



# Victorian National Parks Association

Submission:  
Draft Victorian Coastal Strategy

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# 1. Summary

This submission is made up of five main sections and has focused only on the VCS's new actions. The first section provides a strategic action plan proposed by the VNPA to address the most pressing marine and coastal issues across Victoria. In this section each action is accompanied by a timeline and budget. There is then a short section on the VCS structure and role. The third section outlines key themes for the strategy including protection, climate change, coastal development and education. The fourth section identifies priority actions including a section in appendix 1 that provides more general comment on each new action. The final section looks at monitoring and evaluation of the actual project. Key recommendations are proposed by VNPA throughout the submission.

## 2. Proposed VNPA Strategic Action Plan

1	<p><b>Protection of Victoria's Bays and Estuaries:</b> A VEAC inquiry into Victoria's 123 coastal wetlands, bays, inlets and estuaries which are noted for their habitat diversity with freshwater brackish and saline aquatic ecosystems often in close proximity.</p>	\$1 M to undertake the inquiry	Inquiry to begin in 2009.
2	<p><b>Cool Coasts Taskforce – Building Resilience in Coastal communities.</b> This program would be a three step process to: 1) Identify priority areas for conservation which incorporate climate change impacts 2) Establish and implement a program to protect key areas and species that includes specific adaptive actions, improved management, increased protection and where appropriate increase connectivity across all land tenure. 3 Targeted public and private land integration to improve connectivity and improved management including market based instruments targeting highly climate vulnerable areas or key refugia habitat.</p>	\$5M to develop the program and 1M to implement it with a further \$20M for private land tender using market based instruments over the next 10 years	The program should be developed by 2009 and implemented within the lifetime of the strategy.
3	<p><b>Gap Analysis of Marine and Coastal Protection:</b> A VEAC inquiry to investigate gaps in Victoria marine and coastal network of parks. The information be used to increase marine and coastal protection to 20-30% bringing it in-line with international goals of WSSD and World Parks Congress.</p>	\$1 M to undertake the inquiry. \$2M for National Park implementation	VEAC inquiry completed 2010.  15-20% increase in Marine Protection implemented by 2012
4	<p><b>Coastal planning regulations in the form of CAPs:</b> The Coastal Action Plans be developed with clear planning regulations. The plans should be informed by the two VEAC inquiries and the coastal climate change modeling. The regulations should include clear limits on development for towns and cities.</p>	\$2M for each coastal board to deliver coastal development CAPs.	Coastal Development CAPs to be completed for three regions by 2010.
5	<p><b>Catchment to Coast Water Quality Plan:</b> Catchment management strategies to address water quality impacts on marine and coastal environments. Catchments plans should include monitoring of estuarine water quality that informs changes required in the plan.</p>	\$1M for the development of a prototype to be used by all CMAs	Prototype model for CMAs developed by 2010 and implemented by 2012.

### 3. Structure and role of the VCS

The Victorian Coastal Strategy 2008 is pivotal to ensuring the coast and marine ecosystems across Victoria survive future changes and threats associated with climate change, coastal development, pollution, resource use and pest invasions.

The Victorian Coastal Council is tasked under legislation with the production of the draft Victorian Coastal Strategy that must provide for:

- The long-term planning of the Victorian Coast:
  - To ensure the protection of significant environmental features of the coast; and
  - To provide clear direction for the future use of the coast including the marine environment;
  - To identify suitable development area and development opportunities on the coast; and
  - To ensure sustainable use of natural resources.

The Victorian environment will soon have to cope with overwhelming transformations associated with climate change. The level of severity associated with predicted changes will be determined by mechanisms that are put in place now. Coastal development is increasing exponentially along the coast as a result of the 'Sea Change'. Coastal development will soon act as a barrier sandwiching species into an ever decreasing area as sea levels start to rise. Over time relatively uncontrolled coastal development has resulted in fragmentation of habitat, pollution or in worst case scenarios the near loss of some species and habitats such as saltmarshes and dunes and wetlands. Over time many ecosystems becoming increasingly stressed are experiencing growing numbers of pests such as the northern pacific seastar.

The vision set out in the document to ensure a "*biologically rich, diverse coastal and marine environment for our use and enjoyment today and for our children tomorrow*" is admirable. However, in order to achieve the goals and objectives outlined in the draft report, actions need to ensure clear accountability, be strategic, time specific and have appropriate resources.

The principles outlined in the report are good and are strongly supported by the Victorian National Parks Association.

The strategy proposes 89 new actions which address a large variety of issues. After a quick desktop analysis it appears 52% of the actions are either to plan, develop, investigate, support, coordinate or improve understanding and only 46% are actually actions that produce, implement, apply and convene. The remaining two percent of actions have already been done or are no longer relevant such as the placement of the desalination plant, which has already been decided.

**Recommendation 1:** The 89 actions are often too vague, do not have timelines or budgets and provide no clarity around what the primary department is required to deliver. To be successful the strategy needs:

- 1) Receive full formal support from State government;
- 2) provide clear targets and timelines for implementation including specific accountability; and
- 3) ensure specific funded actions and implementation plans

## 4. Key themes pivotal to the Strategy

### 4.1 Ecological Protection

Protecting Victoria's marine and coastal biodiversity will require a comprehensive strategy to address numerous environmental and social influences and impacts. To protect biodiversity is to protect the natural diversity of all life. This means the protection of species, their habitat, and the ecosystem processes such as ensuring the healthy flow of clean water from catchment to estuary.

The ability to protect and appropriately manage marine and coastal areas will in some cases be dependent on the information available. While some habitat research is being done inside and outside Marine National Parks and on saltmarsh along the Victorian coast, there is still a shortage of biological and environmental data on Victoria's waters. This area should be a priority for biodiversity protection.

There is a view that animals and plants are closely associated with their habitat and therefore that their survival is directly dependent on the condition of this habitat. As a result, the protection of species has generally been focused on habitat protection in the belief that protecting where they live will be sufficient. However, this may not always be the case, as external factors may directly impact on species population dynamics. A pest species may out-compete that of a native species, a disease such as the virus presently attacking the abalone population may take hold or industrial fishing practices may reduce population numbers of a species by either excessive take or simply as result of high by-catch. Species may also move from one island habitat to the other and in order to protect the species the island habitats and the corridor which they migrate along, both need protection.

As a result, some species may require targeted protection. In the marine and coastal areas, this is complicated, as so little is known about this environment. Species found in Victoria may need targeted protection, either because of their vulnerability, rarity or because they have specific species needs e.g. seagrass beds, giant kelp forests, sea-dragons, certain species of shark and marine mammals. Appendix 6 in the Environment Conservation Council's report of August 2000 also lists a number of invertebrates requiring protection.

The maintenance of biodiversity requires the understanding of ecological processes, the protection of habitats and, in certain instances, specific species. How these areas are managed will largely impact upon their ability to survive present and future threats from pollution, recreational and commercial fishing and the impact of climate change such as storm surges, sea level rise, acidification and temperature change.

The ECC's final recommendations began the process of establishing a protected area system in Victoria's coastal water that would start to match the terrestrial protected area system. The first MPAs established covered approximately 5% of Victoria's coastal waters. The equivalent figure for land is 18%. It is now vital that once the gap analysis is completed that a second round of protection is advocated. Victoria still has a long way to go before achieving the international goals signed off by the Australian Government at the WSSD 2002 and World Parks Congress 2003 to protect between 20-30 percent of coastal waters by 2012. To achieve this Victoria needs to increased protection by at least up to 25% percent.

**Recommendation 2:** There needs to be a clear definition of the coast in the Victorian Coastal Strategy 2008. This could be along the following lines:

*"All Victorian coastal waters (i.e. out to three nautical miles off shore) and all land, both public and private, which is directly influenced by the sea or directly influences the coastline and coastal waters as illustrated (include map of areas)."*

## **4.2 Climate Change**

The Victorian marine and coastal environment is likely to be affected by global changes in climate. While many of these changes are inevitable, the extent of the change will depend on what global strategies are put in place now. The CSIRO Mk 3.5 model notes some of the projected changes likely to be experienced by 2070:<sup>i</sup>

- an increase in 1-2 °C of ocean temperatures around Australia with the greatest warming around SE Australian/Tasman Sea due to strengthening of Eastern Australian Current,
- at depths of 500m an increase in 0.5-1 °C is likely to be experienced,
- there will be an increase of incident solar radiation on the sea's surface in Australian waters, expected to be in the range of 2-7 units  $W m^{-2}$ ,
- surface winds will increase by 0-1.2  $ms^{-1}$ ,
- a decline in pH in 0.2 units is expected.

While the VCS will not be able to stop these large scale consequences of climate change, more appropriate planning, protection and management may help to prevent a biodiversity crash in certain areas.

Areas most likely to be affected along the Victorian coast are intertidal areas, which will be submerged. While this can be argued to be a natural process which has occurred many times before, the situation is now substantially different. Now when sea levels rise, communities which would normally follow the water inland will be restricted by coastal development. This barrier will prevent the movement of habitats such as rocky shores, intertidal ecosystems, many species located in bays and estuaries, saltmarshes and mangroves. In many instances the construction of sea walls will be required. If not undertaken appropriately habitats as rocky shores will cease to exist in some locations.

**Recommendation 3:** Investigate ecologically sustainable seawall designs that are most likely to maintain the highest level of biodiversity movement within the lifetime of the strategy.

## **4.3 Coastal Planning and Management**

Many of the most contentious Victorian coastal issues of the last decade have focused strongly on coastal planning. In particular the so-called “Sea Change” phenomenon and the apparent rapid expansion of coastal towns has placed extreme pressure on Local Councils in term of defining coastal town limits – a responsibility devolved to them explicitly in the VCS. It is also a responsibility many Councils have failed accept, or act upon.

In part this could be because the Act is not explicit about how State and Local Government planning responsibilities relate. The lack of clarity that exists between both levels of government is not in the public's interest nor is it in the interest of ecologically sustainable use of the coast. The lack of a clear definition of the coast or coastal zone in the Coastal Management Act 1985 clearly exacerbates this delineation.

## **4.4 Community and Stakeholder Education**

The Strategy addressed briefly the need for education, awareness and stewardship in the section people using the coast. Some of the education actions advocated in the strategy historically get there funding from grant applications making some areas of education sporadic at best.

In order to be effective there needs to be long-term continuous education program. Presently the lack of money for long-term projects is instead spent on addressing the symptoms of the problem. In certain instance it may in fact cost less to prevent the damage through education than it is to fix it. This area needs to be prioritised and be sufficiently resourced by Government to meet the objectives as outlines in the coastal management act. Until

a whole of government concerted attempt to re-introduce community based environmental education is forthcoming this problem will continue.

## 5. Priority Actions

The Victorian National Parks Association has selected, grouped and prioritised actions under broad headings of public land-use, climate impacts, coastal planning, education, water quality and a marine and coastal clearing house.

### 5.1 Public land Access:

There are number of actions in the draft report that focused on public land access. VNPA would support the following ones being prioritized 1.1.1 and 2.1.2.

The information from other aspects of the Strategy such as the climate change modeling should flow into two VEAC enquiries:

**Recommendation 4:** VEAC investigate bays, estuaries, inlets, marine wetlands, and secondly undertake a gap analysis of marine and coastal protection in Victoria. The first report by VEAC should undertake an investigation on Victoria's 123 coastal wetlands, bays, inlets and estuaries which are noted for their habitat diversity with freshwater, brackish and saline aquatic ecosystems often in close proximity. These habitats have significant conservation, recreation and amenity value. These ecosystems are subject to a range of pressures and are particularly susceptible to climate change impacts. There is also a lack of systematic understanding of estuary health. The recent Catchment Condition report 2007 by Victorian Catchment Management Council notes "To date, Victoria has not developed a suitable method to determine estuarine habitat integrity. There is no systematic information on estuary condition" (p98).

**Recommendation 5:** In 2002 5% of Victoria's marine and coastal environment was protected in a comprehensive, adequate and representative method using best available science. At the same time international goals were being set at the WSSD and World Parks Congress to achieve a 20-30% protection of marine and coastal areas by 2012. In order to bring Victoria in line with these goals a review of the present representation of marine habitats within marine National Parks and sanctuaries should be investigated to inform where present gaps exist. This should be completed by 2010 with a budget of \$1 million.

### 5.2 Climate Change:

There are number of actions in the draft report that focused on climate change. VNPA supports the prioritization of the following actions 1.2.2, 1.2.1, 2.2.2, 3.7.2, 4.2.3, 1.5.2 and 4.2.4. VNPA however, proposes that these actions be combined into a single report using market based instruments for private land tender programs as well as an ongoing monitoring program investigating impacts of climate on marine and coastal biodiversity.

**Recommendation 6:** Cool Coasts Program – Building Resilience in Coastal communities.

This program would be a three step process to:

- 1) Identify priority areas and undertake ongoing monitoring of climate change impacts feeding this back into planning schemes \$2 million.
- 2) Establish and implement a program to protect key areas and species.
- 3 Targeted public and private land integration to improve connectivity and improve management including market based instruments targeting highly climate vulnerable areas or key refugia habitat by with \$20M over the next ten years.

See Appendix 1 for detailed comment on each action.

### **5.3 Coastal Planning:**

Of the number of actions in the draft report that focused on coastal planning VNPA supports the prioritization of the following actions 1.5.2, 2.1.1, 3.11.1, 4.1.2, 4.2.4 and 4.1.4. These actions could however be combined into a single report and implemented across the State as coastal action plans. Using the information from the climate change task force and the two VEAC inquires an appropriate approach that describes marine and coastal biodiversity should inform the development of planning regulations. These regulations should include boundaries for coastal development from towns and cities. As part of this process an assessment of the status quo should be investigated and successful process included in the final report.

#### **Recommendation 7:**

Victorian marine and coastal planning regulations and legislation should:

- Recommend legislative reform to enable clear delineation between state and local government responsibilities; and
- propose clear regulations for coastal planning providing tighter planning guidelines and mechanisms for implementation ,
- set boundaries for coastal development from towns and cities.
- implemented via coastal actions plans should implement the recommendations. The budget should be \$2 million for each Coastal board and action plans completed for each region by 2010.

### **5.4 Education:**

The draft strategy appeared to place a relatively low priority on education with only four main actions looking at community or stakeholder education. The first two actions focus more specifically on education with 3.3.2 convening a committee to develop an education strategy. This should be completed by 2009 with clear deliverable recommendations. The education strategy should exist for the lifetime of the plan and be reviewed as part of the next VCS.

The second clear education action 3.3.1 seeks ways of engaging young people in coastal issues, this point is too vague and requires clarification.

The other two actions 3.11.4 and 4.5.2 focused on regional coastal forums which are a good way to get people together to share information. However, they include more stakeholders such as friends of groups and other peak and regional environment groups.

**Recommendation 8:** There needs to be a coordinated long-term budget for marine and coastal education. A process as recommended in the draft VCS to convene a group to produce a state-wide coastal and marine education strategy is strongly supported by VNPA. The strategy should include the return of permanent public service education and extension officers run through the three regional coastal boards. They would work on long-term educational projects leaving Coastcare officers to run the short term projects and programs they are currently engaged in.

### **5.5 Water Quality**

Water quality is not dealt with substantially within this strategy with two of the three actions dealing with developing monitoring and reporting frameworks with only 2.3.3 looking specifically at the issue itself. However, action 2.3.3 needs to go beyond ensuring regional catchment strategy revision but should rather ensure all catchment management strategies include marine and coastal water quality targets within the lifetime of the strategy.

### **5.6 Marine and Coastal Clearing House**

In many instances in the marine and coastal environment research has not been undertaken. However in many instance even when it has been carried out it is not widely available to those who may find it useful.

**Recommendation 9:** Set up a coastal clearing house so that all marine and coastal research is centrally located and maintained on an ongoing basis. A setup budget of \$1M by 2009.

## 6. Monitoring and Evaluation

The monitoring and evaluation of the project is crucial to the success of the Strategy. All the actions outlined in the Strategy or new recommendations made in this submission should be continually monitored. An interim evaluation should be undertaken halfway through the Strategy to identify gaps or issues that may have developed and which may need to be addressed further in order for the VCS to complete the actions within the lifetime of the Strategy.

**Recommendation 10:** The final government policy needs to advocate an action plan with appropriate resources, clear responsibilities, timelines and deliverables that can be effectively monitored and assessed by the VCC.

**Recommendation 11:** In order to effectively review the process the VCC needs to be independently funded if it is to independently critique the organizations tasked with implementing aspects of the plan. If these are the same agencies that provide VCC's funding this is unlikely to happen. It would make even more sense if this was a body completely independent of the VCC and other others tasked with actions in the report.

## 7. Appendix 1

1.5.1 Design a regular reporting system for the health of the Victorian coastal marine and estuarine environment (DSE, PV, CMA, EPA, MW, CES, LG) state.	Action	Design by 2010 and implement a regular reporting system by 2011.	
1.5.2 Design a coastal, estuarine and marine monitoring approach and data system that gives information to assist planning and management and integrates with national monitoring and reporting needs (DSE, VCC, EPA, PV) state.	Action	within the lifetime of the strategy.	
2.1.1 Identify an approach for describing marine biodiversity that best guides planning and management (VCC, DSE) state.	Investigate	Once an appropriate approach for describing marine biodiversity that best guides planning is identified ensure that planning at all levels is required address the impact a proposed plan will have by 2011.	
2.1.2 Review the representation of marine habitats in Victoria's marine national parks and marine sanctuaries and note any gaps (DSE, DPI, PV) state.	Action	Review the representation of marine habitats in Victoria's marine national parks and marine sanctuaries and note any gaps including an outline of prioritised protection area to be implemented prior to 2010.	
2.1.3 Support targeted marine and estuarine biodiversity research to advise key biodiversity management approaches (DSE) state.	Support		How will this be supported... clearly not financially. Maybe promoting research??
1.2.1 Finish modelling of predicted vulnerability of the coast to climate change and distribute mapping to coastal managers (DSE, CMA, RCB, PV) regional/local.	Action	within the lifetime of the strategy.	
2.2.2 Develop and apply adaptive actions for the marine impacts of climate change (DSE, EPA, RCB, Coastal CMA, Melbourne Water) state.	Action	within the lifetime of the strategy.	
2.3.1 Consider improvements to Victoria's marine institutional, planning, management and decision making framework (see Box 2) (DSE, VCC, EPA, DPI, RCB, DOI) state.	Investigate	Produce a report outlining key improvements required by Victoria's marine institutional within the lifetime of the strategy.	

2.3.2 Assess whether cross-environment policy frameworks, such as the waste management hierarchy (EPA, water authorities, ports, PV), and threatened species management approach are appropriate for the marine environment (DSE) state.	Investigate	Produce a report assessing the potential appropriateness of using cross-environmental policy frameworks such as the waste management hierarchy (EPA, water authorities, ports, PV), and threatened species management approach are appropriate for the marine environment for the marine environment within the lifetime of the strategy.	
2.3.3 Ensure revised regional catchment strategies adequately cover marine and water quality targets and issues (CMA, DSE, RCB, PV) regional	Action	All catchment strategies should within the lifetime of the strategy include marine water quality targets.	Good
2.3.4 Consolidate and integrate frameworks and programs to address land based sources of marine pollution to the Bays, Gippsland Lakes and other priority areas (MW, EPA, DSE, RCB, LG, PV, CMA) regional.	Action	EPA to investigate and produce a framework and program to address land based sources of marine pollution to the Bays, Gippsland Lakes and other priority areas within the lifetime of the strategy.	
2.4.1 Develop a framework for prioritising management actions for the marine environment, including assets such as biodiversity and fish habitats, threats to assets, and benefits from management actions (DSE, VCC, PV) state.	Develop	within the lifetime of the strategy	
2.4.3 Investigate approaches for developing marine environmental targets where SEPP targets are not available (DSE, EPA, VCC, CMA, RCB) state.	Investigate	within the lifetime of the strategy	
<b>1.5.2 Design a coastal, estuarine and marine monitoring approach and data system that gives information to assist planning and management and integrates with national monitoring and reporting needs (DSE, VCC, EPA, PV) state.</b>	Action	within the lifetime of the strategy	
2.5.1 Update and improve Victoria's protocols for marine pest incursions, including a rapid response to new incursions (DSE, DPI), meeting obligations under a national system to prevent and manage marine pests (EPA, DSE, DOI), and supporting national best practice guidelines for managing biofouling across stakeholder groups (EPA, DOI, DPI) state.	Action	Provide an update and reviewed protocol for actively reducing present pest incursions... including protocols for a rapid...	
2.5.2 Identify an approach to monitoring marine pest distributions in Port Phillip Bay for ongoing assessment of nutrient management risks (DSE, EPA) regional.	Identify	within the lifetime of the strategy	

2.5.3 Increase understanding of impacts of estuaries and catchments on Victoria's marine environment for catchment management (DSE, VCC, EPA) state.	Improve understanding	Undertake research on main impacts of catchments on Victoria's marine and estuarine environment for catchment management within the lifetime of the strategy.	
2.5.4 Apply the national fisheries ESD reporting framework to developing and reviewing management plans for all significant fisheries in Victoria – commercial and inland – supported by risk-based assessment of priority sustainability, economic, social and governance issues in each fishery (DPI) state.	Done	This is already done	
2.5.5 Improve capacity to monitor and assess key recreational fisheries to help management decision-making for sustainable use (DPI) state.	Action	Identify and implement a new method to monitor to monitor and assess key recreational fisheries to help management decision-making for sustainable use within the lifetime of the strategy.	
2.5.6 Improve understanding of habitat and environment requirements for key fisheries resources, and be an advocate to protect essential fisheries habitat using management tools (DPI, DSE, EPA, RCB, CMA) state	Improve understanding		
2.5.7 Increase the water enforcement presence in marine national parks and sanctuaries, and high use areas (PV) state.	Action		
2.5.8 Finalise and implement guidelines for making decisions about the installation of artificial reefs for fisheries purposes (DPI, DSE, PV, TV) state.	Action	VNPA doesn't support this	
2.6.1 Develop a science and research strategy to help guide investment in Victoria's marine ecosystems, including identifying emerging strategic issues and funding options (DSE, VCC, RCB, EPA, DPI, Universities) state.	Investigate	within the lifetime of the strategy	
2.6.2 Determine future technical needs and the strengths and weaknesses of the current scientific base (VCC, DSE, EPA) state	Investigate	within the lifetime of the strategy	
<b>2.6.3 Improve access to marine information (DSE, EPA, PV, land managers) state.</b>	Action	Establish a central marine and coastal research centre to house all research undertaken by scientists, departments etc within the lifetime of the strategy.	
3.1.1 Finish and apply a coastal access decision-making tool for land managers (DSE, RCB, VCC, CoM, LG) local.	Action	within the lifetime of the strategy	

3.1.2 Facilitate regional approaches to improve and rationalise access to and on the coast (VCC, RCB, DSE, land managers, LG) regional.	Action		
3.2.1 Develop a levels of service framework for the coast, based on the existing Parks Victoria model (DSE, CoM, LG, PV) state.	Develop		
3.3.1 Convene a marine and coastal education committee to coordinate statewide education activities and priorities, and develop a marine and coastal education strategy with key education providers (VCC, DSE, PV, DEECD) state.	Action	within the lifetime of the strategy	
3.3.2 Actively seek opportunities to engage young people and people of diverse cultural backgrounds in coastal education, management and planning (Coast Action/Coastcare, RCB, VCC, DSE, PV) local.	Action	within the lifetime of the strategy	
3.3.3 Do five yearly social research to measure community awareness of the coastal and marine environment (DSE) state.	Action		
3.4.1 Support professional development programs to help coastal managers implement the Aboriginal Heritage Act 2006 (AAV, DSE) local.	Action		
3.4.2 Consult with RAPs and traditional owners as key stakeholders in developing new coastal action plans (RCB, VCC, community) local.	Action		
3.4.3 Review coastal action plans to reflect the implications of native title claims along the coast (RCB, AAV, LG, DSE) regional.	Action		
3.4.4 Support future cooperative land management agreements on coastal Crown land and joint management in national parks (AAV, RCB, DSE, PV, VCC, LG) local.	Action		
3.5.1 Use planning frameworks to determine additional tourism development needs and best practice environmentally sustainable approaches for tourism developments on coastal Crown land (DSE, LG, TV, RCB, PV, RTB) regional/	Investigate	within the lifetime of the strategy	
3.5.2 Develop appropriate guidelines for planning and evaluating bona fide tourism developments outside existing urban settlements (DSE, TV, LG, PV, RCB, RTB) state	Develop	within the lifetime of the strategy	
3.5.3 Develop key coastal walks as a component of the Great Victorian Coastal Walk (DSE, PV, DIRRD) state/	Develop		

regional.			
3.5.4 Support and train tourism operators to reduce the environmental impact of business operations (TV) regional.	Action	Run annual training workshop for tourism operators to reduce the environmental impact of business operations (TV) regional.	
3.5.5 Encourage the use of existing built infrastructure such as surf clubs to service year-round community and visitor needs (DSE, PV, LG, CoM) local.	Action		
3.5.6 Finalise and implement Victoria's Naturebased Tourism Strategy (TV, DSE, PV, RTB).	Action		
1.2.1 Finish modelling of predicted vulnerability of the coast to climate change and distribute mapping to coastal managers (DSE, CMA, RCB, PV) regional/ local.	Action	by 2010	
3.7.1 Use ongoing funding to assist coastal managers with beach renourishment priorities in Port Phillip Bay (DSE, LG, CoM) local.	Action		
3.7.2 Develop a long-term approach for managing climate change impacts (DSE, land managers) state.	Develop	Develop a long-term strategic plan for managing climate change impacts within the lifetime of the strategy.	
3.8.1 Support and implement boating coastal action plans across Victoria (RCB, LG, CoM, MSV) regional.	Action		
3.8.2 Implement the boating zone framework across coastal waters (PV, port managers, MSV).	Action		
3.9.1 Apply the recommendations of the Caravan and Camping Parks on Coastal Crown Land Reference Group Report, including developing best practice management guidelines, finalising leasing allocation policy, and giving guidance to park managers on managing annual site permits(DSE, CoM) state.	Action		
3.10.1 Develop a strategy to respond to likely impacts of climate change on heritage places, including Indigenous historic sites (HV, DSE, AAV) state.	Develop		
3.11.1 Consider improvements to Victoria's coastal planning and management arrangements (DSE, VCC, RCB, DPCD, land managers) state.	Investigate	Produce a report investigating how Victoria's coastal planning and management arrangements can be improved so that clear delineation between state and local government is achieved along with clear guidelines for implementation within the lifetime of the project.	

3.11.2 Investigate offering cadetships to support training for coastal engineers (DSE) state.	Investigate		
3.11.3 Develop a coastal component of the Victorian local sustainability accord with local governments (DSE, LG) state.	Develop		
3.11.4 Host regional coastal forums for local governments and coastal managers (RCB, DSE, VCC) regional.	Action	Host regional coastal forums for local governments and coastal managers on bi-annual basis.	
4.1.1 Identify and promote sustainable, sensitive and sympathetic siting and design for built infrastructure on foreshore and coastal areas (VCC, DSE, RCB) state.	Identify	Set criteria to be included in planning, siting and design for local councils for built infrastructure on foreshore and coastal areas within the lifetime of the strategy.	
<b>4.1.2 Do an audit for applying this strategy in planning schemes across the state (DPCD, VCC, RCB, DSE) state.</b>	Action	within the lifetime of the strategy	
4.1.3 Deliver training to planning authorities for effective coastal management and decision-making (VCC, DPCD, RCB, DSE) local.	Action	within the lifetime of the strategy	
<b>4.1.4 Assess and report on local governments with successful coastal planning and management models (DPCD, DSE, VCC, RCB, LG).</b>	Action	within the lifetime of the strategy	
4.1.5 Investigate the impacts of population growth on coastal public land in growth areas such as the Bellarine Peninsula (DPCD, LG, VCC, RCB).	Investigate	Outline mechanisms and required actions for dealing with the impacts of population growth on coastal public land in growth areas such as the Bellarine Peninsula within the lifetime of the strategy	
4.1.6 Complete and implement settlement planning across the coast (LG, DSE) local.	Action	within the lifetime of the strategy	
4.1.7 Continue to identify activity and recreation nodes (RCB, land managers) regional.	Action		
4.1.8 Facilitate the development of sustainable coastal communities in existing townships (see Box 3) (DPCD, VCC, RCB, DSE, LG) local.	Facilitate	within the lifetime of the strategy	
4.1.9 Implement the significant landscape assessment study recommendations (DPCD, LG, RCB) local.	Action		
4.1.10 Analyse peak and seasonal populations in coastal settlements and the service implications of these fluctuations (DPCD, LG, RCB) state.	Action	Analyse and outline ways addressing peak and seasonal populations in coastal settlements and the service implications of these fluctuations within the lifetime of the strategy.	

4.1.11 Develop a statewide strategy for managing coastal acid sulfate soils (DSE, EPA, DPI) state.	Develop		
4.1.12 Develop planning tools for managing coastal acid sulfate soils (DPCD, DSE, EPA, DPI, LG) state.	Develop		
4.1.13 Recognise excellence in coastal planning by local governments in the annual coastal awards (VCC, DSE, DPCD) state.	Action		
4.2.1 Develop and deliver training programs for land managers on coastal vulnerability (DSE, DPC) local.	Action	within the lifetime of the strategy	
4.2.2 Develop land manager capacity for climate risk management (DSE, VCC, RCB, LG, CoM) local.	Develop	within the lifetime of the strategy	
4.2.3 Develop planning tools to help adapt land use and biodiversity to climate change (DSE, RCBs, LG, PV, CMA) state.	Develop	Produce planning tools to help adapt land use and biodiversity to climate change by 2010. Once developed provide training to stakeholders along with a plan of implementation and use within the lifetime of the strategy.	
4.2.4 Develop coastal action plans or other regional responses to climate change (RCB, DSE, PV, LG, CMA, CoM, Port Authorities) regional.	Develop	Produce CAPs that take into account finding from other reports namely the climate and coast modelling within the lifetime of the strategy.	
4.2.5 Investigate the predicted economic impacts of climate change on the coast (DSE, DPCD, land managers, DOI, DIIRD, PV, Ports, LG) state.	Investigate	Produce a report outlining the economic impact of climate change on the coast by 2009.	
4.2.6 Develop and implement a regular monitoring program for coastline movement, species loss and weather events (DSE, BoM, CSIRO) state.	Develop	Outline a mechanism for monitoring and implement a regular monitoring program for coastline movement, species loss and weather events across the state within the lifetime of the strategy.	
Develop a register of assets and asset condition on coastal Crown land (land managers) state.	Develop		
3.2.1 Develop a level of service framework, based on the existing Parks Victoria model (DSE, PV, CoM, LG, VCC, RCB) state.	Develop		
4.4.1 Engage with port authorities to implement this strategy (RCB, DSE, DoI, Port Authorities, PV) regional.	Engage	Ensure Port Authorities implement this strategy within its lifetime.	

4.5.1 Give expert advice during the assessment of environmental impacts, and the siting and design of a desalination plant (DSE, EPA, VCC) regional/ state.	Too late already done	This section should really look at long term input by VCC on major projects likely to impact upon the marine and coastal environment	
4.5.2 Establish and facilitate a future forum with key stakeholders to investigate emerging issues (VCC, RCB, DSE) state.	Action	within the lifetime of the strategy	

## 8. References

<sup>i</sup> *CSIRO Marine and Atmospheric Research report to the Australian Greenhouse Office* , Department of the Environment and Heritage 2006, Australian Greenhouse Office in the Department of the Environment and Heritage. Commonwealth of Australia, viewed 15<sup>th</sup> June 2006. <http://www.greenhouse.gov.au/impacts/publications/pubs/marinelifeparta.pdf>