



The Case for a **Scenic Rim**
Natural Capital Research
and Training Institute

Feasibility Report to
Scenic Rim Regional Council

July 2009

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1. The Scenic Rim

Background

In 2006-07, the former Boonah Shire Council initiated the **Boonah Shire Futures Project** which was designed to chart a future path for the shire for the next 20 years. The subsequent report, *Boonah Shire Futures: A Rural Futures Action Plan 2007* argued that the future essentially lay in protecting and enhancing the area's natural assets.

In 2008, the former Boonah Shire Council and former Beaudesert Shire Council were amalgamated and named the Scenic Rim Regional Council (SRRC) in the Queensland State Government's local government amalgamation process. The Boonah Shire Futures Project was subsequently adopted by SRRC. It is important to note that the rationale, discussion, conclusion and recommendations of the Rural Futures Action Plan 2007 have been understood and are being implemented by SRRC. This report and the allied report "The Case for a Scenic Rim Eco-Information Strategy and Centre" have been commissioned by SRRC to assist in this process.

Key extracts from the Rural Futures Action Plan 2007 which underpin the rationale for the Scenic Rim Region are as follows:

The vision for [the shire] is made up of three components. First, [the shire] is a place that has learnt how to grow and maintain the forms of wealth it has in common, secondly it has learnt how to do that sustainably, and thirdly, it does that by becoming an environmentally sustainable community and economy.

The concept of the 'common wealth' is simple; it comprises the forms of wealth that everyone can enjoy and that also provide the platform for productive and sustainable income generating businesses.

This 'common wealth' is present in various forms, including natural assets (a community's environmental heritage) and social capital (including the human capital of individual knowledge, skills and creativity). Seeking to protect and improve the common wealth is a suitable goal for [the shire] because it focuses on those attributes of its environment that it relies on now and into the future to generate income and make the shire such a wonderful place in which to live.

Sustainability is an essential part of the vision because it is about longevity, doing only those things that will not degrade the underlying natural assets and social capital. Becoming environmentally sustainable simply recognises that the resources we all rely on are finite and there are many sensible things that can be done to conserve them.

Because [the shire's] present and future is inextricably linked to the wealth of its natural resources and social capital, it has an enormous vested interest in learning and practicing the best ways possible for maintaining their long term viability. Becoming environmentally sustainable also recognises the economic benefits that are now derived from the rising consumer demand for all things 'green'.

In practice this means that it should protect and enhance those attributes that make the shire different from and more attractive than others, strengthen its agricultural sector so that it can adapt to the impacts of climate change, leverage its environmental attractiveness to attract 'green' business, and leverage its strong social capital to develop a unique model of community involved service delivery.

During the course of the community consultations, a number of priority activity areas were identified. The five Priority Activity Areas were seen as meeting the most important criterion for effective positioning; that is they play to the shire's strengths.

These five Priority Activity Areas are:

1. *Natural assets management, which addresses the environmental foundation that underpins a sustainable economy.*
2. *Agricultural development, which acknowledges a traditional strength but also recognises how producers are already adapting to a changing climate and shifting patterns of rural productivity.*
3. *Tourism and cultural development, which are relatively new strengths in the shire's economy but ones that are already working hard to create a positive new image for [the shire].*
4. *Retirement services, which is a recognition of the attraction that [the shire] already has for many as a retirement destination and hence the opportunities this trend presents.*
5. *Education services, which will always be fundamental to the progress of any community but in [the shire's] case, there is considerable potential to make it a vibrant centre for education and training in the fields of adventure and outdoor recreation, nature-based tourism and natural asset management.*

Since the formation of the Scenic Rim Regional Council in 2008, Council has begun implementing the report's various recommendations (following the earlier implementation work of the Boonah District Enterprise Board). With funding from the Queensland State Government and the former Boonah Shire Council, SRRC is overseeing work on many of the report's recommendations.

Two of those recommendations have led to this report and the allied report "The Case for a Scenic Rim Eco-Information Strategy and Centre". These recommendations were to:

Undertake a feasibility study into establishing a national research and training institute for community based natural asset management; and

Undertake a feasibility study into establishing an Eco-Friendly Information Centre.

The thinking behind these two recommendations was the recognition that a comprehensive and integrated program of basic and applied research into the Scenic Rim's natural and social capital is essential if the region's potential for sustainable development is to be realised. In many ways this thinking reflects the Research-Development-Diffusion (RD&D) paradigm of change. The RD&D model consists of three major components:

- The conduct of basic research
- The development of specific innovations that may be applied to a range of real world problems
- The communication or diffusion of the innovations to potential users.

This approach has proven to be extraordinarily effective in rural contexts for decades in Australia and overseas through agricultural extension services and the like.

The immediate objective of these two companion reports is to examine the prospects for establishing a Natural Capital Research and Training Institute as well as a Scenic Rim Eco-Information Strategy and Centre in the Scenic Rim Region. It is clear that the significance of the Scenic Rim has been growing in recent years and it is therefore timely that any consideration of specific proposals of this nature should be firmly embedded in an appreciation of the Scenic Rim itself.

What is the Scenic Rim and why focus on it?

If we turn to Wikipedia, we find the following entry for the Scenic Rim:

The Scenic Rim is a group of mountain ranges of the Great Dividing Range in South East Queensland. These ranges include the Little Liverpool Range, Main Range, Mistake Ranges, McPherson Range, Tweed Ranges and the Border Ranges. The mountainous landscape forms a quarter circle ridge positioned roughly from south of Toowoomba around to Springbrook. Tamborine Mountain, Lever's Plateau in New South Wales and the Lamington Plateau are part of the rim formation.

Parts of the rim are well developed, crossed by highways with facilities for tourists; others are privately owned agricultural properties. Most areas are remote, isolated and protected in national parks including Main Range National Park, Lamington National Park, Border Ranges National Park, Mount Barney National Park and Springbrook National Park.

There are many recreational activities for rock climbers, hikers and nature lovers on the rim and in the valleys of Laidley Creek, Christmas Creek, Fassifern Valley, Numinbah Valley, the Albert River, Logan River, Coomera River and the Bremer River.

The concept of the Scenic Rim was first described by Arthur Groom and Romeo Lahey in the 1920s. They were campaigning for the protection of forests from Main Range to the Lamington Plateau. At the same time the Binna Burra Lodge was established.

This is a useful starting point to describe the geographical location, but it doesn't account for the various contexts in which the Scenic Rim is often considered.

Long before white settlement – for perhaps some 20,000 to 40,000 years in fact – the Scenic Rim was home to the Yugambah and Ugarapul people. The Yugambah Language Region includes a large amount of the Scenic Rim from west of Beaudesert, south to the Tweed River and north of Beenleigh to the Logan River. The eight Yugambah clan or family groups include Minjungbal (Tweed area); Birinburra (Numinbah, Mt Cougal, Tallebudgera Valley etc); Wangerriburra (Clagiraba, Canungra, Beechmont, Binna Burra, Tamborine Mountain); Kombemerri (coastal Gold Coast), Bullongin (Coomera, Yawalpah); Gugingin (Beenleigh, Windaroo); Mununjali (Beaudesert, Jimboomba), Migunberri (Rathdowney, Tamrookum). The Fassifern area including Boonah and out to Ipswich is home to the Ugarapul people who are part of the Jaggera language region which includes areas of Brisbane. The Yugambah language region neighbours that of the Jaggera, and in the south, it borders Bunjalung country in north eastern NSW.

In more recent times the Scenic Rim has been seen as a tourist destination. Clever marketing to establish a clear brand identity for the area, aided by frequent appearances on The Great South East television program has served to reinforce this contextual view (see: www.thescenicrim.com.au)

Tourism Australia's National Landscapes Program, which was launched in early 2008 also tends to support this tourism context, stemming as it does in large part from an international initiative to market Australia's great natural landscapes to the world (see: www.tourismaustralia.com/content/aussie_experiences/2007/national_landscapes_brochure_07.pdf)

The Green Cauldron is the title chosen by Tourism Australia to describe the area stretching across Northern NSW and South East Queensland, and encompassing the geographical footprint of the world's second largest shield volcano. The area included in this National Landscapes branding, ripples out from the central volcanic plug of Mt Warning to the surrounding Tweed Valley and escarpment, extending further across the ancient lava flows and the landscapes they have created. As such, the region is roughly bounded by the Gold Coast hinterland and Scenic Rim Regional Council in the north, Kyogle and the foothills of the Great Dividing Range to the west and Lismore/Byron Bay in the south.

It should be noted that the Scenic Rim here is included as one part of the much larger area of the Mt Warning Wollumbin Caldera which provides a third context for the Scenic Rim, one that recognises the futility of applying political boundaries to natural geological and bio-regional entities. (Whether or not this region should be considered a biosphere in the UNESCO sense of the term is not one we need to consider in this report but it is interesting to note that the concept has gained some traction – see: www.bigvolcano.com.au/custom/biospher/index.html)

A fourth context that is often used as a prism is the World Heritage Reserve status for much of the Scenic Rim area. Part of the Gondwana Rainforests of Australia World Heritage Area, originally listed in 1986 to cover rainforests in NSW, it was extended in 1994 to include rainforests on the Queensland side of the border, including those of the Scenic Rim.

The presence of a number of Queensland's best and most loved National Parks provides yet another context in which to view the Scenic Rim. The rim is home to the Lamington, Springbrook, Tamborine Mountain, Mount Barney, Moogarah Peaks, Main Range and Mt Lindsay National Parks.

The area can also be considered one of the most important sub-regions of the South East Queensland Natural Resource Management Region, an administrative artefact agreed at both State and Commonwealth government levels. According to the Natural Resource Management website: www.nrm.gov.au/nrm/qld-seq.html "...it shares with the Wet Tropics the status of being one of the most botanically rich bioregions in Queensland, with the Border Ranges country of southern South East Queensland and northern New South Wales being recognised nationally as a biodiversity hotspot."

In the eyes of governments, the Great South East is not just a television program but an economic and land use planning construct for Australia's fastest growing region. The South East region represents just 1.3 percent of Queensland's area, yet is home to 65 percent of the state's total population. The region's population is projected to increase by 37 percent to 4.4 million by 2021. The Draft South East Queensland Regional Plan 2009-2031 has identified the Scenic Rim Region as predominantly Regional Landscape and Rural Production Area with some small Urban Footprint Areas within it. The Plan's Regional Policy 2: Natural Environment: Desired regional outcome 2 states:

A healthy and resilient natural environment supports the region's rich biodiversity, clean air and water, and is sustainably managed to support economic development, outdoor lifestyles and community needs.

A more detailed explanation of the desired regional outcome 2 states:

...Protecting and managing the natural environment is fundamental to achieve a sustainable future for the region. A coordinated and collaborative approach by government, industry and the community is required to protect the region's natural environmental values.

Finally, the Scenic Rim has given its name to a new Local Government Area, the aptly named Scenic Rim Regional Council: www.scenicrim.qld.gov.au Its boundaries include most of the Queensland part of the Scenic Rim and as it comprises all of the former Boonah Shire and the southern (and least populous) two thirds of the former Beaudesert Shire, there can be little doubt that its future is inextricably bound to the future of the Scenic Rim. This local government area is home to a population of 35,000 residents. It has a total area of 4,256 square kilometres and contains more than 30,000 hectares of parkland that includes National Park and Council-controlled parks.

The new Scenic Rim Regional Council Corporate Plan 2009-2014 identifies Environmental Management as one of its eight key priorities. Council's outcome for this priority is:

Our unique natural environment is proactively and responsibly managed in partnership with our community, to preserve and enhance it for future generations.

While the Boonah Futures Report may have been written for a shire that now no longer exists, its analysis and recommendations are even more relevant to the new entity.

This report proposes that the Scenic Rim Region has five underpinning place-based strengths which justify the proactive design and development of a natural capital research and training institute (as well as a regional eco-information strategy and centre). These are:

1. The large area, condition and proximity of broadscale, protected natural landscape within this region;
2. The indigenous cultural heritage of this region and the emergence of contemporary Aboriginal cultural and social services;
3. The existing and emerging business, enterprise and industry base including traditional and sustainable agriculture, and the rise of eco-, nature- and adventure- based tourism and cultural services;
4. The number of largely intact and vibrant villages, townships and local economies dotted across the region;
5. The close proximity of large urban population areas including Brisbane, the Gold Coast, Logan City and Ipswich which are dependent upon the Scenic Rim for a variety of ecosystem services including water supply and water quality, arable land, agricultural products, recreation experiences and services and so on.

Defining natural capital

This report bases its recommendations on the strengths of the region's natural capital but what exactly does the term "natural capital" mean?

Wikipedia defines natural capital in the following way.

Natural capital is the extension of the economic notion of capital (manufactured means of production) to environmental goods and services. Natural capital is thus the stock of natural ecosystems that yields a flow of valuable ecosystem goods or services into the future. For example, a stock of trees or fish provides a flow of new trees or fish, a flow which can be sustainable indefinitely. Natural capital may also provide services like recycling wastes or water catchment and erosion control. Since the flow of services from ecosystems requires that they function as whole systems, the structure and diversity of the system are important components of natural capital.

In "Natural Capitalism" [the seminal book by Amory and Hunter Lovins and Paul Hawken] the authors see the world's economy as being within the larger economy of natural resources and ecosystem services that sustain us. This implies that we should attribute value to things such as human intelligence and cultures to hydrocarbons, minerals, trees, and microscopic fungi. The authors argue that only through recognizing this essential relationship with the earth's valuable resources can businesses, and the people they support, continue to exist. The book has many practical suggestions for companies interested in a sustainable future.

According to the authors [of Natural Capital], the 'next industrial revolution' depends on the espousal of four central strategies: "the conservation of resources through more effective manufacturing processes, the reuse of materials as found in natural systems, a change in values from quantity to quality, and investing in natural capital, or restoring and sustaining natural resources".

Protecting, conserving, maintaining and restoring natural capital including healthy, functioning waterways, oceans, mountains, forests, deserts, a stable atmosphere, soils, groundwater and so on – ensures human civilization can function in the immediate, short, medium and long terms. In South East Queensland some 26 Ecosystem Services derived from the natural capital of this region have been identified by SEQ Catchments as enabling the functioning of communities and economies throughout the region. These services include pollination, water supply and water quality, clean air, healthy soil, arable land, food and fibre, and erosion control, right through to inspiration, cultural heritage, recreational opportunities and iconic species and landscapes.

Because of its abundance of largely intact and protected waterways, forests and vegetation, biodiverse landscapes and animal species and so on, the Scenic Rim Region is a vital source of natural capital and ecosystem services for South East Queensland. In addition, its designation in the Draft South East Queensland Regional Plan 2009-2031 as a predominantly Regional Landscape and Rural Production Area means our region's natural capital can be protected in the short term from unregulated and inappropriate development. We also have an opportunity to ensure important regional industries such as agriculture, tourism and hospitality, manufacturing, home based business and so on, are evolved in ways which support, protect, conserve, maintain and even restore the Scenic Rim's natural capital.

It is essential that the centrality of this region's natural capital is interfaced effectively with the lifestyles, economy, businesses and governance of the Scenic Rim. Research that is place-based, relevant, basic and applied, and that focuses on the quality, levels of resilience, thresholds, functioning and adaptation of our natural capital, is essential. This research process in turn, will greatly inform our communities, businesses and administrators about the sustainability transition required to ensure that a healthy, resilient and prosperous ecological and social system is developed and maintained in the Scenic Rim over the next years and decades.

Defining sustainability and resilience

Put simply, sustainability is the ability to keep going.

The United Nations defined sustainability in 1984 as the ability of current generations to meet their own needs without eroding the ability of future generations to meet their needs. This definition still appears to be in widespread use in government, business and community circles.

More recently, the notion of sustainability is becoming increasingly linked with that of resilience and the ability of social-ecological systems to maintain their function and form even in the face of unexpected and unpredictable shocks. As local and regional climate and weather patterns begin to destabilise and impact in unpredictable ways upon regional social and economic systems including business, industry and community as a result of climate change, the exploration of resilience as a foundation for sustainability is gaining momentum even in South East Queensland. It is an important theoretical base for this report and its recommendation for the establishment of a Scenic Rim research and training institute.

One of the most important concepts that resilience ecologists have recognised in the past decade or two is that living systems have thresholds or tipping points. It is now understood that when key factors within a living system – variables which are like the bedrock that maintain the form and function of the system such as landscape-scale native vegetation – are disturbed beyond their capacity to function or recover, the whole system can tip into a different form. The point at which this occurs is known as a threshold or tipping point. Australian resilience scientist Brian Walker (2005) makes three key points about thresholds:

- *Once a threshold has been crossed it is usually difficult (in some cases impossible) to cross back.*
- *A system's resilience can be measured by its distance from these thresholds. The closer you are to a threshold, the less it takes to be pushed over.*
- *Sustainability is all about knowing if and where thresholds exist and having the capacity to manage the system in relation to these thresholds (Walker, 2005, p63).*

With these vital points in mind, let's briefly discuss why sustainability and resilience are so crucial to our future here in the Scenic Rim Region and beyond.

Why discuss sustainability and resilience?

Compelling evidence from many scientific disciplines from around the world is now clearly indicating the emergence of a number of major challenges facing human civilization.

The International Panel on Climate Change (IPCC) – an international body made up of thousands of the world's foremost climate scientists – in 2006-07 agreed that human-induced climate change is a fact and must be addressed as an urgent, global priority to avert runaway atmospheric tipping points. In the UK, the Stern Report (2007) strongly argued for comprehensive government action on climate change in order to reduce the likelihood of unacceptably high economic impacts and in Australia the Garnaut Report (2007) presented very similar recommendations.

In addition to climate destabilisation, the scientific community is recognising that our industrialised, western way of life particularly over the last 200 years, has eroded the capacity of most natural systems and resources to meet the needs of all people and to absorb human 'wastes' including carbon dioxide. It is acknowledged by science and many parts of government, business and community that our way of life is increasingly reaching its limits to growth and the Earth's natural systems and cycles – its 'sources and sinks' – show clear signs of collapse (see Millenium Ecosystem Assessment, 2005).

In addition to the collapse of many natural systems, a number oil industry geologists, economists and planners now realise that the oil industry is reaching the global peak of conventional oil production. This is likely to result in serious constraints to affordable, accessible, high quality energy such as petroleum with a resultant cascading effect for economic growth and business-as-usual within the next decade. The Queensland Government was one of the first governments in the world to produce a community discussion paper about this issue (see Queensland Government "Towards Oil Resilience: Community information paper", 2008).

The evidence is mounting that climate change, natural resource system collapse and the peaking of global oil production is already beginning to have a profound effect on all aspects of human enterprise and lifestyle and that this will deepen over the next decade onwards. Experts argue that we must dramatically reduce our carbon and ecological footprints through sustainable, eco-efficient activities, technology and behaviours. At the same time we must prepare for unexpected, external shocks to our systems and structures and better understand and manage ecological thresholds in order to become more resilient and adaptive. In addition, there are increasing calls from communities right around the world about the need to transition to low carbon and more localised regions, communities, economies, businesses, industries and so on (see Transition Towns Movement).

Despite this very challenging situation, there are opportunities emerging within the sustainability story and already some business and industry sectors in particular, are beginning to take advantage of the benefits of 'going green'. These benefits include cost stabilisation and cost reduction for energy and other resources for business operations; risk minimisation within the business value chain; development of clean, green and innovative technology; meeting the rise of green and ethical consumer interest; greater value alignment between businesses and stakeholders; greater access to incentives and grants for innovative, sustainable business practices; and the ability to meet and exceed regulatory requirements.

These are some of the most visible drivers which are now demanding greater levels of comprehensive, integrated and effective sustainability. In the Scenic Rim Region with our intact and functioning natural landscapes, innovative business community and cohesive, creative communities, integrated sustainability makes excellent sense. It is potentially a unifying, integrating journey which will have tremendous benefit for our region if addressed proactively, strategically and collaboratively by all stakeholders.

2. Summary

Proposal

The Boonah Shire Futures Project and within it the report, *“Boonah Shire Futures: A Rural Futures Action Plan 2007”* suggested that the future for the shire essentially lay in protecting and enhancing the area’s natural assets. The report stated:

“The vision for Boonah Shire is made up of three components. First, Boonah Shire is a place that has learnt how to grow and maintain the forms of wealth it has in common, secondly that it has learnt how to do that sustainably, and thirdly, it does that by becoming an environmentally sustainable community and economy.”

And:

“In practice this means that it should protect and enhance those attributes that make the shire different from and more attractive than others, strengthen its agricultural sector so that it can adapt to the impacts of climate change, leverage its environmental attractiveness to attract ‘green’ business, and leverage its strong social capital to develop a unique model of community involved service delivery.”

Since *“Boonah Shire Futures: A Rural Futures Action Plan 2007”* was written, the former Boonah Shire Council, under the Queensland State Government’s local government reform process, has been amalgamated with the former Beaudesert Shire Council to create the Scenic Rim Regional Council. Importantly, the amalgamation process has strengthened the sustainability propositions within the Boonah Shire Futures Project and *Action Plan 2007* particularly because the Scenic Rim Region encompasses a significant area of internationally-recognised ecological values. It is home to 35,000 residents. It has a total area of 4,256 square kilometres and contains more than 30,000 hectares of parkland including National Parks and Council-controlled parks. In essence, the natural capital of the former Boonah Shire Council region has greatly expanded through the amalgamation process and the Scenic Rim Region is now ideally placed to evolve a level of national leadership as a sustainable region founded on the understanding, protection, preservation, maintenance and regeneration of its natural capital in relationship to its social capital.

“Boonah Shire Futures: A Rural Futures Action Plan 2007” identified five priority activity areas which were seen as meeting the most important criteria for strengthening the region. These five priority action areas were:

- 1. Natural assets management, which addresses the environmental foundation that underpins a sustainable economy.*
- 2. Agricultural development, which recognises a traditional strength but also recognises how producers are already adapting to a changing climate and shifting patterns of rural productivity.*
- 3. Tourism and cultural development, which are relatively new strengths in the Shire’s economy but ones that are already working hard to create a positive new image for Boonah Shire.*
- 4. Retirement services, which is a recognition of the attraction that Boonah Shire already has for many as a retirement destination and hence the opportunities this trend presents.*
- 5. Education services, which will always be fundamentals to the progress of any community but in Boonah Shire’s case, there is considerable potential to make it a vibrant centre for education and training in the fields of adventure and outdoor recreation, nature-based tourism and natural asset management.*

“Boonah Shire Futures: A Rural Futures Action Plan 2007” described eco-friendly communities as:

- communities that not only acknowledge the value of the environment but work actively to protect and enhance it;*
- ready to adopt a range of policies and practices that achieve environmentally friendly and ecologically sensitive economic development; and*

- *consciously label themselves as eco-friendly and educate their residents accordingly.*

It also described what eco-friendly communities hope to achieve as:

- *an improved quality of life because the community's common wealth has been preserved for the benefit and enjoyment of all;*
- *an increased standard of living by the intelligent use of natural resources, creating green entrepreneurial opportunities and continuity of the basis of wealth creation;*
- *sustainable resource use by lowering the quantum of resources used;*
- *the creation of more winners than losers by showing industry and commerce how to adapt and use technology to increase resource efficiency.*

Within the *Boonah Action Plan 2007*, the importance and value of research, information gathering and dissemination and education are highlighted as central planks to support the evolution of regional-scale eco-friendly communities that include resilient, prosperous and sustainable economies.

Since the publication of the *Boonah Action Plan 200* and the local government amalgamation process, the Scenic Rim Regional Council has drafted and finalised its first four-year corporate plan which sets the strategic direction for local governance of the region in the short term. The *Scenic Rim Regional Council Corporate Plan 2009-2014* identifies a number of core strategies relevant to the scope and recommendations of this report including:

Community Development and Wellbeing:

- *Build the community's capacity to respond to their needs and aspirations while also delivering programs and supporting events that promote active participation across all sectors of our community.*
- *Deliver public health and safety risk management initiatives, education and healthy lifestyle programs that promote and support a safe and healthy living environment.*
- *Build community capacity through arts and culture; promote and generate creative excellence; and enable the region to appreciate, realise and articulate its heritage and identity.*

Corporate Sustainability:

- *Implement an integrated strategic planning framework across Council, which embeds performance, financial and asset management principles (including long-term financial modelling and whole-of-life costing).*
- *Capitalise on innovative and entrepreneurial revenue opportunities and maximise financial returns and the community benefit realised from Council assets and resources.*
- *Encourage community participation, support open and accountable governance, and adopt a risk management approach to all Council operations and programs.*

Economic Development:

- *Foster the development of sustainable local businesses, including the regional tourism industry through engaging and collaborating with businesses, the community and relevant agencies.*

Environmental Management: Our unique natural environment is proactively and responsibly managed in partnership with our community, to preserve and enhance it for future generations:

- *Mitigate and offset the effects of climate change on the region by developing and implementing a range of Council and regional initiatives.*
- *Reduce the use of non-renewable resources by identifying, promoting and implementing environmentally sustainable principles and practices.*
- *Manage and enhance the region's significant biodiversity values, natural resources and ecological processes, and minimise the impact of pest animals and plants.*

- *Integrate environmental considerations into Council's policies and procedures including planning schemes and infrastructure planning and delivery, to minimise the impact of development on the environment.*

Infrastructure and Asset Management:

- *Embed asset management, financial and environmental sustainability principles as fundamental components of infrastructure planning and management which include appropriate controls and standards.*
- *Plan, deliver and maintain an effective transport network which improves accessibility across the region and caters for a range of transport modes with a focus on sustainability and safety.*
- *Implement sustainable and innovative waste management practices to appropriately manage our facilities and minimise the adverse effects of waste on the environment.*

Planning and Managing Growth: Growth and development is managed to ensure our unique region, rural environment, lifestyle and natural assets are preserved and enhanced:

- *Implement a planning vision for the Scenic Rim which promotes community aspirations and clearly articulates the unique identity of our individual towns, villages and communities.*
- *Provide an IPA-compliant planning and development assessment service that is responsive to community expectations and applicant needs, while applying sustainability principles across decision-making processes and activities.*

If we synthesise and utilise these important local government planning documents as our foundation, the proposal to examine and support the feasibility of a Natural Capital Research and Training Institute in the Scenic Rim is a highly relevant and indeed, central initiative for the council, businesses, communities and other stakeholders of the Scenic Rim Region.

Conclusions

Three key activities were undertaken to develop this feasibility report and develop a series of closely related conclusions and recommendations.

1. A desktop review of exemplars of research and training centres and institutes in Australia and overseas was undertaken.
2. A one-day key stakeholder workshop was held with regional leaders on August 19 2008 at The Outlook, Boonah, to discuss in detail, the potential of creating a natural capital research and training institute for the Scenic Rim. These leaders represented business and industry (eco-tourism, agriculture, education, urban development); local and state government (Scenic Rim Regional Council, SEQ Catchments, Gold Coast City Council, Logan City Council); not for profit and community organisations; and the higher education sector (Griffith University).
3. A number of informal face-to-face and telephone discussions were held with key players including an author of the Boonah Futures Action Plan 2007; Council's Arts and Cultural Development Coordinator; an SEQ regional bushfire planning and management consultant; and a Research Project Manager in the international Resilience Alliance.

A number of important conclusions were reached through these activities and are set out here.

The natural assets of the Scenic Rim are unique and valuable

The Scenic Rim Region contains large tracts of internationally-recognised biodiversity and landscapes (protected under national parks, on crown land, on government owned land and on freehold land). These natural assets and associated ecosystem services significantly contribute to the health, wealth, wellbeing and functioning of South East Queensland's cities, communities and economies as well as being of intrinsic value in and of themselves to the long-term maintenance and evolution of our regional ecosystems.

There is value in research

Research in one form or another has been the driving force behind most of the advances in modern society. In Australia, this has been especially so for advances in agriculture and primary production, and environmental sciences, both of which are of great interest to this proposal.

The Scenic Rim will face many challenges in the years ahead including: climate change which will result in shifting weather patterns and more extreme weather events such as bushfire and flood; impacts from feral pests and noxious weeds; vulnerability in the cost and reliability of water supply; vulnerability in the cost and reliability of energy supplies (including oil and electricity); creeping urbanisation; maintaining social cohesion and our sense of community; striking the balance between 'local' and 'global'; and increasing numbers of people seeking recreational opportunities in the Scenic Rim, to name just a few.

There is much we do not know about the Scenic Rim and its natural capital. Our knowledge gaps are considerable and some of the information we require includes:

- a thorough inventory of our natural, human and social capital assets, their state of health and thresholds, and an understanding of their interconnections and relationships;
- a better understanding about how different social and business sectors in our regional economy might cope with climate change;
- identification and understanding about which species of flora and fauna are essential keystones to our region's functioning landscapes, how healthy their ecology currently is and where their thresholds are;

- a precise mapping of the strengths, vulnerabilities, gaps, and leakage within our regional economy;
- identification of our most vulnerable landscapes and communities in relation to bushfire;
- collation, mapping and understanding of traditional indigenous land management practices and their relevance and relationship to contemporary land use and management patterns;
- identification of opportunities to reconnect indigenous cultural, social and enterprise aspirations with emerging natural capital, sustainability and resilience needs of the region;
- better understanding about the interface and relationships between urban, peri-urban, rural and natural landscapes in South East Queensland.

Comprehensive, integrated and continuing research into many aspects of the Scenic Rim is essential if we are to chart the best and most effective ways forward into a future of challenge and opportunity.

A place-based research institute is visionary and highly relevant

Developing and maintaining a research institute dedicated to social-ecological research about the Scenic Rim and its interface with neighbouring areas will be an effective response to the growing need for knowledge about the Scenic Rim. It will be a tremendous knowledge and economic asset to the region.

A place-based institute means that:

- Scenic Rim stakeholders will be able to have considerable influence over research priorities;
- A cohort of researchers with considerable expertise in the Scenic Rim can be developed and maintained;
- With a number of Scenic Rim researchers dedicated to the same region, connections between seemingly diverse phenomena and disciplines will be possible;
- Currently fragmented and dispersed research will be able to be collected, collated and where appropriate, integrated;
- Regional institutional memory will be generated, maintained and grown;
- Avenues for research training and research practice will be developed and applied through a variety of contexts throughout the Scenic Rim.

It is vital that the institute be based within and focused upon the bioregional landscape of the Scenic Rim so that the continuity and foundational bedrock of the institute is place-based and not subject to the changes and whims of political administration at any level of government.

It will be important to involve (via alliances, partnerships and collaboration) surrounding local government entities and other stakeholders such as universities, to generate both the required resourcing and the scientific research scale required to create and maintain a relevant Scenic Rim research and training institute.

There are many examples of successful research infrastructure and institutes nationally and internationally including the CSIRO, Cooperative Research Centres, the Rural Research Development Corporation, The Australian Regional Tourism Research Centre at Southern Cross University, the South East Queensland Fire and Biodiversity Consortium at Griffith University, the Rocky Mountains Institute in Colorado and the Santa Fe Institute in Santa Fe, New Mexico. The model of the research institution is proven and successful. However, place-based and place-focused centres that have bioregional research

agendas in natural capital are as yet, unusual (note, there are many examples of place-based, regional economic research centres). As a result, the development of the Scenic Rim Institute would be a visionary and groundbreaking initiative in the SEQ region, nationally and perhaps even internationally.

A place-based research and training institute in the Scenic Rim is more likely to succeed by focusing its attention specifically on the Scenic Rim and its interface with surrounding urban and peri-urban areas to ensure resourcing and research scales are sustainable. An initial cohort of at least 6-8 researchers plus an administrator, business development and marketing coordinator is suggested as a minimum staffing level in the short term,.

The institute should be based at a central gateway to high value natural landscapes, cultural heritage areas and active, creative communities and economies within the Scenic Rim. It may also have more than one base. For example, it could have a main base at Canungra - gateway to Lamington National Park and the national parks of Tamborine Mountain as well as the communities of Canungra, Tamborine Mountain and Beechmont, and an annexe at Boonah - gateway to Mt Barney and western landscapes as well as to the communities of Boonah, Rathdowney, Kalbar etc.

A clear and relevant research methodology and agenda is essential

Given the complex, interconnected challenges which face the Scenic Rim Region and South East Queensland, it is essential that the institute's research methodology is grounded in processes which can effectively engage with whole systems and multiple stakeholders.

It is recommended that the institute embed its research methodology in:

- systems thinking
- social-ecological resilience thinking
- adaptive management
- the enabling of innovation and creativity through cross-disciplinary dialogue and research initiatives.

A Scenic Rim Institute should focus on doing a few things exceptionally well. The primary roles of the institute should be threefold: Researching; Training; Informing.

The Scenic Rim Institute's research agenda should focus on two key areas.

1. **Landscape- scale research** including: broadscale ecological assessment and monitoring; bushfire management, biodiversity and ecology with links to indigenous land management practices and knowledge; ecological resilience.
2. **Sustainable economic development research** including: ecosystem services; ecological economic; social-ecological systems and resilience; local living economy; the transition to low carbon economy and community; and prosperity without production and consumption growth (stable state economy).

Focus industries are likely to include Scenic Rim agriculture, primary production, food and farming, tourism, eco-tourism, infrastructure provision, manufacturing, arts and culture, and indigenous culture and enterprise.

A purposeful training role for the Scenic Rim Region

The purpose of the institute's training role is to ensure that the region is continually improving the region's human capital. In the years ahead we will have a growing need for people who have the knowledge and skills necessary to protect, conserve and regenerate the region's natural capital and enable deeply sustainable economic activity.

The institute should also work in collaboration with the development of a Scenic Rim eco-information strategy and centre and wherever possible maximise resources and outcomes from both initiatives (see “The Case for a Scenic Rim Eco-Information Strategy and Centre” report).

In the course of researching and writing this report and “The Case for a Scenic Rim Eco-Information Strategy and Centre” report, many Scenic Rim-based organisations and enterprises were identified and reviewed. As a result, these reports recognise that within this region there is a rapidly-growing level of expertise and capacity as a sustainability research and education hub.

It is suggested that a regional sustainability educational industry could be more fully and strategically developed in the Scenic Rim as an addition to the existing key industry sectors (agriculture, food, tourism, creative arts etc). Based on emerging and existing capacity, the Scenic Rim has an opportunity to design and develop a unique research and educational capacity in the form of a natural capital and sustainability education sector. This would require in the first instance, a process of economic modelling and feasibility research into the industry’s development. This report recommends that such a process is undertaken.

An institute needs partners and allies

The proposed natural capital institute needs effective partners, allies and collaborators to obtain the resources and develop the scale of research and training required to be successful. These allies and partners are likely to come from neighbouring local governments, universities, other research institutes and alliances, State and Federal Government departments, corporate support, philanthropic support and self-funding mechanisms such as consulting, teaching and training, and commercial innovation.

It is however, essential to maintain a place-based research and training agenda in the Scenic Rim to ensure that the institute has an independent institutional presence of its own founded upon the natural capital of the Scenic Rim.

It is also essential that the institute attracts aligned, enthusiastic and skilled people including researchers, teachers, support staff and a committed visionary advisory team. It is useful to note that PhD and Post Doctoral students can often be highly effective, cost effective and enthusiastic researchers.

An institute needs a name

Given the significant links and alignments between the name of the geographical and local government areas of the Scenic Rim, it is suggested that the natural capital research and training centre be called the Scenic Rim Institute

Recommendations

Based on the findings and conclusions of this research, the following recommendations are submitted to Council for its consideration. It is recommended that:

1. A natural capital research and training institute based in the Scenic Rim Region is a feasible and important undertaking for the region as a key plank in its planning and preparation for an unpredictable, challenging and potentially opportune future.
2. The institute be called the Scenic Rim Institute.
3. Council advertise for expressions of interest and appoint a semi-formal circle of people (the 'Institute Circle') committed to the promise of a Scenic Rim natural capital research and training institute. That in the short term and in collaboration, the Institute Circle and Council:
 - Create and articulate a vision for the institute
 - Develop at a preliminary level the institute's research agenda and consolidate its research methodology
 - Design at a preliminary level the institute's operating structure and resourcing requirements
 - Attract start up resourcing and partnerships
 - Attract and develop increasing interest for the institute in the region and in neighbouring cities
 - Develop a start up business plan
 - Support an economic modelling and feasibility process to explore the potential scale and scope of the Scenic Rim Institute as well as its potential as a driver for the development of a comprehensive sustainability research and education industry for the Scenic Rim.
4. Council review its existing relationship with Southern Cross University and initiate discussions as soon as possible with relevant personnel at Southern Cross University, about the potential of extending this partnership or involvement to include planning and establishing the Scenic Rim Institute.
5. Council and the Institute Circle initiate preliminary discussions as soon as possible with Associate Professor Darryl Low Choy from Griffith University's School of Environment about the potential of a partnership or involvement in starting up the Scenic Rim Institute.
6. Council and the Institute Circle initiate preliminary discussions as soon as possible with Associate Professor Darryl Jones, Director of Griffith University's Centre for Innovative Conservation Strategies about the potential of a partnership or involvement in starting up the Scenic Rim Institute.
7. Council and the Institute Circle explore a relationship with relevant centres and personnel at the University of Queensland around the planning and establishment of the Scenic Rim Institute.
8. Council scan across its entire structure and operational program to identify any other existing relationships with universities which may support the development of the Scenic Rim Institute.
9. Council and the Institute Circle co-host a series of engaging, multi-disciplinary 'conversation cafes' in appropriate venues around Scenic Rim Region during 2009 and 2010. The aim of these cafes should be to bring together researchers, teachers, practitioners, indigenous people, business people, policymakers, artists and writers, and young people to discuss not only the vision and design of the Scenic Rim Institute but themes that are central to its research and methodology agendas such as social and ecological tipping points; indigenous land management knowledge, wisdom and practices; the interface between social and ecological resilience and community prosperity; the place of the arts and creativity in education and planning and so on.

10. As opportunities arise, Council and the Institute Circle host public lectures with relevant visiting speakers about themes of relevance to the Scenic Rim Institute research agenda and methodology and the future of the Scenic Rim Region.
11. Council and the Institute Circle identify relevant State and Federal Government programs, grants and incentives for regional research, training, planning and renewal and where appropriate, seek such funding and resource support for the start up of the research and training institute.
12. Council and the Institute Circle identify philanthropic and business sponsorship support to contribute to the start up of the research and training institute.
13. Council and the Institute Circle initiate preliminary discussions with the Commander of Kokoda Barracks at Canungra regarding a partnership to accommodate the Scenic Rim Institute in the short term.
14. Council and the Institute Circle initiate preliminary discussions with the Queensland Government regarding a partnership to accommodate an annexe of the Scenic Rim Institute at The Outlook at Boonah in the short term.
15. Council and the Institute Circle formally appoint a Board to oversee the full establishment of the Scenic Rim Institute.
16. Sufficient funding and resourcing be found in the short term to employ a founding Director/Business Development Coordinator for the institute who will work in collaboration with Council and the Institute Circle to develop and implement a business plan to enable start up operations of the institute with a view to a two to three year timeline for full establishment.

Council undertake an economic and industry feasibility study process to better understand and plan for the development of a natural capital and sustainability education industry sector in the Scenic Rim Region.

3. The issues

Research in and about the Scenic Rim

As discussed in some detail, the Scenic Rim as a geographical area can be approached in many ways. Some of the various contexts in which we can view the Scenic Rim include:

- as an economic planning region
- as a local government authority
- as a National Landscape area
- as a significant bioregion encompassing World Heritage areas and National Parks
- as a rural production area
- as an area of abundant natural resources and ecosystem services
- as an outstanding tourism destination with considerable untapped potential
- as one of South East Queensland's and Brisbane's most important recreation areas, also with considerable untapped potential.

People and organisations interested in each of these contexts are likely to be active in generating and disseminating information about them and already there is a surprising amount of research activity underway within the Scenic Rim. However, at present there is no single focal point for research and development capable of drawing together all of the various threads based on a common element – The Scenic Rim and its natural capital as an underpinning foundation.

Why is this important? After all, does it matter if research in and about the Scenic Rim is somewhat fragmented as long as research activities are undertaken?

It is important if we consider the crucial role that focused research can play in guiding and managing the process of change. Whether we like it or not, the Scenic Rim is going to be the focus of great change over the next 50 years and beyond. Managing that change in creative, wise and responsible ways will be the greatest challenge we face. We can't even begin to meet the challenge if we don't have access to first rate information about the Scenic Rim in all its manifestations.

Right now and for the foreseeable future, we don't understand a fraction of what we need to know about this thing we call the Scenic Rim. The knowledge that is being generated is frequently fragmented and inaccessible to all who might use it productively. And we don't have a strategy at present that can address these problems.

The development of a first rate research and training institute for the Scenic Rim is potentially the most effective change management and planning strategy we can adopt now and for the future of this region.

Natural capital and living within our means

We've established in section 1 that natural capital is made up of the Earth's systems and cycles which generate and maintain life. The air, soil and water cycles, biodiversity and the flow of sunlight energy are all expressed at bioregional and landscape scales as healthy waterways, fertile soil, intact functioning forests and vegetation, a diversity of species of flora, fauna and microbial life and so on. And in turn, these systems are the source of the ecosystem services which support human civilization in a myriad of forms through pollination, the provision of clean, plentiful water, food and fibre, arable land for farming, recreational spaces, inspiring landscapes and so on.

The real problem humanity now faces is that modern industrial society has not yet recognised nor understood or accounted for the natural capital that enables our homes, businesses, economies, cities, communities and governments to function. On the most basic level, without clean air to breathe, a stable atmosphere, clean water to drink, nutritious food to eat, fibre and timber for shelter and so on, humans simply cannot survive.

In the midst of the 2008-09 economic meltdown, caused largely by living beyond our financial means in a debt and growth-driven global marketplace, the opportunity is simultaneously arising for us to better understand that we are also living beyond our means in relation to natural capital by overexploiting natural resources, systems and cycles to fuel continual and increasing industrial production and consumption. The statistics are compelling. In the last 25 years the global economy has doubled and the natural resources required to feed that level of production and consumption has caused some 60 percent of the world's ecosystems to become degraded. At the same time there has been disturbingly unequal distribution of the benefits of this economic growth, with a fifth of the world's population sharing only 2 percent of global income.

Chair of the UK's Sustainable Development Commission, Jonathon Porritt recently wrote:

All the devastating problems now associated with this particular model of deregulated, debt-driven, capitalism have also been at work in our chronic mismanagement of natural capital. We've aggressively drawn down on Nature's capital assets, liquidating natural capital to generate current income. In the process, Nature's balance sheet is now over-leveraged to an astonishing extent, creating a burden of debt that there is little prospect of paying back in this generation. We have not only been living beyond our own means, but well beyond the means of future generations as well.

The only appropriate response to this is a massive recapitalisation programme to restore Nature's balance sheets...For years, experts like Lester Brown have been urging countries to think about re-capitalisation in different ways, via Earth Restoration Budgets, where we stop building up unsustainable levels of 'natural debt' and start restoring natural capital and ecosystem services in ways that simultaneously protect the livelihoods of some of the world's poorest people" (2009).

Recapitalisation, according to sustainable development experts like Jonathon Porritt and Lester Brown consists of practical, low-carbon programs that include initiatives like broadscale energy efficiency and renewable energy generation, Ecological Tax Reform, the creation of hundreds of thousands of sustainable green jobs, the rethinking of corporate taxes and in particular the use of tax havens, and unflinching government leadership. In essence a "radical decarbonisation, a deep and lasting redistribution of wealth, and a dramatic rebalancing of our relationship with the natural world, as well as a new-found determination to get on top of the problem of continuing population growth" (Porritt, 2009).

However, the most important question that Porritt poses and one that is at the heart of this report, is:

...is it possible to conceptualise and then operationalise an alternative model of capitalism – one that allows for the sustainable management of all the different capital assets on which we rely, so that the yield from those different assets sustains us now as well as into the future?

Central to the future of humanity and more specifically in this report, to the people, communities, economy and businesses of the Scenic Rim is the question: How can we have prosperity without material growth? The question is also central to the role and research agenda of a Scenic Rim natural capital institute.

Note, this question about creating community prosperity that is based on more than material wealth and natural resource exploitation is at the centre of an important research report from the UK's Sustainable Development Commission and is recommended reading: "Prosperity without growth?" by Professor Tim Jackson, Economics Commissioner, Sustainable Development Commission (March 2009): www.sd-commission.org.uk

The importance of research in paradigm shifting

As has already been stated, research in one form or another has been the driving force behind most of the advances in modern society. Simply put, research is a process of knowledge management: the collecting, storing and accessing of information in systematic ways so that you can make the best possible use of the knowledge you have acquired and have the knowledge you need to meet emerging challenges and move forward.

Because globalised, modern industrialised society has so thoroughly lived beyond its natural and social capital and so thoroughly degraded the earth's natural capital particularly since the 1950s, we need have no doubt that there are huge challenges emerging now for humanity to meet. Professor Thomas Homer-Dixon of Toronto University's Department of Political Science, in his 2006 book "The Upside of Down: Catastrophe, Creativity and the Renewal of Civilization" coined the term "Tectonic Stresses" to describe the current convergence and synergising of five core ecological and social phenomenon:

- population stress arising from differences in the population growth rates between rich and poor societies, and from the spiralling growth of megacities in poor countries;
- energy stress – above all from the increasing scarcity of conventional oil;
- environmental stress from worsening damage to our land, water, forests, and fisheries;
- climate stress from changes in the makeup of our atmosphere;
- ... economic stress resulting from instabilities in the global economic system and ever-widening income gaps between rich and poor people" (2006, p 11).

Not only are we living in a time where each of these major, external, global threats have to be faced singly, but we are also facing the realisation that they are increasingly and tightly connected to each other and producing ecological, social and economic shocks and fractures that are impossible to fully predict and prepare for. Homer-Dixon's premise is that the impacts of these tectonic stresses may well trigger the collapse of energy-dependent human civilization as we know it, but at the same time the potential for creative renewal and innovation is also possible if we prepare now.

How do we begin to prepare now for a new type of world that we can't completely predict? Certainly the collection, organisation and dissemination of knowledge – research and training – is a crucial activity. It is now understood by scientists from many disciplines including climate change, biology, physics, ecology, political science, economics and the social sciences, that while we cannot accurately nor fully predict what the future holds for us - rendering traditional forms of 'command and control' leadership increasingly obsolete - what we can do is become lifelong, active researchers and learners in order to continually adapt and transition wisely. Business-as-usual is simply not an option and in such circumstances relevant, place-based research capacity will be essential to creating a prosperous and resilient future for the Scenic Rim.

4. The opportunities

As we begin to better understand the huge forces that underpin human civilization on a living planet and start to recognise the challenges that are upon us, it is vital to seek out the opportunities and creativity within crisis and change. In relation to the proposal for the Scenic Rim Institute, three such opportunities are discussed in this section – place-based research, systems thinking and resilience.

Place-based research and training

The 2003 “Science and Innovation in Regional Australia” background paper produced by the Department of Education, Science and Training, states that where research is either conducted in the regions or includes participants from the regions, it can be assumed that in most cases the research being conducted will be of benefit to the regions. In smaller communities, the work of these organisations is likely to be more visible than in larger centres and could therefore play an important role in showcasing the benefits of undertaking research and innovative activities. The report goes on to say that research projects are the economic lifeblood of some of Australia’s smaller regional centres and a key employer in many more Australian regional towns.

As mentioned previously, place-based research and training centres which focus specifically on the natural assets of particular regions are as yet, quite unusual. The two centres identified in this report with this focus are Griffith University’s South East Queensland Fire and Biodiversity Consortium (SEQFABCon) and Alcoa Foundations Conservation and Sustainability Program at Curtin University, Western Australia (see Section 6). The two main challenges which tend to constrain the development of such centres appear to be the availability of adequate financial resourcing within a particular location and the need for scientific research to be conducted on relatively large scales in order to ensure that comparative analysis is undertaken and is quantitatively and qualitatively rigorous. This means that most natural capital research centres around Australia and the world tend to largely disregard the research interests and needs of their home community and focus on larger-scale agendas.

It is worth noting here though, that in Australia, there are a number of regional economic and community development research institutions that do focus on place-based research. This model of regional social and economic research has a long and successful history and should be reviewed and adapted to underscore the development of a natural capital institute for the Scenic Rim Region.

This report also suggests that a Scenic Rim Institute may be in an excellent position to effectively address resourcing and research scale challenges and in so doing, create an exceptional asset for the region that is groundbreaking, unique, visionary and a profound legacy for future generations in the region.

Because of its proximity to large urban centres that are the economic engines for South East Queensland and which regard the Scenic Rim as their ecosystem services, agricultural and recreational heartland – Brisbane, the Gold Coast, Logan and Ipswich – the Scenic Rim Institute is likely to have both access to significant resourcing and an ability to conduct large scale research that includes the interface between urban, peri-urban and rural communities.

It is useful to note that the establishment of the SEQFABCon some years ago occurred through a collaborative partnership between Griffith University, most of the South East Queensland local governments at the time, and State Government departments including the Queensland Fire and Rescue Service and Qld Parks and Wildlife Service. This centre has provided a good example of relevant, place-based research which focuses on a high priority research agenda for the region – bushfire and biodiversity – in ways that undertake basic and applied research and community-based knowledge dissemination and practice.

Through publications such as the South East Queensland State of the Region reports, key stakeholders in the SEQ region are now recognising that there is an increasing need to learn more about the landscapes,

biodiversity and natural capital of this area as well as better understand the relationships between natural assets and social and economic trends and issues. The 2008 SEQ State of the Region Technical Report identifies a number of emerging regional challenges which need to be addressed:

- We are continuing to use more than our share of global resources
- The region's biodiversity is threatened by continuing loss of natural habitat and critical regional ecosystems
- Our ability to enjoy an outdoor lifestyle is limited by the declining availability of open space per capita
- Some aspects of our lifestyles are unhealthy and may lead to a decline in health status in the future
- The attractiveness of the region to new residents has led to a decline in housing affordability
- The gap between Indigenous and non-Indigenous health, education, employment and housing is still wide
- Electricity use is increasing
- We are travelling further and more often, resulting in road congestion and environmental impacts (2008, p3).

It is clear that these regional challenges have a close relationship to the proposed research and training agendas for the Scenic Rim Institute.

This report suggests that the Scenic Rim region is very well placed to create a uniquely relevant and well-resourced research and training institute that will greatly contribute not only to the Scenic Rim itself but to the region and people of South East Queensland

Systems thinking

This report recommends that the core research methodology of the Scenic Rim Institute, that is, the way research is conducted, be based on systems thinking.

Wikipedia describes systems thinking as:

...a framework that is based on the belief that the component parts of a system can best be understood in the context of relationships with each other and with other systems, rather than in isolation. The only way to fully understand why a problem or element occurs and persists is to understand the part in relation to the whole. Standing in contrast to Descartes' scientific reductionism and philosophical analysis, it proposes to view systems in a holistic manner. Consistent with systems philosophy, systems thinking concerns an understanding of a system by examining the linkages and interactions between the elements that compose the entirety of the system.

Systems thinking attempts to illustrate that events are separated by distance and time and that small catalytic events can cause large changes in complex systems. Acknowledging that an improvement in one area of a system can adversely affect another area of the system, it promotes organizational communication at all levels in order to avoid the silo effect. Systems thinking techniques may be used to study any kind of system — natural, scientific, engineered, human, or conceptual.

Over the past decade, systems thinking has become increasingly recognised and applied in research about complex and interconnected problems that require holistic, patterned solutions. With the Scenic Rim Institute's research agenda focused on landscape scale ecology and interrelationships between regional economies and communities, that is, social systems, it is suggested that systems thinking is likely to be the most effective and appropriate research methodology within and for the institute.

Resilience

A second important research theme is raised here because of its likely relevance to the Scenic Rim Institute's research agenda and its methodology, and that is the concept of resilience.

In the area of the natural sciences, resilience refers to the ability of living systems to continue to function and maintain their form and functioning in the face of unexpected shocks. For example, it is the capacity of a rainforest to survive a cyclone and though it may lose stands of mature trees and suffer wind damage, over a period of time it is able to support the emergence of new rainforest growth and restore itself as a fully functioning rainforest ecosystem.

One of the most important things that resilience ecologists have learned in recent years is that living systems have thresholds or tipping points. It is now understood that when key factors within the system – variables which are like the bedrock that maintain the form and function of the system – are disturbed beyond their capacity to function or recover, the whole system can tip into a different form. The point at which this occurs is known as a threshold or tipping point. As mentioned previously the three key points about thresholds are:

- “Once a threshold has been crossed it is usually difficult (in some cases impossible) to cross back.
- A system's resilience can be measured by its distance from these thresholds. The closer you are to a threshold, the less it takes to be pushed over.
- Sustainability is all about knowing if and where thresholds exist and having the capacity to manage the system in relation to these thresholds” (Walker, 2005, p63).

Again, with its focus on the natural landscapes and economic and social systems of the Scenic Rim and South East Queensland, the Scenic Rim Institute is very well placed to integrate resilience thinking into its research themes and agendas. It is useful to note that there is an international network of resilience scientists called the Resilience Alliance: www.resiliencealliance.org and its current chair is the CSIRO's Brian Walker (based in Canberra). Membership of this alliance is open to organisations and centres engaged in resilience-based work and the alliance is likely to be an important support mechanism for the Scenic Rim Institute in future.

5. The role of research institutes

Research institutes exist for many reasons including:

- To increase the professional and public standing of their host organisation
- To generate funding and resourcing for specific research
- To undertake basic and applied research to particular research needs
- To specialise in a specific area of research that is relevant to an industry sector, government, community or region
- To bring applied research capacity and associated economic leverage to a region.

Research institutes can undertake both basic/pure research and/or applied research. Basic research or fundamental research (sometimes pure research) is research carried out to increase understanding of fundamental principles. Many times the end results have no direct or immediate commercial benefits: basic research can be thought of as arising out of curiosity. However, in the long term it is the basis for many commercial products and applied research. Basic research is mainly carried out by universities.

Applied research is used to find solutions to everyday problems, cure illness, and develop innovative technologies.

Research institutes usually structure knowledge through an organised process of research, development and diffusion/dissemination which enables us to move forward into an unpredictable future through wise and informed planning and strategic, leveraged intervention and action. They are an essential conduit between observation, research, design, planning, action and intervention.

Research institutes can also be incubates of knowledge and enterprise.

- They can help generate new research, new knowledge and new insights
- They can support the commercialisation of emergent research tools, techniques, technology and applications in ways that help evolve both research processes and enterprise
- They can support cross-disciplinary dialogue, collaborative research, innovation and creativity which enable us to address complex, interconnected problems more effectively
- They can support the development of new forms of business and enterprise.

In essence, research institutes are enablers and facilitators of innovation.

In regional Australia a number of forms of research infrastructure have operated for a number of years. These include Cooperative Research Centres (CRCs) which are often auspiced by universities and industry sectors; and Rural Research and Development Corporations (Rural RDCs), usually resourced and driven by industry sectors and government. Both CRCs and Rural RDCs have a strong track record of engagement within the agricultural sector and regions of Australia.

The types of (regional) research centres in Australia include:

- Rural Research and Development Corporations
- Cooperative Research Centres
- CSIRO
- Regional universities
- University based research centres
- Independent, not for profit research centres
- Industry-auspiced and driven research centres

The 2003 Department of Education, Science and Training paper "Mapping Science and Innovation: Science and innovation in regional Australia, Background Paper" states that "...Rural RDCs have developed a distinctive approach to R&D, one that is 'user (rather than researcher) driven, is collaboratively undertaken, and is followed through the value chain'. The model's characteristics are as follows:

- *Rural RDCs take a leading national role in planning, investing in and managing R&D for their respective industries.*

- *Rural RDCs are not research 'grant' agencies. Their enabling legislation requires them to treat R&D as an investment in economic, environmental and social benefits to their respective industries and the people of Australia.*
- *Rather than focusing mainly on generating new knowledge for its own sake, Rural RDCs strive to deliver high rates of return on R&D investment by influencing the full range of interactions along the innovation chain.*
- *Striving for high returns on investment also leads Rural RDCs to apply significant resources to translating research outputs into practical outcomes.*
- *Rural RDCs are required to conduct their activities in accordance with strategic R&D plans and annual operational plans that take account of the R&D needs of end-users and other stakeholders. The plans are approved at ministerial level.*
- *Although Rural RDCs fund basic research, a high proportion of activity is applied R&D – both short term and long term*
- *Rural RDCs are fully accountable to their major stakeholders and to the wider community.*

(Department of Education, Science and Training, 2003, p31, 32).

While it is not suggested that the Scenic Rim Institute be established under the Rural RDC program, it is clear there is much within the Rural RDC model which can inform the design and development of the Scenic Rim Institute.

6. Research centre exemplars

South East Queensland Fire and Biodiversity Consortium

Address: <http://www.griffith.edu.au/environment-planning-architecture/southeast-queensland-fire-biodiversity-consortium>

Established in 1998 by Griffith University and a number of state agencies and local government authorities, SEQFABCon provides a focus for fire ecology research and evidence-based outcomes for the South East Queensland region. Its role is to address the issues of fire and biodiversity within the imperatives of life and property protection. It does this by:

- Disseminating knowledge
- Investigating information and implementing research
- Providing information to assist with fire management decision-making.

FABCon is supported by Griffith University's Centre for Innovative Conservation Strategies and state and local government.

Its activities are based around two strategic themes:

- Fire ecology research
- Education dissemination

Its current or recent research projects include:

- Australian Wildlife Conservancy – Curramore Sanctuary
- Brisbane City Council – Conservation Reserves Program
- SEQ Rainforest Recovery Cross Regional Implementation Program
- SEQ Water – Biodiversity Corridor Project

The resources generated by FABCon include:

- Fire Guidelines for Spotted Gum-Ironbark Forests
- ImagePro (canopy gap fraction software)
- South East Queensland Eucalyptus Fuel Model
- Reports and Manuals such as fire ecology research reports and guidelines; strategic fire management reports; landowner bushfire preparation materials; educational materials.

Alcoa Foundation's Conservation and Sustainability Fellowship

Program: Sustaining Gondwana

Address: <http://strongercommunities.curtin.edu.au/gondwana.htm>

This international sustainability and conservation initiative which is based at Curtin University of Technology, is focused on the southern coastal region of Western Australia known as the Bassian region. The project is sponsored by the US based Alcoa Foundation which aims to support and foster global sustainability initiatives by encouraging improved education in sustainability issues. The project works with the local community to give the South Coast Region of Western Australia a sustainable future and to facilitate this through scholarship and learning for global application. Research sources draw on local understandings and activities to develop conceptual frameworks, indicators, novel technologies and practices, and aspects of sustainable governance within a community capacity building framework. The Bassian area encompasses 16 local government areas; two regional development commissions; a population of 95,000; 1500 km of coastline (7% of total WA); 5.4 million hectares (2% of total WA); 10 established parks including 1 marine park. Australian academic partners include Curtin University of

Technology, the Alcoa Research Centre for Stronger Communities, Department of Environmental Biology, Housing and Urban Research Institute of WA, and the Office of Research and Development. The program's core theme is: Harnessing Local, Place-Based Knowledge for Sustainable Outcomes.

Hunter Valley Research Foundation

Website: www.hvrf.com.au

Established in 1956, the Hunter Valley Research Foundation mission is to be a unique, independent regional research organisation. Committed to assisting business, government and statutory authorities and community groups, the HVRF is Australia's longest serving private not for profit research organisation. Its work is focused on two key areas:

- Research consultancy services including surveys, economic analysis, health data collection, facilitation and multi-client surveys;
- A long standing regional research program which includes the monitoring of regional investment, economic indicators, social wellbeing, demographic analysis, use of technology, environmental attitudes, housing affordability and weather patterns. Research output is disseminated through publications, forums, presentations to various groups, a free enquiries service and public library, the media and the HVRF website.

Australian Regional Tourism Research Centre, Southern Cross University, Lismore

Address: www.regionaltourism.com.au

The Australian Regional Tourism Research Centre (ARTRC) based at Southern Cross University Lismore (SCU), was formed in 1998 as the Centre for Regional Tourism Research. The Centre's primary purpose is to undertake research and extension activities to assist in the growth of tourism industries which will contribute to sustainable communities in regional Australia. The centre represents a partnership between Southern Cross University (SCU) and the Sustainable Tourism Cooperative Research Centre (STCRC) and aims to be recognised as the focal point and centre for excellence in regional tourism research throughout Australia. Since its establishment the centre has undertaken numerous research projects and extension activities, produced various occasional papers and industry-relevant kits.

The ARTRC has strong affiliations with the Australian Regional Tourism Network (ARTN) and Tourism Australia (TA) and is managed by a board of representatives from STCRC, ARTN, TA, SCU and industry members. With the STCRC network of 14 universities and more than 20 government and industry partners, the ARTRC manages the regional research agenda and convenes a regional tourism research committee to evaluate research proposals and monitor projects. The centre also organises the annual Australian Regional Tourism Convention and produces a Regional Tourism Handbook each year from the convention.

Australia 21

Address: www.australia21.org.au

Australia 21 was formed in 2001 as a non-profit group to fill a national need for fresh and independent thinking about large and unsolved problems that confront us in the new century. Australia 21 creates networks by drawing on outstanding researchers and experts from diverse institutions and disciplines, nationally and internationally, and from various sectors of society. It brings together in roundtables and ongoing research, networks of the best minds available and provides them with opportunities to interact in ways that are not usually available. Australia 21 undertakes inclusive, integrated analyses in four thematic programs:

- Australians in society

- Australians in the landscape
- Australia in the world
- Building Australia's resilience

Its stakeholders are all Australians, including State and Federal governments, corporations, universities and community groups. Australia 21 serves them by focusing on difficult and long-term issues that enhance the links between science, business and policy. The objectives of Australia 21 are:

- To promote the development of new frameworks of understanding about the questions which challenge Australia's future
- To raise and distribute funds to support interdisciplinary and interinstitutional dialogue and germinate new research on these matters
- To create networks between researchers, community and business leaders, and policymakers across all sectors of society, to ensure that emerging insights are widely understood and applied to societal problems
- To make the results of this research freely available to the public.

International

Rocky Mountains Institute

Address: www.rmi.org

Rocky Mountains Institute (RMI), a non profit organisation, was established in 1982 by resource analysts L. Hunter Lovins and Amory B. Lovins. What began as a small group of colleagues focusing on energy policy has since grown into a broad-based institution with approximately 80 full-time staff, an annual budget of nearly \$12 million (over half of it earned through programmatic enterprise), and a global reach. RMI brings a unique perspective to resource issues, guided by the following core principles:

- Advanced resource productivity
- Systems thinking
- Positive action
- Market-oriented solutions
- End-use/Least-cost approach
- Biological insight
- Corporate transformation
- The pursuit of interconnections
- Natural capitalism

RMI celebrated its 25th anniversary in 2008 and in that year, grew its corporate, foundation and individual donations by 55% to \$US7.3 million. Its revenue from consulting and strategic innovation increased to 57% of the organisation's revenues, that is about \$US5.2 million. In RMI's Annual Report 2007-08, its President/CEO and Executive Director reports:

We like to do real work on thorny problems that drive transformational change, and this has resulted in a revenue model that has included consulting fees as a critical part of the mix. In general, we have leveraged donor funding to drive research and thought leadership, and client funding to prove our concepts in real-world engagements. This allows us to create a 'multiplier effect' for donors, helps us verify that our ideas can be implemented, and assures that our paying consulting clients will implement the innovations we create together.

Now that more for-profit consultancies are entering the field, the demand and receptivity for thought leadership is increasing and there is less need for RMI to do the 'heavy lifting'. Accordingly, we are moving our efforts 'upstream in the innovation cycle' to focus more on strategic innovation and industry-wide events. Accordingly, in 2008 we increased our philanthropy to 57 percent of revenues, up from roughly 50 percent...

Santa Fe Institute

Address: www.santafe.edu

The Santa Fe Institute (SFI) is a private, not for profit, independent research centre founded in 1984, for multidisciplinary collaborations in the physical, biological, computational, and social sciences. Understanding of complex adaptive system is critical to addressing key environmental, technological, biological, economic and political challenges.

Renowned scientists and researchers come to the Santa Fe Institute from universities, government agencies, research institutes, and private industry to collaborate in attempts to uncover the mechanisms that underlie the deep simplicity present in our complex world.

Researchers at the Santa Fe Institute range from senior scientists (visiting or in residence) to post doctoral fellows to undergraduate interns. SFI operates under the direction of a Board of Trustees, a Science Board and Science Steering Committee whose members are drawn from leaders in business, academia, and the public sector. A permanent staff provides research administration, computational and library resources, and publications and development support.

Sustainability Institute

Address: www.sustainer.org

The Sustainability Institute was founded in 1996 by the late Donella (Dana) Meadows to apply systems thinking and organisational learning to economic, environmental and social challenges. The institute's philosophy is based on a belief that unsustainability does not arise out of ignorance, irrationality or greed. But that it is largely the collective consequence of rational, well-intended decisions made by people caught up in systems – ranging from families and communities to corporations, governments and economies – that make it difficult or impossible to act in ways that are fully responsible to all those affected in the present and to future generations.

The Sustainability Institute's mission is to:

- Shift mindsets – values, attitudes and beliefs – when they are out of step with the realities of a finite planet and a globally powerful human race.
- Restructure systems when the rewards and incentives of the system are inconsistent with long term social, environmental, and economic goals.
- Build the capability to manage and learn in complex environmental, social and economic systems.

The Sustainability Institute works for change in three ways:

- Through workshops, leadership development, and consulting it provides tools of systems thinking and organisational learning to clients and partners working on issues of sustainability, helping them to be more strategic, engage multiple stakeholders, and learn continuously.
- It targets specific systems and issues, including natural resource economies, climate change, energy and regional development where its tools and research can help with the transition to sustainability.
- It draws insights from its consulting, workshops and research to develop conceptual frameworks for large-scale change towards sustainable systems.

Natural Capital Project

Address: www.naturalcapitalproject.org

The Natural Capital Project is a joint venture between the Woods Institute for the Environment at Stanford University, The Nature Conservancy and the World Wildlife Fund. Its vision is a future in which natural systems are understood and conserved throughout the world for both their intrinsic values and their economic contributions to human wellbeing. Its mission is to improve how humankind uses the world's lands and waters by making clear the economic and life-sustaining services they provide. The Natural Capital Project takes ecosystem services as its central research and education plank, where ecosystems are valued as precious natural assets.

The project is developing and disseminating two toolbox programs:

- InVEST
- Natural Capital Database

To answer questions like:

- Which parts of a watershed provide the greatest carbon sequestration, biodiversity, and tourism values?
- Where would reforestation or protection achieve the greatest downstream water quality benefits?

the Natural Capital Project is developing new tools such as InVEST and the Natural Capital Database. Its working group includes experts from Stanford, The Nature Conservancy, World Wildlife Fund, University of Minnesota, National Centre for Ecological Assessment and Synthesis, University of Sheffield, University of British Columbia, and Duke University. Building on pioneering efforts led by The Nature Conservancy and World Wildlife Fund, and the modelling tools used in the United National Millennium Ecosystem Assessment, its approach is designed to illustrate the impacts of potential land-use decisions on human wellbeing and biodiversity. Its goal is to provide the most comprehensive, systematic, and broadly applicable method to date for understanding the environment and economic costs and benefits of changes in land-use and policy.

Desert Research Institute, Nevada

Address: www.dri.edu

The Desert Research Institute (DRI) is the environmental research arm of the Nevada System of Higher Education. It was founded in 1959 when the Nevada State Legislature passed an act creating a division of the University of Nevada specifically devoted to conducting research. From this, a small group of farsighted scientists, academic leaders, and entrepreneurs created the Desert Research Institute, a unique organisation that combined the classic academic tradition of high quality basic research with the productive focus of applied interdisciplinary research. DRI became an autonomous division of the University of Nevada System, on equal footing with its two educational campuses, in 1969. Before that, it functioned as a research division of what is now the system's northern university campus.

DRI conducts cutting-edge applied research in air, land and life, and water quality across Nevada, the United States and on every continent. It has more than 500 employees and two main campuses in Reno and Las Vegas, Nevada and it generates \$US50 million in total annual revenue. At any one time, DRI is conducting some 300 scientific research projects, working around the globe and on a full-time basis.

DRI's faculty members are non-tenured, entrepreneurial and responsible for their own salaries from external grants and contracts. This blend of academic rigour and private-sector pragmatism has earned DRI a reputation for delivering rapid, high quality environmental science in a business-like fashion.

DRI excels in basic and applied research and the application of technologies to improve people's lives throughout Nevada and the world. It implements this mission by fostering scientific and engineering talent. It applies scientific understanding to the effective management of natural resources while meeting Nevada's needs for economic diversification and science-based educational opportunities.

DRI seeks to be the world's scientific leader investigating the effects of natural and human-induced environmental change and advancing environmental technologies aimed at assessing a changing planet. It aims to achieve this vision by increasing scientific knowledge and understanding of the Earth's environment, promoting preservation of diverse ecosystems, advancing responsible resource management, and improving human health and welfare.

Dartington Trust, UK

Address: www.dartington.org

The pioneering charitable company Dartington Trust based in Totnes in South Devon, UK is included here not as an exemplar of a dedicated research and training institute, but as an example of an integrated research, education, training, land management and enterprise organisation. It is arguably one of the world's foremost integrated and cross-disciplinary institutions which has at its core, interconnected research, education and enterprise activities which are place-based in Devon, UK.

The Dartington Trust occupies a thousand acre estate which was bought in the 1920s by Leonard Elmhirst and his wife, the American heiress Dorothy Whitney Elmhirst, as the base for an experiment in rural reconstruction. This combined the introduction of new methods in farming and forestry, and the creation of related industries, with the promotion of the arts and crafts, the founding of a coeducational boarding school and other educational experiments, and the care and conservation of buildings and the landscape.

The contemporary Dartington Trust focuses on three key areas: sustainability, social justice and the arts. Within this core it undertakes education, enterprise, performance activities which include:

- Schumacher College – an international sustainability adult education centre of excellence
- Dartington Hall Conference Centre – Venue hire
- Social Justice Programs – Research in Practice, Centre for Excellence and Outcomes, Research in Practice for Adults
- The Arts Programs – Dartington Plus, Arts at Dartington, South West Music School, Dartington International Summer School, Transatlantic Arts Consortium, Devon Artsculture, Craft Education
- Commercial Enterprise – Dartington Accommodation and Catering Services Ltd, Dartington Trading Company Ltd, Dartington Property Ltd
- Dartington the Place – Dartington Archive and Collection, High Cross House, Grounds and Gardens, Estate Services, Woodlands
- Sustainability Programs – Schumacher College, Landscape, Conservation, One Planet Strategy

7. Research rationale

A Scenic Rim Institute should focus on doing a few things exceptionally well. The primary roles of the institute should be four-fold: Researching; Training; Informing; Consulting/Commercialising.

Primary research agenda and rationale

The Scenic Rim Region contains large tracts of internationally-recognised biodiversity and landscapes (protected under national parks, on crown land, on government owned land and on freehold land). These natural assets and associated ecosystem services significantly contribute to the health, wellbeing and functioning of South East Queensland's cities, communities and economies as well as being of intrinsic value in and of themselves to the long-term maintenance and evolution of our regional ecosystems.

The Scenic Rim will face many challenges in the years ahead including: climate change which is likely to result in shifting weather patterns and more extreme weather events such as bushfire and flood; pressures from feral pests and noxious weeds; the cost and reliability of water supply; the cost, availability and reliability of energy supplies (including oil and electricity); creeping urbanisation; maintaining social cohesion and our sense of community; striking the balance between 'local' and 'global'; and increasing numbers of people seeking recreation in the Scenic Rim, to name just a few.

There is much we do not know about the Scenic Rim and its natural capital. Our knowledge gaps are considerable and some of what we require includes:

- a thorough inventory of all our natural, human and social capital assets and their state of health and thresholds
- better understanding about how different social and business sectors in our regional economy can cope with climate change
- identification and understanding about what species of flora and fauna are essential keystones to our region's functioning landscapes, how healthy their ecology is and where their thresholds are
- a precise mapping of the vulnerabilities, gaps, and leakage of our regional economy
- identification of our most vulnerable landscapes and communities in relation to wildfire
- collation and mapping of indigenous land management practices, walking routes, bushfire management and so on

It is recommended that the Scenic Rim Institute's research agenda focus on two key place-based themes:

1. **Landscape scale research** including:

- broadscale ecological assessment and monitoring
- bushfire management, biodiversity and ecology with links to indigenous land management practices and knowledge
- ecological resilience

2. **Sustainable economic development research** including:

- ecosystem services
- ecological economics
- social-ecological systems and resilience
- local living economy
- the transition to low carbon economy and community
- prosperity without growth in production and consumption (stable/steady state economy)

Focus industries should include Scenic Rim agriculture, primary production, food and farming, tourism, planning, manufacturing, arts and culture, indigenous culture and enterprise, and infrastructure.

Comprehensive, integrated and continuing research into many aspects of the Scenic Rim will be essential if we are to chart the best and most effective ways forward into a future of both challenge and opportunity.

A place-based research institute is visionary – it will become a valuable regional asset that is highly relevant to business, industry and government.

Having a research institute dedicated to social-ecological research about the Scenic Rim and its interface with neighbouring areas will be an effective response to the growing need for knowledge about the Scenic Rim and a valuable asset to the region.

A place-based institute means that:

- Scenic Rim stakeholders will be able to have considerable influence over research priorities;
- a cohort of researchers with considerable expertise in the Scenic Rim can be developed;
- with a number of Scenic Rim researchers dedicated to the same region, connections between seemingly diverse phenomena will be possible;
- currently fragmented and dispersed research will be able to be collected, collated and where appropriate, synthesised;
- regional institutional memory will be generated, maintained and grown;
- avenues for research training and research practice can be developed and applied through a variety of contexts throughout the Scenic Rim.

For the Scenic Rim Regional Council, the Scenic Rim Institute will provide the rigorous research, knowledge and training that will increase Council's ability to:

- mitigate impacts (ecological and carbon footprints) and effectively address increasingly urgent and comprehensive regulatory imperatives from State and Federal Government;
- adapt to changing regional circumstances such as local climate change impacts;
- transition to new ways of doing business within an energy and resource constrained world
- provide informed and credible leadership for the communities of the Scenic Rim and work in collaboration with the local governments of South East Queensland.

Primary methodology focus and rationale

Clear and relevant research methodologies are essential

It is recommended that the Scenic Rim Institute embed its research methodologies in systems thinking, social-ecological resilience thinking, adaptive management and the enabling of innovation and creativity through cross-disciplinary dialogue and research.

Given the highly complex and interconnected nature of the challenges facing the Scenic Rim and its place in South East Queensland as well as the complex connections between the living natural, social and economic landscapes of the rim, research methodologies embedded in systems thinking, resilience and adaptive management are essential.

Systems thinking as a research methodology, has the capacity to address complexity, connectivity, multi-disciplinary and interdisciplinary processes and phenomenon.

Harvard professor of education, Howard Gardner in “Five Minds for the Future” (2008) suggests that the creative thinking required for real innovation in a complex world, requires both discipline based expertise as well as integrative or synthesised thinking. Systems thinking and indeed, resilience thinking offers such an approach, so vital to contemporary research problems.

A focus on cross-disciplinary and multi-disciplinary dialogue process is also a recommended core approach for the work of the Scenic Rim Institute. Wherever creativity and innovation arises, it is always supported by cross-disciplinary and multi-disciplinary dialogue, both through formal and informal settings such as forums, in cafes, purposeful conversation, arts spaces, workshops and so on.

A number of international research centres including the Dartington Trust, Rocky Mountains Institute and Santa Fe Institute have embedded systems thinking and interdisciplinary dialogue as a base to their extremely innovative work and the Scenic Rim Institute can take inspiration from their success.

The Scenic Rim also has the opportunity to physically locate this highly effective and relevant research agenda in the rim region itself and to carve out a unique place in the world of research by being both place-based and systems-based, a truly exceptional combination that would put the Scenic Rim and its research and training institute on the national and international map. It could also present the opportunity to evolve existing and emerging industry sectors in the rim, into ones with significant national and international research and training capacity.

8. Roles

In the review of national and international exemplar research centres, it is clear that the most successful of these in terms of research innovation and application, and financial sustainability are those that include only three or four key activity areas within their mission – applied and basic research, teaching/training; advocacy/communication/informing; and consulting and thought leadership. It is recommended that the Scenic Rim Institute make these four roles central to its design and operation.

Researching

- Applied and basic research predominantly within a systems thinking methodology that enables innovation, synthesised and creative thinking to emerge
- Landscape scale ecology
- Social/economic-ecological resilience
- Focus on application to Scenic Rim industry sectors, the rim's regional economy and the interface between urban, peri-urban and rural communities in South East Queensland

Some of the world's most successful, independent research and teaching organisations financially support their research programs through income generated from teaching and training and commercial consulting/contracting activities. This ensures their research agenda is maintained independently from political and commercial imperatives and constraints.

Training, teaching and learning

There are many types and levels of education, teaching, learning and training programs which might be developed and implemented by the Scenic Rim Institute, from accredited and formal tertiary-level programs through to industry development and adaptation processes. It is important to note the potential synergies between the Scenic Rim Institute and the proposed Scenic Rim Eco-Information Strategy and Centre in the area of training and learning.

Informing

Good research is at the heart of effective communication, advocacy and public information programs and it is recommended that the Scenic Rim Institute develop an accessible and relevant public outreach and information strategy for the rim region and beyond. Again, it is important to note the potential synergies between the Scenic Rim Institute and the proposed Scenic Rim Eco-Information Strategy and Centre in the area of public and industry information provision. It was also noted the work of the Rocky Mountains Institute in the US in the area of sustainability **thought leadership** – as an organiser and facilitator of industry innovation through forums and conferences.

Consulting and contracting

Many of the Australian and international research centres reviewed in this report undertake commercial consulting and contracting activities both to support their financial sustainability and to provide a bridge between their research activities and applied innovation. It is highly recommended that the Scenic Rim Institute develop its consulting capacity for business/industry and government applications.

9. Institute outputs

Based on the four key areas of activity within the Scenic Rim Institute, it is anticipated that a number of highly relevant and useful outputs would be generated by the Institute.

Researching

- Applied and basic research programs in areas of relevance to the ecology, industries and economy of the Scenic Rim and South East Queensland that are embedded in the natural capital of the rim
- Research papers and journal articles
- Collaborations across disciplines and institutions that generate innovation in the Scenic Rim
- PhD and Post Doctoral research resulting in cutting edge learnings and applications
- Collaborations between researchers, organisations and industries within the Scenic Rim
- Rim-based conferences and forums
- Development of research tools specific to the ecologies of the Scenic Rim and beyond
- Development of applied innovation tools for dissemination to other Scenic Rim and SEQ organisations, businesses and industries
- Growth in the research capacity within the Scenic Rim

Training, teaching and learning

- Development of a range of formal, accredited tertiary level teaching and learning programs specific to the Scenic Rim ecology and landscape (potentially in collaboration with partner universities such as Southern Cross University, Griffith University etc)
- Development of a bioregional sustainability education industry based in the Scenic Rim and distributed across key locations in South East Queensland and Northern NSW - covering formal tertiary through to short courses focused on natural capital and economic transition in the region
- Collaboration with the Scenic Rim Eco-Information Strategy and Centre to develop accessible, community-based teaching and learning resources
- Development of teaching and training resources, programs and toolkits focused on social-ecological resilience for business and community
- Research specific training programs in social-ecological resilience
- Articulated pathways between Scenic Rim secondary schools and rim-based research, training and consulting in natural capital and social-ecological resilience through the Scenic Rim Institute

Informing and communicating

- In collaboration with the Scenic Rim Eco-Information Strategy and Centre, community outreach communication and education programs
- Rim-based information and dialogue forums
- Rim-based community and research-based conferences
- Development of appropriate communication tools such as websites, electronic newsletters, community updates etc
- Relationships with and between Scenic Rim artists, indigenous people and cultural development players to create an arts and cultural base for communicating social-ecological resilience and research findings and innovations

Consulting and commercialising

- Development of a commercially-successful consulting service to business/industry, government and other key stakeholders in sectors focused on social-ecological resilience and the research base of the Scenic Rim Institute
- Income to support the independent research arm of the institute
- Ability to test and apply in real-life settings, research innovations and findings from the institute

- Thought leadership in the area of social-ecological resilience in the Scenic Rim and South East Queensland; as well as in place-based natural capital research and application
- Hosting and facilitation of industry and business forums
- Commercialisation of tools, products and services for applied use.

10. Partnerships

No organisation is an island. In the Scenic Rim region, throughout South East Queensland and indeed around the world there is a growing recognition of the value of collaboration, alliancing and networking to leverage innovation, particularly through research and education.

At all stages of the Scenic Rim Institute's life – from design to long-term operation and evolution – partnerships with appropriate organisations and people will be essential. In recommending a start-up design, development and implementation phase over the next two to three years, the following organisations are put forward as potential partners in this process.

Government

- Scenic Rim Regional Council
- Councils of South East Queensland – Gold Coast, Logan, Brisbane, Ipswich, Moreton (Economic Development, Natural Areas Management, Community Services and Development)
- Queensland State Government – departments such as Education and Training; Employment, Economic Development and Innovation; Environment and Resource Management; Infrastructure and Planning; and Communities
- Federal Government – departments such as Agriculture, Fisheries and Forestry; Education, Employment and Workplace Relations; Environment, Water, Heritage and the Arts; Families, Housing, Community Services and Indigenous Affairs; Infrastructure, Transport, Regional Development and Local Government; Innovation, Industry, Science and Research; and Resources, Energy and Tourism
- Qld Water Infrastructure (QWI)
- Northern NSW Councils with an interest in cross-boundary, bioregional research and training
- NSW State Government – departments or ministers with an interest in cross-boundary, bioregional research and training

Universities and higher education institutions

- Southern Cross University, Lismore – note Scenic Rim Regional Council has an existing relationship with SCU
- Griffith University – School of Environment, Planning and Architecture
- University of Queensland
- Dartington Trust and Schumacher College
- The Resilience Alliance

Philanthropic

- The Myer Foundation
- Perpetual Foundation

Community grants

- Gambling Community Benefit Fund
- Foundation for Rural and Regional Renewal

Industry associations and economic development

- Ecotourism Australia
- National Farmers Federation
- Queensland Farmers Federation
- Economic Development Association of Australia
- Business Alliance for Local Living Economy (BALLE)
- Catholic Education

Business partnerships

- Bendigo Bank
- Members Equity Credit Union (MECU)
- Rockcote Enterprises

Non Government Associations

- International Union of the Conservation of Nature (IUCN)
- SEQ Catchments
- Worldwide Fund for Nature
- Gondwana Rainforest Association (get correct name)
- Landcare Australia and Scenic Rim Landcare groups

Scenic Rim Secondary Schools

- Tamborine Mountain State High School
- Beaudesert State High School
- Boonah State High School
- Independent secondary schools

11. Location

It is vital that the institute be based within and focused upon the bioregional landscape of the Scenic Rim so that the continuity and foundational bedrock of the institute is place-based and not subject to the changes and whims of political administration at any level of government.

It will be important to involve (via alliances, partnerships and collaboration) surrounding local government entities and other stakeholders such as universities to generate both the required resourcing and the scientific research scale required to create and maintain a relevant Scenic Rim research and training institute.

The development of the Scenic Rim Institute would be a visionary and groundbreaking initiative in the SEQ region, nationally and perhaps even internationally.

A place-based research and training institute in the Scenic Rim is more likely to succeed by focusing its attention specifically on the Scenic Rim and its interface with surrounding urban and peri-urban areas to ensure resourcing and research scales are sustainable.

The institute should be based at a central gateway to high value natural landscapes, cultural heritage areas and active communities and economies. It may have more than one locale and it is suggested that at least initially it have two locations:

1. A main base at Canungra which is a gateway to Lamington National Park and the national parks of Tamborine Mountain as well as the communities of Canungra, Tamborine Mountain and Beechmont. It is suggested that the Kokoda Army Barracks at Canungra be approached to discuss the potential of a partnership in order to locate the institute at the Barracks, at least in its start-up phase;
2. An annexe at Boonah which is the gateway to Mt Barney and the rim's western landscapes as well as the communities of Boonah, Rathdowney, Kalbar etc. It is suggested that the Queensland Government be approached to discuss the potential of a partnership in order to locate an institute annex at The Outlook, at least in its start-up phase.

12. Personnel

Start up phase – 2009/2010 - 2012

- Scenic Rim Regional Council
- The 'Institute Circle' – an information advisory and steering group committed to creating the institute's vision, mission, structure and start-up business plan
- Director/Business Development – a highly experienced and committed person in the area of research, learning and business development who, with the Institute Circle, can collaboratively develop and implement the institute's start-up business plan. Their role will include sourcing and establishing appropriate and leveraged partnerships, successfully sourcing start-up and operational funding and resources, and generating a groundswell of interest in the institute among the community, businesses and local governments of the region as well as with philanthropists and potential consulting clients
- Partner organisations such as key university departments, industry associations etc
- Start up researchers – a small group of enthusiastic and committed researchers (with an existing research program and profile within the Scenic Rim) willing to devote at least some of their time and energy to collating, synthesising and disseminating existing Scenic Rim research to build up a preliminary research base; as well as to develop and engage in emerging areas of research highly relevant to the Scenic Rim's natural capital and social-ecological resilience

- Foundation Board for the institute to ensure the ongoing direction and integrity of the institute

Establishment phase – 2012 -2016

- Institute Director
- Core of 6-8 researchers – with capacity to develop teaching programs and interface with consultant team. It is envisaged that this team will grow over time as the institute becomes increasingly active and viable
- Core of commercial consultants – with capacity to develop training programs and interface with research team and apply research to business, industry and community context
- Business Development Coordinator
- Marketing and Communication Coordinator
- Institute Board
- Research Advisory Board

13. Funding and resourcing options

In terms of highly successful, innovative and well-resourced independent research centres, the Rocky Mountains Institute in Colorado is something of an international flagship. The suggested funding and resourcing opportunities outlined here are largely inspired by the success of the Rocky Mountains Institute.

- Grants from government and philanthropic organisations for full feasibility and business planning process; administration and operations; development of full research agenda; infrastructure and capital works; employment of foundation director
- Donations and Gifts from business, corporate, individual donors
- Commercial consulting service – income to support independent research
- Development and commercialisation of research and innovation tools, technologies and processes
- Hosting of teaching and training programs
- Hosting of public events and conferences
- Venue hire

Funding and resourcing is also closely linked to developing and maintaining partnerships with aligned and leveraged organisations and initiatives. As discussed in section 10, the following organisations are likely to be well-placed to partner with the Scenic Rim Regional Council and the ‘Institute Circle’ to assist in the start-up and establishment phases of the Scenic Rim Institute.

Government

- Scenic Rim Regional Council
- Councils of South East Queensland – Gold Coast, Logan, Brisbane, Ipswich, Moreton, etc
- Queensland State Government – departments such as Education and Training; Employment, Economic Development and Innovation; Environment and Resource Management; Infrastructure and Planning; and Communities
- Federal Government – departments such as Agriculture, Fisheries and Forestry; Education, Employment and Workplace Relations; Environment, Water, Heritage and the Arts; Families, Housing, Community Services and Indigenous Affairs; Infrastructure, Transport, Regional Development and Local Government; Innovation, Industry, Science and Research; and Resources, Energy and Tourism
- Qld Water Infrastructure (QWI)
- Northern NSW Councils with an interest in cross-boundary, bioregional research and training
- NSW State Government – departments or ministers with an interest in cross-boundary, bioregional research and training

Universities and higher education institutions

- Southern Cross University, Lismore – note Scenic Rim Regional Council has an existing relationship with SCU
- Griffith University – School of Environment, Planning and Architecture
- University of Queensland
- Dartington Trust and Schumacher College
- The Resilience Alliance

Philanthropic

- The Myer Foundation

- Perpetual Foundation

Community grants

- Gambling Community Benefit Fund
- Dartington Trust and Schumacher College
- The Resilience Alliance

Industry associations and economic development

- Ecotourism Australia
- National Farmers Federation
- Queensland Farmers Federation
- Economic Development Association of Australia
- Business Alliance for Local Living Economy (BALLE)

Business partnerships

- Bendigo Bank
- Members Equity Credit Union (MECU)
- Rockcote Enterprises

Non Government Associations

- International Union of the Conservation of Nature (IUCN)
- SEQ Catchments
- Worldwide Fund for Nature

14. Implementation steps

These implementation steps are based on this report's recommendations

Establishment Phase – 2009/2010 - 2012

1. Council agree about the need and opportunity for the Scenic Rim Region to design and develop the Scenic Rim Institute. Council to approve the development of the Scenic Rim Institute.
2. Council to advertise for expressions of interest and appoint a semi-formal circle of people (the 'Institute Circle') committed to the promise of a Scenic Rim natural capital research and training institute. That in the short term, the Institute Circle:
 - Create and articulate a vision for the institute
 - develop at a preliminary level the institute's research agenda and consolidate its research methodology
 - design at a preliminary level the institute's operating structure and resourcing requirements
 - attract start up resourcing and partnerships
 - attract and develop increasing interest for the institute in the region and in neighbouring cities
 - develop a start up business plan
 - support an economic modelling process to explore the potential scale and scope of the Scenic Rim Institute as well as its potential as a driver for the development of a comprehensive research and education industry strategy for the Scenic Rim.
3. Council and the 'Institute Circle' review Council's existing relationship with Southern Cross University and initiate discussions as soon as possible with relevant personnel at Southern Cross University about the potential of extending this partnership or relationship to include planning and establishing the Scenic Rim Institute.
4. Council and the 'Institute Circle' initiate preliminary discussions as soon as possible with Associate Professor Darryl Low Choy from Griffith University's School of Environment about the potential of a partnership or involvement in starting up the Scenic Rim Institute.
5. Council and the 'Institute Circle' initiate preliminary discussions as soon as possible with Associate Professor Darryl Jones, Director of Griffith University's Centre for Innovative Conservation Strategies about the potential of a partnership or involvement in starting up the Scenic Rim Institute.
6. Council and the 'Institute Circle' explore a relationship with the University of Queensland around the planning and establishment of the Scenic Rim Institute.
7. Council scan across its entire structure and operational program to identify any other existing relationships with universities which may support the development of the Scenic Rim Institute.
8. Council and the 'Institute Circle' co-host a series of engaging, multi-disciplinary 'conversation cafes' in appropriate venues around Scenic Rim Region during 2009 and 2010. The aim of these cafes should be to bring together researchers, teachers, practitioners, indigenous people, business people, policymakers, artists and writers, and young people to discuss not only the vision and design of the Scenic Rim Institute but themes that are central to its research and methodology agendas such as social and ecological tipping points; indigenous land management knowledge, wisdom and practices; the interface between social and ecological resilience and community prosperity; the place of the arts and creativity in education and planning and so on.
9. As opportunities arise, Council and the 'Institute Circle' host public lectures with relevant visiting speakers about themes of relevance to the Scenic Rim Institute research agenda and methodology.

10. Council and the 'Institute Circle' identify relevant State and Federal Government programs, grants and incentives for regional research, training, planning and renewal and where appropriate, seek such funding and resource support.
11. Council and the 'Institute Circle' initiate preliminary discussions with the Commander of Kokoda Barracks at Canungra regarding a partnership to accommodate the Scenic Rim Institute in the short term.
12. Council and the 'Institute Circle' initiate preliminary discussions with the Queensland Government regarding a partnership to accommodate an annexe of the Scenic Rim Institute at The Outlook at Boonah in the short term.
13. Sufficient funding and resourcing be found in the short term to employ a founding Director/Business Development Coordinator for the institute who will work in collaboration with Council and the 'Institute Circle' and develop and begin implementing a business plan to enable start up operations of the institute with a view to a two to three year timeline for full establishment.
14. Preliminary research agenda developed and implemented via founding researchers – this includes the identification, collation and synthesis of existing research about the Scenic Rim's natural capital.
15. Council and the 'Institute Circle' establish a Founding Board for the Scenic Rim Institute.
16. Council undertake an economic and industry feasibility study process to better understand and plan for the development of a natural capital and sustainability education industry sector in the Scenic Rim Region.

Establishment Phase – 2012 - 2016

1. Founding Board engage an Institute Director.
2. Institute Circle, Board and Director ensure the institute's business plan is fully developed, implanted and effective – and that the resourcing to enable full establishment is in place.
3. Core of 6-8 researchers engaged and have the capacity to develop teaching programs and interface with consultant team as well as undertake their core research. It is envisaged that this team will grow over time as the institute becomes increasingly active and financially sustainable.
4. Core of commercial consultants – with capacity to develop training programs and interface with research team and apply research to business, industry and community context.
5. Business Development Coordinator engaged.
6. Marketing and Communication Coordinator engaged.
7. Institute Board established.
8. Research Advisory Board established

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