

Landscapes in Transition

Local perceptions of indigenous and European settlement changes along the Victorian coast

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Around the world coastal areas are witnessing dramatic changes due to the consequences of the growth of human settlements. Rapid urban expansion in coastal settlements due to 'life style migration' impacts negatively on environmental coastal amenities that are the driving factor behind the attraction of these areas. The Victorian Coast in Australia is under stress, with the growth pattern of coastal settlements in a sprawling linear fashion resulting in devastating effects on the natural coastal environment, biodiversity and the loss of cultural heritage. The Victorian coast is rich in history, and the coastal towns are often described in literature as places with 'sense of place', or referred to as place character. This place character has been formed over many years with the interaction between social histories and natural environments woven together across time. This paper reviews the transition of the landscapes along the Great Ocean Road coastal region, and ask the question how can a potential Generative Plan be developed to establish a process to keep the place character of coastal towns. The proposed plan considers the interrelationships of nature and people as fundamental to forming place character, from the time of Indigenous habitation before European settlement, to the current day of rapid increased developments scattered along this coast.

Keywords: Landscape Change, Indigenous Heritage, Place Character, Coastal Settlements, Urban Expansion, Generative Plan, Adaptation, Sense of Place.

Introduction

It is estimated that more than half the world's population live in coastal cities and towns. In Australia over 85% of the population live within the coastal zone (ABS, 2002). It is predicted that by the year 2050 more that 75% of the world's population will live at the coast, or at least within 150km of the coastline (Green, 2010). Australia has become a coastal society, and more and more people seek a

lifestyle in regional coastal areas. It is this love affair that societies have got with the coast that is also the threat to its own sustainable survival.

In Victoria the coastal region that experiences the largest population growth is the region from Geelong to Warrnambool with an estimated population growth from a current 270,000 to 400,000 people by the year 2050 (DSE, 2008). The population of the Surf Coast area, which are part of this greater Geelong coastal region, along the Great Ocean Road, will increase from 28,631 in 2012 to around 44,100 people in 2031, a phenomenal growth of 54.03% in population (SCS, 2008). This regional growth and economy is strongly dependant on its coastal amenity and attributes. It is the communities in these coastal settlements that are more vulnerable to sea level rise (Harvey, 2010), and may result in significant socioeconomic, environmental and built infrastructure impacts resulting in the potential loss of these attributes.

The main attribute that makes the Victorian coast so attractive for settlement is the place character of small towns that are dispersed within a natural landscape of beach, forests and cliffs. The coast of Victoria has a long history, with heritage of Indigenous as well as European settlement contributing to the rich history of settlements. This paper reviews the history of this coastline and investigates the potential impacts due to population growth and new developments in these settlements, its landscape and visual attributes. The coastal towns applicable to this study are indicated in Figure 1. The author proposes a potential 'Generative Plan' to be developed to establish a process to keep the place character of coastal towns. The proposed plan considers the interrelationships of nature and people as fundamental to forming place character, using the wholeness of a place in considering the heritage and historical character as a method of resilience to community values.



Figure 1: Location of Coastal Towns along the Great Ocean Road Coast Region (Source: Redrawn from GORCC).

Our Affinity with the Coast

Our affinity with the coast is rooted in history even before initial European settlement, and to understand this attraction to the sea we have to acknowledge our European ancestral behaviours, as well as Indigenous history of coastal settlement. The lowering of the sea level during the last glacial era increased the land area of continents, and similarly the Australian continent increased by one third, almost linking the landmass of Australia with the islands of Asia (PIRG, 1977). More than 50,000 years ago the first people landed on the northern shores of the coast, and spread throughout the continent. Since these early times, inhabitants of Australia had an affinity with the coast, and the sea. The reason for preferring to live along the coast was that the coastal zone had obvious advantages; the climate is milder than the inland harsh deserts, providing availability of food supplies such as fish, birds and other animals. The discovery of heaps of middens indicates an affinity with the coast, and Aboriginal art shows that the values of the coast influenced mythology as well as settlement patterns.

Indigenous settlements

In Victoria, the coastal environment is a very important aspect of the cultural heritage of the *Wathaurong* and *Gadubanud* peoples of the region. The value and importance of the coastal environment and the connection of people to the land, is reflected in the Dreaming Story of the creation of *Punjil* and *Pallian* (Thomas, 1969). The story reflects the authority that Aboriginal ancestors had over the land and the sea, which has been passed down to the current generations and motivates the *Wathaurong* and *Gadubanud* people to look after the Sea Country. The short summary below of the *Punjil* and *Pallian* Dreaming Story reflects the interconnection of nature and the Aboriginals:

“Punjil is the maker of earth, trees, animals, man and woman. Punjil had a wife named Boi Boi, but he never saw her face. She bore him two children, one a son named Binbeal and the other a daughter named Kara-karook. To Binbeal is committed the sovereignty of the heaven and to Kara-karook the incidental occurrences on earth; while great Punjil stalks like a big gentleman in the clouds, on the earth, and always carrying a big sword. Pallian, brother of Punjil, made all seas, rivers, creeks and waters, also all the fish in the oceans, seas and rivers. He governs the waters, was always in the waters, walking, bathing, and going over the seas. One day when our ancestors awoke, Punjil, Pallian and Karakarook had gone up above. They had departed from Deen Maar (Lady Julia Percy Island), which remains sacred to our people to the present day” – William Thomas, 1969.

The dreamtime stories such as the above reflect environmental knowledge, social behaviour, rituals, morality, religious and daily social living practices (Roberts, 1975). The middens found along the coastal area of the Cape Otway (Figure 2), on the west coast reflect the past camp sites and popular places for migration of the Aboriginal people. Fish, seals, and waterfowl were plenty, and the freshwater springs at Crayfish Bay provided for abundance of crayfish in the rock pools (PIRG, 1977). Various inlets provided shelter to the wind due to the morphology of the cliffs and have encouraged the Aboriginals to settle, and a semi-permanent settlement at these sites has been established.



Figure 2: Aboriginal shell midden place, Aires Inlet, Split Point, Victoria (Source: Terra Culture, 2012).

Today, the *Wathaurong* and *Gadubanud* people still respect the benefits of the coastal zone, and in an effort to protect the connection between human habitats and our engagement with nature, developed the Kooyang Sea Country Plan. As part of the South-east Regional Marine Plan, 2004, two Sea Country Plans initiated for collaboration with coastal Indigenous groups to provide an opportunity for Indigenous involvement in natural resource use and planning of the coastal and marine environment as well as the coastal Aboriginal cultural heritage conservation in the South-west Victoria and South Australia regions.

Various cultural heritage sites along the coast are important to protect for the conservation of cultural Indigenous history. Many of these sites are within or right next to development areas for housing in the coastal settlements along the Victorian coast, one such example at Aires Inlet, Victoria is indicated in Figure 3. As part of place character, these sites need to be considered as valuable contributions to the spirit of the place.

Indigenous Heritage and Place Character

In Victoria, the Indigenous people have an intimate and ongoing relationship with coastal environments stretching over thousands of years and up to the present day. This ongoing relationship is reflected in the cultural sites present along Victoria's coast, with the current relationship with nature based on a long tradition of ownership, stewardship, utilisation and cultural significance and history (Roos, 2013b). For Indigenous people, their cultural values are built upon traditional use, spiritual connection, ancestral connections and respect for the land and Sea Country, including the resources that land and sea provide (Smith, 1980). This connection with nature resulted in methods of management of the environment, landscape, natural resources and settlement patterns. In establishing and considering place character, the acknowledgement of these Indigenous sites and places are just as important as the preservation of place character of our European settlements since the early 1700's.



Figure 3: Registered Aboriginal Cultural Heritage Place – Aires Inlet (Source: Terra Culture, 2012).

European settlements

It took thirty years after Captain James Cook take sighting of the Australian mainland in 1770 that George Bass and Mathew Flinders conducted explorations south from Port Jackson and discover the east and west Victorian Coast. On the 7th December 1800 Lieutenant James Grant sailed around a large cape, and named it the Cape Albany Otway (Leggett, 1970). It didn't take long, and the first European settlements was established when in 1849 William Lindsay was issued with a licence to extract timber from the shores of Louttit's Bay and Apollo Bay (Lorne Historical Society, 1970).

Soon Lorne developed as a seaside resort, and the beautiful coast of West Victoria became a destination for many settlers, other towns began to grow in the numbers of permanent dwellings such as Peterborough, Port Campbell, Apollo Bay, Warrnambool and Princetown, and the affinity with the coast was clearly evident in these early years. Easy access and amenities that provide comfort influenced the establishment of settlements along the Victorian coast, evident in the photographs represented in Figure 4.



Figure 4: Early settlers of the Otways and Mountjoy Parade, Lorne (Source: PIRG, 1977).

Today the same affinity with the coast is evident as many people are flocking to the coast in increasing numbers to enjoy the attributes, the more relaxed lifestyle that these attributes of coastal settlement can offer. The growth rates in Australian coastal towns are higher than any other areas, and the migration to the coast includes more and more young people attracted to the amenities of surfing, the sun, beaches and a more relaxing lifestyle (ABS, 2004).

Adding to the young population, a large number of senior citizens of 50 years and older are migrating to the coastal settlements just within 150km of main cities, seeking a lifestyle that is more relaxed, resulting in more than 150,000 people settled in these coastal areas in Victoria, between 1996 and 2006 (Green, 2010). In Victoria this settlement occurs within the 2 to 3 hours drive from the main city of Melbourne. This trend is continuing, and more housing will be needed in these coastal towns. This “sea change” phenomenon will continue, as such the coastal environment will be under pressure of substantial urban growth.

The pressure on the coastal towns along the Great Ocean Road is due to sea change migration as well as tourism. Increase in tourist activity during holiday periods results in the peak overnight population of the coastal towns’ on the Surf Coast Shire, located on the Great Ocean Road region, growing to 10 times the permanent population rate (City of Greater Geelong, 2004). Tourism is one of the main contributors to the economic values of the Victorian Coast, and is by far the largest contributor to employment, with an estimated 23,000 jobs created directly on an annual basis (Worley Parsons, 2013).

Australia and Sea Change

The migration to non-metropolitan areas on the coast is known as the ‘sea change’ phenomenon. This migration is purely due to the seeking of a change in lifestyle (Burnley, 2004). A form of migration based on amenity migration, seeking the values and attributes that the place character of these coastal towns offers, drives this. This was portrayed in the Australian television series, *Sea Change*, set in an imaginary coastal town of Pearl Bay. The story reflects the change of city life to coastal town, of main character Laura Gibson who leaves behind her stressful corporate life and joins a community on the coast to pursue an idyllic lifestyle.

The setting of Pearl Bay was in fact Barwon Heads, on the banks of the Barwon estuary, located 90 km south west of Melbourne. Barwon Heads (Figure 5) is one of the small coastal places people are

attracted to along the Surf Coast, representing the idealistic Pearl Bay ‘sea-change’ type of settlement such as Torquay, Bells Beach, Anglesea and Lorne, all the way to Apollo Bay on the Victorian coast. These towns have a distinct character, attracting more and more people to settle within these towns.



Figure 5: Barwon Heads – The ‘Sea Change’ town of Pearl Bay (Source: Roös, 2012).

The types of towns, with specific character has been recorded in 5 typical sea change types by a study done at the University of Sydney (Gurran, 2005):

1. Coastal hamlets – small rural communities;
2. Coastal gateways – small to medium sized towns within 3 hour drive from a major city;
3. Coastal commuter settlement – towns located close enough to major cities for daily commuting;
4. Coastal regional cities – smaller regional cities located on the coast.

The place character of the coastal types 1, 2 and 3 are the most attractive for migrants from the cities, seeking a sea change lifestyle, attracted to the place character of these coastal settlements. Along the Great Ocean Road coast, the following towns can be classified under the following coastal types:

Table 1: Coastal Types of Coastal Towns along the Great Ocean Road Coast.

Coastal Type:	Town:
Type 1 – Coastal Hamlet	Lorne, Wye River, Anglesea, Aireys Inlet, Port Campbell, Peterborough, Separation Creek, Skenes Creek, Kennet River.
Type 2 – Coastal Gateways	Torquay, Jan Juc.
Type 3 – Coastal Commuter Settlement	Barwon Heads, Breamlea, Torquay, Jan Juc, Bells Beach.
Type 4 – Coastal Regional Cities	Apollo Bay.

Place Character

Place character is the 'feel', 'atmosphere', the 'ambience', and the 'soul' of a place. This is a difficult term to define, but a common description of a place that make people feel at home, and attracted to its inherent qualities. All places in the built environment as well as in the natural environment possess character (Green, 2010). Some places are considered to have recognizable qualities and have a unique character, and these are often refer to as having a 'sense of place'.

Sense of place is a term that developed from the term *genius loci*; a term initially used that describe the appreciation of landscapes (Jiven, 2003). This can be acknowledged as the technical term, specific to the new landscape, but as this term developed over time, the concept moved away and included its application to any landscapes, including the urban form (Jackson, 1994). *Genius loci* in its application to perception of a place, evolved into describing the quality of places and its transition to modern times as 'Sense of Place' has been well described by landscape author Jackson:

'Sense of Place' is a much used expression, chiefly by architects but taken over by urban planners and interior decorators and the promoters of condominiums, so that now it means very little. It is an awkward and ambiguous translation of the Latin term genius loci. In classical times it means not so much the place itself as the guardian divinity of that place. ... in the eighteenth century the Latin phrase was usually translated as 'the genius of a place', meaning its influence. ... We now use the current version to describe the atmosphere to a place, the quality of its environment. Nevertheless, we recognize that certain localities have an attraction which gives us a certain indefinable sense of well-being and which we want to return to, time and again. (Jackson, 1994)

When Jackson refers to the 'atmosphere' of a place, he indicates that this development of the acknowledgement of *genius loci* has also linked and become allied to the place character (Jiven, 2003).

This place character, the spirit of a place is considered as a high amenity, and can be defined as the most important aspect that adds value to a place. Place character can be termed also the values of that environment, or place. These values include the things that people experience which are special, they can be emotionally attached to and respond to, and influenced by physical objects, such as the beach, historical buildings, trees, footpaths. It is the visual attributes of these objects and spaces that contribute to a sense of place and uniqueness of place-character (Roos, 2013a).

Communities on the coast exist due to the high visual and natural attributes of these values they are situated within, or adjacent to, that underpins the qualities of these values. Change these landscape and built values and you have a dramatic effect upon their context, influencing the overall place-character. It is the place-character, the unique constellations of socio-physical characteristics that differentiate these environments from one another (Tuan, 1974).

Christopher Alexander has defined place character as the 'living centres' of a settlement, connecting human built environments and nature together in a wholeness. This uniqueness, the living structures within a neighbourhood are fundamental to the ongoing resilience of a place, resulting in sustainable futures of the community (Alexander, 2006). These living structures are crafted over

many years by local residents resulting in its unique character and defined as the heritage and history of the place. An important aspect of place character is the heritage and cultural identity of place, shaped by the history of the settlement. In coastal towns it is this history that draw people to settle there, and results in increased numbers of overnight visits during holiday seasons. Heritage and history, culture as well as natural landscapes contributes to the appreciation of place. Examples of key heritage attributes shaped by history that contribute to place character of the coastal towns of Inverloch and Lorne are indicated in Figure 6. Both attributes are landmarks and major tourist attractions in these coastal towns.

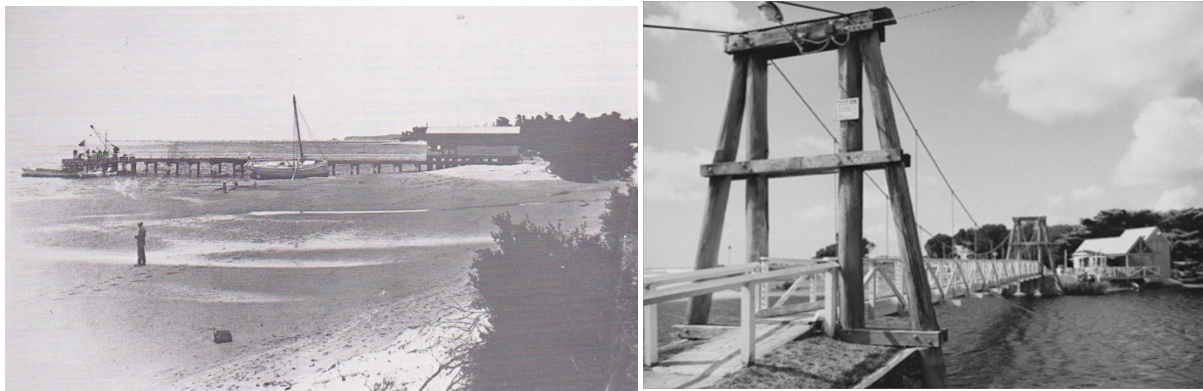


Figure 6: Contributions to Place Character through Heritage and History – The old Inverloch Jetty and the Lorne bridge (Source: PIRG, 1977).

In the coastal region, that is the direct coastline, as we perceive it, the character and visual relationships for the human eye is very important. The importance of the green landscape to human well-being has been long and widely recognized (Lewis, 1979), similarly the visual attributes of the coast and its natural habitat is a very important aspect for the psychosocial positive experience of humans. The high visual and natural attributes of the coast are always in a transition stage. Natural as well as built environments are constantly in a phase of transition along the Victorian coast.

Coastal Transition

Although humans have an affinity with the coast, the coastal zone is a dynamic place. It can also be a dangerous place to live. The coastal zone and its natural attributes make it susceptible to stresses and changes in a number of ways. It is the coast where the land interacts with the sea, experiences the forceful action of the wind, waves, tides, and currents that not only erode the shore, but also expand it with sedimentary deposits. Storm systems gather energy from the ocean and intensify natural coastal forces with wind, waves, and rain, powerful enough to severely damage natural and built assets with hastened erosive processes (GORCC, 2012).

Another element that will impact the coast and result in a coastal transition is the changes in the climate and rising sea levels. These impacts make the coast more vulnerable to these natural dynamic forces (IPCC, 2007). Adding to the coastal transition is the social and economic forces that bring stresses to coastal areas. Population growth with a shift from main metropolitan areas to coastal towns requires more land development along the coast (Green, 2010).

The growth of these towns often follows a distinctive growth pattern, sprawling along the coastline in a linear fashion, with properties that demand ocean views (DSE, 2004). This coastline sprawl has devastating effects on the natural coastal environment, biodiversity and habitat loss, degradation of water quality in coastal waters, damage to wetlands, coastal erosion, loss of indigenous vegetation, introduction of pest animals and plants and the loss of cultural heritage (VCC, 2008). Additional to environmental impact, local communities of these coastal towns raised concerns that the value of character are lost due to new developments and existing neighbourhoods are degraded. The major catalyst for this change is the replacement of older, traditional and smaller buildings with out of scale and standardized forms of building materials and architecture (Green, 2010).



Figure 7: Transition of place character from the 1st house in Torquay to current house typologies (Source: Melbourne Museum & Surf Coast Shire).

The growth patterns predominantly are driven by new housing, large blocks that result in residential areas with homes that have no character, built to the cheapest standard allowed to local planning schemes and building codes, a difference in past character and new homes is clearly evident, as indicated in Figure 7. This trend has a devastating effect on the once unique place character of the coastal towns of the Victorian West Coast.

The transformation of place character from a coastal town character to a suburban character dominated by block housing and suburban sprawl is obvious. How can this non-sustainable practice of suburban sprawl be stopped, and the transition to a future sustainable community be achieved in the coastal settlements? The author argues that this transition can have a positive outcome if the history as well as local perceptions of communities is considered, and the natural environment as well as the requirements of a sustainable built environment, are developed in harmony with the whole, acknowledging place character.

Wholeness, sense of place and place character go hand in hand. Christopher Alexander explores this phenomenon in his theory of architecture and settlement planning, and proposes a method of 'Pattern Language' that the inherent patterns of the landscape, the morphological growth of a place provides life, gives it character and wholeness only when the development and design of the built form are integrated and connected with nature (Alexander, 2006). Similarly Raymond Green identifies the place character of Victorian coastal towns somehow unique, different, unusual, special and rare given its locality and engagement with the natural environment (Green, 2010). This wholeness is connected back to deep sustainability, true place character, where the integrated connections with nature and a place support the future sustainability of the place (Alexander, 1977; Roos, 2013a).

Adaptation of Place Character

The place character of these Victorian towns along the coast is what most Australians consider an important value and an attribute, so why can we not protect these heritage attributes and the cultural significance from Aboriginal sites to early unique European heritage and architecture of these coastal town settlements? Under the pressure of migration to coastal settlements, as well as the potential impacts of environmental change, these coastal towns can adopt a process to consider their local character, adaptation considerations, as well as contribute to a sustainable future for the coast. The local communities can own this process, and the perceptions of change of future place character can be planned, designed and implemented by the people that live and work in these settlements.

In the face of development pressures relevant government bodies in Victoria have introduced forms of 'character legislations', such as the *Siting and Design Guidelines for Structures on the Victorian Coast, 1998*. Other recent examples such as the *ResCode*, introduced by the Australian State of Victoria in 2001, provides a set of planning provisions that direct municipal governments' to assess the impact of residential developments in terms of likely impact to 'neighbourhood character' (VDI, 2001). While local communities applaud these efforts to preserve place character, unfortunately these legislations often fail to meet their objectives. The reason for failure are that they seldom are based on a solid understanding of how the local people experience their environment, how the place come to be, how the heritage and history influences the organic growth and shape of spaces, and

mostly they ignore how local people actually conceptualise and experience place character as well as transformation (Green, 2010).

The use of a Generative Plan based on the principles of a pattern language could assist in creating the place character of a coastal settlement and adaptation to changes. The 'Generative Codes', a further step of the Pattern Language Theory, developed by Architect and Planner Christopher Alexander in the 1970's, identifies an unfolding that lock in each step of neighbourhood design (CES, 2006; Alexander, 1977). Alexander developed 'generative sequences' in town planning and urban design, focusing on the principle of centres and the wholeness of nature. Using these principles of generative codes as an input to a new 'generative plan', considering the twenty first century context of climate change and contemporary genius loci, or place character, the author adapts the pattern language of Alexander to a new language that considers the changes of the environment, both built and natural. The process of the generative plan also includes the heritage and history of place to be able to keep the towns' local identity in future growth. The following steps are proposed to be used to write the Generative Plan, allowing the community of the coastal town to own the process (the unfolding) and to provide local perceptions of establishing the potential positive adaptation of place character:

1) Town diagnosis

- Finding special places
 - Most inspiring place, creating sense of place, living structure, spiritual and cultural place, natural magnetism, alive
 - Find the sacred places
 - Special Indigenous cultural sites. What was the purpose of these sites? Identify the connection between the environment and the functions of the Indigenous site
 - Places of worship
 - What can make this place active, strengthen the place as to becoming the natural centre of the town
 - What are the characteristics of this special place, form, architecture, size, height, orientation, views. If it is a natural object - what is the best way to improve its character through a holistic integration of built and natural environment?
- Views
 - Identify view corridors, connections, beautiful views, distant views, focal points
 - Views for orientation, way finding and identification
- Access, in and out
 - Identify the most easy and natural way in and out of the town, pedestrian routes as well as vehicular routes, connections and pathways between special places
- Places to heal
 - Identify areas that need repair, the most derelict space, odd corners and street ends of town
 - Natural slopes and parkland that needs to be repaired, places where trees need to be replaced, and landscape to reinstate
- Large scale positive space

- Inspect the town and identify the large scale positive space, the way the land is shaped, buildings placement, and the capture of the attributes of looking out of the positive space
- Identify the balance of closure and openings in this large-scale positive space

2) Heritage and History

- Heritage elements
 - Identify the heritage elements of the town, special attributes that are acknowledged by local communities as their heritage and culture values
- History elements
 - Establish the history of the place, how was it established, why did the settlement attract permanent residents, how does the history influence the current uses of the town, and what is the relationship of future growth to the attributes of the towns' past history

3) Boundaries

- Settlement boundary
 - Establish the outer settlement boundary, fix this boundary to constraint further development
- Settlement interior
 - Identify pieces of land that will form a continuous land of different use
 - Types of buildings, and cultural boundaries, and functions cluster together
- Natural boundaries
 - Identify the natural boundaries of the landscape, including ecological corridors, green belts and water
 - Establish the size of green belts and ecological corridors; fix them on the outside perimeters and inside interiors of the settlement boundaries
- Neighbourhood boundaries
 - Identify and establish pockets of neighbourhoods, with neighbourhood character and cultural boundaries
 - Establish rights of way, connections and pathways between each neighbourhood
 - Identify the centre – the 'heart' of the neighbourhood, and link connections between different centres
- Public land
 - Identify and establish places that can be used as public land, meeting places between neighbourhoods, in-between spaces, and gateways
 - Establish areas that cannot be built on, or developed

4) Place character features

- Identify the specific type of character features of the settlement
- Natural and vegetation features
- Built features, out-of-character and in-character buildings

5) Change

- Identify risks due to change
- Identify social, economic and environmental impacts and change
- Identify vulnerability to hazards such as bush fire, flooding, inundation, and natural disasters.
- Establish patterns of impact by change

6) Adaptation

- Identify the physical attributes of the place that can adapt with time
- Establish values that is at risk for not be able to adapt to change. Identify places that are vulnerable to changes such as inundation due to flooding and sea level rise as well as bushfires
- Identify element's that could stop the adaptation process
- Establish the adaptation capacity of the built environment
- Establish the adaptive capacity of the natural environment
- Resilience features of the place, and timeless characteristics

The Generative Plan

The Generative plan includes a system of unfolding steps that will help the local community to create a place that considers place character as well as the potential opportunities to adapt the current as well as future built and natural environments to change. The coastal settlement will be able to consider the whole, following a similar process than the rules of nature when nature unfolds an organism or a natural landscape. This unfolding is based on the pattern language model (Alexander, 2006).

In this paper these rules of natural unfolding are applied to the further development of the built and natural environment, place character and adaptation. Coastal settlements provide opportunities to enhance and keep place character, if the settlement development is planned according to the above steps one to six, selecting harmony with the geography of the site and consider natural elements as boundaries. These elements of consideration for a generative plan are clearly visible in Figure 8, indicating the relationship of the built environment and the natural environment characteristics.



Figure 8: Torquay beach, indicating characteristics for applying the Generative Plan (Source: Author - Adapted from Surf Coast Shire).

Discussion

This preliminary research analysis considers the transition of coastal communities along the Great Ocean Road region, taking into account local perceptions of place character, resulting in the following conclusions:

- 1) The coastal region is experiencing the largest population growth in Australia.
- 2) The migration to the coast is due to the 'Sea Change' phenomenon, closely link to the perceptions of place character, the attributes and values that the coast can offer.
- 3) Specific Place Character types of coastal settlements draw more migrants than others, and the aspects of small rural communities, small to medium sized towns within 3 hour drive from a major city, and towns located close enough to major cities for daily commuting are experiencing the highest growth.
- 4) The local heritage and cultural character of coastal areas are under threat due to suburban sprawl along the coastline, impacted by population growth, influx of holidaymakers, as well as impacts of climate change.
- 5) Indigenous knowledge can assist in identifying sacred places and developing place character.
- 6) Coastal transition is happening due to new developments, and place character is getting lost, resulting in a non-sustainable growth. Current legislations often fail to meet the objectives of conserving place character, and the considerations of local communities need to be included in an alternative process.
- 7) The organic growth and unfolding steps of a Generative Plan can be the method for local residents in the coastal towns, assisting to applying local knowledge and aspirations to the protection and enhancement of place character.
- 8) Local government and planning agencies should be considerate of the place character process of the Generative Plan, applying these principles to planning provisions to protect and enhance place.

Thus, the use of the proposed Generative Plan can assist in the adaptation of place character, providing solutions for the values that need to be kept in place of these coastal settlements that in the first place draw people to settle there. The Generative Plan includes the interrelationships of nature and people as fundamental to forming place character. The inherent patterns of the landscape, the morphological growth of a place provides life, gives it character and wholeness only when the development and design of the built form are integrated and connected with nature.

The importance of this conclusion, in terms of the current growth and suburban development destroying of what were once unique coastal towns, acknowledging heritage and history with place character and sense of place, is that the Generative Plan offers a systematic approach to implement solutions to keep the place character of these towns, as well as helping the adaptation of coastal settlements to still continue to result in communities with 'sense of place'.

“Our concept of home can be extended beyond the dwelling to our community, city or nation. The identity of these places depends on its character. We develop a sense of what this character is intuitively; it is the identity of place. When alien characteristics invade it we experience a sense of loss”. (Appleyard, 1979)

Further work

It is clear from the above conclusions of this preliminary discussion paper that the Generative Plan potentially provides opportunities for the community of a coastal town to create a place that considers place character as well as adapting the built and natural environments to change. The six steps of establishing the Generative Plan needs to be further developed and tested on the coastal settlements along the Great Ocean road and involve both local community and planning agencies, securing a plan that can turn aspirational aims of the local community into real protection measures against the impacts of ad hoc developments along the Victorian coast.

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References

- ABS. (2002). *Population Growth*. Australian Bureau of Statistics. Canberra: Australian Bureau of Statistics, ABS.
- Alexander, C. (1977). *A Pattern language: Towns, Buildings, Construction*. New York: Oxford University Press.
- Alexander, C. (2006). *The Nature of Order - An Essay on the Art of Building and the Nature of the Universe, Book Two The Process of Creating Life*. Berkeley California: The Centre for Environmental Structure, CES.
- Appleyard, D. (1979, April). The environment as an social symbol. *American Planning Association Journal*, 143-153.
- Australian Bureau of Statistics - ABS. (2004). *How many people live in Australia's coastal areas?* Australian Bureau of Statistics, ANB. Canberra: ABS, Commonwealth of Australia.
- Burnley, I. a. (2004). *Sea Change: Movement from Metropolitan to Arcadian Australia*. Sydney: University of New South Whales Press.
- Centre of Environmental Studies - CES. (2006). *Building Living Neighbourhoods*. Retrieved September 20, 2013, from www.livingneighbourhoods.org
- City of Greater Geelong (2004). *Economic Indicators Bulletin 2003-2004*. Geelong: City of Greater Geelong.

Department of Sustainability and Environment - DSE. (2008). *Victoria in Future Population Projections*. Retrieved 2012, 06-July from <http://www.dse.vic.gov.au/victoriainfuture>

DSE. (2004). *Great Ocean Road Region - Land use and transport strategy 2004*. Melbourne: Department of Sustainability and Environment, DSE.

GORCC. (2012). *Coastal Climate Change Vulnerability and Adaptation*. Melbourne: Great Ocean Road Coast Committee - GORCC.

Green, R. (2010). *Coastal Towns in Transition - Local Perceptions of Landscape Change*. Melbourne: CSIRO Publishing.

Gurran, N. S. (2005). *Meeting the Sea Change Challenge: Best Practcie Models of Local and Regional Planning for Sea Change Communities*. The University of Sydney, Planning and Research Centre. Sydney: The University of Sydney.

Harvey, N. (2003). An Era of Change. *Coastal Management in Australia* , 1-18.

Harvey, N. (2010). *Coastal Management in Australia*. Adelaide: University of Adelaide Press.

Intergovernmental Panel on Climate Change IPCC. (2007). *Climate Change: Synthesis Report - Summary of Policy Makers*. IPCC.

IPCC. (2001). *Climate Change 2001:Working Group II: Impacts, Adaptation and Vulnerability - Enhancing Adaptive Capacity*.

Jackson, J. (1994). *A Sense of Place, a Sense of Time*. New Haven, CT: Yale University Press.

Jiven, G. (2003). Sense of Place, Authenticity and Character: A Commentary. *Journal of Urban Design* , 8 (1), 68-71.

Leggett, G. (1970). History of Bass Strait. *Victorian History Magazine* , 25 (98).

Lewis, C. (1979, July). Comment: Healing in the Urban Environment. *American Planning Association Journal* .

Lorne Historical Society. (1970). *Chronological Table of Events*. Lorne: Lorne Historical Society, LHS.

PIRG. (1977). *A Coastal Retreat*. Victorian Public Interest Research Group Limited. Mulgrave Victoria: The Victorian Public Interest Research Group Limited, PIRG.

Roberts, A. (1975). *Dreamtime Heritage*. Sydney: Rigby.

Roos, P. (2013)(a). *Visions of the Surf Coast - Changing Landscapes Under Future Climate Effects*. International Urban Planning and Environmental Society . Sydney: ICMS Pty Ltd.

Roos, P. (2013)(b). *Indigenous knowledge and climate change : the Wathaurong and Gadubanud narrative for the Great Ocean Road Region*, in Davies, Renee and Menzies, Diane (eds), IFLA 2013 :

Shared wisdom in an age of change : Proceedings for the International Federation of Landscape Architects 50th World Congress, pp. 226-236, The Conference, Auckland, New Zealand

Smith, L. (1980). The Aboriginal Population of Australia. *Aborigines in Australia Society* , 14.

Surf Coast Shire. (2008). *Surf Coast Shire Plan 2009 - 2013*. Surf Coast Shire, SCS.

Thomas, W. (1969). Brief account of the Aborigines of Australia. *Letters from Victorian Pioneers - In T.F. Bride* , 398-437.

Tuan, Y. (1974). *Topophilia: A Study of Environmental Perception, Atitudes, and Values*. Englewood Cliffs, NJ: Prentice Hall.

VCC. (2008). *Victorian Coastal Strategy*. Melbourne: Victorian Coastal Council, VCC.

VDI. (2001). *The New Provisions of Recode: Cl 54 and 56 of the Victorian Planning provisions*. Melbourne, Victorian Department of Infrastructure, VDI.

Worley Parsons. (2013). *Assessing the Value of Coast Resources in Victoria*. Worley Parsons Report, Melbourne, Victoria.