



nz environmental

**PROPOSED BEACH CLEANING AND GROOMING IN PAIHIA  
LOCALITY**

**Ecological Assessment**

Prepared for

**FOCUS PAIHIA COMMUNITY TRUST**

Consultation

Ecological  
Assessments

Resource Consent  
Applications

Compliance  
Monitoring

Water Quality  
Monitoring

Environmental  
Management

Pest Reduction  
Advice

Enrichment  
Planting

Restoration  
Advice

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# 1. ECOLOGICAL SURVEY FOR PROPOSED BEACH CLEANING

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## 1.1 BACKGROUND

NZ Environmental was engaged by Focus Paihia to carry out an assessment of environmental effects on the Paihia and Waitangi beaches should a BeachTech Marina vehicle, ([www.beachtech.com](http://www.beachtech.com)), be used for cleaning/grooming the beaches. The vehicle essentially rakes and screens the beach removing cigarette butts, pieces of glass, plastic bottles, flotsam and seaweed. Focus Paihia, a community group, want to use this vehicle for both safety and visual amenity reasons. Before doing so however it was recognised that there needed to be an investigation into the potential effects on nesting and feeding areas, removal of part of the food chain, and natural marine processes. For these reasons NZ Environmental carried out two field surveys and checked historical records held by the Ornithological Society of New Zealand (OSNZ). The objectives of the field survey were to identify possible feeding and nest sites for shorebirds, in particular NZ Dotterel (*Charadrius obscurus*) and variable oystercatcher (*Haematopus unicolor*) and what impacts beach cleaning/grooming may have on these habitats.

Field surveys were carried out by Mike McGlynn and Cale Riddle (NZ Environmental) on 29 September 2011 between 1330 and 1500 hours on an outgoing mid tide, and by Cale Riddle on 6 October from 1500 to 1700 hours, one hour either side of high-water. The weather was fine during the first survey and overcast during the second survey, with no storm events in the previous fortnight.

## 1.2 FIELD SURVEY

### 1.2.1 Te Haumi

Te Haumi Beach was walked and nine species of birds were observed on the first survey and one on the second including, NZ Dotterel, Pied Shag, Red-billed Gull (Appendix B, Tables 1 and 2).



*Plate 1: Te Haumi beach looking North and South*

### 1.2.2 Paihia Beach A

The stretch of beach from the southern headland to the rock bluff south of the Maritime building (Paihia Beach A, Appendix A, Figure 1) was walked. Bird habitat was marginal with the exception of the small creek that exits onto the beach at the southern end. Marine debris and shell beds were sparse along the beach and lacked invertebrate life; sand hoppers, in low numbers, were the only invertebrates observed. Several people were present on the beach at the time of the surveys. This beach is highly modified and is bounded by manicured lawn. It is

highly unlikely that NZ dotterel or oystercatchers would be able to successfully nest here due to the high presence of human traffic and dogs. Nevertheless, during the second survey, a pair of NZ Dotterel were sighted at the southern end of Paihia Beach A, feeding in the shell bed at the creek/ stormwater discharge. Birds observed included: Myna (*Acridotheres tristis*), Red-billed Gull (*Larus novaehollandiae*), Variable Oystercatcher and NZ Kingfisher (*Halcyon sancta vagans*), and NZ Dotterel on the second survey, Appendix B, Tables 1 and 2.



**Plate 2: Paihia Beach A looking North and South and a pair of NZ dotterel observed during the second survey.**

### 1.2.3 Paihia Beach B

The area between the Maritime building and the bluff bounding Te Ti Bay was walked. This beach is also highly modified with rock retaining walls. Beach substrate is predominantly beach cobble and offers limited habitat for shorebirds to breed. However, a food resource may be present when seaweed has been deposited on the beach after storm events or high seas.

Bird species observed were: Variable Oystercatcher, Black-backed Gull (*Larus dominicanus*) and Pied Shag (*Phalacrocorax varius*).



**Plate 3: Paihia Beach B**

#### **1.2.4 Te Ti Bay**

The largest of the beaches surveyed was Te Ti Bay. It is highly unlikely that NZ dotterel or oystercatchers would attempt to breed on this beach due to high beach usage during the breeding season (late spring-summer). A considerable area of the beach was predominantly sand at the time of the site visit; however, shell beds do exist within the vicinity of the public toilets and creek outlet directly opposite the round-about. Fragments of hangi stones were also observed here.

Invertebrates (sand hoppers) were abundant beneath the layer of seaweed/beach debris along the high tide mark which would provide a food resource for shorebirds.

Birds observed on Te Ti Bay: Red-billed gull, Black-backed Gull and Variable Oystercatchers.

The most prominent feeding habitat on this beach is at the estuary mouth at the northern end near the Waitangi Bridge. Beach cleaning and grooming should be restricted in this area.

Birds observed within the vicinity of the Waitangi Bridge: White-faced Heron (*Ardea novaehollandiae*), Royal Spoonbill (*Platalea regia*), Variable Oystercatcher, Black-backed Gull, Pied Shag, NZ Kingfisher and Little Black Shag (*Phalacrocorax sulcirostris*).



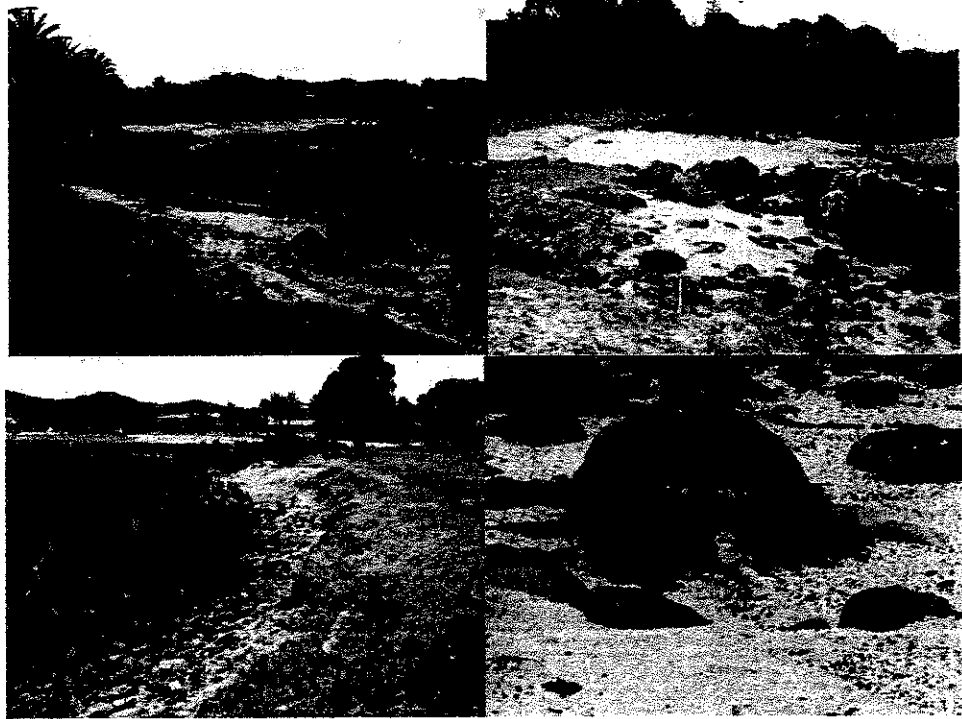
**Plate 4: Te Ti Bay looking north and shell bed near the round-about.**

#### **1.2.5 Copthorne and Hobson Beaches**

Field surveys continued along the shoreline from Waitangi Beach to Hobson Beach. Here two small beaches bounded by basalt rock platforms contain suitable feeding habitat especially the Copthorne beach. Sand hoppers were abundant beneath stranded seaweed and marine

debris along the high tide mark. Habitat exists for nesting in the shell beds between the two beaches. Small freshwater seepages are evident within this area. These beaches are in a more natural state than the Paihia and Te Ti Bay beaches. A pair of NZ Dotterel and 13 Variable Oystercatchers were observed at Copthorne Beach on the second survey. Suitable habitat exists for the NZ shore skink (*Oligosoma smithi*) amongst the marine debris. Shore skinks are common around the Bay of Islands.

Birds observed included: Pied Shag, Blackbird (*Turdus merula*), Caspian Tern (*Sterna caspia*), NZ Pipit (*Anthus novaeseelandiae*), Myna, NZ Kingfisher and Song Thrush (*Turdus philomelos*), NZ Dotterel, Red-billed gull, Black-backed gull.



**Plate 5: Copthorne Beach, Hobson's Beach, suitable nesting habitat between the two beaches and a NZ dotterel on Copthorne beach.**

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## 2. DISCUSSION

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Nineteen species were identified during the two surveys carried out; four of these are currently ranked<sup>1</sup> as Nationally Vulnerable (NZ Dotterel, Pied Shag, Red-billed Gull, and Caspian Tern), and two At Risk (Pied Stilt, NZ Pipit) and one Naturally uncommon (Little Black Shag).

Beach cleaning and grooming of Paihia beach B would not have a significant impact on shorebird nesting as it is highly unlikely that any nesting would occur due to the high human presence and lack of suitable habitat. The main sandy beach length of Paihia Beach A could be cleaned and groomed but the southern end, recognised by the shell bed and the creek/stormwater discharge near the toilet block, should be left in its natural state. This area provides food source for birds including NZ Dotterel. Also, visual inspections before cleaning/grooming should be carried out by a person who can identify dotterel in the nesting period in areas which could potentially contain nest sites, such as shell beds. If a nest site were to be found the observer should notify the Department of Conservation and a temporary fence, together with signage, be erected around the site.

Frequency of cleaning/grooming should be seasonally adjusted, that is frequency reduced during non-peak seasons. Daily grooming should be restricted to peak holiday periods (such as Christmas-New Year period from mid-December to late January) and public events.

Beach cleaning/grooming of Te Ti Bay is unlikely to have significant environmental impacts. However exclusion zones should be created at two sites, the first being the shell bed and creek outlet near the round-about and the second being the northern-most area of the beach adjoining the Waitangi Bridge as this is an important feeding zone. For ease of definition the existing kayak hire shed could mark the cut-off point. An exception to this requirement could be made during Waitangi weekend celebrations or other culturally important events in the area during which high visitor numbers are being catered for. Frequency of cleaning/grooming should be the same as the Paihia beaches.

Cleaning/grooming of the Copthorne Beach should not occur during the nesting season as this site supports good numbers of birds and cleaning would reduce food source available and disturb nesting sites. NZ dotterel have been observed on the adjacent rock platforms as have a diverse number of other species. This area, with its easy access, is ideal for bird watching.

Due to the small size of Hobson's Beach, cultural significance and high visitor usage cleaning/grooming could be undertaken when necessary. Again, inspection for Dotterel should be carried out prior to cleaning during the nesting season.

Two important estuaries exist within the Paihia/Waitangi area; Te Haumi River and the Waitangi River estuary. These areas are important feeding sites and should be excluded from cleaning/grooming. These areas are important for NZ Dotterel, an endangered species. The possibility of cleaning/grooming the small beach zone at Te Haumi has been raised; however the benefits do not outweigh the potential damage that could be done to that ecosystem. A pair of NZ dotterel were observed on the mudflats at Te Haumi during the first survey.

Dotterel may also be breeding on the islands close to Paihia jetty. A more comprehensive picture of breeding sites will be obtained during the Ornithological Society of New Zealand's (OSNZ) National Census Survey which will be carried out 15<sup>th</sup> and 16<sup>th</sup> October. OSNZ hold no records of NZ Dotterel at the surveyed beaches, although not all files were accessible due to the Christchurch earthquakes.

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<sup>1</sup> Miskelly et al 2008

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### 3. CONCLUSIONS

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Te Haumi and Copthorne Beaches support good numbers of shore birds including three Threatened species, and should not be cleaned mechanically. NZ Dotterel were observed on the southern end of Paihia Beach A and this area should not be mechanically cleaned. There are areas along Te Ti Bay and Hobson Beach which have high habitat value which should also be left in their natural state to preserve food and habitat source, specifically around headlands and stream/ river outlets.

Provided the recommendations in Section 4 are implemented, the following beaches were assessed as suitable for the proposed beach cleaning/grooming along the main sandy areas from mean low tide up to the high sand foreshore, without risk of detrimentally affecting natural coastal processes:

- a) Paihia Beach A,
- b) Paihia Beach B,
- c) Te Ti Bay,
- d) Hobson Beach.



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#### 4. RECOMMENDATIONS

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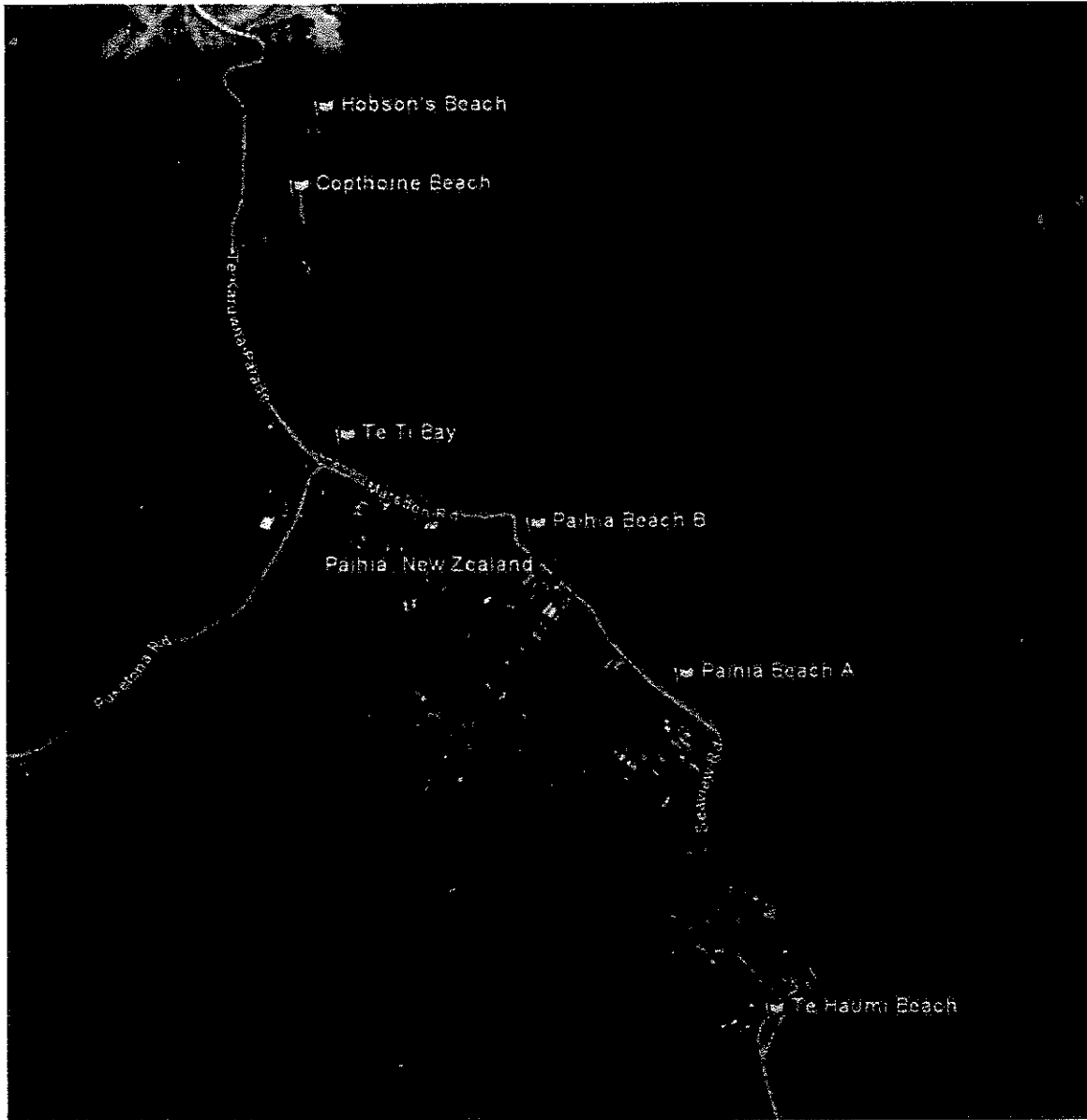
- Copthorne, and Te Haumi Beaches should not be mechanically cleaned;
- During the breeding season (October-February) cleaning/grooming of Paihia Beach A and B beaches, Te Ti Bay to occur only after visual inspections by trained personnel have been carried out and any dotterel sightings reported to the Department of Conservation;
- Fencing off, and erect signage, any nest sites as soon as identified;
- Exclusion zones to be created around the shell bed at the southern end of Paihia Beach A (near public toilets) and at Te Ti Bay, from the kayak hire shed north to the river mouth and around the shell bed and creek outlet adjacent to the roundabout (*Appendix A, Figures 2 and 3*);
- Cleaning/grooming sandy areas on Paihia Beaches and Te Ti Bay decreased to a maximum of fortnightly during non-peak seasons;
- Hobson Beach may be cleaned occasionally as deemed necessary;
- No cleaning/grooming to occur near estuary mouths, headlands, shell beds or around creek/stormwater outlets.

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**APPENDIX A**

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**Figure 1: Survey Map**



**Figure 2: Paihia Beach A exclusion zone**



**Figure 3: Te Ti Bay exclusion zones**



APPENDIX B

Table 1: List of birds sighted 29 September 2011

	Te Haumi Beach	Paihia Beach A	Paihia Beach B	Te Ti Bay	Waitangi Bridge	Copthorne Beach	Hobson's Beach
NZ Dotterel	2						
Variable Oystercatcher	2	3	2	2	6	2	
White-faced Heron	2				2		
Pied Stilt	1						
NZ Kingfisher	1	1			1		1
Pied Shag	1		1		4	1	
Red-billed Gull	1	4		15	4		
Black-backed Gull	1		2	18	2		
Mallard Duck	2						
Myna		2				2	2
Caspian Tern							2
Song Thrush							1
Royal Spoonbill					1		
Little Black Shag					1		
Sparrow							
Blackbird						1	
NZ Pipit							1

Table 2: List of birds sighted 6 October 2011

	Te Haumi Beach	Paihia Beach A	Paihia Beach B	Te Ti Bay	Waitangi Bridge	Copthorne Beach	Hobson's Beach
NZ Dotterel		2				2	
Variable Oystercatcher		2		2		13	
Red-billed Gull	2	2		14		1	
Black-backed Gull				3		2	
California Quail							3
Spur-winged Plover							1