



The Executive Officer  
Climate Change Interdepartmental Committee  
Strategic Policy Division  
Department of Primary Industries and Water

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Dear Executive Officer,

Save Ralphs Bay Inc appreciates the opportunity to comment on the Draft Climate Change Strategy for Tasmania.

Save Ralphs Bay Inc (SRB) is a community group with approximately 300 financial members and several hundred supporters signed up through the [www.saveralphsbay.org](http://www.saveralphsbay.org) website. The group has excellent community support as shown by public attendance at our events, messages of support and encouragement, donations, calendar purchases etc. SRB was formed in March 2004 in response to the Walker Corporation's proposal to excavate the Ralphs Bay Conservation Area at Lauderdale and construct a canal style housing estate in the bay. SRB's Constitutional objectives are to oppose this and any other inappropriate developments at Ralphs Bay; to work towards enhanced protection of the natural and aesthetic values of Ralphs Bay, and to promote an approach to coastal planning in Tasmania that will prevent inappropriate developments in coastal areas.

SRB meets regularly at Lauderdale, with a core working group of around 20 members coordinating most activities, helped and supported by other active members and a range of experts. SRB has researched a range of issues related to the group's objectives. We have maintained our public information campaign through media liaison, Public Information Evenings with expert speakers, community Expo days, Rallies in City Hall, information stalls in the community and at the Coast to Coast Conference, Newsletters, lobbying politicians at all levels of government, in Tasmania and in Canberra, and writing submissions on a range of matters.

SRB was the Community Groups Project Winner for the 2005 Dr. Edward Hall Environment Awards and was inducted into the Hobart City Council Hall of Fame.

In this submission, Save Ralphs Bay Inc's comments on the draft Climate Change Strategy relate especially to Tasmanian coastal areas and to Ralphs Bay in particular.

1. Estuarine and coastal wetland ecosystems such as those at Ralphs Bay are important for their natural and cultural heritage values, aesthetic values and social values, and can be expected to experience major impacts arising from climate change. They are therefore very high priority areas for action planning in relation to climate change.

#### 1.1 Impacts that can be reasonably expected include:

- Sea level rise, erosion of dunes, soft cliffs and beaches.  
Bay edges pushed towards and onto roadsides; loss of shellgrit and habitat used by nesting shorebirds.  
Reduction or loss of sandspits, beaches, fringing bays and other refuges used by resident and migratory shorebirds for roosting at high tide.  
Reduction or loss of fringing dune and saltmarsh vegetation communities. Reduction of the extent of sandflat feeding grounds used at low tide by resident and migratory shorebirds including endangered species, and used by fish, which may include juveniles of commercially significant species, when covered by the rising tide.
- Changes to seabed sediment structure and sedimentation rates resulting from changes in water movement may impact a range of species, including the critically endangered Spotted Handfish, *Brichionichthys hirsutus*, which may lose critical spawning habitat. The Spotted Handfish is in danger of being the first marine fish species in the world to become extinct since historical records began. Sedimentation and associated habitat loss has been identified as a priority threat to the Spotted Handfish.
- Water temperature rise may exceed tolerance limits of sandflat and other organisms, or alter population dynamics among organisms such as those involved in biogeochemical processes including nutrient removal from estuarine waters. Reduction in dissolved oxygen (DO) resulting from warmer water over the sandflats may impact a range of organisms including juvenile fish using sandflats as nursery areas. Reduced DO levels in the Derwent are already a major problem at times (State of the Derwent Estuary Report, 2003), and DO is a major water quality issue for fish.
- Warmer air temperatures and increased wind speed can be expected to increase evaporation across exposed sandflats at low tide, resulting in increased osmotic stress for sandflat organisms in addition to the heat stress mentioned above.
- Changes in populations of invertebrate organisms in the sandflats may impact on critical feeding resources for resident and migratory shorebirds, including already-endangered species.
- Storm surges can be expected to cause impacts including damage to dunes, sandspits, vegetation and shellgrit deposits needed by nesting shorebirds.

- Increased impacts on communities of Tasmanian organisms by pest species, including introduced species and Australian organisms extending their range southwards from warmer areas as a result of climate change.
- Impacts on built infrastructure including rising water tables affecting septic tanks (already a significant issue in Lauderdale) and flooding of properties during extreme high tides and storm surges. Costs to householders, businesses and Councils. Insurance difficulties; litigation risks for Councils which fail to address these issues. Lauderdale has been identified in the first Sharples Report, “*Indicative Mapping of Tasmanian Coastal Vulnerability to Climate Change*” as being particularly at risk of storm surge flooding.
- Potential impacts to the aquaculture sector, especially at Pipeclay Lagoon, Cremorne. Oyster spat produced at Pipeclay Lagoon supplies the majority of Australia’s oyster farms, and thus supports Australian business worth many millions of dollars annually.
- Due to the narrowness of the Lauderdale and South Arm “Necks”, it is possible that low-lying areas may eventually be breached by the sea, causing major changes to the hydrology and wave energy impacts in these areas. Mixing of heavily polluted Derwent estuary waters with the waters of Frederick Henry Bay could have major impacts on water quality critical for aquaculture operations at Pipeclay Lagoon and Pittwater.
- Human health impacts such as increasing mosquito-borne disease, especially Ross River Fever and Dengue Fever, are also a concern.

## 1.2 It can reasonably be expected that these and other impacts will be exacerbated by:

- The presence of roads running along or close to bay edges (eg at Lauderdale and the South Arm Neck), making it impossible for the natural shoreline to retreat and reestablish inland.
- The presence of shops, houses and other buildings close to the shore at Lauderdale, again preventing progressive movement of the shoreline inland.
- The narrowness of the Lauderdale and South Arm “Necks”, as mentioned above, in addition to the flat, low-lying terrain in these areas, may leave little opportunity for the natural retreat of saltmarsh and other wetland communities.

## 2. Recommendations

### 2.1 Legislative, Policy, Planning, Land Classification framework

- The Tasmanian State Government must make solid commitments to progress action planning and carry out planned actions developed under the Climate Change Strategy for Tasmania.
- This commitment to action must be locked in by legislation, with regular review and progress reporting.
- The independence of the Tasmanian planning system, especially the Resource Planning and Development Commission (RPDC) must be vigorously protected, in order to ensure that Tasmania's future planning decisions are well-informed and made on the basis of expert evidence as well as public input.
- The RPDC should be allowed to proceed with the assessment it recommended to Minister Kons of SRB's Draft Planning Directive to ban canal style developments in Tasmania, consistent with the stance taken by the Kingborough Council. (The Minister did not allow the RPDC to conduct its recommended assessment of this Draft Planning Directive).
- New legislation is needed to prevent State Governments overriding the considered recommendations of the RPDC and RMPAT, as we have seen in the case of the Meander Dam and in the threats of the current Premier to go ahead with the Pulp Mill regardless of the RPDC's recommendation. Many in the community of the South Arm Peninsula are fearful that disregard for the scientific, natural, social and aesthetic values of the area may result in attempts to subvert the proper assessment of Walker Corporation's canal style development proposal for Ralphs Bay. Given the extremely high costs of making major errors resulting in significant environmental damage, and given the significant costs likely to face Tasmania as a result of climate change regardless of Government policy, our state cannot afford to allow its Governments to make reckless decisions that fly in the face of expert recommendations.
- The new State Coastal Policy must incorporate a serious response to climate change issues and be taken seriously by the State Government. The State Coastal Policy will need to grow "teeth" to ensure compliance. Given the near-impossibility of restoring destroyed functioning ecosystems, the Precautionary Principle, already part of the existing State Coastal Policy, should be understood more thoroughly by politicians and defended more vigorously in decision-making.

- Housing developments in Tasmania should be built exclusively on dry land, and well above likely storm surge levels. Canal estates and similar housing developments should be banned, as in the state of New South Wales.
- With the completion of the Sharples Reports, SRB believes the Tasmanian Government now has the responsibility to take decisive action to prevent further development in areas identified as vulnerable to inundation and/or coastal erosion, now and in the future. Failure to act now will result in an increased cost to the community which will have to fund expensive coastal protection works or relocation of residents. The process of completing the State Coastal Policy and then incorporating it in council planning schemes will take many years. The Government can act now by issuing a planning directive to stop, or at least have a moratorium on further development in the areas identified as at risk in the Sharples Reports.
- Existing residents in vulnerable coastal areas need to know as soon as possible if the Government is going to protect them from the effects of sea level rise or if they will have to relocate in the future.
- Ralphs Bay should become a State Reserve, for reasons set out in the SRB submission to the RPDC's Enquiry into the establishment of Marine Protected Areas in the Bruny Bioregion (see SRB submission on RPDC website).
- As far as possible, Ecosystem Services (eg nutrient processing and removal by natural sediment communities) should be costed and considered in the assessment of all development proposals. The highest priority should be given to avoiding the loss of irreplaceable Ecosystem Services as a result of development, especially such inappropriate and unnecessary developments as the proposed Walker canal style estate in the Ralphs Bay Conservation Area at Lauderdale.
- Assessment of development proposals should require assessment of their total greenhouse impacts and greenhouse gas emissions. In the case of the Walker proposal, this would mean assessing all fuel use by plant and machinery during the ten-year construction period, and the release of carbon dioxide and other gases during excavation of the sandflats and during the death and decomposition of the countless invertebrate and microscopic organisms currently living in them.
- Stresses already being experienced by ecosystems as a result of climate change should be evaluated during the assessment of proposed developments. Care should be taken to avoid contributing to further stresses affecting valuable ecosystems. Threatened species and communities in particular should be protected from further impacts resulting from development.

## 2.2 Research, monitoring

- Action planning and implementation must not be held up on the pretext of “waiting for more research evidence”. Climate change has been an issue for over 30 years, and successive modeling over the years has revealed, in general, that predictions and modeling are accurate, with the general exception that change is occurring faster than the more optimistic modeling suggested. Climate change is accelerating, and there is a risk of more extreme impacts than suggested in the summary of the fourth assessment by the Intergovernmental Panel on Climate Change, February 2007 (“But here’s what they didn’t tell us”, article in New Scientist, 10 February 2007, commenting on the IPCC’s summary report).
- Research and monitoring need to continue, expand and improve our understanding, but this must occur concurrently with action planning and implementation.
- As suggested on page 30 of the Draft Strategy, Tasmania must monitor and respond to the outcomes of interstate and international research as well as conducting its own. (See Voice et al 2006).
- Interdependence of ecosystems, and of the biotic and abiotic components of ecosystems should be research priorities, along with an audit of Ecosystem Services (eg storm surge protection, fish nurseries, nutrient removal and other aspects of water quality regulation by sandflats in particular, tourism and recreational value, habitat value etc). See Costanza et al 1997.
- Effects of climate change on Tasmanian ecosystems and their ability to provide Ecosystem Services will need ongoing monitoring
- Research into all aspects of energy conservation, local electricity generation, renewable energy, energy from waste, use of hydrogen as an energy carrier must be well supported by the State Government, together with implementation of the recommendations derived from such research. Tasmania has the potential to be a national and international leader in these areas, as a result of research already underway in the state, and projects involving partnerships between Hydro Tasmania and countries such as China.

## 2.3 Education, communication

- The highest priority must be given to educating Tasmania’s politicians on climate change, especially as, by definition, there will be a degree of constant change in the situation and its implications. There is little sense in educating the general community if our politicians have insufficient understanding of the science and yet make key decisions on Tasmania’s future. Regular briefings of Premier and Cabinet; Government MP’s; all MHA’s and MLC’s; Mayors; General Managers of Councils; MHR’s and Senators should be scheduled. Tasmania is fortunate in that world-leading research takes place in a

number of institutions here, and it should be possible to arrange a programme for effective communication of current research and its implications to the State's leaders.

- Education of the community is also a priority. The Climate Change Strategy for Tasmania might, for instance, suggest discussions between the Government, researchers and managers of print and electronic media organisations in the state, to promote public education and discussion around the challenges Tasmania faces and the Government's responses to these challenges.
- The State Government might consider funding positions in Science Communication at research institutions in Tasmania, to assist the flow of relevant information from researchers to the community.
- School curricula should include the study of Climate Change and the range of responses. Efforts should be made to boost science teaching in Tasmania and to recruit and train new science teachers. Teacher training should include climate change science and the understanding of the range of social responses to the challenges ahead.

## 2.4 Whistleblower protection

- In order for scientists, researchers and policymakers to carry out their work without fear of political displeasure if their findings are inconvenient, and in recognition of the fact that well-financed vested interests may be threatened by policy changes needed now and in the future, whistleblower protection legislation should be enacted to assist Tasmanians to speak out about what is happening in their state and what needs to be done. Without an open, honest and fearless Tasmania society, it is doubtful that the challenges of climate change will be met as efficiently and swiftly as they could and should be.

## 2.5 Infrastructure

It is not possible to give detailed consideration to all forms of infrastructure change that may be necessary as part of the Climate Change Strategy, but we offer the following for consideration:

- Where highly valued coastal ecosystems are threatened by sea-level rise, it may be possible to construct sections of elevated road, remove hard structures associated with the original road, and allow the coastline to move inland under the elevated sections. We recognize, however, that this would be costly, and, as a small state with limited financial resources, it may be impossible at all but the most significant locations.

- Improvements in public transport, by road and water, would significantly reduce the State's carbon footprint, as well as reducing pressure for continual expansion of the road network as the result of ever more vehicles on the roads, many with single occupants.
- Causeways or ferries may eventually be necessary in areas such as the South Arm Peninsula, which may be transformed into one or more islands in coming decades.

### 3. Conclusion

In conclusion, Save Ralphp Bay Inc. is concerned that the current and future rate of climate change will require clear thinking and leadership from government, and action-oriented planning on a number of issues including but not limited to, coastal planning, protection of rare and threatened habitat and species, loss of ecosystem services, threats to infrastructure and human health concerns. The Climate Change Strategy adopted and implemented for Tasmania must include a detailed response across areas of legislation, planning, research and monitoring, education, communication, renewable energies, health, infrastructure and transport in order for the objectives outlined in the Strategy to be realised. Protection of vulnerable areas such as Ralphp Bay from environmentally destructive and risky development would be an important step in the right direction.

### 4. References:

Costanza, R. et al, 1997: *The value of the world's ecosystem services and natural capital*. Nature Vol.387 15 May 1997

Green, G. and Coughanowr, C., 2003 *State of the Derwent Estuary: A review of pollution sources, loads and environmental quality data from 1997 to 2003* DPIWE 2003

Pearce, F. 2007 *But here's what they didn't tell us*. New Scientist 10 February 2007

Save Ralphp Bay Inc submission to the RPDC *Enquiry into the establishment of Marine Protected Areas in the Bruny Bioregion*. See RPDC website.

Sharples, C., 2006: *Indicative Mapping of Tasmanian Coastal Vulnerability to Climate Change and Sea-Level Rise: Explanatory Report (Second Edition)*; Consultant Report to Department of Primary Industries & Water, Tasmania, 173 pp., plus accompanying electronic (GIS) maps.

**Report available from:**

<http://www.dpiw.tas.gov.au/climatechange> or <http://www.coastalvulnerability.info>

Voice, M., Harvey, N. and Walsh, K. (2006). (Editors) Vulnerability to Climate Change of Australia's Coastal Zone: Analysis of gaps in methods, data and system thresholds. Report to the Australian Greenhouse Office, Canberra, Australia. June 2006.