SUBMISSION TO REVIEW OF THE NZCPS

- From the DUNE RESTORATION TRUST OF NZ

This newly formed Trust wishes to advise the advances made in dune restoration and improved understanding of coastal processes and science over the last 10-12 years, both by the former Coastal Dune Vegetation Network, and also through the successful work of member agencies. These agencies notably include Coast Care Bay of Plenty, Beach Care Waikato, and New Plymouth City Dune Care.

The knowledge gained and positive implications for dramatically improved beach and dune behaviour through restoring native dune vegetation are considerable and unprecedented. This has been highlighted at the recent Dune Restoration Trust Conference (February 2007 in Tauranga) where a number of the nation's leading coastal experts proclaimed that this restorative work must be expanded for the benefit both of coastal communities and the populace in general. The predicted effects of climate change induced sea level rise should hasten adoption of these low cost and truly sustainable techniques.

Below is a recently prepared example of typical costs associated with these updated coastal management options:

Coastal Management Options - Costs and Benefits

	Direct Costs	Maintenance Requirement	Impact on Beach
Simple dune replanting programme with community input.	$10–$40 per lin. m.[1]	Minimal; perhaps some targeted fertiliser for one or two subsequent years.	Dune and beach increase in width, improving recreation, amenity and function of the improving dune buffer.
Dune restoration including community and full educational programmes.	$25–$60 per lin. m.[2]	Minimal; perhaps some targeted fertiliser for one or two subsequent years.	Dune and beach increase in width, improving recreation, amenity and function of the improving dune buffer.
Dune reshaping and replanting.	$250–$500 per lin. m.[3]	Minimal; perhaps some targeted fertiliser for one or two subsequent years.	Dune and beach increase in width, improving recreation, amenity and function of the improving dune buffer.
Seawalls and revetments.	$1500–$4000 per lin. m.[4]	Expensive maintenance or full rebuild required every 20–40 years	Beach continues to erode, reducing or destroying public access and recreational use.

Notes:

1. This cost depends on the density of planting and width of the planted area. The first amount ($10) equates to 1 dune plant/m^2 (at about $2.00 each) planted on a 5m wide dune face. The second amount ($40) is based on a higher density of 2 dune plants/m^2 on a wind-swept site and 10m wide dune face. The average cost is often somewhere between these two amounts.

2. These costs are derived from the actual costs of the full Environment Waikato and Coast Care Bay of Plenty dune restoration and community education programmes, including all the overheads involved.

3. These costs are derived from the dune-reshaping project work undertaken by New Plymouth District Council.

4. Debris picked up from rock revetments can add to the destruction of Tsunami (Dr. J. Goff – pers. comm.)

THE NZCPS 1994:

1. MATTERS OF NATIONAL IMPORTANCE
   (a) The preservation of the natural character of the coastal environment.....

- We must now acknowledge the widely and significantly degraded state of ***the coastal environment***, as in the case of dunelands most people have little idea what the 'natural character' of dunes actually is.
- Therefore a **new** principle is suggested:

The widely and significantly degraded state of coastal landscapes, dunelands in particular, and new knowledge about practical ecological dune restoration techniques and benefits, makes rehabilitation of the natural character of degraded coastal landscapes a national priority.

2. GENERAL PRINCIPLE 10: ***It is important to maintain biological and physical processes in the coastal environment in as natural a condition as possible, and to recognise their dynamic, complex and interdependent nature.***

- Again, due to the massive & **often unrecognised** degradation of NZ dunes over the last 160 years, this principle has been difficult to truly advocate.
- But now in light of new 21st century restorative technologies this principle at last can and must be implemented, by utilising the sound, proven processes of restoring dune systems and dune function with native plant species.
- This is referred to as the *'new paradigm of coastal management'* in the MfE publication *"Community-based Dune Management for the Mitigation of Coastal Hazards and Climate Change Effects: A Guide for Local Authorities, April 2005."* [1]

3. GENERAL PRINCIPLE 12: ***The ability to manage activities in the coastal environment sustainably is hindered by the lack of understanding about coastal processes and the effects of activities. Therefore, an approach which is precautionary but responsive to increased knowledge is required for coastal management.***

- Knowledge of coastal processes has improved significantly in the twelve years since publication of the NZCPS 1994.

- Replacing the precautionary approach with being ***responsive*** to and adopting these newer and demonstrably effective adaptive management practices is warranted (see the September 2004 PCE report *"Missing Links: Connecting science with environmental policy")* [2].
- Consequently recommendations for further implementation of dune restoration practices should be one of the outcomes of this review.

4. GENERAL PRINCIPLE 13: ***A function of sustainable management of the coastal environment is to identify the parameters within which persons and communities are free to exercise choices.***

- While probably beyond the scope of the original drafting team, there is now a new 'freedom' for citizens to exercise choices by being personally involved in sustainable management and restoration of local dunes. This has been proven to be very popular, effective, educative, low cost, and should be available to **all** our coastal communities.

5. NATURAL CHARACTER:

Natural character is a term used to describe the naturalness of all coastal environments.

The degree or level of natural character within an area depends on:
1. **The extent to which natural elements, processes and patterns occur.**
2. **The nature and extent of modifications to the ecosystems and landscape/seascape.**

The highest degree of natural character (greatest naturalness) occurs where there is the least modification. The effect of different types of modification upon the natural character of an area varies with the context, and may be perceived differently by different parts of the community.

The three components of *natural character* are:
- Natural elements, natural processes and natural patterns.

- These are now frequently used to describe the extent to which any particular location retains natural character.

- In addition, this description is frequently split in relation to landform or water bodies (abiotic features); vegetation and land cover (biotic features); and structures, buildings and utilities.

Coastal ecosystems are characterised by the dynamism of their natural processes, none more so than dunelands. Widespread loss of native vegetation from dunelands has modified natural processes, resulting in modified dune landforms and ***significant loss of natural character****. Replacement of introduced species with native dune vegetation is now proven to quickly* ***restore natural dune processes and natural character.***

6. NATURAL CHARACTER POLICY 1.1.3: *It is a national priority to protect the following features, which in themselves or in combination, are essential elements of the natural character of the coastal environment:*
(a) Landscapes, seascapes and landforms, including:
(1) significant representative examples of each landform which provide the variety in each region;
...
(3) the collective characteristics which give the coastal environment its natural character including wild and scenic areas.

- Beach and dune systems, especially in a native vegetated state, are important landscapes and landforms that will contribute substantially to the natural character (and resilience) of the coastal environment in every region.

- However many of the existing ***'natural' character*** elements of sandy coasts are in fact only **degraded** remnant elements, with sea, wind, and open spaces being the only true ***natural*** elements.

- Sand dune coasts therefore require restoration to ensure they are worthy (and capable) of subsequent long-term sustainable protection.

- Sandy coasts that have been restored have significantly improved appeal for the public as ***wild and scenic areas*** to enjoy, are naturally more sustainable and worthy of protection.

- So restoration **must have an intimate connection with and be a precursor** to protection.

7. NATURAL CHARACTER POLICY 1.1.4: *It is a national priority for the preservation of the natural character of the coastal environment to protect the integrity, functioning, and resilience of the coastal environment in terms of:*
(a) the dynamic processes and features arising from the natural movement of sediments, water and air;
.....
(e) natural biodiversity, productivity and biotic patterns;

- Comments as for 1.1.3 above.

- In addition the ***'integrity, functioning, and resilience'*** of dunes has also been significantly and effectively compromised by the degradation mentioned earlier.

- This national priority can only be met for beaches and foredune systems by re-establishing their native sand-binding plant cover and for back dunes by restoring native back dune vegetation cover and its associated ecosystems.

- As a consequence of restoration,' the dynamic processes and features arising from the natural movement of sediments, water and air' and 'natural biodiversity, productivity and biotic patterns' will also be restored.

8. NATURAL CHARACTER POLICY 1.1.5: *It is a national priority to restore and rehabilitate the natural character of the coastal environment where appropriate.*

- It is clearly appropriate to restore and rehabilitate dune systems in many areas of NZ's coastline, given the almost total loss of dunes that possess true natural character, i.e. the true natural character afforded by a cover of native sand binders and back dune plants that can enable the beach and dune systems to function naturally (and even more appropriate given the natural protection against coastal hazards that will also result).

- And now proven and successful methods to ***'restore and rehabilitate the natural character' of*** the coast are available in the 21st century, with 40km of dunes now fully restored in the Bay of Plenty, along with many other successful restoration examples on beaches in Waikato, Taranaki, Auckland, Northland, Wellington, Nelson etc.

- With suitable policies and implementation, these examples can be the beginning of further necessary projects around the entire nation.

- The new NZCPS should be the tipping point to ensure this important restoration work is adopted as "best practice" for coastal management into the future.

9. NATURAL HAZARD POLICY 3.4.2: ***Policy statements and plans should recognise the possibility of a rise in sea level....Natural systems which are a natural defence to erosion and/or inundation should be identified and their integrity protected.***

- We would anticipate that ***'the possibility'*** of a rise in sea level will be changed to *'the probability'* or even *'inevitability'* of a rise in sea level.

- The natural systems mentioned must be restored promptly from their degraded state to benefit all NZ citizens, current and future.

- De Lange (2007)[3] & Warrick (2007)[4] have both identified restoration of dunes as the best adaptation and least cost strategy to alleviate the effect of rising seas.

10. NATURAL HAZARD POLICY 3.4.4: ***In relation to future subdivision, use and development...***

- Any land accreted by restored dunes must be provided with absolute protection from any future human use or activity that may compromise dune function, and be protected for the benefit of all subsequent generations.

- Therefore, implementation of sufficiently wide and **permanent** setbacks is very necessary to give effect to true sustainability.

- Perhaps a new class of enduring protection is necessary, emphasising the importance of retaining this coastal strip of land as an area of critical national importance, to be retired **permanently** as coastal buffer into **true** perpetuity.

11. NATURAL HAZARD POLICY 3.4.6: ***Where existing subdivision, use or development is threatened by a coastal hazard, coastal protection works should be permitted only where they are the best practicable option for the future...***

- We now have 21st century techniques available which are proven, successful and inexpensive for restoring dune function on our coastal margins.
- These techniques must in future be the best practicable option when coastal protection is considered/required.
- Only then can the ***'coastal protection works'*** term be accurately applied, rather than the existing and erroneous 'private property protection/coastal degradation seawalls' popular translation of ***'coastal protection works'.***
- Dune restoration in most cases **will** be the singular ***'best practicable option for the future...'*** especially with the probability of further sea level rise.
- On pure economic terms, dune restoration costing only 1-2% of most seawall systems must be the first option to be considered.
- In some situations of severe or long term degradation, there will remain a need for abandonment or relocation of existing infrastructure.
- In the possibly few remaining cases where seawalls are still an option, these must be placed landward of the active beach system, preferably on private property, to avoid the current inequitable situation of private property protection devices being placed on, and further degrading, public beaches.

12. MAINTENANCE AND ENHANCEMENT OF PUBLIC ACCESS TO AND ALONG THE COASTAL MARINE AREA, POLICY 3.5.1: ***In order to recognise the national importance of maintaining public access along the coastal marine area, a restriction depriving the public of such access should only be imposed where such a restriction is necessary:***

- These access policies need to be reconsidered in 21st Century NZ.

- Public **pedestrian** access to the coastal marine area is being threatened by the rising tide of 4WD vehicles using beaches as roads, often at speed and often dangerously.

- The anachronistic "road" designation for many beaches **originally** related to access for stock and pedestrians only, before vehicles were invented.

- This designation must be updated to "pedestrian access" (or something similar) to provide control of the dangerous and dune damaging unrestrained and increasingly problematic vehicle use problem.

10. OBJECTIVES FOR THE NEW NZCPS:

The NZCPS can now set out goals for inclusion in the policy statement. This enables the NZCPS to clearly set out the goals that are being sought. For example, a very reasonable goal warranting inclusion in a national policy statement would be:
*"It is **a national priority** to restore a substantial portion of NZ's sand dune systems (given the almost total loss of natural and naturally functioning beach/dune systems in NZ), and especially to remove foreign material and plants from foredunes and establish native sand binding species wherever practicable.*
Explanation: *Such restoration is a national priority because it would significantly enhance natural character, mitigate coastal hazards in a time of climate change, and restore characteristics and taonga of great importance to Maori culture."*

There are a number of more general goals/objectives that could clearly be met by policies that include a policy to promote and achieve substantial areas of dune restoration in every region. For example:
"It is a national priority, given the prospect of climate change, to respond to increasing coastal hazards, wherever practicable, in ways that avoid adverse effects on natural character, public access, amenity values, landscape values, .. etc... This is particularly the case on land that is part of the public domain."

- We now have the tools available to measure progress with restoration objectives, e.g. 105km of dunes on the Bay of Plenty regional coast where Coast Care groups are working towards the objective of restoring dune function and resilience, and 40km where these objectives are now fully met (see Coast Care Bay of Plenty Status maps below) [5].
- These mapping tools should be introduced as a device to measure progress of future dune restoration projects around the nation.

- **There is new information, and a better understanding of coastal processes, that can be reflected in a new NZCPS:**

  There is an increased likelihood that human induced climate change is occurring, and that coastal hazards will increase over time.

  There is also increased knowledge and experience of restoring sand dune systems, and increased understanding of the benefits of dune restoration. The great work by councils and communities in the Bay of Plenty and elsewhere has made it much clearer in 2007 that dune restoration is both very appropriate and effective, and is also a practicable response to coastal hazards and degraded natural character in many different circumstances and environments.

- **Reference can be made to other documents**

  It is now possible to include reference to other documents in NZCPS policies.

  Such documents will clearly have to be authoritative and be subject to rigorous public process in their preparation and any future amendment.

  National environmental standards, climate change predictions, and coastal hazard response methodologies that are too detailed for inclusion in the NZCPS, or that will be subject to change as knowledge increases, should be included.

  There may well be dune restoration standards or methodologies in future that could warrant reference.

- **The Foreshore and Seabed Act 2004 has given the Crown unequivocal ownership of the foreshore and seabed:**

  This may not seem to have immediately apparent impacts on dune restoration issues. But it does make it clear that the foreshore and seabed is public domain that is the heritage of all New Zealanders.

  Therefore, activities on the foreshore and seabed that can have impacts on the potential for dune restoration and other enhancement activities (e.g. seawalls for private property protection) may not be appropriate activities on land that is public

domain on a dynamic coastline, and that should be managed to deliver wider public and community benefit.

Given that many seawalls and other works are located on esplanade reserves and on the foreshore and seabed, it is not clear how such structures and activities meet the purpose of such reserves or the s.3 object of the Foreshore and Seabed Act 2004.

This is particularly the case where dune restoration is a practicable alternative (to damaging structures) which is in keeping with the purpose of coastal reserves and s.3 of the Foreshore and Seabed Act 2004.

- **Policy statements and plans must now "give effect to" the NZCPS:**

  Until 2004, the RMA required only that policy statements and plans be "not inconsistent with" the NZCPS.

  The stronger requirement that they must "give effect to" the NZCPS does not change the content of the NZCPS, but should make implementation of policies and the achievement of objectives somewhat easier. There may be a need to consider a strong implementation plan and effective monitoring (as discussed in 10 above) – as well as vigorous championing of the NZCPS by the Minister of Conservation and DOC.

The Dune Restoration Trust of New Zealand is grateful for the opportunity to prepare this submission. We hope that a result will be new forward looking sound objectives and policies, increasing prospects for those objectives and policies to have a positive effect on future planning and consent decisions, and hence on environmental outcomes such as accelerated and sustainable restoration of NZ's degraded dune and beach systems.

1. Dahm, J, Jenks, G and Bergin, D 2005. Community-based Dune Management for the Mitigation of Coastal Hazards and Climate Change Effects: A Guide for Local Authorities, Ministry for the Environment publication, Wellington.

2. Parliamentary Commissioner for the Environment, September 2004. Missing Links: connecting science with environmental policy.

3. De Lange, W, 2007. Cross-shore Sand Exchange & Dune Restoration, the Dune Restoration Trust of NZ Conference, Tauranga NZ.

4. Warrick, R, 2007. Climate Change, Sea-level Rise and the Implications for Practical Coastal Management, the Dune Restoration Trust of NZ Conference, Tauranga NZ.

5. Jenks, G, 2006. Coast Care BOP Dune Status Report, pers. comm.