# COAST CARE AND COASTAL VEGETATION ISSUES FOR SAND DUNES WITHIN THE HAWKES BAY REGION

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## ABSTRACT

Several beaches were inspected in the Hawkes Bay region from Mahia Peninsula in the north to Porangahau in the south representing a range of coastal management issues and sand dune types. This collaborative report briefly documents some of the characteristics of each of the beach systems inspected with emphasis on the vegetation and related human impact and coastal erosion issues.

Most dune systems inspected were dominated by the exotic sand binder marram grass. The indigenous sand binders spinifex were present at most beaches but only formed a major component of the foredune on some sites. With one exception, pingao was absent from most sites inspected or in low quantities. Backdunes were highly modified with a range of mostly exotic plant species. There was no sequence of coastal indigenous shrub and tree vegetation on reardunes at sites inspected.

The most important management issue for the beaches visited was the pressure of large numbers of people during the summer period on dune vegetation and consequently potential for increased erosion. Continuing effort in the control of beach users through the provision of formalised accessways, fencing and signs is the best approach to protecting and enhancing existing vegetation. On most marram grass-dominated sites it is unnecessary and impractical to undertake large-scale revegetation programmes to convert such areas to indigenous coastal vegetation. Identification and control of potential major weed species is recommended, particularly boneseed. Planting of the indigenous sand binders, pingao and spinifex, along with fertilising existing stands of spinifex would be worthwhile on some sites.

**KEYWORDS:** sand dunes, revegetation, sand binders, marram grass, erosion

## INTRODUCTION

At the request of the Hawkes Bay Regional Council (HBRC), ***Forest Research*** coastal dune scientists inspected a range of Hawkes Bay beaches along the east coast of the North Island with the HBRC Coast Care Land Management Officer. The objective was to view a range of beach types and discuss coastal management issues related to Hawkes Bay beaches and provide advice and related information on current and future management of these sites.

Beaches from Mahia Peninsula in the north to Porangahau in the south of the region were visited on 10-11 December 1998. Coastal sites inspected from north to south included

Mahanga Beach, Mahia and associated beaches, Opoutama Beach, Ocean Beach, Waimarama, Kairakau Beach, Maungakuri Beach, Black Head and Porongahau Beach.

This collaborative report briefly documents some the characteristics of each of the beach systems inspected from north to south in the region with emphasis on the vegetation and related human impact and coastal erosion issues. Ideas and suggestions discussed during the visits for ongoing management of these beaches as well as relevant information that may be of use to the HBRC Coast Care programme are also provided.

## NOTES ON BEACHES AND COAST CARE ISSUES

### Mahanga Beach

***Site description***

- Beach consists of relatively flat slightly undulating dune system.
- On less disturbed sections of beach south of settlement foredune dominated by spinifex (*Spinifex sericeus*) with some sea rocket (*Cakile* spp.) and back dune with marram grass (*Ammophila arenaria*) (Plate 1).
- Northern most section adjacent to houses and carparks has no spinifex on foredune. Exotic grass areas from carparking to 0.5-1m scarp at high water mark where original dune may have had subsoil dumped in the past. Away from mown carpark areas, backdune dominated by marram grass immediately behind foredune grading into a mixture of indigenous and exotic species in zone adjacent to road.
- Backdune species include the indigenous mainly knobby club rush (*Isolepus nodosus*), bracken (*Pteridium esculentum*), pohuehue (*Muehlenbeckia complexa*) with occasional tauhinu, flax, and sand convolvulus (*Calystegia soldanella*). At least 4 plants of the native pimelea (*Pimelea prostrata*) also found. Range of exotics include ice plant (*Carpobrotus edulis*) and sea rocket on frontal dune sites, clumps of pampas (*Cortaderia* spp.), and many garden escapes and weed and grass species scattered throughout.

***Management issues***

- Main concern is the large number of beach users in summer. No fencing or formal accessways present.
- Area with overburden at northern most toilet/main carpark end difficult to rehabilitate as little space left to develop a sandy foredune at interface of grassed low scarp and high water.
- Diverse mixture of exotic and indigenous species on backdune area. Some problem weed species including garden escapes. Planting options for backdunes required.

***Recommendations***

- Provide basic accessways at 2-3 points which may only need to be post and wire fencing.
- Plant small groups of low-growing indigenous ground cover and shrubs (refer to Appendix 1 for species) as vegetation buffer along parts of scarp between access points.
- In areas immediately south of toilet/main carpark provide post and wire accessways from backdunes to beach. Angle accessways through foredunes with Y-shaped junctions where appropriate to prevent onshore winds funnelling sand toward backdune areas (Plate 1).

- Boost spinifex strip on foredune with application of Urea at rate of 200kg N/ha. On backdunes remove pampas and discourage dumping of garden waste and planting of exotic and garden ornamentals.

**Mahia Beach (adjacent to town)**

***Site description***

- Scarp up to 2 m high immediately adjacent to town has no dune system. Little can be done to encourage dune building.
- The indigenous marsh club rush (*Bolboschoenus medianus*) in clumps with exotic grasses along scarp edge.

***Recommendation***

- Provide steps to high tide mark only if necessary.

**Mahia Beach (adjacent to caravan park)**

***Site descriptions***

- Mahia Beach at township end adjacent to caravan park has considerable sand moving onto mown turf areas with no accessways.
- Dense marram grass with increasing spinifex moving southward.
- Boneseed (*Chrysanthemoides monilifera*) seedlings and small shrubs scattered throughout are potential major weed species.

***Recommendations***

- Could provide angled accessways through steep 1 m banks to beach near town end using bobcat to achieve a narrow reasonable gradient for pedestrians.
- Where dune begins to get wider longer accessways with fencing is required to protect vegetation during summer months.
- Erradicate scattered boneseed while only relatively small number of seedlings and shrubs are present. Small plants are relatively easy to pull out by hand.

**Opoutama Beach** (central part)

***Site description***

- Very dense pure spinifex on seaward face of a low gently sloping foredune with spinifex continuing over the crest onto second dune. Excellent foredune cover of vigorous spinifex which appears to extend along most of this bay from Mahia to Opoutama (Plate 2).
- Marram grass with other species increasing on undulating backdunes to road.
- Small grassed carparks along access road running parallel to beach with amenity single-tree planting.

***Management issues***

- Appears that public usage along accessways leading from small carparks on roadside is causing minimal damage (Plate 2).
- Accessways and small informal carparks at intervals along the length of this beach may be assisting to spread public use and therefore minimising impact on vegetation cover over a wide area.

***Recommendations***

- Fencing not required at this stage unless beach user numbers increase and damage to dune vegetation cover becomes apparent.

***Plate 1:*** ***View of Mahanga Beach to the south with spinifex dominating the foredune and marram grass on the backdunes. Angle accessways across the foredune with some fencing to guide beach users in the heavily used parts of the beach would decrease damage to spinifex cover. Photo David Bergin.***

***Plate 2:*** ***An excellent cover of spinifex covering the foredunes along Opoutama Beach with marram grass dominating the backdunes. Narrow unfenced walking tracks serving as accessways from the road to the beach are not detrimentally affecting dune vegetation. Photo Sally Hobson.***

- Suggest plant pohutukawa (*Metrosideros excelsus*) and other natives at carpark areas rather than Australian coastal species.
- A good site to demonstrate natural occurrence of an excellent zone of healthy, dense spinifex on foredune with marram grass dominant on the adjacent backdunes and where beach is used for recreational purposes.

**Opoutama Beach** (northwestern part)

***Site description***

- Spinifex dominated foredunes.
- Marram grass on backdune with significant established *Pinus pinaster* stand on backdune area immediately adjacent to road.
- Spread of some wilding pines along beach toward Mahia.
- Boneseed also present.

***Management issues***

- No significant damage to spinifex dominated foredunes.
- Significant pine stand is providing seed source for wilding spread over marram grass dominated backdunes.

***Recommendations***

- This site requires an evaluation of the potential threat of *Pinus pinaster* to this beach. Of interest is the history of the stand, age, checking early aerial photography, natural spread since the pines first established, etc...
- Removing the well established pine stand will be a major task.
- Controlling at least the spread of pines is recommended.
- Eradicate scattered boneseed plants and seedlings.

**Ocean Beach (northern end)**

***Site description***

- The northern end is a 1 km wide sand dune complex consisting of a series of irregular hummocky dunes with spinifex and occasional patches of pingao (refer to Partridge 1992 for further detail) (Plate 3).
- Significant areas of bare sand in large sand drifts. Marram grass on backdunes with blackberry and rushes in dune slacks. Occasional clumps of sand coprosma (*Coprosma acerosa*). Pingao seedheads ready for harvesting in late December.

***Management issues***

- Partridge (1992) identifies this as a dune/vegetation complex of high ecological value.
- Some sign of stock wandering through. Dune system fenced with a mixture of electric and standard fence materials. Fences in area inspected appear adequate.

***Recommendations***

- Encourage station owners/managers to maintain good fencing to protect this significant coastal site.

**Ocean Beach (southern end)**

***Site description***

- Inspected site consists of a hummocky dune system dominated by marram grass with some spinifex and ice plant on foredunes.

***Plate 3:*** ***The northern end of Ocean Beach comprises a sand dune complex up to 1 km wide has high ecological value. Marram grass occurs on backdunes with patches of spinifex and occasional pingao on the hummocky dunes seaward. Deflation sites are dominated by a range of rush species and some blackberry. Continued maintenance of fencing along the backdune is essential. Photo Sally Hobson.***

***Plate 4:*** ***This relatively stable spinifex-dominated foredune and marram grass-dominated backdune is adjacent to a proposed subdivision immediately north of the settlement at Ocean Beach. Planning should include provision of fencing and accessways to allow access to the beach and protection of the vegetation. Photo Sally Hobson.***

***Management issues***

- Dunes appear relatively stable.
- Proposed new subdivision by Haupouri Station immediately north of present coastal settlement on flat area between spinifex/marram grass dune system and base of steep grazed scarp (Plate 4).
- Proposed retirement and revegetation of grassed steep hill side immediately landward of proposed subdivision.

***Recommendations***

- Work with developers and station owners to ensure sufficient set back of subdivision, provision of formal accessways and fencing to protect marram grass/spinifex dune system (Plate 4).
- In collaboration with station owners, consider establishment of a range of trials evaluating hardy exotic and indigenous species and revegetation strategies (eg., planting pioneer species, fencing only…) for revegetation of the exposed seaward facing scarp.

**Waimarama**

***Site description***

- Central beach area inspected has plantings of backdune species up to 3 years old within fenced enclosures. Indigenous species performing well include ngaio (*Myoporum laetum*) and karo up to 3 m high (Plate 5).
- Parts south of surf watch tower with no or little sand binding vegetation, mainly marram grass.
- Sloping concrete wall along high water mark at surf watch tower.
- North of tower beyond concrete wall, spinifex, marram grass and ice plant on small foredune with housing and private informal access paths and boat launching sites to beach.
- Southern end of beach armoured by rock wall for at least 2 decades and currently being extended northward by the Hastings District Council due to ongoing erosion of dune and threats to private property including housing.

***Management issues***

- Local support for armouring of beach due to infrequent storm damage and apparent success of rock walls along southern part of beach.
- Informal access paths and boat launching sites north of surf watch tower is damaging foredune vegetation.

***Recommendations***

- The remaining section(s) of the beach which have not been armoured as yet could provide the local community and managing agencies with a good opportunity to demonstrate effectiveness of sand binding vegetation in building up a foredune to provide erosion control and a more user-friendly beach system (Plate 6).
- Scope for planting gaps with small groups of pingao and spinifex and selectively fertilising existing spinifex clumps with fast-release fertiliser.
- Need to improve access to beach along sections without armouring so that locals and other beach users do not trample on vegetation.
- Could measure build up of sand by using nearby fixed structures on beach as datum points to demonstrate to locals the value of healthy vegetation in trapping sand.
- Maintaining a dense sward of sand binding vegetation on the foredune is a preferable alternative erosion control measure to rock armouring as along the southern part of the beach.

**Kairakau Beach**

***Site description***

- Short distance between mean high water and grassed parking area resulting in a steep dune system.
- Beach dominated by a steep, sloping concrete wall along a considerable section of beach. Early attempts at armouring using railway irons, vertical concrete walls, wooden walls, netting and rocks along part of beach to the north (Plate 7).
- Recently constructed steps and handrails as accessways over armoured sections of beach. Some inundation of lower parts of stepped accessways covered in sand within a few weeks of placement indicates considerable movement of fine sand along this beach.
- Scattered ice plant and exotic grass along parts of armoured sections. No marram grass in vicinity of concrete walls but clumps present along dune system further north by older retaining walls.
- Excellent rail and 2 wire fence along back of foredune area with attractive grassed and clumps of coastal indigenous and exotic trees on landward sites of beach.

***Management issues***

- Armoured sections of beach largely without vegetation along foredune zone and consequently with low natural character.
- Steep access over a short foredune system with some sand movement over top during high onshore winds (Plate 8).
- Early erosion-control structures largely ineffective and unsightly.

***Recommendations***

- Some sand movement along concrete walls with perhaps some scope to establish a zone of sand binders although likely to be difficult unless there is a reasonable build-up of sand (Plate 8).
- At northern end beyond concrete wall, could plant pingao and spinifex in gaps between marram grass clumps to trap sand and obviate the need to extend wall.

**Mangakuri Beach**

***Site description***

- Relatively flat dune system up to 30 m wide dominated by marram grass to high water mark with occasional spinifex. No build up of foredune although it is dominated by marram grass.
- A fence constructed along the back of the dune system has been effective in controlling beach users and is currently being repaired.
- Good accessways with post and wire fenceing in places from road to beach is providing sufficient protection of dune vegetation. No board and chain or other structures to walk on.
- New accessways (fencing only) recently constructed along northern part of beach with fencing only along back of dune system. Narrow entrance between 2 posts placed 0.8 m apart provides pedestrian access for the few locals that use this part of the beach.
- Dune systems appears relatively stable. Although northern part of beach has more sand movement compared with the southern part, dune is not eroding excessively.
- Good opportunity to demonstrate to locals the value of healthy vegetation in trapping sand at the northern end.


*Plate 5:* ***Planting of backdune species at Waimarama approximately 3 years old are performing well and include the hardy native shrubs, ngaio and karo. Attractive post and rail fencing with boarded walkways and appropriate signs ensure planted areas are protected in high-use recreational areas. Photo David Bergin.***

*Plate 6:* ***North of the surf life saving tower at Waimarama Beach, scope exists for the planting of groups of spinifex and pingao in gaps along the foredune amongst the patches of spinifex, marram grass and ice plant. Fertilising existing spinifex with urea is also recommended. Establishment of a well-vegetated dune is an alternative option to armouring the beach with rocks as has been carried out along the southern section of this beach. Photo David Bergin.***

***Plate 7:*** ***Armoured sections along most the Kairakau Beach has resulted in low natural character and virtually no beach at high tide. Beyond the walls toward the northern end, there may be scope to plant some native sand binders to trap sand and build up a small dune in the vicinity of scattered clumps of marram grass. Photo Sally Hobson.***

***Plate 8:*** ***Recently constructed steps give access to the beach along the central portion of Kairakau Beach. Considerable movement of the fine sand since construction one month earlier covering lower steps indicates that revegetation of a zone of native sand binders could be attempted. Success will depend on a continual build of sand to create a small foredune and no storms during the critical establishment phase. Photo Sally Hobson.***

***Recommendations***

- Although dune dominated by the exotic sand binder marram grass, it appears to be very stable and therefore large-scale revegetation using natives not required.
- Continue erection and maintenance of accessways to preserve dune vegetation. Minimal erosion along accessways indicate little need for board and chain component at this stage.
- Could diversify the interest by the very active local Coast Care group by planting small groups of indigenous sand binders in gaps on the foredune in gaps amongst the marram grass. Start a small planting programme and monitor survival and growth in the first year.

**Blackhead**

***Site description***

- Small flat dune system dominated by marram grass with kikuyu grass (*Pennisetum clandestinum*) on inland sites. Dense narrow band of healthy sand carex (*Carex pumila*) between marram grass and high water mark (Plate 9).
- Dune system appears to be relatively stable.
- No formal accessways.

***Management issues***

- Increasing pressure on this beach due to marine reserve off-shore including buses of school children.

***Recommendations***

- Could provide minimal post and wire fencing along backshore areas with accesses to beach where appropriate to protect existing vegetation.

**Porangahau Beach**

***Site description***

- A narrow dune in front of housing with spinifex and marram grass dominated foredune with occasional patch of pingao (Plate 10).
- Wider dunes further north in front of free camping area with spinifex along foredunes. Backdune with marram grass, knobby club rush, lupin (*Lupinus arboreus*) and scattered pines.

***Management issues***

- Fencing along foredune at high water mark vulnerable to sand burial and undermining.
- Local school community keen to raise sand binding plants for revegetation of dunes.
- Vehicle assess provided to beach.

***Recommendations***

- Excellent sites along the foredunes in front of houses for planting bare sites with groups of pingao and spinifex seedlings (Plate 10).
- Could also encourage spinifex runner growth into bare areas by fertilising.
- Keep fencing simple and inexpensive along front of these foredunes where burial or excavation is likely to occur.
- Constant maintenance of accessways along informal camping areas is essential to prevent degradation of dune vegetation by beach users. Spinifex dunes immediately landward of the seaward face of these dunes would benefit from fertilising.
- Maintain signposting to encourage beach users to user four wheel drive vehicles at low tide and to keep off vegetation.

***Plate 9:*** ***Increasing pressure on Blackhead Beach due to the marine reserve will inevitably result in degradation of the dune vegetation. Low-cost, minimal post and wire fencing would be effective in guiding beach users to the beach along defined accessways and afford protection of the relatively flat dune system dominated by the exotics, kikuyu and marram grass. Photo David Bergin.***

***Plate 10:*** ***A relatively narrow foredune exists in front of housing at Porangahau Beach with fencing along the high water mark to deter trampling. Excellent sites along the seaward face of the foredune could be planted with small groups of pingao and spinifex seedlings. Fertilising existing spinifex cover to encourage spread of runners to bare sites will assist in developing a vigorous cover. Photo David Bergin.***

## POINTS TO CONSIDER

Points to consider with management of coastal dunes in the Hawkes Bay Regional Council include:

***Management of sand dunes***

- Determine from local communities and observation of individual beaches what are the main concerns with sand dunes and whether there is a need for any intervention.
- Although most beaches inspected are dominated by the exotic sand binder marram grass, it will be impractical to undertake large-scale revegetation programmes to convert such areas to indigenous coastal vegetation. Target resources to erosion-prone areas and use indigenous species where appropriate and practical.
- The most common issue in beaches visited is the pressure of large numbers of people during the summer period on dune vegetation and consequently potential for increased erosion
- Control of beach users with formalised accessways, fencing and signs is the best approach to protecting and enhancing existing vegetation; this is already being carried out by Coast Care groups and HBRC effectively on some sites along the Hawkes Bay coast.

***Accessways***

- Design of accessways (both pedestrian and vehicular) varies depending on beach type and usage. Many designs are used in both New Zealand and Australia (Soil Conservation Service of NSW 1990).
- In general, flexible board and chain accessways are preferable to fixed structures on mobile foredunes where they can move up and down with sand level. Spacing of boards depends on local/visitor needs (eg., prams vs pedestrian only). Wide spacing for foot traffic allows easier lifting of boards as sand accumulates.
- Back dunes may not need any boardwalk and, only where necessary, can be covered with clay, gravel or bark where minimal sand movement is expected.
- Good examples of a range of accessway designs and materials in many regions including Hawkes Bay, Environment Waikato, Environment BOP and Christchurch.
- Suggest get local Coast Care groups to experiment with a range of designs and materials to determine appropriate accessways to suit local conditions and community needs.

***Weed control***

- Remove potential major weed species while numbers are low, eg., boneseed at Mahia/Opoutama beaches.
- Boneseed is a potential major weed species (eg., Christchurch City Council have major infestations on Banks Peninsula but it is spreading over sand dunes at nearby beaches). Note: a close relative of boneseed, bitou bush, has become a major sand dune weed in New South Wales (Soil Conservation Service of NSW 1990). Boneseed is often a greater problem on headlands (eg., Banks Peninsula).
- Identify and remove scattered pampas where practical.
- A large stand of *Pinus pinaster* occurs at the northern end of Opoutama beach and requires further investigation re extent of stand and potential for spreading. This stand is a seed source with wilding pines beyond the established stand. Recommend that the spread of wildings along the dune system is controlled at least.

***Revegetation of foredunes***

- Where gaps in the foredune vegetation occur, consider fertilising any adjacent spinifex stands with 200 kg nitrogen/ha/year. To achieve this, lightly topdress spinifex by hand with Urea twice per year, once in early autumn and again in early spring.
- Planting is expensive and should be considered, initially at least, on a relatively small basis. Restoration by planting requires 1-2 years lead-in time to collect local seed and raise seedlings. General information on revegetation of foredunes in Bergin & Herbert (1997).
- Pingao seeding occurs mid-late December and seed can be stored for several months dry in refrigerator (refer Bergin and Herbert (1998) for detailed guidelines on pingao). Spinifex seed will be ready for collection just as seedheads start detaching from parent plants (refer to Bergin (1999) for detailed guidelines on spinifex).
- For filling gaps along the foredune zone, plant the major indigenous sand binders pingao and spinifex in small groups on the seaward face of the foredune above high water mark. Use a small handful (approx. 30g) of slow-release NPK fertiliser (eg., Magamp) at planting - mix fertiliser into the sand when planting each seedling (refer to Bergin & Herbert 1998 for guidelines on site selection and planting of pingao and Bergin 1999 for spinifex). Depending on numbers of seedlings available and size of planting area, space seedlings at 0.5-1 m apart.

***Revegetation of backdunes***

- Explore any local remnants (not possible in most Hawkes Bay beaches) to determine the natural vegetation sequence and compile a species list of indigenous species for local beaches; investigate historical records or photographs for information on local vegetation patterns and composition.
- Many beaches appear to have relatively stable marram grass-dominated backdunes that do not require any intervention other than if there is a desire by the local community to enhance the natural character of the site by increasing the diversity and abundance of local indigenous species.
- Management of marram grass-dominated sand dunes with experience from both New Zealand and Australia is given in Bergin *et al*. (1997).
- Where local communities wish to plant indigenous species on backdunes, use hardy ground cover, shrub and tree species listed in Appendix 1. Match species to site especially in relation to degree of exposure from on-shore winds, sand movement and salt spray.
- Use well-conditioned stock; shrubs and tree seedlings should be at least 50 cm high.
- Apply a slow-release fertiliser at planting to each seedling as for sand binders.
- Plant small groups of ground cover and shrub species at spacings of 1 m between trees with groups spaced 5-10 m apart. The aim is to provide small groups of indigenous coastal plants that will provide shelter and seed for long-term natural regeneration of gaps between planted groups.
- Plant trees at 3-5 m apart particularly where high survival is expected. Consult with locals regarding planting density and interruption of sea views.

***Maintenance***

- Monitor survival and growth of planted seedlings. If site still appears to be appropriate for revegetation, replant seedlings in gaps where mortality has occurred. On foredunes it may be necessary to move planting sites to avoid high seas or areas of major sand erosion or build-up. Consider sand-trapping fences in combination with planting to assist with dune formation where high rates of sand accumulation occur.
- Control weed growth in the first 1-2 years around planted seedlings on backdunes.

- Maintain fencing and accessways. Board and chain walks will need constant surveillance to ensure they are lifted above increasing level of sand. In NSW Dune Care groups use a long-handled hook to lift boards on a regular basis. Fences along dune fronts may need shifting seaward as dune width increases and becomes vegetated.
- Monitor impact of all dune restoration initiatives. Consider using permanent photographic points. Where appropriate, use transects to monitor changes in dune profiles as dune systems develop where sand binders have been planted or fertilised.

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**APPENDIX 1 - Indigenous plant species to consider for revegetation of sand dunes in the Hawkes Bay region. This is not a complete list and some species may not be native to the Hawkes Bay region (eg., pohutukawa). Species have been allocated to foredune or backdune depending on where they are mostly found but some species will grow from frontal dunes to backdunes on some beaches. Not all species have been tested in planting trials and some will regenerate naturally where present onto new sites given appropriate conditions.**

| **Botanical name** | **Maori or common name** |
|---|---|
| ***Foredunes*** | |
| *Desmoschoenus spiralis* | pingao |
| *Spinifex sericeus* | spinifex |
| *Austrofestuca littoralis* | sand tussock |
| *Calystegia soldonella* | sand convolvulus |
| *Carex pumila* | sand sedge |
| *Isolepis nodosus* | knobby club rush |
| ***Backdune sites*** | |
| **Woody groundcover** | |
| *Coprosma acerosa* | sand coprosma |
| *Muehlenbechia complexa* | pohuehue |
| *Pimelia prostrata* | sand pimelia |
| **Shrubs** | |
| *Pittosporum crassifolium* | karo |
| *Ozothamnus leptopyhllus* (formerly *Cassina leptophylla*) | cottonwood |
| *Coprosma repens* | taupata |
| *Dodonea viscosa* | akeake |
| *Myoporum laetum* | ngaio |
| *Leptospermum scoparium* | manuka |
| *Kunzea ericoides* | kanuka |
| *Coprosma australis* | karamu |
| *Phormium tenax* | harakeke; flax |
| **Trees** | |
| *Metrosideros excelsus* | pohutukawa |
| *Pseudopanax lessonii* | houpara; coastal five finger |
| *Vitex lucens* | puriri |
| *Corynocarpus laevigatus* | karaka |
| *Cordyline australis* | cabbage tree; ti kouka |