tweed Shire Council became involved in mosquito control schemes and later developed Australia's first *Development Control Plan (Tong et al., 2008)*. Formal arrangements between the aforementioned Councils result in knowledge sharing, a coordination of plans in addition to resource efficiencies such as the bulk purchase of chemicals and aircraft hire.

- *Tweed River Entrance Sand Bypassing Project*

A permanent sand bypass system was developed by private interests in 1999, to move sand past the Tweed River entrance in NSW to deposit on the Gold Coast beaches, essentially involving dredging from the Tweed River mouth and nourishment of the Gold Coast beaches. The project was initiated when QLD and NSW negotiated *a Heads of Agreement 1994* which was later ratified by *The Tweed River Entrance Sand Bypassing Act, 1995 (NSW)* and the *Queensland Tweed River Entrance Sand Bypassing Project Agreement Act* . The project is jointly funded by the NSW and QLD State governments and by Gold Coast City Council with support from Tweed Shire Council and to date has an overall cost of $A99.7M (1999/2000 – 2010/2011). The project is implemented by the NSW Land & Property Management Authority in

conjunction with the former Queensland Department of Environment and Resource Management and was conceptualised following community consultation facilitated by the Tweed Entrance Community Liaison Committee and more recent Advisory Committee which consists of four members of the community, two State government officers appointed by respective State ministers and two local government representatives.

- *The Dumaresq - Barwon Border Rivers Commission*

The Dumaresq - Barwon Border Rivers Commissions Annual Report 2010/11 states that `the Commission is responsible for controlling, on behalf of the two States, the operation and maintenance of Glenlyon Dam, Boggabella Weir and a number of other small weirs and regulators in the border catchments and arranging for certain river flows and groundwater levels in the border catchments to be monitored. It is also responsible for implementing the agreements made between the two states in relation to sharing waters and the Border Rivers and providing advice in relation to water infrastructure and water sharing in all the border catchments. As the `owner' of a referable dam in Queensland, the Commission is also a registered water service provider under the *Queensland Water Supply (Safety and Reliability) Act 2008.' (Dumaresq-Barwon and Borders Rivers Commission, 2011)*

The Border Rivers Commission has been in existence since 1946 and was established under the *New South Wales – Queensland Border Rivers Agreement* which was ratified by the *New South Wales Border Rivers Act 1947* and *NSW – QLD Border Rivers Act 1946.* Both Queensland and New South Wales equally fund the operation of the Commission. The net operating cost due to ordinary activities (including depreciation) was $3,270,000. The Commission has three Commissioners; one appointed by the Governor of NSW, one appointed by the Governor of QLD and the third is appointed by the Premiers of NSW and QLD. Each State also appoints a Deputy Commissioner to step-in as required. The day to day operations of the Commission are addressed by the Management Committee which consists of two representative of the NSW State government and two from QLD State government. A Project Manager supports the Management Committee with executive and technical support.

- *Border Ranges Rainforest Biodiversity Management Plan*

The Border Ranges Alliance is part of the Great Eastern Ranges Initiative and was formed to develop a regional recovery plan for threatened species and communities of the Border Ranges which transcends the NSW/Qld border in the case study region. The Alliance was enabled through the successful application for a NSW Environmental Trust grant facilitated by Northern Rivers CMA. Other members of the Alliance include: representatives from Tweed and Gold Coast Councils, Northern Rivers Catchment Management Authority, SEQ Catchments, NSW and Qld State Government.

The Border Ranges Rainforest Biodiversity Management Plan is a regional recovery plan for threatened species and communities of the Border Ranges North and South (Queensland and New South Wales) developed by the New South Wales Department of Environment, Climate Change and Water with Australian Government funding. The Plan represents "a milestone in the cooperative management of biodiversity assets because its successful development also relies on input and endorsement by the Queensland Government and the relevant regional natural resource management body in each state with local and Indigenous communities also extensively consulted" (Department of Environment Climate Change Water NSW, 2010, p.i).

3.3.2.1 Key components of the cross–border arrangements

A number of components related to cross-border arrangements and/or projects were raised within the context of the Gold Coast/Tweed case-study workshop and interviews. As presented in Figure 20 below the institutional arrangements across the different initiatives and projects have different levels of formality.
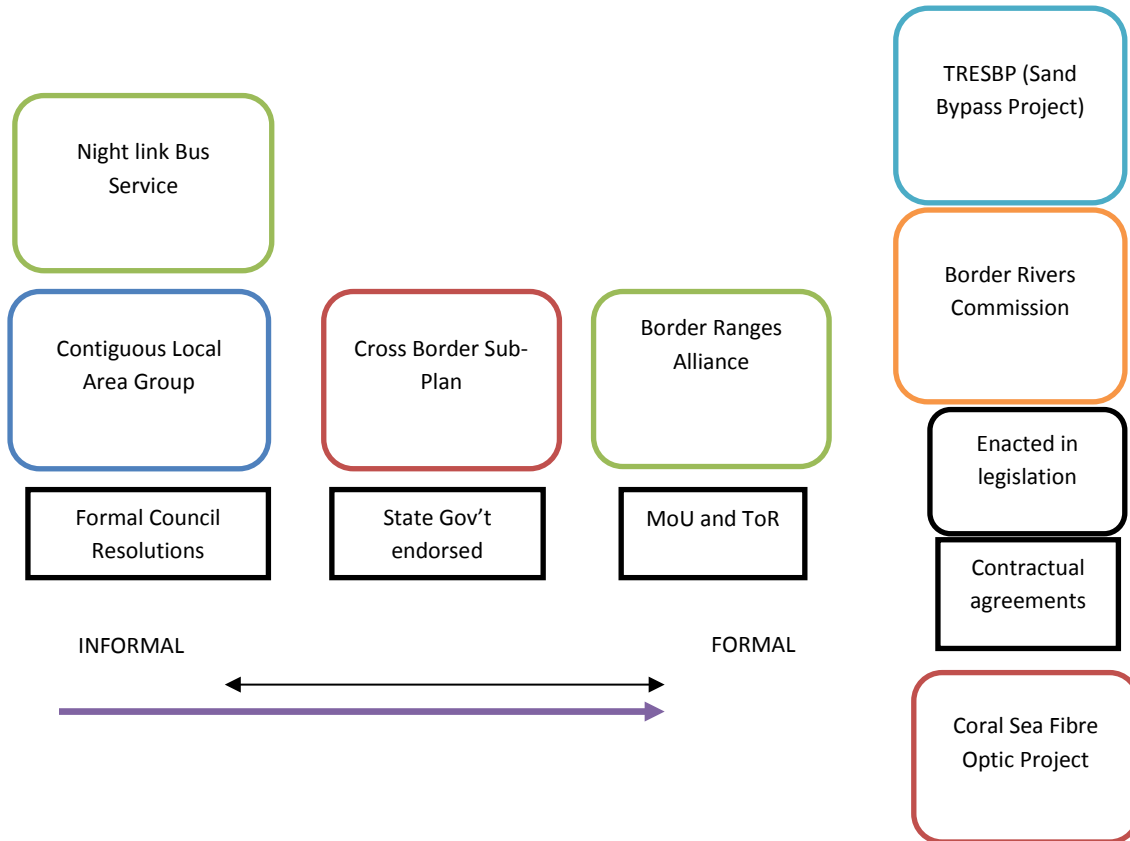
Figure 20: Institutional arrangements of selected cross-border projects in the GC/Tweed

The cross-border arrangements requiring greater resourcing and funding tend to have more formalised arrangements in place. Despite jurisdictional responsibility in which a State government would not normally respond to a regional scale issue of coastal erosion (as in the TRESBP), the most resource intensive projects such as the Border Rivers Commission and potentially, the Coral Sea Fibre Optic have stronger contractual and/or legal agreements. In contrast, the Nightlinks and CLAG projects require little resourcing and as such are structure under a relatively informal arrangements.

Although endorsed by respective local governments, CLAG is relatively informal with a wide membership. It provides a forum for the sharing of knowledge and technology, bulk purchasing and hiring arrangements to address mosquito prevention. The arrangement has been in place for many years and provides a successful template to address an issue of shared concern that requires little resourcing or funding. The TRESBP however is very resource intensive project that has met the combined objectives of dredging the Tweed River mouth and restoring beach amenity to the Southern Gold Coast beaches through sand nourishment activities. The TRESBP requires significant investment by State governments to firstly enact legislation that aligns across the State border followed by a shared $100M investment to meet capital

start-up costs and the ongoing maintenance costs to 2010/11.

As the States have traditionally held jurisdiction for water, the Border Rivers Commission is an arrangement between QLD and NSW with no local government involvement required by the Commission. By contrast the Nightlinks and Coral Sea Fibre Optic projects were projects extensively facilitated by the local governments and supported by a small network of stakeholders. In this situation where Council has initiated or supported the project, they have sought funding from the State or Federal government, but their role remains central.

> *...local government are absolutely critical, they are the front line they are, they're the direct link to the community, and they are also the state, are regional administrators, but they also implement the administration that comes down to them from state government*

By contrast the Border Ranges Alliance and Contiguous Local Area Group have working groups with a broad membership of representative community groups / individuals or regional bodies (like regional NRM bodies) in addition to local government representation. These are both examples of co-operative cross-border initiatives between diverse stakeholders with interest and expertise in the area of focus (i.e. mosquito control, biodiversity).

> *There needs to be some political will between the state governments and the local council ....I think everyone is responsible for it. The federal government, state government, local government and private individuals. We can all do our bit.*

The Tweed River Entrance Sand Bypassing Project is an example of a jurisdictional shift from local government to state government as the locus of control in order to achieve cross-border outcomes. Coastal erosion has traditionally been addressed at the local government level. Due to the significant level of economic interest via tourism and the highly developed nature of this coastline; the jurisdiction for this project has transitioned from a local government issue to one resolved by State governments. Local representation on the Advisory Committee consisting of six out of eight local voices enables a regional level of representation fitting of a contemporary coastal erosion response. In order to meet the projects objectives, the State governments were also required to enact legislation at the regional scale.

> *I guess the question over governance is really important here because in the first instance you want ...to have people in the room who are regional administrators and local government is that as well, but you also want to make sure you are looking at regional issues are represented and not just smaller issues so determining the correct scale to bring local government in is important*

For all of these cross-border collaborations funding has come from two sources: [i] a successful grant application; or [ii] from member contributions. In the example of the Nightlinks and the Coral Sea Fibre Optic Projects which were essentially initiated or supported extensively by Councils further funding was sought from the State or the Federal Government.

> *...the main source of revenue is rates. So to work cooperatively on something like that there needs to be a sharing of cost between local authorities; that I think would be problematic, because they don't have a*

> *strong revenue base or big revenue base. So I really think that is needs to come from the state or come federally.*

The capacity for Councils to support projects and initiatives outside of their core responsibilities is often constrained however they hold a pivotal advocacy role that is required to advance less significant cross-border issues/

> *...obviously everything comes down to resources the ability of local authorities to raise money is very, very limited.*

In contrast, CLAG is a collaborative arrangement which results in resource sharing and purchasing efficiencies and savings. It is not an expensive project as it is essentially a knowledge sharing arrangement, as such it is wholly supported through its membership. The Border Ranges Alliance is dependent upon member contribution and funding and in doing so, responds to State based reporting requirements which it uses to promote the institutions' effectiveness and efficiency. This state-based funding holds its own challenges and can lead to an inconsistent approach to cross-border regional issues across the border.

> *What we found was that the Queensland Government was not particularly keen to pursue it, because their view was that Queensland resources shouldn't be travelling south of the red line. So and then New South Wales Government took a similar view, they didn't think their resources should be… any funding going north of the border.*

Of the arrangements presented above, the TRESBP and Border Rivers Commission require the most resources and as such are funded under collaborative State funding models. The difficulties of securing funding for cross-border projects more broadly however in the long-term were highlighted during the interviews.

> *...you'll get arguments between state governments and both local governments about who's going to pay for what and that's very difficult in these particular times, simply because the federal government over time has given the states less and less and less funding ...So you get patchwork which stems primarily from inadequate resources.*

3.3.3 Triggers for addressing cross-border issues

'*Crises bring people together*'

`When asked to consider what would be trigger or the catalysing force behind cross-border issues to be prioritised, interview participants identified four key triggers. These include: [i] the occurrence of a major crisis or extreme event; [ii] political alignment creating favourable collaborative opportunities; [iii] the development of institutional incentives to respond to national, state level or regional scale issues of interest above institutional self-interests; and [iv] significant stakeholder persuasion or opportunistic responses to funding programs. Each will be described further below.

Several research participants theorised on the potential impact of a disaster on the prioritisation of climate change adaptation responses by governments and the community alike. For example, two people interviewed from the emergency management sector talked about the impact of the 2010/11 floods in Queensland and Northern New South Wales. The inquiry that followed identified the requirement for a process to aid co-ordination and cooperation across State borders. The resulting *Cross-border Collaboration Memorandum of Understanding* between Queensland and New South Wales was formed to catalyse cooperation at this level. Another interviewee

suggested that in addition to environmental crises, the current global economic situation may be another driver for closer cooperation and resource sharing.

A second trigger to integrate responses to significant cross-border issues stems from sustained high level political will that can overcome cultural and political differences. A local politician observed that a trigger for closer cross-border collaboration has to be supported on both sides by state interests.

> *I mean the councils can do only so much, but at some point in time there needs to be leadership from the two states.'*

This position was agreed by many of the workshop participants, although several participants felt that the leadership and financial support was required from a federal level, as state governments were resource constrained. A State government representative extended the requirement for higher level government support and leadership, to also include the criteria that the issue being addressed needs to be something quite critical, or something at stake that sustains the commitment of the state of federal government.

Viewing cross-border issues from a national, state, or regional perspective, and understanding the associated broader accumulative benefits; above institutional self-interests, was identified as a significant trigger for addressing cross-border issues. In consideration of the Federal government's incentive to encourage the Regional Development Australia branches (RDAs) to collaborative at the national scale, irrespective of State borders. An interviewee suggests that in order for this to occur, the RDAs will need to

> *...step outside of the parochialism and step outside of that whole `not-in-my backyard` and the state stuff'.*

The interviewee suggests that when stakeholders can see the greater, long-term national, state, regional benefits of collaboratively addressing cross-border issues then they may be more inclined to collaborate.

Many informal institutional arrangements are formed to address significant gaps in the current governance structure. In order for these to take form, many are dependent on funding. As such, until a funding opportunity comes along, the issue may be unresolved. A State government representative surmises:

> *People know what the issues are, I think. It then it becomes a question of when is it the best time to act on them, and that comes from the urgency of, or in response to, some disasters that happened or because someone's got some money and it meets the criteria of what they want. I think that's the three, you either get a lot of political pressure to act on it, and you can't say no, or got some funding as a means of starting it up, or the fact that you've had a disaster you've got to clean up afterwards, repair, recover, whatever.'*

Finally, the last trigger identified by participants is best described by a local Councillor as `Frustration...total frustration... extreme frustration... depending of the level of frustration...' which will manifest as community pressure, which in turn mobilises the politicians to turn the wheel of government.

3.3.4 Barriers for cross-border arrangements in the Gold Coast/Tweed

The workshop and interview participants identified many challenges related to cross-border collaboration including identifying the right people / organisations that are willing to compromise in order to form an agreement. Participants also identified that an institutional arrangement needs to be aware of the larger vision of how other relevant

programs and arrangements overlap with their own, in order to reduce duplicity. Several participants considered that all partner institutions need to have involvement in shaping the arrangement at inception in order to have `buy-in'.

Various arrangements can be heavily influenced by the representation of its membership and the internal balance of that representation. The internal power balance of an arrangement is strong influenced by the representation of partner organisations. As an example, a State government representative comments on the CoAG standing Committee structure in which the local government is represented by one seat. He says

> *That's a relatively small voice compared to the role of the Premiers and the Commonwealth … I think is does highlight though the question of what is the relevance and importance of the local governments compared to the State agencies and the Commonwealth in setting up any new governance arrangements.*

In some cases participants reported that institutions most impacted by a cross-border issue are not always able to adequately respond due primarily to resource limitations. In this situation, other institutions less invested in the issue, may have greater resources to commit to an arrangement. It can then become difficult to maintain the interests of the less resourced partners in an arrangement, and to find the right balance in regard to the appropriate level of representation between members and therefore the appropriate span of control and accountability. A state government representative explains

> ` *… the main challenges relate to the span of control and the accountability. So usually a cross-border issue arises because something can't be dealt with just within local government. So it's obvious to everyone, well the main players that something has to be done so a joint arrangement is arrived at. So, the challenge is identifying and setting it up and then apportioning the accountability in an effective way… The challenge is or the reasoning is that as the investigation comes up with a list of things that need to be done, how is it then enforced by the different parties to that joint statement or agreement to make sure it happens in their jurisdiction?'*

A significant challenge for institutional arrangements identified specifically for the case study region relates to the cultural divide across the state boundary. A local government representative comments on cultural differences that can exist on each side of a border, which are technically two separate communities, but mostly identify as one blended community. Due to the nature of competition for State resources from the Federal government, and other trade and investment opportunities, each State government fosters a State based identity. An identity reinforced through sports, like the State of Origin competition and other cultural competitions. The division of a blended border community into discrete State based communities can contradict and agitate efforts to collaborate and build a unified border region focus. A State government officer working within the Tweed / Gold Coast region describes:

> *The cultural divide is something that takes a lot more work and a lot more time. You're looking ordinarily around a couple of years for cultural change to occur, and that's even in a receptive environment. It's definitely the culture that would be the greatest barrier to changing the way things are done.*

Other significant challenges include navigating across and harmonising different legislation and regulatory instruments and different governance structures and responsibilities in each State. At a minimum, they include finding alignment in regard to

resourcing and prioritisation at a political level, plus the challenges of navigating across two sets of legislative requirements, protocols and processes and governance structures. Even interpreting different institutional language and terminology was identified as a major challenge for harmonising procedures exacerbating the difficulties in data collection and reporting when dealing with multiple stakeholders in a cross-border context.

Securing resources to address an issue slightly outside of the organisation's agenda is challenging. In this instance, the private sector, co-contribution or grants are identified as potential funding bodies. For local governments, grants through the State government or Federal government are typically sought in the first instance but these grants usually impose conditions upon the local government that may in fact restrict collaboration across a State border. A local government participants discusses the difficulties involved in securing funding to develop a regional collaboration, he identifies that the key challenge as follows:

> ....probably the state level politics ... because initially the whole funding for the project was difficult you could say to secure. Although we had [one] Council prepared to contribute and then [the other] prepared to contribute, the Feds were keen to contribute but couldn't unless they had the State counterparts contributing.

Another example was given by a State government representative working within the Emergency Management sector. He states:

> At one point we were looking at wanting to try to set mutual aid agreements if you like across the border …. The hassle that came up with that was the State position, was that if you send stuff over the border you will probably not be able to reclaim or get any contribution from the State for those resources through the State natural disaster relief and recovery arrangements. So the State process of funding stopped that from occurring.

Several participants referred to ad hoc funding and opportunistic funding programs that both local and State governments have sought which has sometimes resulted in an inconsistent approach to infrastructure planning and development in the region. The seemingly misaligned and uncoordinated transport networks along the State border may ultimately be the result of insufficient resourcing. As a State government representative explains …

> ...in order to be able to build a lot of this infrastructure, you'll get arguments between State governments and both Local governments about who's going to pay for what and that's very difficult in these particular times, simply because the Federal government over time has given the States less and less and less funding in order to be able to build infrastructure. So you get patchwork which stems primarily from inadequate resources.

Complying with two sets of legislation, licensing arrangements and regulatory protocols similarly places considerable strain on a collaboration, particularly in regard to the associated resourcing needs and acquired knowledge. An example was provided by a local Politician who describes the processes undertaken to link up transport networks across the State border. He says:

> In the past there hasn't been a great deal of emphasis on that [resolving cross-border issues], and I think a classic example of that would be the Bypass, seven kilometres long, five kilometres sits in one State and two kilometres in the other. New South Wales refused to contribute anything to it, whereas it's been a plus to both sides of the border. So you actually had

Queensland, when they were building that they had to adapt to the New South Wales environmental laws rather than the Queensland laws. So there were extra costs. Everywhere you look with cross-border issues there are extra costs, because sides claim their systems or processes are better than the others.

Political will or support is required to initiate and sustain any project. Without political will, securing resources are difficult. Within a local government environment, Council is required to sign-off on any significant Council commitments; as such Councillor support for a project is crucial. Similarly, at the State level support from the Department Heads or appropriate Minister is essential in order for resources to be released. A situation made more tenuous following subsequent political cycles and re-prioritisation of projects and programs. Cross-border projects are therefore more exposed to political barriers as navigation across two States and often, two local government political systems add further exposure to an existing project. The level of political support offered to a particular institutional arrangement can therefore be dependent upon the larger political manoeuvring or positioning occurring at a higher level.

Of significance to any institutional collaboration is the dynamic nature of these challenges, due to the multi-tiered political cycles observed within a border environment. Political will, legislative frameworks, the level of resourcing and institutional commitments can change frequently and can occur at any time. The reality of collaborating in this environment means that collaborations that require significant levels of resourcing like the TRESBP and the Border Rivers Commission need significant `ownership' by the State government to secure some longevity. Some workshop participants felt that Federal government involvement was crucial in securing a long-term commitment to a particular arrangement.

3.3.5 Opportunities resulting from cross-border collaboration

In order to be effective climate change adaptation strategies must consider local practises, existing knowledge bases and the power balance and divergent interests within a community (Eriksen et al., 2011), which in turn supports a regionally or place based co-ordinated climate change adaptation response. To this end a number of lessons from existing cross-border arrangements can be drawn on to support and promote a more co-ordinated cross-border approach to climate change adaptation in the Gold Coast/Tweed region as summarised in Table 7 below.

Table 6: Summary table of key findings regarding cross-border arrangements at the Tweed/Gold Coast regional scale with application for climate change adaptation

	Key Case Study Findings
Key challenges specifically confronting cross – border collaborations	Contradictory / Misaligned Legislative and Regulatory Frameworks
	Securing co-funding and resource sharing at local and State government level for the broader border region
	Differences in political priorities and protocols / processes
	Transcending the cultural divide
Key benefits and opportunities to arise from cross-border collaborations	Breaking of institutional barriers and setting a precedent for collaboration;
	Building of capacity and sharing knowledge;
	Resource sharing and bulk purchasing arrangements;
	Creating potential for innovation and an opportunity to address an extraneous issue;
	Resulting in congruence of services and harmonising of policies and legislation.
Key triggers	A major crisis or extreme weather or financial event
	Political alignment creating favourable collaborative opportunities;
	The development of institutional incentives to respond to national, state level or regional scale issues of interest above institutional self-interests;
	Significant stakeholder persuasion
	Opportunistic responses to funding programs.

Opportunities for climate change adaptation arise from cross-border arrangements include an enhancement of conditions favourably to the alignment of individual stakeholder's objectives and interests in the broader region. This has broader application to climate change adaptation. For example Brown and Bruerton (2009) identify that cross-border arrangements can coordinate regional policies and alleviate differences at the stakeholder level, resulting in a reduction in legal exposure of State based actors and complementary support for local actors.

Some of the other opportunities have been identified by Crabb and Dovers (2007) and Good (1992), cross-border law enforcement can result from effective cross-border arrangements, in addition to providing opportunities for networking, peer support, sharing of knowledge. The potential reduction in duplication through cross-border arrangements was described by Crabb and Dovers (2007) as an efficient and effective management. Other benefits relate to cross-border arrangements creating consistency in public awareness, education and public participation in planning (Good, 1992).

Capacity building around shared issues of importance was also identified as a significant benefit of cross-border collaborations. Workshop participants also identified potential organisational efficiencies in regard to information sharing and service delivery as key opportunities to arise from collaboration. In addition, the sharing of resources and knowledge (learning) was proposed as a way to increase capacity for innovation and to address issues that were not normally considered in a resource-constrained environment. A participant identified that the sharing of knowledge and challenging ideas creates an opportunity for innovation and to view the issue from another perspective. A State government representative explains;

> *I think collaboration is definitely one of the things, you know, synergies of decent concepts coming from different philosophical policy background, if they are that diverse, and if they work together, they can come together with a better outcome*

Several workshop participants reasoned that the potential for innovation is sometimes lost to an organisation. Resource limitations constrain the ability of organisations to consider issues outside of their core responsibilities or to test methods outside of best practise. A merging of resources, philosophical approaches and learning opportunities were all considered to be opportunities in the cross-border space. Significant benefits to the community from cross-border collaborations include: greater connectivity across the border region; and greater congruence of services and assistance. Building regional focus and regional knowledge through data sharing and integration was similarly identified as a key opportunity for building trust and cross-border reciprocity by the research participants.

In summary there are significant short – term benefits of cross-border collaborations; these include resolving significant cross-border issues that provide benefit to the broader border community. Some of these benefits may include greater connectivity, congruence of services and harmonising of policies and legislation. In addition, resource sharing efficiencies and learning opportunities are benefits afforded to all collaborations. However, greater opportunities for innovation and capacity building would result from cross- border arrangement in comparison to inter-State collaborations due to differences in regulatory instruments, processes, political environments, varying philosophical approaches and such.

The most frequently identified long term benefits or opportunities to rise from cross-border collaborations stem from the commitment to work together which creates a mandate to solve challenges and barriers and in turn creates a framework for further collaboration. This precedential experience was considered by participants as an essential component to developing a collective vision or framework for the wider border region as a whole in which co-operative planning can be realised.

4. DISCUSSION

A number of key findings have emerged from the data results and outputs in terms of supporting and promoting climate change adaptation in Australia as a cross-border agenda. These include the following:

➢ Climate change impacts do not adhere to set administrative boundaries yet adaptation as a cross-border issue is not well addressed within the context of Australian federalism.

➢ There are significant challenges impeding cross-border collaboration in Australia (legal, institutional, cultural, historical) particularly at the state level.

➢ There are benefits *and* disbenefits of informal collaborative transboundary arrangements as compared to more formalised regulatory state mechanisms. The majority of cross-border arrangements in Australia at present do not have statutory effect.

➢ Time critical issues, such as emergency response, point towards a top-down response that cuts across all institutional and bureaucratic barriers.

➢ The cross-border landscape in Australia is shifting however with: [i] *new national legislation* (i.e. Murray Darling Basin); [ii] *new roles* (i.e. NSW cross-border commissioner); and [iii] *new regional organisations* (i.e. Regional Development Australia) – these initiatives can be used to implement climate change adaptation activities as part of a broader mainstreaming adaptation agenda.

➢ The benefits of greater cross-border collaboration in key areas related to climate change adaptation such as emergency management, natural resource management and urban planning and development is significant in terms of *equity and fairness* (distributive, procedural and participatory) and *efficiency* (resources, communication, duplication).

Key findings to emerge that were novel and/or unanticipated during the project include.

➢ Significant adaptation issues are regional in scale (not local) as typically reflected in the climate change adaptation literature.

➢ There is a growing national role in cross-border issues – particularly related to funding, legitimacy and arbitrator across state borders in an era of encroaching 'competitive federalism'.

➢ Local-level cross-border arrangements often exist and flourish 'under the radar' based largely on informal networks around areas of identified need.

➢ Cross-border arrangements comprise *communities of interest* (i.e. climate change adaptation) and *communities of practice* (regional harmonisation) – these need to be better understood in context.

Each of these findings emerged from the application of the learning framework. A discussion of these findings within the context of the three key areas identified in the learning framework including problem re-framing and institutional mechanisms, the challenges of governance re-organisation and the opportunities for transformational

change/learning will be outlined in the sections below followed by a discussion of research gaps and future directions

4.1 Applying the learning framework

4.1.1 Problem re-framing

Climate change is a contemporary force unleashing a new politics of struggle over place, policy and territory. At the cross-border level, climate adaptation processes are politically mediated, with potential for shifting and (re)-framing regulatory practices across different spatial scales (Brenner, 1999, Jessop, 2002, Swyngedouw, 1997). The need to re-imagine what was once separate – as whole – within the context of climate change was an important conceptual reference point that emerged during the research process.

This goes beyond natural (i.e. geographic) and/or administrative divisions to include institutional, cultural and political borderlines as well. This "calls for innovative solutions while still being highly dependent on a wider system of institutional relationships" (Gualini 2003, p. 45). Significantly this involves recognition that climate change adaptation itself is not a stand-alone 'silo' agenda, but one that must be deeply embedded and integrated across other sectors and scales within a broader policy mainstreaming framework. A 'whole of government' approach. To this end, conceptual and practical understandings of cross-border governance and regulation can be seen to converge in their focus on the political and institutional processes of re-territorialisation.

In the Murray Darling Basin (MDB) for example, the transition to cross-border arrangements involved in the first instance, the re-imagining of the Basin as a catchment-wide entity rather than a series of state-bound parcels of water and land. The importance of connecting the geographic specificities of ecologically significant bio-systems has been an important, yet largely iterative learning process in this vital adaptation area. This required recognition that the institutional apparatus responsible for planning and managing the MDB was also fragmented at the state level, and therefore needed to be reorganised and re-imagined.

Even with the introduction of early cross-border mechanisms through Agreements, the capacity of one state to veto a proposal served only to further underscore the largely self-serving state agendas intimately linked to settlement growth, productivity and development - and not environmental protection. The controversial process of re-territorialisation in the MDB, is grounded within issues of space and place, but goes further to invoke the re-assertion through the nation-state of the MDB as a national - not state – water security agenda. Within the context of the MDB, political issues around notions of 'territory' have emerged as the key defining issue affecting the cross-border arrangements in the region.

In a practical sense the re-imagination of cross-border regions relies on a range of triggers, regulatory reform strategies and institutional practices to mobilise change. Within the Australian context a number of triggers were identified as prompts for addressing cross-border issues with specific types of mechanism or arrangements. These include: [i] a major crisis or extreme weather event (i.e. flood GC/Tweed sub-plan); [ii] political alignment creating favourable collaborative opportunities (i.e. ACT/NSW growth corridor; [iii] the development of institutional incentives to respond to national, state level or regional scale issues of interest above institutional self-interests (i.e. the Australian Alps); [iv] significant stakeholder persuasion or opportunistic responses to funding programs (i.e. Gold/Coast/ Tweed sub-plan); and [v] the securitisation of a cross-border issue as an agenda of national security (i.e. MDB).

A hierarchy of formal mechanisms emerged through the research as a means of enabling cross-border arrangements with application for climate change adaptation including the development of: 1) Legislation; 2) Memorandum of Understanding (MoU); 3) Agreement; 5) Strategy; 6) Plan; and 7) Sub-plan. Whilst all of these represent formal cross-border mechanisms, only the MDB cross-border arrangements are embedded within the statutory obligations of the *Water Act 2007* and *Water Act Amendment Act 2008* in conjunction with the *National Plan for Water Security 2007*.

The formal establishment of a Memorandum of Understanding (MoU) forms an important leverage for cross-border cooperation across government agencies at scale. Whilst not legally binding the power of the MoU works as a co-ordinating mechanism for diverse agencies around a cross-border agenda without radically affecting existing institutional structures. In the case of the Australian Alps the MoU has been the key cross-border mechanism deployed for the region. Whilst in both the MDB and the ACT-NSW cross-border regions the MoU worked in conjunction with a range of other coordinating mechanisms such as 'Agreements'.

A range of organisational bodies and roles have also emerged to support the cross-border arrangements and mechanisms outlined above. The emphasis here is on specific organisational bodies set up to facilitate cross-border arrangements. This does not discount those cross-border arrangements that rely on existing organisational structures located within each State. In the cases examined typical organisations included the establishment of: 1) an Authority; 2) Ministerial Council; 3) Commission/commissioner; 4) a range of different Committees; and 5) forums. In NSW the State Government for example appointed the state's first *Cross-Border Commissioner* in 2012 recognition that there are 'a range of unique issues facing people living in border towns and regions' and as a means by which to provide 'advocacy for businesses, organisations and residents in border communities' (NSW Government, 2012). So far however there is no Queensland equivalent.

Within the MDB for example, a diverse range of organisational bodies reflect both the complexity and long history of regional cross-border arrangements. A series of Commissions have been established in conjunction with key agreements. The River Murray Commission (RMC) established on 1914 was established as an administrative body responsible for implementation of the River Murray Agreement. This included representatives from each state with the Commonwealth as chair and operated through a unanimous vote. Another administrative body to emerge from the 1998 MDB agreement was the formation of the Ministerial council with representatives of 3 states (Vic., NSW and SA) responsible for water, land and environment policy. Contingent to the agreement was the formation of a Community Advisory Committee (CAC) appointed by the ministerial council.

A further administrative body was ushered in with the Water Act 2007 in the form of the MDB Authority responsible for whole-of-basin water planning and requiring a majority vote. For comparison the single Australian Alps Liaison Committee demonstrates a simplicity which has been set up through the MoU to facilitate the development, co-ordination and implementation of cooperative management. In the case of the GC-Tweed for example, there were no organisational bodies set up for the purposes of cross-border arrangements, just the development of the cross-border sub-plan operating under the ambit of bilateral cooperation.

Outside of government actors such as ministers, representatives from national, state and local government agencies, and technical bureaucrats, there is a whole range of government, quasi-government and community agencies and networks. These further help drive and define the larger cross-border agenda. The cross-border landscape entails a complex range of actors and networks currently operating within the

governance of cross-border regions in Australia. The key intergovernmental and national bodies to emerge in the four cases examined include:

- Council of Australian Governments (COAG) - Intergovernmental
- Regional Development Australia (RDA) - Intergovernmental
- Bureau of Meteorology (BOM) - National
- Australian Competition and Consumer Commission (ACCC) - National
- Commonwealth Environmental Holder (CEWH) - National

COAG is playing an increasing role in cross-border arrangements in its role as the peak intergovernmental forum for coordination of powers and responsibilities across the three tiers of Australian Government. COAG brokers a number of reform agreements, including, for the purposes of this research, the Agreement on Murray Darling Reform (and referral) signed by the Commonwealth and states in 2008. Within the MDB the Water Act 2007 also provides for three other national-level organisational bodies: [i] the Bureau of Meteorology (BOM); [ii] the Australian Competition and Consumer Commission (ACCC); and [iii] the Commonwealth Environmental Holder (CEWH) responsible for the management of Commonwealth water holdings. At the sub-national level, but within the context of the national capital area of ACTNSW, the National Capital Development Commission and the Southern Tablelands Development Commission have both been involved in regional cross-border coordination and planning. Enhancing cross-border collaboration in the ACT-NSW region has also been the focus of regional groups such as the Regional Leaders Forum established through the broader national network of *Regional Development Australia* (RDA) boards.

Across Australia fifty-five RDA Committees are federally funded and have a role in shaping, uniting and promoting whole of government activities across a specific [cross-border] region (Regional Development Australia 2011). The ACT RDA jurisdiction comprises the whole of ACT, but they do however, collaborate with the NSW Region of the Capital. RDA committees are tasked with five core functions: consult and engage with the community; support informed regional planning – overseeing the development of a strategic regional plan; promote whole-of-governments activities; promote government programs; and facilitate community and economic development (RDA, 2011, p. 1).

In sum located somewhere between International voluntary agreements (e.g., Ramsar wetlands in the Australian Alps), nation-state constitutional obligations (e.g. water security in the MDB), state-based agendas (i.e. settlement growth and development in the ACT-NSW cross-border region) and local government directives (e.g. emergency management in the GC-Tweed); lie cross-border regional arrangements which navigate across State-based administrative lines. The re-imagining and re-framing of borders through cross-border governance mechanisms and organisational bodies is thus both a political and institutional construct, grounded within specific contexts.

4.1.2 Governance re-organisation

A key finding of the project is that significant climate change adaptation issues are regional in scale (not local) as typically reflected in the climate change adaptation literature. Within the Australian context this means above the level of local municipalities but below the level of state jurisdictions. In areas such as the Gold Coast/Tweed, the Murray Darling Basin, the Australian Alps and the ACT/NSW borderlands, climate change adaptation in pivotal areas such as critical infrastructure (including transport), water security, nature conservation and emergency management is a regional-scale agenda. As with other policy areas cross-border arrangements needed to support and promote climate change adaptation face a number of challenges, many of which can be related back to the roles and the responsibilities of

multi-tiered governments and political cycles (e.g. loss of traction, political will and commitment).

Australian federalism poses significant challenges at the regional scale including: a lack of regional-level mechanisms; an absence of clear and effective institutional arrangements for the planning of urban development and the coordination of urban services, including infrastructure; no clear means of collective democratic expression about resource allocation and strategic issues; and un-coordinated and highly differentiated responses to key urban issues related to climate change adaptation (e.g. housing, water, energy, planning and development) (Gleeson and Steele, 2012).

The federal system as established through the Australian constitution, by limiting Commonwealth power (S51) gives residual power to state and territory governments who thus have the majority of responsibility and power in relation to key cross-border issues such as natural resource management and urban policy and planning.

CommonwealthCommonwealthThe inclusion of the Australian Alps on the National Heritage List has given the federal government more power in the management of the Alps. For Crabb (2003, p.8) the involvement of the Commonwealth in the Australian Alps has been crucial even without statutory power: "the glue that has held the [Australian Alps] program together…its symbolic importance outweighs the number of dollars…".This is the process of subsidiarity whereby responsibility for Commonwealth funds is devolved to the level closest to the people. Others have described this as increasing centralization (Jones, 2008). Once put in track through legislation this can be difficult to reverse.

The cross-border challenges that emerge in the Gold Coast (Qld) /Tweed (NSW) case-study for example centred on cross-state issues of different priorities between different jurisdictions / governments which in turn, directs funding and resources. Political will or leadership was also seen as driving the prioritisation of issues and was largely seen to be a crucial element for policy development in a particular field. Therefore, in this regard, different agendas across-borders provide significant impediments / barriers.

At the sub-state level an organisation's isolated or secular understanding of / response to an issue was frequently cited as prohibiting or constraining collaboration as was funding and resourcing. Inconsistent or incompatible data was identified as a significant challenge for cross-border arrangements as was the lack of national consistency or national standards / frameworks. The difficulty involved in identifying the right organisation / individual to contact when needing to address a specific cross-border issue, due to different organisational structures, was also emphasized especially within a rapidly changing organisational context or political environment.

Perhaps the greatest cross-border governance challenge is how best to integrate all of the diverse actors – formal and informal. In addition to the state, territory and federal government cooperative arrangements, there is also collaboration between external non-government organisations, community groups, and stakeholders (Anderson and Atkins 2010). For example national not-for-profit organisations such as the *Australian Conservation Foundation (*ACF) which has formed the 'Alliance of Voices for the Murray' which brings together diverse community voices in support of bringing more water into the Murray. Increased community involvement and participation has been crucial for the ongoing survival and implementation of the cooperative initiative, and greater understanding of the management of the Alps (Gare, 1986).

Since 2005 there has also been far greater involvement from Indigenous community elders and representatives (Australian Alps National Parks, 2008). Connecting with

other agencies outside a cross-border region has proved valuable for sharing knowledge and experience, and avoiding duplication. However, meaningful, ongoing community involvement in line with best practice for public participation and community engagement is not easily achieved within current cross-border arrangements due to limitations in funding and the institutional and regulatory mechanisms deployed.

The re-organisation of governance involves institutional arrangements that operate both within and between established administrative boundaries. As Brown and Bellamy (2007) note this typically manifests as a hybrid of top-down and bottom-up governance concepts that extend both inwards and outwards towards new cross-border initiatives and regulatory mechanisms. Regardless of the style and type of governance approach and/or mechanism deployed, cross-border regions are best understood as ever-emergent territorial and functional arrangements that operate across scales, rather than discrete standalone initiatives equipped with self-governing capabilities (Perkmann, 1999).

As Brown and Bruerton (2009, p.48) observe "in a range of policy and service areas, many not anticipated at federation, questions of cross-border equity and coordination continue to arise". This is especially so for the transformative change required around climate change adaptation as a mainstream agenda across diverse cross-border sectors policies and scales.

4.1.3 Transformative change/learning

If we are to re-conceive climate change adaptation as fundamentally a diffuse cross-border agenda, rather than a source-point issue or localised problem, then this will require a more flexible approach to the way climate change adaptation is governed and regulated within the Australian context. What then are the opportunities for transformative change and learning from existing cross-border governance initiatives and mechanisms within the context of climate change? What are the institutional and regulatory options?

Two options for supporting and promoting climate change adaptation as a cross-border agenda are currently available within the Australian context: 1) retrofit the status quo through mainstreaming and capacity building; or 2) create new cross-border regulatory reform arrangements and mechanisms. Building the capacity to retrofit existing cross-border arrangements in Australia to cope with climate change by embedding adaptation activities across all sectors rather than tackling climate change as a stand-alone reform agenda is the current national policy approach. The Murray Darling Basin (MDB) for example has been heralded as the first national climate change flagship agenda with a strong emphasis on the cross-state implications of climate change impact on water resources and food security within the region.

Climate change effects have also been specifically acknowledged in the 2008-2011 Australian Alps Strategic Plan, where climate change and adaptation are identified as priority issues (Cairnes, 2008). In order to maximise climate change adaptation responses, priority management actions have been proposed within the cross-border collaborative framework that exists (Worboy and Good, 2011). Under the Australian Alps National Parks Co-operative Management Program Strategic Plan 2008-2011 (Cairnes, 2008) – Priority Area 2, climate change adaptation has been targeted and a special task group and reference group assigned to progress knowledge in this field. The Strategic Plan states that the climate change and adaptation key research area's objective is to implement:…contemporary approaches to planning, responding and adapting to climate change in the mountain protected areas and determining needs and mechanisms for further research, particularly related to the impact of climate change on natural heritage conservation (Cairnes, 2008, p.14).

The Tweed Shire Council and the Gold Coast City Councils – Cross-border Sub Plan supports the implementation of each Council's independent disaster management plan. The plan has been developed by respective Councils and associated emergency / disaster response agencies from each state with the common objective to delineate an effective, co-ordinated response to disasters in the Tweed and Gold Coast cross-border community. It is recognised that climate change impacts can manifest as altered regimes of natural hazards and present at the local level as emergency management issues (Bajracharya et al., 2011). Whilst climate change adaptation initiatives have not been specifically addressed in the Sub-Plan which is primarily focussed on emergency response rather than mitigation / adaptation each Council however, has undertaken planning around climate change adaptation.

If existing models of cross-border arrangements prove to be inadequate for the purposes of climate change adaptation then new cross-border arrangements will have to be designed and implemented. To this end a number of features of cross-border arrangement evolution and structure need to be considered:

- Cross-border arrangements tend to evolve over time, driven initially by local issues;
- Cross-border arrangements tend not to be legally binding in early formation, yet nor are they informal; and
- The securitisation of an issue (i.e. water, conservation, climate change) tends to propel momentum upwards towards a national statutory role, rather than back down to the local level where the effects are felt 'on the ground' (despite the strong existing principle of subsidiarity). This is then a difficult process to reverse and has implications for ensuring the integrity of the core principle of subsidiarity that underpins Australian governance processes.

This goes back to Brown and Bruerton (2009) in the context of mechanisms that currently exist at the cross-border in Australia, who argued that many of the mechanisms that currently exist at the cross-border in Australia require "greater institutional support for cross-border collaboration is desirable as a means of placing this collaboration on a more permanent and sustainable basis" (p.65). A key finding is the need to lift some issues above local specificity in order to maximise the benefits of regional cooperation through mutual inter-dependencies via a cross-border economies of scale.

The Murray-Darling Basin Agreement, for example, is a significant large-scale cross-border institutional arrangement for the management of common-pool resources. While the cross-border arrangements have encountered many development and implementation challenges, this case provides a valuable experience in the inter-state collaboration processes and development of new governance arrangements based on the boundaries of large scale biophysical systems. The current solution to the issues of shared resources and water security in the Murray Darling Basin region is the centralised planning and distribution of water resources at the Basin level which is managed at the national scale. The role of the central government has shifted from strategic funding "to a position of ultimate control and responsibility" (Turral et al., 2009, p. 288). However, while the powers of the States to negotiate water allocations have been significantly reduced they still remain crucial players in the implementation process.

In the Australian Alps the benefits of a cooperative agreement enabled the different Alps communities to look beyond their own parks and jurisdictions, to see the Alps as a whole. Since the introduction of the Australian Alps cooperative management agreement MoU there has been greater cooperation between the state, territory, and federal governments The cooperative agreement provides an opportunity to penetrate

many levels, including politicians, heads of agencies, the AALC, working groups, and on-ground staff (Crabb, 2003). According to Mackay and Worboys "there are clear efficiencies in economic terms which, in times of financial restraint, may assist in freeing funding for other areas" (quoted in Crabb 2003, p. 84).

The ACT-NSW Regional Management Framework agreement and the associated regional and local planning mechanisms provide the opportunity for strategic coordination and management of population growth, across the various agencies, throughout the region. Through these arrangements, the ACT and NSW are able to "benefit from a regional development approach […] achieved through cooperative planning" (Regional Development Australia 2010, p. 11). Finally, in the Gold Coast-Tweed, despite the local scale, the cross-state-border cooperation agreement has elicited a range of potential opportunities, including: enabling cooperative leadership and management of strategic growth issues. The recent MoU and appointment of a cross-border commissioner lend further weight to the significance of the regional cross-border scale in key areas related to climate change adaptation such as critical infrastructure. The key opportunities and benefits of addressing cross-border issues are outlined below in Figure 21.
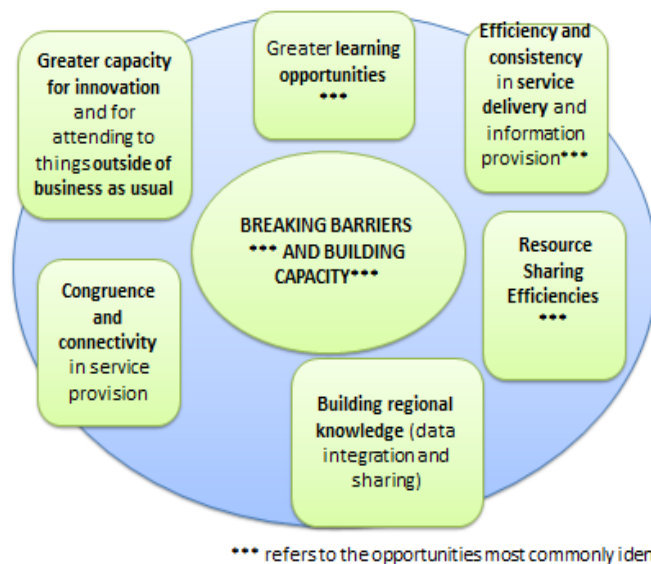
Figure 21: Key benefits and opportunities from cross-border arrangements identified by research participants with application for supporting climate change adaptation

Opportunities identified relate to: breaking institutional barriers and setting a precedent for collaboration; building capacity and sharing knowledge; resource sharing and bulk purchasing benefits; creating a potential for innovation and an opportunity to address an extraneous issue; and congruency of services / information and harmonisation of policies / legislation and protocols. All of these benefits in turn, support regional planning and servicing resulting in better outcomes for the wider border community. A schematic of the key benefits

Cross-border collaborations provide an opportunity to breakdown institutional barriers and forge relationships across bureaucratically imposed boundaries. There are significant short–term benefits of cross-border collaborations; these include resolving significant cross-border issues that provide benefit to the broader border community.

Some of these benefits may include greater connectivity, congruence of services and harmonising of policies and legislation. In addition, resource sharing efficiencies and learning opportunities are benefits afforded to all collaborations.

The most frequently identified long term benefits or opportunities to rise from cross-border collaborations identified in the research stem from the commitment to work together which creates a mandate to resolve challenges and barriers, which in turn creates a framework for further collaboration. This precedential experience was considered by participants as an essential component to developing a collective vision or holistic adaptation framework for the wider border region in which co-operative planning can be realised. The relational capital of the region is therefore highly valued and a considered platform for further coordination in regard to identifying and responding to climate change adaptation concerns on a project basis.

In a practical sense the transformative potential of re-imagining cross-border regions relies on a range of regulatory reform strategies and institutional practices to mobilise change. The emphasis rests in how best to co-ordinate key environmental issues in order to: address the needs of a particular region; serve communities properly; or address potential disadvantage to a community. The challenge is not to 're-invent the institutional wheel' (cf. Dovers, 2009, Dovers and Hezri, 2010) but to find cross-border approaches and regulatory mechanisms that are not only fit for purpose, but also democratically defensible and adhere to the core principles of equity, transparency and subsidiarity.

5.   GAPS AND FUTURE RESEARCH DIRECTIONS

This three-stage research project has focused on learning from existing cross-border institutional and regulatory mechanisms in Australia with a view to strengthening and improving cross-border climate change adaptation practices within the context of federalism. Two key gaps identified for future research build on this agenda: 1) learning from international cross-border examples and governance arrangements in climate change adaptation and related areas such as water security; and 2) a broader focus on planning across-borders as a conceptual and practical agenda.

5.1   International cross-border governance context

Internationally cross-border governance frameworks have already been applied to key areas related to water security, ecosystem significance and functioning, biodiversity and nature, disaster management, human health, economic transition, urban infrastructure, planning and development, and trade and energy supplies. These international arrangements provide opportunities for climate change adaptation, especially their cross-sectoral, multi scalar nature. Water for example has been identified internationally as a key area for cross-border regulatory reform that is applicable to climate change adaptation through policy initiatives and institutional mechanisms across all scales. Water security, through river catchment/basin management initiatives, has long been promoted as a priority area for cross-border reform and action at regional, national and international scales - one that cuts across traditional institutional silos, sectors and scales. Despite the importance of water issues within the Australian context, there is little understanding of the range of international cross-border water regulatory reform frameworks and mechanisms in this key area; the efficacy of how they work to address climate change adaptation; nor the key lessons that could be gleaned and adapted from existing national and international trans-boundary water initiatives at scale.

5.2   Planning across-borders in a climate of change

Planning across-borders is therefore an increasingly complex practice involving a range of political and institutional processes, practices and discourses. Borders take on many different forms including: the physical dimensions of place; the geo-administrative functions and political-economic structures of territory; the socio-cultural imaginings of community; and the globalized flows of space. The various constructions of urban borders hold power and meaning that then manifests through material resources and institutional practices.

A border divides be it jurisdictions, landscapes, communities or ideas, and legitimizes particular policy activities or approaches. Borders become elements of control as they shape and define how particular issues, spaces and places are understood and acted upon. Drawing on diverse case examples from Australasia, North and South America, Europe, Africa, Middle East and Asia an edited book is in formation focused on the implications of planning across-borders as a contemporary agenda in a climate of change. The book builds on this NCCARF project and has three main aims:

- To offer the application of border theory, concepts and principles to planning as a critical lens;

- To apply this lens to a range of international case studies in key areas such as climate change adaptation, food security, spatial planning, critical infrastructure and urban ecology; and

- To outline future challenges, opportunities and directions for planning across-borders as a conceptual and practical agenda.

6. CONCLUSION

We have not given up our expectations for what good governance can achieve...

(Pusey, 2009, p.29)

This NCCARF funded research project has focused on learning from existing cross-border governance arrangements with a view to strengthening and improving climate change adaptation within the Australian context. Climate change – itself without boundaries – poses significant challenges to traditional modes of environmental planning and management in two distinct ways: firstly climate change has the potential to act as a threat multiplier on varied social, economic and environmental challenges that already exist; and secondly climate risks often compound existing spatial, social and environmental challenges (Gasper et al. 2011). In particular this will require more effective engagement with climate change adaptation as an issue of *ad hoc* and fragmented approaches to place (geography), space (institutions), and territory (politics) – and a re-configuration of all three across regional areas that span established state boundaries.

The adaptation cross-border governance 'problematique' focuses primarily around two key agendas: [i] the novel re-articulations of power that cross-border innovations pose, involving diverse groups of actors and networks; and [ii] the benefits and disbenefits of informal collaborative transboundary arrangements as compared to more formalised regulatory state mechanisms. The complexity of cross-border governance requires the coordination of policies vertically as well as horizontally.

Climate change issues such as water security currently demand new ways of thinking across-borders, institutions and regulatory regimes. As Anderson et al (2003, p.vii) note there is increasing awareness that we have to understand the nature of borders and how they are changing in order to appreciate the need and the opportunities for cooperation across them... how networks of trust can be established, and how the democratic governance of cooperation can be realised".

The creation of cross-border regions through regulatory reform strategies and institutional practices involves, according to Gualini (2003, p. 46), "the loosening of jurisdictional boundaries and scales within a change in relationships between supranational, national and sub-national authorities". This is a re-imagining of state structures and sovereignty through the re-organisation of cross-border governance at particular scales. What was periphery becomes core; whilst the margin becomes the centre within these new cross-border reform arrangements. To support this re-framing process requires the establishment of cross-border arrangements that operate in parallel with other existing institutional frameworks.

To this end the mere existence of multiple levels of government and/or governance is not in and of itself enough. Church and Reid (1999) have emphasized the need for cross-border governance to focus on the nature and integrity of co-operation; the nature of power relationships among actors; and the recognition of organisational diversity. Key to this dialectic is the strategic interplay of a number of factors including: access to resources and funding; policy exchange; political lobbying; cost-benefit sharing and positioning of intergovernmental relations.

Regardless of the style and type of governance approach and/or mechanism deployed, cross-border regions are best understood as ever-emergent territorial and functional arrangements, rather than discrete stand alone initiatives equipped with self-governing capabilities. Within the Australian context the capacity to support and promote climate

change adaptation through cross-border mechanisms at the regional scale is still an evolving agenda within the current governance framework.

7. REFERENCES

ALBRECHT, M. 2010. Transboundary governance of the Curonian Spit World Heritage Site. *Journal of Environmental Planning and Management,* 53(6)**,** 725-742.

ALSTON, M. & WHITTENBURY, K. 2011. Climate change and water policy in Australia's irrigation areas: a lost opportunity for a partnership model of governance *wenvironmental Politics,* 20(6)**,** 899-917.

ANDERSON, G. 2008. The Council of Australian Governments: A new institution of governance for Australia's Conditional Federalism. *UNSW Law Journal,* 31(2)**,** 493-508.

ANDERSON, G. & ATKINS, R. 2010. Australian Alps National Parks: Enhancing connectivity through cooperation across-borders. *In:* WORBOY, G. L., FRANCIS, W. L. & LOCKWOOD, M. (eds.) *Connectivity Conservation Management : A global guide.* London: Earthscan.

ANDERSON, J., O'DOWD, L. & WILSON, T. M. 2003. *New Borders for a Changing Europe: Cross-border Cooperation and Governance,* London, Frank Cass Publishers.

ANDONOVA, L. B., BETSILL, M. M. & BULKELEY, H. 2009. Transnational Climate Governance. *Global Environmental Politics,* 9(2)**,** 52-73.

AUERBACH, C. & SILVERSTEIN, L. 2003. *Qualitative Data: An introduction to coding and analysis,* New York, New York University Press.

AUSTRALIAN ALPS NATIONAL PARKS. 2008. *News from the Alps* [Online]. Available: http://www.npaact.org.au/res/File/PDF/ALPS%20NEWS%2037%20.pdf [Accessed 18 December 2012].

AUSTRALIAN ALPS NATIONAL PARKS. 2011. *About the Alps-a story of cooperation* [Online].Available:http://www.australianalps.environment.gov.au/cooperation/index.html [Accessed 14 December 2012].

AUSTRALIAN BUREAU OF STATISTICS 2008. Water and the Murray-Darling Basin: A Statistical Profile 2000-01 to 2005-06. Canberra.

AUSTRALIAN CAPITAL TERRITORY GOVERNMENT AND NEW SOUTH WALES GOVERNMENT. 2006. *ACT-NSW Regional Management Framework Agreement* [Online].Available:http://www.cmd.act.gov.au/__data/assets/pdf_file/0007/119473/actnsw-reg-mngmt-frmwrk.pdf [Accessed 14 December 2012].

AUSTRALIAN CAPITAL TERRITORY GOVERNMENT AND NEW SOUTH WALES GOVERNMENT. 2011. *Memorandum of Understanding for Regional Collaboration* [Online].Available:http://www.cmd.act.gov.au/__data/assets/pdf_file/0004/265225/ACT-NSW-MoU-regional-collaboration.pdf [Accessed 14 December 2012].

AUSTRALIAN GOVERNMENT 2005. A greater Alpine National Park *In:* DEPARTMENT OF ENVIRONMENT AND HERITAGE (ed.). Canberra.

AUSTRALIAN GOVERNMENT 2010a. Adapting to Climate Change in Australia. *In:* DEPARTMENT OF CLIMATE CHANGE (ed.). Canberra.

AUSTRALIAN GOVERNMENT. 2010b. *Natural Disaster Mitigation Program* [Online]. Canberra:Australian Government Available:http://www.ema.gov.au/www/emaweb/rwpattach.nsf/VAP/(3273BD3F76A7A5DEDAE36942A54D7D90)~ndmp_final_updated_april_2009.pdf/$file/ndmp_final_updated_april_2009.pdf 2011].

AUSTRALIAN GOVERNMENT. 2012a. *Roles and responsibilities for climate change in Australia* [Online]. Available: http://www.climatechange.gov.au/government/initiatives/sccc/meetings/20121116/roles.aspx [Accessed17 December 2012].

AUSTRALIAN GOVERNMENT. 2012b. *Select Council on Climate Change* [Online]. Available: http://www.climatechange.gov.au/government/initiatives/sccc.aspx [Accessed13 December 2012].

BAJRACHARYA, B., CHILDS, I. & HASTINGS, P. 2011. Climate change adaptation through land use planning and disaster management: Local government perspectives from Queensland. *17th Pacific Rim Real Estate Society Conference Climate Change and Property.* Gold Coast.

BELLAMY, J. 2007. Adaptive Governance: The challenge for regional natural resource management. *In:* A.J., B., AND BELLAMY, J. (ed.) *Federalism and Regionalism in Australia: New approaches, new institutions?* Canberra: ANU E Press.

BELLAMY, J. A., WALKER, D. H., MCDONALD, G. T. & SYME, G. J. 2001. A systems approach to the eveluation of natural resource management initiatives. *Journal of Environmental Planning and Management,* 63(4)**,** 407-423.

BIRTLES, T. G. 1990. Canberra's overspill into New South Wales. *Australian Geographer,* 21(1)**,** 68-78.

BLATTER, J. 2004. From 'spaces of place' to 'spaces of flows'? Territorial and functional governance in cross-border regions in Europe and North America. *International Journal of Urban and Regional Research,* 28(3)**,** 530-548.

BOHMAN, J. 2007. *Democracy Across-borders : from Dêmos to Dêmoi,* Cambridge, MIT Press.

BRENNER, N. 1999. Globalisation as Reterritorialisation: The Re-scaling of Urban Governance in the European Union. *Urban Studies,* 36(3)**,** 431-451.

BROWN, A. J. & BELLAMY, J. 2007. *Federalism and Regionalism in Australia: New Approaches, New Institutions?,* Canberra, ANU E Press.

BROWN, A. J. & BRUERTON, M. 2009. Overcoming State Borders in Australian Cross-border Communities: Select examples. *In:* DE VILLIERS, B. (ed.) *Crossing the Line: Dealing with cross-border communities.* Johannesburg: Konrad-Adenauer-Stiftung, 47-67.

BULKELEY, H. 2005. Reconfiguring environmental governance: Towards a politics of scales and networks. *Political Geography,* 24(8)**,** 875-902.

CAIRNES, L. 2008. Strategic Plan 2008-2011: For the Australian Alps national parks Co-operative Mangement Program. Canberra.

CHENOWETH, J. L., EWING, S. A. & BIRD, J. F. 2002. Procedures for Ensuring Community Involvement in Multijurisdictional River Basins. *Environmental Management,* 29(4)**,** 497-509.

CHORDIA, S. 2012. *Murray-Darling: Why Australia needs intergovernmental cooperation* [Online]. The Conversation. Available: http://theconversation.edu.au/murray-darling-why-australia-needs-intergovernmental-cooperation-10358 [Accessed 12 December 2012].

CHURCH, A. & REID, P. 1999. Cross-border Co-operation, Institutionalization and Political space Across the English Channel. *Regional Studies,* 33(7)**,** 643-655.

COBAKI LAKES. 2012. Available: www.cobakilakes.com [Accessed 26 september].

CONNOR, R. & DOVERS, S. 2004. *Institutional Change for Sustainable Development,* Cheltenham, E.E Publishing.

CRABB, P. 2003. Managing the Australian Alps: a history of cooperative management of the Australian Alps national parks. Canberra: Australian Alps Liaison Committee.

CRABB, P. & DOVERS, S. 2007. Managing Natural Resources Across Jurisdictions: Lessons from the Australian Alps. *Australasian Journal of Environmental Management* 14(4)**,** 210-219.

DAVOUDI, S. 2009. Scalar tensions in the governance of waste: the resilience of state spatial Keynesianism. *Journal of Environmental Planning and Management,* 52(2)**,** 137-156.

DEPARTMENT OF CLIMATE CHANGE 2009. Climate Change Risks to Australia's Coast: A first pass national assessment. *In:* DEPARTMENT OF CLIMATE CHANGE (ed.). Canberra: Department of Climate Change.

DEPARTMENT OF ENVIRONMENT CLIMATE CHANGE WATER NSW. 2010. *Border Ranges Rainforest Biodiversity Management Plan NSW & Queensland* [Online]. Sydney. Available: http://www.environment.gov.au/biodiversity/threatened/publications/recovery/border-ranges/ [Accessed 14 December 2012].

DEPARTMENT OF INFRASTRUCTURE AND PLANNING 2009. South East Queensland Regional Plan 2009-2031. *In:* QUEENSLAND GOVERNMENT (ed.). Brisbane: Queensland Government,.

DOVERS, S. 2009. Normalizing adaptation. *Global Environment Change* 19(1) 4-6.

DOVERS, S. & HEZRI, A. 2010. Institutions and policy processes: the means to the ends of adaptation. *Wiley Interdisciplinary Reviews: Climate Change,* 1**,** 212-231.

DUMARESQ-BARWON & BORDERS RIVERS COMMISSION. 2011. *Annual Report 2010-11* [Online]. Available: http://www.parliament.qld.gov.au/Documents/TableOffice/TabledPapers/2011/5311T5761.pdf [Accessed 26 September 2012].

DUNN, K. 2000. Interviewing. *In:* HAY, I. (ed.) *Qualitative Research in Methods in Human Geography.* Melbourne: Oxford University Press.

DURRANT, N. 2010. *Legal responses to Climate Change,* Sydney, The Federation Press.

EBURN, M. & DOVERS, S. 2012. Maintreaming fire and emergency management across legal and policy sectors. *The Australian Journal of Emergency Management* 27(2)**,** 14-19.

EBURN, M. & JACKMAN, B. 2011. Mainstreaming fire and emergency management into law. *Enviromental and Planning Law Journal,* 28(2)**,** 59-76.

ERIKSEN, S., ALDUNCE, P., BAHINIPATI, S., MARTINS, R., MOLEFE, J., NHEMACHENA, C., O'BRIEN, K., OLORUNFEMI, F., PARK, J., SYGNA, L. & ULSRUD, K. 2011. When not every response to climate change is a good one: Identifying principles for sustainable adaptation. *Climate and Development,* 3(1)**,** 7-20.

FEAGIN, J., ORUM, A. & SJOBERG, G. 1991. *A case for case study,* Chapel Hill, NC: University of North Carolina Press.

FINGER, M., TAMIOTTI, L. & ALLOUCHE, J. 2006. *The Multi-Governance of Water: Four Case Studies,* New York, State University of New York Press.

FLYVBERG, B. 2001. *Making Social Science Matter - why social inquiry fails and how it can succeed again,* Cambridge Cambridge University Press.

FORSTER, C. A. 2004. *Australian Cities: Continuity and Change,* Melbourne, Oxford University Press, 3rd ed.

GARE, N. 1986. The Future of Alpine Conservation: The benefits of cooperation. *In:* FRAWLEY, K. J. (ed.) *Australia's Alpine Areas Management for Conservation.* Canberra: National Parks Association of the Act.

GERO, A., KURUPPU, N. & MUKHEIBIR, P. 2012. Cross-Scale Barriers to Climate Change Adaptation in Local Government, Australia. UTS: Institute for Sustainable Futures, University of Technology Sydney.

GILGUN, J. 1994. A Case for Case-studies in Social Work Research *Social Work,* 39**,** 371-380.

GLEESON, B. & STEELE, W. 2010. *A Climate for Growth: Planning South-East Queensland* Brisbane, UQ Press.

GOLD COAST CITY COUNCIL. 2012b. *Community and Cultural Development Committee Meeting, LG473/471/02.* [Online]. Gold Coast City. Available: http://www.goldcoast.qld.gov.au/documents/ma/06._JUN_14_JUNE_2012_-_ADOPTED_REPORT.pdf [Accessed 17 December 2012].

GOOD, R. B. 1992. Co-operative Management of the Australian Alps National Parks. *Revue de Géographie Alpine,* 80 (2-3)**,** 335-357.

GUALINI, E. 2003. Cross-border Governance: Inventing Regions in a Trans-national Multi-level Polity. *DISP 152***,** 43-52.

GURRAN, N., NORMAN, B., GILBERT, C. & HAMIN, E. 2011. Planning for climate change adaptation in Coastal Australia: state of practice. *Report No.4 for the National Sea Change Taskforce.* Sydney: Faculty of Architecture, Design and Planning, University of Sydney.

HAJER, M. 1995. *The politics of Environmental Discourse: Ecological Modernization and the Policy Process,* Oxford, Oxford University Press.

HAY, I. 2000. *Qualitative Research Methods in Human Geography,* New York, Oxford University Press.

HEALEY, P. 2007. *Urban Complexity and Spatial Strategies: Towards a relational planning for our times,* New York, Routledge.

HENNESSY, K., FITZHARRIS, B., BATES, B. C., HARVEY, N., HOWDEN, M., HUGHES, L., SALINGER, J. & WARRICK, R. 2007. Australia and New Zealand. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Parry, M.L., Canziani, O.F., Palutikof, J.P., van der Linder P.J. and C.E.Hanson. *In:* PARRY, M. L., CANZIANI, O.F., PALUTIKOF, J.P., VAN DER LINDER P.J. AND C.E.HANSON (ed.). Cambridge University Press, Cambridge,UK, 507-540.

JESSOP 2002. *The future of the capitalist state* Cambridge, UK, Polity.

JONES, S. 2008. Cooperative Federalism?: The case of the Ministerial Council on Education, Employment, Training and Youth Affairs. *The Australian Journal of Public Administration,* 67(2)**,** 161–172.

JONES, S. 2009. The Future of Renewable Energy in Australia: A test for Cooperative Federalism? *The Australian Journal of Public Administration,* 68(1)**,** 1-20.

KASPER, W. 1993. *Making Federalism Flourish* [Online]. Melbourne: The Samuel Griffith Society. Available: http://www.samuelgriffith.org.au/papers/html/volume2/v2chap7.htm [Accessed 24 October 2012].

KEATING, M. & WANNA, J. 2000. Remaking Federalism. *In:* KEATING, M., WANNA, J. & WELLER, P. (eds.) *Institutions on the Edge: Capacity for governance.* St Leonards: Allen & Unwin.

KILDEA, P. & LYNCH, A. 2010. Entrenching 'Cooperative Federalism': Is it time to formalise COAG's place in the Australian federation? *Conference of the Australian Political Studies Association.* University of Melbourne.

KLEIN, R. J., ERIKSEN, S. E., NAESS, L. O., HAMMILL, A., TANNER, T. M., ROBLEDO, C. & O'BRIEN, K. L. 2007. Portfolio screening to support the mainstreaming of adaptation on climate change into development assistance. *Climatic Change,* 84(1)**,** 23-44.

LANE, S. 2012. *New Qld Premier calls for greater independence from Commonwealth* [Online]. ABC News. Available: http://www.abc.net.au/news/2012-04-13/new-qld-premier-calls-for-greater-independence/3947830 23 October 2012].

LOW CHOY, D. 2006. Towards a Regional Landscape Framework: Is Practice Ahead of Theory? Brisbane: Urban Research Program.

MACDONALD, D. H. & YOUNG, M. 2001. *A case Study of the Murray-Darling Basin: Final Report for the International Water Management Institute,* Canberra, CISRO Land and Water.

MASON, J. 2002. *Qualitative Researching,* London, Sage.

MCKENNA, M. 2012. *State Against State: Campbell Newman's federalism* [Online]. The Australian. Available: http://www.theaustralian.com.au/national-affairs/state-politics/state-against-state-campbell-newmans-federalism/story-e6frgczx-1226324307482 [Accessed 23 October 2012].

MEASHAM, T. G., PRESTON, B. L., SMITH, T. F., BROOKE, C., GORDDARD, R., WITHYCOMBE, G. & MORRISON, C. 2011. Adapting to climate change through local municipal planning: barriers and challenges. *Mitigation and Adaptation Strategies for Global Change,* 16(8)**,** 889-909.

MEASHAM, T. G., ROBINSON, C., LARSON, S., RICHARDS, C., HERR, A., WILLIAMS, L., BRAKE, L. & SMITH, T. 2009. Synthesis of the 'People, communities and economies of the Lake Eyre Basin' project. *In:* MEASHAM, T., BRAKE L (ed.) *People, communities and economies of the Lake Eyre Basin.* Alice Springs: DKCRC Research Report 45, Desert Knowledge Cooperative Research Centre.

MURRAY-DARLING BASIN AUTHORITY. 2008. *Programs, Murray-Darling Basin Authority* [Online]. Canberra. Available: http://www.mdba.gov.au/basin_plan [Accessed 19 December 2012].

NCCARF 2012. Informing Adaptation Policy- Report for Policy Makers. *NCCARF-DCCEE-ANU Workshop 3-4 May 2012.* Canberra: NCCARF-DCCEE-ANU.

NEW SOUTH WALES GOVERNMENT. 2012. *Doing Business in NSW* [Online]. Available: http://www.business.nsw.gov.au/doing-business-in-nsw/cross-border-commissioner [Accessed 26 September 12.

NEW SOUTH WALES. 2006. Sydney-Canberra Corridor Regional Strategy. Sydney.

NURSERY-BRAY, M. & RIST, P. 2009. Co-management and Protected Area Management: Achieving continuum in a contested site, lessons from the Great Barrier Reef World Heritage Area (GBRWHA). *Marine Policy,* 33(1)**,** 118-127.

PAINTER, M. 1998. *Collaborative Federalism: Economic reform in Australia in the 1990s,* Cambridge, Cambridge Universtity Press.

PATTON, M. Q. 1990. *Qualitative Evaluation and Research Methods,* Newbury Park, California, Sage.

PERKMANN, M. 1999. Building Governance Institutions Across European Borders. *Regional Studies,* 33(7)**,** 657-667.

QUEENSLAND GOVERNMENT NEW SOUTH WALES GOVERNMENT 2011. Queensland New South Wales Memorandum of Understanding Cross-border Collaboration.

REGIONAL DEVELOPMENT AUSTRALIA - AUSTRALIAN CAPITAL TERRITORY. 2011. *ACT Chief Minister and NSW Premier sign new regional agreement* [Online]. Available: http://rdaact.org.au/blog/2011/12/02/act-chief-minister-and-nsw-premier-sign-new-regional-agreement/ [Accessed 17 December 12].

RIMMER, B. 2010. Benchmarking, Competitive Federalism and Devolution: How the COAG reform agenda will lead to better services. *In:* DEPARTMENT OF HUMAN SERVICES (ed.). Canberra: Australian Government.

ROSS, A.& DOVERS,S. 2008. Making The Harder Yards: Environmental Policy Integration in Australia. *Australian Journal of Public Administration* 67 (3), 245-260

STEELE, W. 2011. 'Strategy-making for sustainability - an institutional approach to transformative planning practice *Planning Theory and Practice* 12(2)**,** 205-221.

STEELE, W., CRICK, F., NEUMANN, S., SHARMA, V. & WADSWORTH, J. 2011a. Governing the Australian Megalopolis: The challenge of the 200km city. *State of Australian Cities Conference.* Melbourne.

STUCKEY, J. 2011. *Queensland-New South Wales, Cross-Border Memorandum of Understanding* [Online]. Brisbane. Available: http://jannstuckey.com.au/wp-content/uploads/2011/09/Queensland-NSW-Cross-Border-Memorandum-of-Understanding-070911.pdf 12 December 12].

SWYNGEDOUW, E. 1997. Neither global nor local: "Glocalization" and the politics of scale. *In:* COX, K. (ed.) *Spaces of Globalization.* New York: Guilford.

TEITZ, M. 2007. Planning and the New Intitutionalisms . *In:* VERMA, N. (ed.) Institutions and Planning ed. Oxford: Elsevier.

TISDELL, J. 2009. Acquiring water for environmental use in Australia: an analysis of policy options. *Water Resources Management,* 24**,** 1515-1530.

TONG, S., DALE, P., NICHOLLS, N., MACKENZIE, J., WOLFF, R. & MCMICHAEL, A. 2008. Climate Variability, Social and Environmental Factors, and Ross River Virus Transmission: Research Development and Future Research Needs. *Environmental Health Perspectives,* 116(12)**,** 1591-1597.

TURRAL, H., CONNELL, D. & MCKAY, J. 2009. Much Ado about the Murray: the Drama of Restraining Water Use. *In:* MOLLE, F. & WESTER, P. (eds.) *River Basin Trajectories: societies, environments and development.* Oxfordshire, UK: CABI Publishing.

TWEED SHIRE COUNCIL. Available: http://www.tweed.nsw.gov.au/AboutTheTweed/AboutTheTweedHome.aspx.

TWEED SHIRE COUNCIL 2004. Tweed 4/24 Strategic Plan 2004-2024 Tweed Futures. Tweed Shire Council.

TWEED SHIRE COUNCIL 2010. Tweed Shire Local Disaster Plan.

TWEED SHIRE COUNCIL.2012. Available:http://www.tweed.nsw.gov.au/AboutTheTweed/AboutTheTweedHome .aspx [Accessed 14 December 12].

TWEED SHIRE EMERGENCY MANAGEMENT COMMITTEE AND GOLD COAST CITY LOCAL DISASTER MANAGEMENT GROUP 2011. Cross-border Sub-Plan. Gold Coast;Tweed Heads.

VAN ASSCHE, K., DUINEVELD, M., BEUNEN, R. & TEAMPAU, P. 2011. Delineating locals: Transformations of knowledge/power and the governance of the Danube delta. *Journal of Environmental Policy & Planning,* 13(1)**,** 1-21.

WANNA, J., PHILLIMORE, J., FENNA, A. & HARWOOD, J. 2009. Common Cause: Strengthening Australia's Cooperative Federalism. Canberra: Council for the Australian Federation.

WORBOY, G. L. & GOOD, R. B. 2011. Caring For Our Australian Alps Catchments: Summary Report for Policy Makers. Canberra.

WORBOYS, G. & PULSFORD, I. 2011. Connectivity conservation in Austraian landscapes. *Report prepared for the Australian Government Department of Sustainability, Environment, water, Population and Communities on behalf of the State of the Environment 2011 Committee.* Canberra: DSEWPaC.

APPENDIX A – Stakeholder workshop program

WORKSHOP PLANNING – JUNE 21st – CROSS BORDER ARRANGEMENTS

TIME	SESSION	ACTIVITY	FACILITATOR	EQUIPMENT
9:00	Arrival	Coffee / Registration		Coffee, Welcome Pack
9:30	**Welcome and Introductions**	Welcome	Wendy	Projector, Laptop, Podium
		Welcome to Country	Kalwun	
		Introductions	Wendy	
10:30	**SESSION ONE**	Part A and B Barriers and Challenges encountered within existing cross border arrangements	Lila	Whole Group Activity Post-its and stickers. Two blank walls. Chairs in a semi-circle.
11:15	*Morning tea*			
	Group Discussion– Part C			
12:30 – 1:30	LUNCH			
1:30 – 2:30	**SESSION TWO** - Plenary Presentations			
2:30	**SESSION THREE**	Part A and Part B Identifying the best model for cross – border arrangements	Lila	Break into tables of 5 people from like discipline. Butchers paper per table, coloured pens.
3:15	*Afternoon tea*			
3:45	Group Discussion – Part C			
4:15	**Closing Comments**		Wendy	As previous
4:30	Close			

10:30 – 12:30 SESSION ONE: Identifying barriers and challenges that people have experienced or observed from existing cross border arrangements (across State borders)

Description: A whole group activity where everyone sits in a large arc.

Part A: Challenges

Each person is given 3 post-it notes and is asked to jot down the three most pressing challenges that they aware of.

One by one they come up and present the challenge to the group and stick the post-it on the wall. When we have something similar we will place the post-it together into a group so that a cluster of like ideas emerge in each cluster.

As a group we can decide on general themes or headings for each group/cluster and stick these headings above the clusters.

Once we have completed one round we can either repeat the process or ask people to come up (one at a time) and place the post-it into an existing cluster that they think is relevant or start a new cluster – describing the challenge to the group. Repeat for the third post-it.

Opportunities:

Redirect group to another open space and repeat process

11:00 – 11:20 Morning tea time

Part B: Ranking

Each person is given three stickers and encouraged to use their dots to rank the challenges. The stickers should be used to rank the most important challenge. They can either use one sticker for their top 3 challenges or they can use all stickers on one dominant challenge…

Repeat for the opportunities.

Part C: Group Discussion of the results:

Is this what you would have expected?

Which of these themes would apply to a cross border climate change adaptation project? (New group of stickers) then break for lunch..

12:30 – 1:30 LUNCH

1:30 – 2:30 SESSION TWO: Plenary Session

Stage One presentations

Group Discussion:

Identifying the existing cross border arrangements in the region (informal or formal) OR asking Ian Kite and Peter McNamee to describe the sub-plan.

SESSION THREE – Develop a Model for Cross-Border Collaborations

2:30 – 3:00 Part A: Designing a collaborative structure to foster cross-border arrangements etc (about 1 hr)

We have some text (attached) that we will hand out to all participants. We will also seat the participants in groups of 5 within themes (e.g.: all natural resource people together, planners together etc...)

****3:00 – 3:25 Part B: Small group facilitation. We would like each group to consider the following with the help of a facilitator who will also **scribe** their responses:*

See pages following for questions / prompts

3:25 – 3: 45 Afternoon tea

3:45 – 4: 15 Part C: Whole group discussion: Each group presents back to the whole group about their arrangement

SESSION THREE – Develop a model to enable cross border arrangements in the GC/Tweed region

TASK:

1. As a group identify a cross-border issue in the Gold Coast/Tweed region that could be considered to be of national (e.g. the impact of flooding, bushfires, coastal erosion or infrastructure development likes transport or urban development).
2. As a group consider and map out on butchers paper the type of cross-border arrangement that you think would best address this issue in the GC/Tweed. This should include the type of arrangement and roles and responsibilities of the key identified actors /stakeholders you would like to see involved.
3. Select a spokesperson to report back on the cross-border model or arrangements to the wider group.

Key prompts for small group facilitators:

1. Describe the institutional model/arrangements that have been developed
2. Are the arrangements formal or informal? Top-down or bottom-up?

3. Who should facilitate and enable such arrangement? What other stakeholders are important? How does the community get involved?
4. How should the arrangements and implementation of any resulting strategies be funded and resourced?
5. Could your model / arrangement successfully address climate change adaptation? Why/Why not?

APPENDIX B – Ethics consent form

Learning from cross-border governance mechanisms to support and promote climate change adaptation in Australia - Stage 2

Who is conducting the research?

This is project being undertaken by the School of Environment at Griffith University. The researchers are:

- Dr Wendy Steele (N55) 0.28M Urban Research Program, Nathan campus, Nathan, Griffith University, QLD 4111, Australia e: w.steele@griffith.edu.au, p: (07) 37356716
- Dr Lila Singh Peterson (N55) 1.10 Urban Research Program, Nathan campus, Nathan, Griffith University, QLD 4111, Australia e: l.singh-peterson@griffith.edu.au, p: (07) 373 54804
- Dr Leila Eslami-Andargoli (N55) 1.10 Urban Research Program, Nathan campus, Nathan, Griffith University, QLD 4111, Australia e: l.eslami-endargoli@griffith.edu.au, p: (07) 373 57327
- Dr Florence Crick (N55) 0.28D Urban Research Program, Nathan campus, Nathan, Griffith University, QLD 4111, Australia e: f.crick@griffith.edu.au, p: (07) 37355424
- Dr Silvia Serrao-Neumann (N55) 0.28D Urban Research Program, Nathan campus, Nathan, Griffith University, QLD 4111, Australia e: s.serrao-neumann@griffith.edu.au, p: (07) 37355275
- Professor Patricia Dale (N13) 1.30 Australian Rivers Institute, Nathan campus, Griffith University, 170 Kessels Road QLD 4111, Australia e: p.dale@griffith.edu.au, p: (07) 373 57136
- Professor Darryl Low Choy (N13) 1.32 Griffith School of Environment, Nathan campus, Griffith University, 170 Kessels Road QLD 4111, Australia e: d.lowchoy@griffith.edu.au, p: (07) 373 57496

Why is the research being conducted?

The objectives of this research project are to identify and analyse current cross border government arrangements with a view to distil lessons learnt from the formation of these collaborations. How these 'truths' or processes can be applied to support and progress collaborative cross border climate change adaptation agreements will also be considered. In this stage of the project, a workshop with key stakeholders and end-users which focus on the Tweed – Gold Coast case study will be facilitated. A wider group of interviews focussing on this particular case study, in addition to more general cross border agreements or multi-government climate change policy development will also be undertaken.

Why are you being asked to participate?

We are interested in learning from your experience or from your perspective either specifically on the formation and future of the Tweed – Gold Coast collaborations or more generally from your involvement in multi -governmental policy development.

What will you be asked to do?

You will be asked to participate in a one day workshop with other people from various sectors and levels of government and relevant organisations or requested to participate in a face to face or telephone interview at a time and place that is convenient to you. The interview should take between 30 - 40 minutes and will be audio recorded. Similarly, the parts of the workshop will also be audio recorded.

Is participation voluntary?

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. Please note that the interviews will be anonymous and you will not be asked any personal questions.

How will you consent to participate?

By providing your name, signature and date on the attached consent form. If, after signing the form, you change your mind about being involved, you may withdraw your consent by informing one of the researchers. Similarly, the researchers may withdraw you from this research if unlikely circumstances arise which warrant doing so. We will explain these circumstances to you if this happens.

On what basis will we screen participants?

At this stage of the research, we will be speaking only to people who are involved in state government, local government and non-profit organisations with an agenda on climate change or those specifically involved in the development of cross border agreements.

Expected benefits of the research

This research project will increase our understanding of the situations and due complexities in which formal and informal cross border arrangements emerge. Key lessons can then be applied to potential climate change adaptation cross border arrangements so that strategies that plan to protect and support natural resources that do not conform to traditional jurisdictions are enabled.

Risks to you

Participating in an interview or work shop will not pose any risks to you. We will ask your permission to audio-record the interview discussion, and if, at any stage, you feel uncomfortable, you may leave the work shop or terminate the interview.

Will you be paid to participate?

You will **not** receive payment for your participation.

Your confidentiality

Your name and details will be kept by the researchers only to help us contact you should we need to check or clarify any of your input. Any information that is obtained in

connection with this study and that can be identified with you will remain strictly confidential and will be disclosed only with your permission or as required by law. No information that could reveal your identity will be included in any publication of the results. When the results of the research are published and / or presented in conferences, there will not be any discussion of information that could be traced back to you.

Records – audio and written – will be stored electronically and kept securely at the three research institutions. Following completion of the project, records will be transferred to CD-ROM and store for five years under lock and key at Griffith University. After this point electronic and written records will be destroyed.

More Information

If you have any questions or concerns about the research, please feel free to contact one of the chief investigators, using the contact details below:

- Dr Wendy Steele, Urban Research Program, Griffith University, N55 0.28M, Urban Research Program, Nathan campus, Griffith University, 170 Kessels Road QLD 4111, Australia, Telephone +61+(7) (07) 373 56716, e-mail: w.steele@griffith.edu.au.
- Dr Lila Singh Peterson (N55) 1.10 Urban Research Program, Nathan campus, Nathan, Griffith University, QLD 4111, Australia e: l.singh-peterson@griffith.edu.au p: (07) 373 54804
- Dr Leila Eslami-Endargoli (N55) 1.10 Urban Research Program, Nathan campus, Nathan, Griffith University, QLD 4111, Australia e: l.eslami-endargoli@griffith.edu.au p: (07) 373 57327

Results of the research

You may contact any of the above Chief Investigators by the end of March 2013 to obtain a summary of the overall research results. Results are expected to be published later in English-language-peer-reviewed academic journals by 2015.

Free to withdraw from the study

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study.

Further questions about ethics or complaints?

Griffith University conducts research in accordance with the National Statement on Ethical Conduct in Human Research. If potential participants have any concerns or complaints about the ethical conduct of the research project they should contact the Senior Manager, Research Ethics and Integrity on +61 (7) 3735 5585 or by email: research-ethics@griffith.edu.au.

CONSENT FORM

By signing below, I confirm that I have read and understood the information package and in particular have noted that:

• I understand that my involvement in this research will include the participation in a workshop and/or interview

• I have had any questions answered to my satisfaction;

• I understand the risks involved;

• I understand that there will be no direct benefit to me from my participation in this research;

• I understand that my participation in this research is voluntary;

• I understand that if I have any additional questions I can contact the research team;

• I understand that I am free to withdraw at any time, without comment or penalty;

• I understand that I am free to withdraw my consent for wider use of materials (e.g. photographs) at any time, without comment or penalty;

• I understand that I can contact the Manager, Research Ethics, at Griffith University Human Research Ethics Committee on 3735 5585 (or research-ethics@griffith.edu.au) if I have any concerns about the ethical conduct of the project; and

• I agree to participate in the project.

Griffith University and the Urban Research Program thank you for your consent and your participation.

Learning from cross-border governance mechanisms to support and promote climate change adaptation in Australia

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CONSENT FORM

	OFFICE USE ONLY

Name   …………………………………………………………….

Signature .... Date
....

☐ By ticking this box I give my consent for my photograph to be taken during this workshop. I understand that my photograph may be used to illustrate project presentations and other project dissemination products such as newsletters, reports and   brochures arising from this research.

Signature ....

APPENDIX C – Cross-border arrangements Gold Coast/Tweed

Project	Issue	Membership	When Initiated	Formality	Funding
Contiguous Local Authority Group (CLAG)	CLAG's specific brief is `to cooperate in mosquito research and information exchange aimed at reducing mosquito nuisance and disease risks in South East Queensland and Northern New South Wales' (Gold Coast City Council 2012a)	Tweed Council, Gold Coast Council, Logan City Council and Redland Shire Council	late 1970s	Initially informal, formalised much later through Council Resolutions in May 1999	Local government funding via rates
Coral Sea Fibre Optic Project	The Gold Coast City Council was approached with a business opportunity to connect to a submarine fibre optic cable between Sydney and Guam.	Tweed Council, Gold Coast Council, Private interests, Gold Coast RDA, Qld State Gov't and potentially the NSW State Government	concept stage	Presumably contractual	Potentially RDA funding was identified to meet costs of improving public infrastructure.
Nightlink Bus Service (Coolangatta to Kingscliff)	A jointly funded bus operating to assist people to return home to NSW from the entertainment centre in Coolangatta, Qld	Tweed Shire Council, Gold Coast City Council, TransLink and Surfside Bus lines. Supported by Queensland Police Service, Local licensed venues and the Southern Gold Coast Chamber of Commerce.	2010	formal Council resolutions	Tweed Shire Council and Gold Coast City Council
Border Ranges Alliance	Collaborating on biodiversity conservation issues in terms of Koalas, cooperative management of land, or partnership to achieve those corridor or connectivity issues.	SEQ Catchments, CMA Northern Rivers, Tweed and Gold Coast Council, NSW State gov't, community groups, Qld State gov't NSW Department of Environment, Climate Change and Water (DECCW), NSW Northern Rivers Catchment Management Authority (CMA), Queensland Department of Environment and Resource Management (DERM) and South East Queensland Catchments Ltd (SEQC).	initiated 2005 / 06	MoU signed between State agencies, contractual agreements (work program), informal working group	Initially NSW Environmental Trust Grant
Cross Border Sub-Plan	'It's a plan that deals with coordination of information, and actions, and the sharing of intelligence across the states to make decisions' in an emergency situation. NIGEL	Tweed and Gold Coast City Councils (in consultation with State gov't, emergency response agencies)	Initiated in 2010	Signed off by the Gold Coast City Council on behalf of the Queensland state and by New South Wales state government	$16,000 by the *Australian Government Natural Disaster Mitigation Program* (NDMP)

The Dumaresq - Barwon Border Rivers Commission	Manages water allocation and water licensing process for these stretches of river which form the border between Queensland and New South Wales, refer to annual report 2010/11	Qld State Govt, NSW State Govt	since 1946	New South Wales – Queensland Border Rivers Agreement – ratified by legislation in both states: *New South Wales Border Rivers Act 1947* and *NSW – Qld Border Rivers Act 1946*	Funded equally by NSW State Govt and Qld State Govt
Tweed River Entrance Sand Bypassing Project	Beach nourishment project for beaches in Southern Gold Coast. The sand is sourced from the Tweed River (NSW site)	Tweed and Gold Coast Council, Community groups (surf lifesavers etc), NSW State and Qld State, private company (refer to notes)	See notes	NSW and Qld Sand Bypass Act	Funded by NSW State Govt and Qld State Govt with contributions from the Gold Coast City Council. Project support contributed by Tweed Shire Council