

ANNEX 4 RISKS, COASTAL INFORMATION, MAPS AND SENSITIVE AREAS.

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4.1 OIL SPILL RISK

4.1.1 Overview

Historical spill records show that most Hawke's Bay spills occur during bunkering operations in the Napier Inner Harbour which, in the majority of cases, have proved minor and required little or no clean up action. Spills in the Napier Port have mostly been a result of hydraulic hose failures rather than fuel oils. Some spills also originate from land sources via storm water outlets. However, a significant increase in shipping over recent years has increased the potential for a large spill.

Hawke's Bay is provided with sufficient equipment, training and other resources to allow it to effectively respond to most of the minor operational spills likely to occur within the port and along its coastline. At any time, but more especially in the event of a larger or more catastrophic spill, the Hawke's Bay Regional Council can expect the support of the Maritime New Zealand. This support could range from providing advice, resources or support personnel to assist the regional (Tier 2) response to escalating the response to a national (Tier 3) response.

4.1.2 Bunkering and Bulk Transfer Risk

The following oil transfer sites, types of oil, and expected order of spill magnitude are considered to be representative of the threat posed within the bunkering and bulk transfer stations in Hawke's Bay (Refer to the following Diagram of Napier Terminal Oil Pipeline and Transfer Points with Wharf Locations):

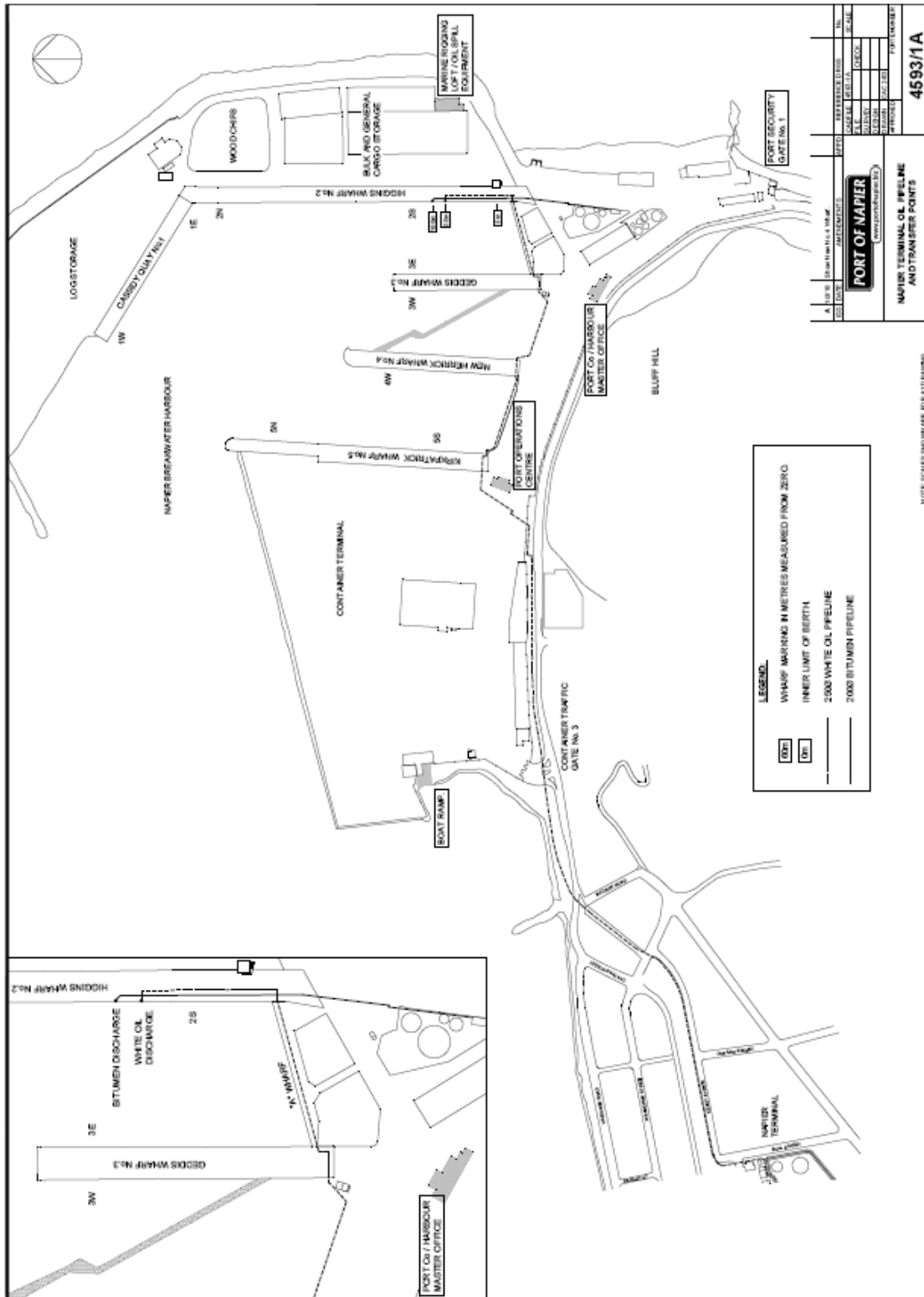
| Location | Transfer type | Oil type | Expected order of magnitude |
|-------------------------|----------------------------|--|-----------------------------|
| Cassidy Wharf | Bunkering | Diesel | 1 Tonne |
| Higgins Wharf (No.2) | Bunkering Bulk Transfer | Diesel Petrol, diesel, kerosene, bitumen | 1 Tonne 5 Tonnes |
| Geddes Wharf (No.3) | Bunkering | Diesel | 1 Tonne |
| Herrick Wharf (No.4) | Bunkering | Diesel | 1 Tonne |
| Inner Harbour West Quay | Bunkering | Diesel | 1 Tonne |

Mobile plant. Refuelling also takes place around the Napier Port wharf from mobile refuelling tankers (diesel oil and waste recovery only).

4.1.3 Napier Port diagram & Terminal Oil Pipeline and Transfer Points

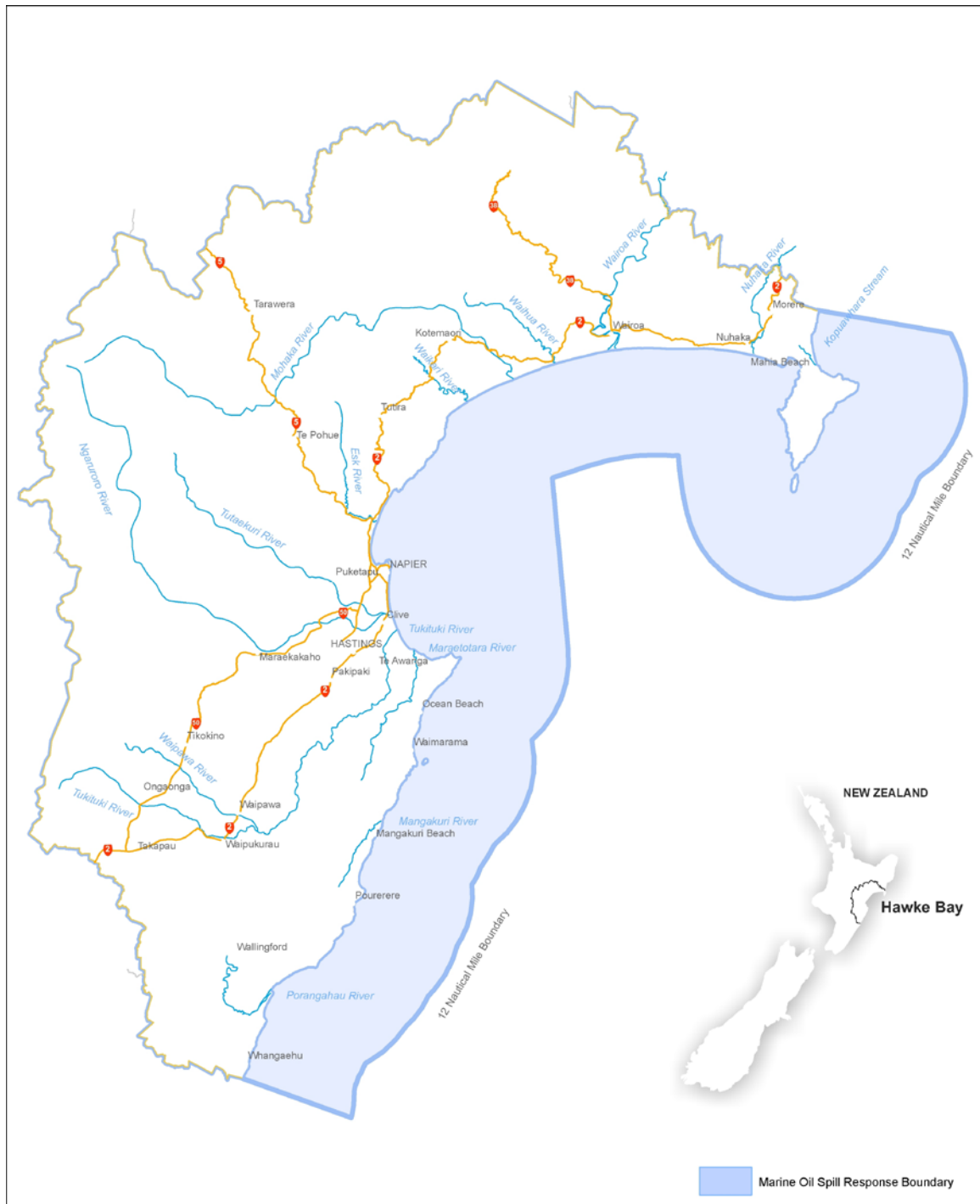
Terminal Oil Pipeline and Transfer Points with Wharf Locations are shown. Bitumen line in service for bunkering with White Oil Pipeline used for Petrol & Diesel.
 NB: All IFO (heavy fuel) pipelines and bunker points were removed in 2009.





4.2 COASTAL INFORMATION, MAPS & CHARTS

4.2.1 Hawke's Bay Region Coastal Marine Area



Hawke's Bay Region & 12 Nautical Mile Oil Spill Response Boundary

4.2.2 Shipping Routes & Hydrographic charts

The lines on the hydrographic charts contained below indicate shipping routes into and out of the Napier Port.

Outside of these routes into and out of the Port, the Maritime New Zealand has initiated a voluntary navigation guideline, recommending that ships stay at least 5 nautical miles away from any coastline. This guideline is targeted towards vessels laden with oil or other harmful liquid substances in bulk. Coastal tankers and other shipping pose a threat of oil spill with low probability of occurrence but high potential effects on the environment.

Copies of the following charts are available on the LINZ website.

- NZ 56 <http://www.linz.govt.nz/sea/charts/paper-charts/nz202-chart-catalogue/nz56>
- NZ 57 <http://www.linz.govt.nz/sea/charts/paper-charts/nz202-chart-catalogue/nz57>
- NZ 561 <http://www.linz.govt.nz/sea/charts/paper-charts/nz202-chart-catalogue/nz561>
- NZ 5612 <http://www.linz.govt.nz/sea/charts/paper-charts/nz202-chart-catalogue/nz5612>

Copies of these Hydrographic charts are located in the HBRC Emergency Operations Centre, Harbourmaster's office, Napier Port Limited and the Ministry of Fisheries, Napier.

| Chart No | Title | Scale 1: | Published | New Edition | Reprinted |
|----------|---------------------------------|----------|-----------|-------------|-----------|
| NZ | | | | | |
| 56 | Table Cape to Blackhead Point | 200 000 | 10/1989 | 9/2001 | 4/2002 |
| 57 | Blackhead Point to Castle Point | 200 000 | 10/1989 | 9/2001 | |
| 561 | Approaches to Napier | 75 000 | 10/2006 | 10/2006 | |
| 5612 | Napier Roads: Napier Harbour | | 10/2006 | 10/2006 | |
| | Napier Roads | 25 000 | | | |
| | Napier Harbour | 7 500 | | | |

4.2.3 Oil Spill response - GIS Application

To access the 'Oil Spill Response Application' go to <https://hbmaps.hbrc.govt.nz/hbrcmaps/> and then click on the 'Oil Spill Response Application' tile.

The 'Oil Spill Response Application' includes SCAT beach access points, priority protection areas, shore segments and incident data during an oil spill response event.

Links to beach description and map PDF's are also available by clicking on priority areas. For more information about the application click the 'i' button on the map."

4.2.3.1 Iwi Liaison contacts

To access the Iwi contacts go to <https://hbmaps.hbrc.govt.nz/hbrcmaps/>

and click on 'Pataka', then select the appropriate area of interest. This will bring up information on the Iwi for that area and contact(s).

4.2.4 Place of Refuge

In situations where an oil spill is likely to arise from damage sustained by a vessel it may be necessary for the ship to use an appropriate Place of Refuge. Because of the nature of the coastline, the Hawke's Bay region has only one designated Place of refuge which is the Napier Breakwater Harbour (Napier Port). Also see "Guidelines on Places of Refuge for Ships in need of Assistance" (IMO Resolution A. 949(23)) at www.imo.org and Chapter 13 of this plan.

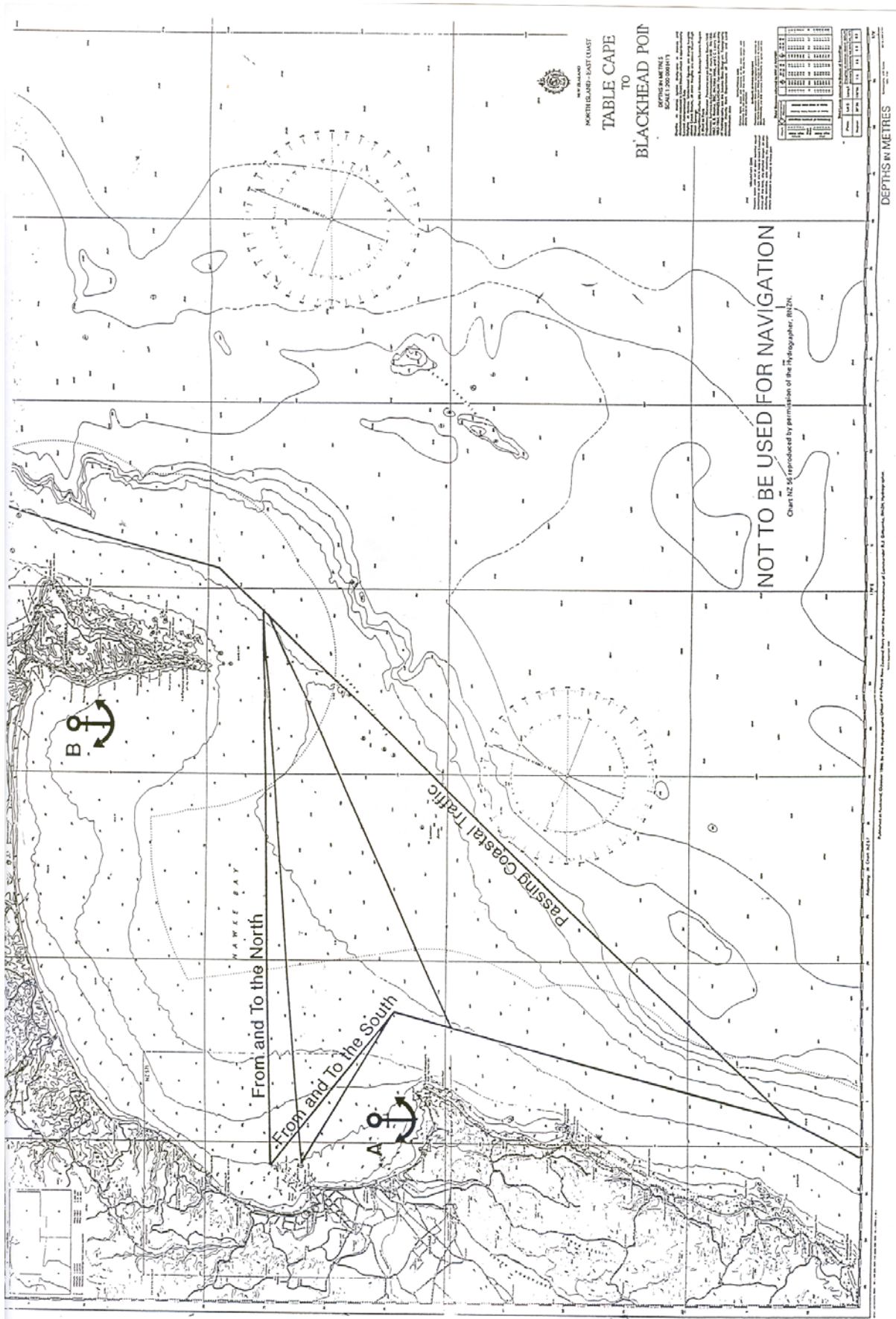
4.2.4.1 Safe Anchorage

During a southerly wind ships may find safe anchorage in the lee of Cape Kidnappers (Anchorage A), whilst during an easterly wind ships may find safe anchorage in the lee of Mahia Peninsula (Anchorage B). These anchorages are shown on hydrographic charts in this Annex.

4.2.4.2 Alternative Places of Refuge/safe anchorages.

The Manawatu-Wanganui Region has no safe haven/anchorage on the East Coast to the south of Hawke's Bay and the nearest safe haven to the north is the Port of Gisborne. The designated position of the Places of refuge/Safe anchorage is only to be made by the Harbour Master. If the Harbour Master assesses that there will be a risk of pollution from the vessel at its designated Place of Refuge then he/she is to ensure that sufficient oil spill response equipment can be immediately deployed at, or near, the Place of Refuge to deal with the potential spill. Where possible, this capability is to be in place before the vessel arrives at the Place of Refuge.

As a general comment, provided weather permits, it is the intention to boom around a damaged vessel in order to reduce the effects of escaping oil. This will be carried out as soon as possible.



4.3 SENSITIVE AREAS

When evaluating the spill incident and developing an incident action plan, the Team needs to be aware of Sensitive Areas and other Coastal Information. Principal resources at risk are summarised below and much of this material was derived from both the Regional Coastal Plan and from the Department of Conservation “Special Sites of Biological Interest (SSBI)” which includes the Departments Coastal Resources Inventory. This, or the contributors to these databases, should be consulted if necessary. Department of Conservation staff will assist with further information regarding this subject.

In addition this section outlines areas recommended for protection, along with procedures on how to deter wildlife from the oil spill area together with rescue & rehabilitation requirements.

4.3.1 Procedures for Wildlife Deterrence, Rescue, and Rehabilitation in Hawke’s Bay

The National Oiled Wildlife Response Team (NOWRT) members in Hawke's Bay will coordinate the deterrence, rescue and rehabilitation of wildlife in accordance with the Incident Action Plan developed by the Incident Command Team (Refer Annex 2). The Massey University NOWRT members are also available to help with this co-ordination.

4.3.1.1 Priority Ranking

In some circumstances (e.g. where there are a large number of species impacted by an oil spill) it may be necessary for the NOWRT members in Hawke’s Bay to establish priorities for deterrence, rescue and rehabilitation of wildlife.

The following categories will provide some assistance when prioritising wildlife for rescue and rehabilitation¹.

Category 1: First priority for deterrence, rescue and rehabilitation

This includes species classified as endangered by Bell (1986) and/or Category A species by Department of Conservation (1994), and the Ornithological Society of New Zealand, Inc.

Conservation status of New Zealand birds, 2008, this identifies protected species breeding in Hawke's Bay that would have a significant proportion of their regional population threatened by a major oil spill.

Marine turtles (all species)

Refer to Table 1 for categories of coastal birds

¹ References

Bell, B.D. (1986): The Conservation Status of New Zealand Wildlife. Occasional Publication No. 12. New Zealand Wildlife Service, Department of Internal Affairs, Wellington.

Department of Conservation (1994): Setting priorities for the conservation of New Zealand's threatened plants and animals. Second Edition. Department of Conservation, Wellington.

Category 2: Second priority for deterrence, rescue and rehabilitation

This includes species classified as threatened (including regionally threatened) by Bell (1986) and/or Category B, I and O species by Department of Conservation (1994), and the Ornithological Society of New Zealand, Inc. Conservation status of New Zealand birds, 2008, this identifies locally common protected species that would not have a significant proportion of their population threatened by a major oil spill.

New Zealand fur seal (Arctocephalus forsteri)
Hooker's sealion (Phocarctos hookeri)
Southern elephant seal (Mirounga leonina)

Refer to Table 1 for categories of coastal birds

NB. Any interventions attempted on pinnipeds must be cognizant of the extreme safety risks of approaching animals larger than approximately 25 kg. Only specifically trained, experienced marine mammal handlers should be involved in any such work.

Category 3: Third priority for deterrence, rescue and rehabilitation

Any fully protected species not listed in the above categories and any species listed in the First Schedule (Wildlife declared to be Game) and Second Schedule (Partially Protected Wildlife) of the Wildlife Act 1953.

Refer to Table 1 for categories of coastal birds

Category 4: Fourth priority for deterrence, rescue and rehabilitation

Refer to Table 1 for categories of coastal birds

Unprotected species including the southern black-backed gull (*Larus dominicanus*).

NB. In areas where southern black backed gulls are subject to population control measures, that is gulls are killed deliberately for human health reasons or as part of conservation-directed predator control programmes, it would be inappropriate to rehabilitate individuals except under unusual circumstances. It is the intention of this Tier 2 plan that individual oiled southern black-backed gulls only be captured where to not do so would be unnecessarily cruel. Further, in these specific areas where southern black backed gulls are controlled, the On-Scene Commander may issue a directive that captured oiled southern black backed gulls are humanely killed. This policy should be assessed and either confirmed or abrogated on a response-by-response basis.

Table 1: Coastal bird species present in Hawke's Bay

| Priority | Species Scientific Name | Species Common Name | IUCN category | Status Code | Breeds in Hawkes Bay | Breeding Season | Seasonal Distribution |
|----------|---|-----------------------------|---------------|-------------|----------------------|------------------------------|-----------------------|
| 1st | <i>Charadrius obscurus</i> | NZ Dotterel | EN | E | y | Aug-Feb | year round |
| 1st | <i>Egretta alba modesta</i> | White Heron | Not listed | N | n | n/a | year round |
| 1st | <i>Himantopus novaeseelandiae</i> | Black Stilt | CR | E | n | n/a | Sp |
| 1st | <i>Thinornis novaeseelandica</i> | Shore plover | EN | E | n | n/a | W, Sp, S |
| 1st | <i>Anas superciliosa superciliosa</i> | Grey Duck | LC | N | y | Aug-Feb (Peaking Oct-Nov) | year round |
| 1st | <i>Botaurus poiciloptilus</i> | Australasian Bittern | EN | N | n | n/a | year round |
| 1st | <i>Puffinus huttoni</i> | Hutton's shearwater | EN | N | n | n/a | S, Sp |
| 1st | <i>Sterna albostrata</i> | Black-fronted tern | EN | E | n | n/a | A, W, Sp |
| 1st | <i>Anarhynchus frontalis</i> | Wrybill | VU | E | n | n/a | year round |
| 1st | <i>Thalassarche salvini</i> | Salvin's mollymawk | VU | N | n | n/a | Sp |
| 1st | <i>Egretta sacra</i> | Reef Heron | LC | N | y | Sep - Feb | year round |
| 1st | <i>Sterna caspia</i> | Caspian Tern | LC | N | y | Sep - Feb | year round |
| 1st | <i>Larus bulleri</i> | Black Billed Gull | EN | E | y | Sep - Feb | year round |
| 1st | <i>Charadrius bicinctus</i> | Banded Dotterel | Not listed | E | y | Jul - Feb | year round |
| 1st | <i>Eudyptula minor</i> | Little Blue Penguin | LC | N | y | Jul - Feb | year round |
| 1st | <i>Larus novaehollandiae scopulinus</i> | Red Billed Gull | LC | E | y | All Year | year round |
| 1st | <i>Puffinus carneipes</i> | Flesh-footed Shearwater | LC | N | n | n/a | S, Sp |
| 1st | <i>Puffinus griseus</i> | Sooty Shearwater | NT | N | n | n/a | Sp, S |
| 1st | <i>Sterna striata</i> | White Fronted Tern | LC | N | y | Aug-Feb | year round |
| 1st | <i>Thalassarche bulleri</i> | Southern Buller's mollymawk | NT | E | n | n/a | S |
| 1st | <i>Macronectes spp.</i> | Giant petrel | NT | N | n | n/a | year round |
| 1st | <i>Poliocephalus rufopectus</i> | NZ Dabchick | VU | E | y | Sep - Mar | year round |

| Priority | Species Scientific Name | Species Common Name | IUCN category | Status Code | Breeds in Hawkes Bay | Breeding Season | Seasonal Distribution |
|----------|--|-----------------------------|---------------|-------------|----------------------|-----------------|-----------------------|
| 1st | <i>Porzana tabuensis</i> | Spotless Crake | LC | N | n | n/a | A, W, Sp |
| 1st | <i>Phalacrocorax sulcirostris</i> | Little Black Shag | LC | N | y | Nov - Mar | year round |
| 1st | <i>Puffinus bulleri</i> | Buller's Shearwater | VU | E | n | n/a | Sp, S, A |
| 1st | <i>Diomedea exulans</i> | Wandering albatross | VU | N | n | n/a | A, Sp |
| 1st | <i>Diomedea melanophrys impavida</i> | NZ black browed mollymawk | EN | N | n | n/a | year round |
| 1st | <i>Haematopus unicolor</i> | Variable Oystercatcher | LC | E | y | Sep - Mar | year round |
| 1st | <i>Pterodroma macroptera gouldi</i> | Grey Faced Petrel | LC | E | y | Jun - Jan | Sp, S, A |
| 1st | <i>Strictocarbo punctatus</i> | Spotted Shag | LC | E | n | n/a | year round |
| 1st | <i>Sterna albifrons</i> | Eastern Little Tern | LC | M | n | n/a | Sp, S |
| 1st | <i>Charadrius melanops</i> | Black Fronted Dotterel | LC | N | y | Sep - Mar | year round |
| 1st | <i>Diomedea cauta steadi</i> | NZ white capped mollymawk | NT | N | n | n/a | Sp |
| 1st | <i>Egretta garzetta</i> | Little Egret | LC | N | n | n/a | A, W |
| 1st | <i>Himantopus himantopus leucocephalus</i> | Australasian Pied Stilt | LC | N | y | Jul-Jan | year round |
| 1st | <i>Morus serrator</i> | Australasian Gannet | LC | N | y | Sep - Feb | year round |
| 1st | <i>Pachyptila turtur</i> | Fairy Prion | LC | N | n | n/a | Sp |
| 1st | <i>Pelagodroma marina</i> | NZ white-faced storm petrel | LC | N | y | Oct - Mar | S |
| 1st | <i>Pelecanoides urinatrix</i> | Common Diving Petrel | LC | N | n | n/a | S |
| 1st | <i>Platalea regia</i> | Royal Spoonbill | LC | N | n | n/a | year round |
| 1st | <i>Tachybaptus novaehollandiae</i> | Australasian little grebe | LC | N | n | n/a | Sp |
| 2nd | <i>Phalacrocorax carbo</i> | Black Shag | LC | N | y | All Year | year round |
| 2nd | <i>Porzana pusilla affinis</i> | Marsh Crake | LC | N | n | n/a | W |
| 2nd | <i>Anas rhynchotis variegata</i> | NZ shoveler | LC | E | y | Oct - Feb | year round |
| 2nd | <i>Aythya novaeseelandiae</i> | NZ Scaup | LC | E | y | Oct - Apr | year round |
| 2nd | <i>Haematopus ostralegus</i> | Pied Oystercatcher | LC | E | y | Oct-Mar | year round |

| Priority | Species Scientific Name | Species Common Name | IUCN category | Status Code | Breeds in Hawkes Bay | Breeding Season | Seasonal Distribution |
|-----------------|-----------------------------------|------------------------------|----------------------|--------------------|-----------------------------|------------------------|------------------------------|
| 2nd | <i>Phalacrocorax melanoleucos</i> | Little Shag | LC | E | y | Aug - Feb | year round |
| 2nd | <i>Puffinus gavia</i> | Fluttering Shearwater | LC | E | n | n/a | year round |
| 2nd | <i>Arenaria interpres</i> | Turnstone | LC | M | n | n/a | year round |
| 2nd | <i>Bubulcus ibis</i> | Cattle Egret | LC | M | n | n/a | year round |
| 2nd | <i>Calidris acuminata</i> | Sharp-tailed Sandpiper | LC | M | n | n/a | Sp, S |
| 2nd | <i>Calidris canutus</i> | Lesser Knot (red knot) | LC | M | n | n/a | Sp, S |
| 2nd | <i>Calidris ferruginea</i> | Curlew Sandpiper | LC | M | n | n/a | S |
| 2nd | <i>Calidris ruficollis</i> | Red-necked Stint | LC | M | n | n/a | W, Sp, S |
| 2nd | <i>Limosa lapponica</i> | Eastern Bar-tailed Godwit | LC | M | n | n/a | year round |
| 2nd | <i>Numenius madagascariensis</i> | Eastern Curlew | LC | M | n | n/a | S |
| 2nd | <i>Numensis phaeopus spp.</i> | Whimbrel - Asiatic, American | LC | M | n | n/a | year round |
| 2nd | <i>Pluvialis fulva</i> | Pacific Golden Plover | LC | M | n | n/a | year round |
| 2nd | <i>Stercorarius spp.</i> | Skua | LC | M | n | n/a | W, Sp, S |
| 2nd | <i>Calidris melanotos</i> | Pectoral Sandpiper | LC | S | n | n/a | Sp, S |
| 2nd | <i>Charadrius mongolus</i> | Mongolian Dotterel | LC | S | n | n/a | W |
| 2nd | <i>Chlidonias leucopterus</i> | White winged black tern | LC | S | n | n/a | S, A |
| 2nd | <i>Ardea novaehollandiae</i> | White Faced Heron | LC | N | y | Jun - Dec | year round |
| 2nd | <i>Daption capense</i> | Cape pigeon | LC | N | n | n/a | W, Sp |
| 2nd | <i>Phalacrocorax varius</i> | Pied Shag | LC | N | n | n/a | year round |
| 3rd | <i>Tadorna variegata</i> | Paradise Shelduck | LC | E | y | Aug-Jan | year round |
| 3rd | <i>Anas gracilis</i> | Grey Teal | LC | N | y | Sept-Jan | year round |
| 3rd | <i>Fulica atra australis</i> | Australian Coot | Not listed | N | y | Aug - Mar | year round |

| Priority | Species Scientific Name | Species Common Name | IUCN category | Status Code | Breeds in Hawkes Bay | Breeding Season | Seasonal Distribution |
|----------|--------------------------------------|----------------------------|---------------|-------------|----------------------|-----------------|-----------------------|
| 3rd | <i>Cygnus olor</i> | Mute swan | LC | I | y | Sep - Jan | year round |
| 4th | <i>Larus dominicanus dominicanus</i> | Southern Black-backed Gull | LC | N | y | All Year | year round |
| 4th | <i>Porphyrio porphyria</i> | Pukeko | LC | N | y | variable | year round |
| 4th | <i>Vanelus miles novaehollandiae</i> | Spur Winged Plover | LC | N | y | June-Jan | year round |
| 4th | <i>Anas platyrhynchos</i> | Mallard | LC | I | y | Aug-Feb | year round |
| 4th | <i>Anser anser</i> | Feral Goose | LC | I | y | Sep - Jan | year round |
| 4th | <i>Branta Canadensis</i> | Canada Goose | LC | I | y | Sep - Jan | year round |
| 4th | <i>Cairina moschata</i> | Muscovy Duck | LC | I | n | n/a | W |
| 4th | <i>Cygnus atratus</i> | Black Swan | LC | I | y | variable | year round |

Key

Status Code:

| | | |
|----------|--------------------------|--|
| <i>E</i> | <i>Endemic</i> | <i>Breeds only in NZ territories</i> |
| <i>N</i> | <i>Native</i> | <i>Breeds in NZ territories and elsewhere</i> |
| <i>M</i> | <i>Migrant</i> | <i>A reasonable number migrate to NZ territories but do not breed</i> |
| <i>S</i> | <i>Straggler/vagrant</i> | <i>Not a regular migrant or few migrate to NZ territories but do not breed</i> |
| <i>I</i> | <i>Introduced</i> | <i>Introduced by humans</i> |

Seasons

| | |
|-----------|---------------|
| <i>Sp</i> | <i>Spring</i> |
| <i>S</i> | <i>Summer</i> |
| <i>A</i> | <i>Autumn</i> |
| <i>W</i> | <i>Winter</i> |

IUCN Classification scheme (<http://www.iucnredlist.org>)

| | | | |
|-----------|------------------------------|-----------|------------------------|
| <i>CR</i> | <i>Critically Endangered</i> | <i>NT</i> | <i>Near Threatened</i> |
| <i>EN</i> | <i>Endangered</i> | <i>LC</i> | <i>Least Concern</i> |
| <i>VU</i> | <i>Vulnerable</i> | | |

4.3.1.2 Wildlife Risk Assessment

A basic risk assessment was carried out for the Hawke's Bay coastline which analysed the sites in Hawke's Bay likely to incur a marine oil spill (risk sites) and the wildlife likely to be affected in the event of a spill from these risk sites, which are described in detail in this annex. It is anticipated that most spills will occur in the Napier Port or the Inner Harbour during oil transfers.

However, a significant increase in shipping over recent years and the potential introduction of oil exploration test wells into the area has increased the potential for a large spill outside the Port or Inner Harbour.

Risk Sites

a) Spills in the Inner Harbour or Napier Port (Highest Probability)

Depending on the state of the tides and wind direction, spills in the Inner Harbour or Napier Port may impact on: the Little Blue Penguin Colony at East Pier, along Hardinge Road and the Port breakwater; or on the following bird species in the Ahuriri Estuary:

- Waders and waterfowl;
- Reef and White-face herons, Australian Bittern, Royal Spoonbill;
- Shags;
- Terns and Gulls;
- Pukeko, Marsh Crane (mainly confined to the upper estuary).

Wading species are likely to be impacted indirectly through interruption of the food chain. Other species such as waterfowl, herons, shags, gulls and terns are likely to be directly impacted through contact with the oil.

b) Coastal Shipping Spills (Low probability)

The following species are likely to be threatened in the event of an oil spill in the locations specified. These species and habitats have been selected on the basis of their importance within the region and due to their vulnerability to spilled oil.

| Location | Species |
|--|---|
| • General Coast: | Shearwaters, petrels, gannets, terns, gulls & northern blue penguins |
| • Porangahau Estuary | Waders, terns, gulls, & shags |
| • Te Angiangi (Aramoana- Blackhead) | Waders, terns, herons & shags, penguins |
| • Motu O Kura (Bare Island) | Penguins, shearwaters, NZ fur seals, terns, shags, & gulls |
| • Hinemahanga Rocks | NZ fur seals |
| • Cape Kidnappers | Gannets, terns, shags, oystercatchers & gulls |
| • Waitangi Estuary | Waders, white fronted terns (nesting), shags, herons, gulls and waterfowl. |
| • Ahuriri Estuary | Waders, shags, gulls, terns and waterfowl |
| • Wairoa River Estuary and coastal lagoons | Waterfowl, waders, gulls, terns, herons, bittern, NZ dabchick, fernbird, rails |
| • Mahia Peninsula | 30 species of coastal birds. NZ fur seals, whales, dolphins. |
| • Portland Island | NZ dotterel, shore plover, white fronted terns, black winged petrels, NZ fur seals, whales, dolphins. |

4.3.1.3 Limits On Local Response Expectations

Taking into account the type and number of species likely to be impacted in the event of an oil spill, and the limitations with respect to the Temporary Holding Centres, Temporary Rehabilitation Centres, equipment and trained personnel in the region, the regional response expectations are:

50 birds; and
5 NZ fur seals.

For safety reasons it is recommended that no attempts be made to capture NZ sea lion, southern elephant seal, leopard seal or full-grown NZ fur seals (over eighteen months)². This includes physical injury from handling the animals and risk of infection from bites. Even with sub-adult NZ fur seals, any person handling these animals should be experienced in seal handling.

4.3.1.4 Hazard Precautions

Safety while working in priority areas for protection is important. Ensure safety planning information includes hazard identification and precautions to be taken. Consider the following:

- Access – When and how is access to the site possible? Ensure that responders are aware of the tide times and have a set time to work within, and allow time to get in and out safely. Include times on how long it takes to get to and around the sites, either by vehicle, foot, or 4wd.
- Isolation - Responders should be at a minimum working in pairs. All teams should have adequate communications equipment and should not work in areas without communications. A log out and in procedure must be created.
- Weather - An up to date weather forecast should be obtained prior to sending people into any areas. Describe weather conditions which would make working in the ‘at risk’ or affected areas unsafe, eg wind from certain directions, heavy seas.
- Emergency evacuation procedures – ensure that responders are aware of emergency evacuation procedures if someone is injured.

² Other response options could apply, including hazing, and euthanasia where required.

4.3.2 Priority Areas for Protection

The maps, site information and response guides showing the amenity areas, commercial and recommended areas for protection within Hawke’s Bay have been prepared by the Hawke’s Bay Regional Council in consultation with the Department of Conservation and interested parties of the Hawke’s Bay region. Many of these areas are “Significant Areas” as defined in the Regional Coastal Plan. Hence, the Regional Coastal Plan and the Coastal Monitoring Strategy should also be referred to when developing the Incident Action Plan.

In the event of a spill affecting coastal areas of the region the maps and site information must be considered in consultation with the appropriate interested parties as identified in Annex 2.

NB: TOPOGRAPHICAL MAPS REPRODUCED WITH THE PERMISSION OF LINZ

4.3.2.1 Risk Assessment

A region wide risk assessment and ranking was undertaken based on guidance from MNZ.

The process has been applied to existing high priority sites. Some high priority sites were split into areas to have specific risk assessments and subsequent rankings applied. Where this has occurred, the site (as shown in the blue boxes) shows two discreet rating/rankings to assist with prioritisation.

In future reviews, additional lower priority sites can be added, reviewed and ranked to assist decision making when resources/time constraints are limited. In addition overtime the Hawke’s Bay Regional Council will undertake to increase cultural significance information of our high priority sites to assist in response planning.

Table 2: Summary of Regional Prioritisation

| Site # | Area | Risk Rating | Overall Rank | Site Impact Rank | Site Priority Rank | Protection Possibilities | Clean up possibility |
|--------|----------------------------|-------------|--------------|------------------|--------------------|---|--|
| 1 | Whangaehu | Med | 19 | 17 | 20 | Protection not possible, open ocean beach | Good, Gravel & sandy beach. Surf washing likely to be effective due to steep beach resulting in less oiled area. Minimal shellfish to disturb. |
| 2 | Porangahau Estuary | Very High | 5 | 3 | 11 | Boom inside estuary mouth | Determine response option based on oil type & level of oiling |
| 3 | Blackhead to Paoanui Point | High | 9 | 7 | 5 | Protection not possible, open ocean beach. | Good, Gravel and sandy beach. Surf washing likely to be effective due to steep beach resulting in less oiled area. Minimal shellfish to disturb. |
| 4 | Mangakuri | High | 14 | 8 | 16 | Protection not possible, open ocean beach | Determine response option based on oil type and level of oiling |
| 5 | Kairakau Beach | High | 11 | 5 | 13 | Booming may be possible but likely to be poor use of resources. Protection not possible, open ocean beach | Determine response option based on oil type and level of oiling |
| 6 | Bare Island | High | 12 | 12 | 15 | Protection not possible, open ocean beach | Determine response option based on oil type and level of oiling |
| 6 | Waimarama to Ocean Beach | Med | 20 | 16 | 18 | Protection not possible, open ocean beach | Determine response option based on oil type and level of oiling |

| Site # | Area | Risk Rating | Overall Rank | Site Impact Rank | Site Priority Rank | Protection Possibilities | Clean up possibility |
|--------|-------------------------------------|-------------|--------------|------------------|--------------------|---|---|
| 7 | Cape Kidnappers/ Rangaiika | Very High | 4 | 9 | 2 | Protection not possible, open ocean beach | Determine response option based on oil type and level of oiling |
| 8 | Tukituki River Mouth | High | 8 | 10 | 11 | Potentially mechanically closed subject to conditions, or boom inside estuary mouth. | Difficult, various substrates in low energy environment. |
| 9 | Waitangi Estuary/Clive River | Very High | 7 | 4 | 9 | Potentially mechanically closed subject to conditions, or boom inside estuary mouth. | Beach good with strong wave energy, poor due to gravels. Estuary difficult. |
| 10 | Port of Napier | High | 15 | 21 | 7 | Boom, consider putting earth over to protect rocks at Wharf reclamation. | Good, manmade structures, except reclamation on 4 wharf and breakwater area |
| 11 | Pania Reef | Med | 25 | 23 | 20 | Protection not possible, open ocean and reef shallow. | No cleaning unless subsurface tar patties on reef. |
| 12 | Ahuriri Estuary & Inner Harbour | Very High | 3 | 6 | 3 | Boom entrance to Inner Harbour. Priority is to boom estuary, if oil already entering Inner Harbour. | Difficult, various substrates in low energy environment. |
| 13 | Waipatiki/ Taits Beach | High | 17 | 20 | 17 | Protection not possible, open ocean beach | Good, standard sandy beach. |
| 14 | Whakamahi Lagoon to Whakaki Lagoon | Very High | 1 | 2 | 1 | Boom inside estuary mouth. Consider mechanically closing lagoon mouths in calm conditions | Determine response option based on oil type and level of oiling |
| 15 | Opoutama/ Taylors Bay | Med | 16 | 15 | 12 | Protection not possible, open ocean beach | Good, standard sandy beach. |
| 16 | Western Mahia Peninsula | Med | 18 | 18 | 7 | Protection not possible, open ocean beach | Good, standard sandy beach and high energy wave cut platform shore |
| 17 | Waikawa (Portland) Island | Very High | 6 | 13 | 10 | Protection not possible, open ocean beach | Good, standard sandy beach and high energy wave cut platform shore |
| 18 | Ahuriri Pt to Oraka (Eastern Mahia) | High | 13 | 14 | 6 | Protection not possible, open ocean beach | Good, standard sandy beach. |
| 19 | Oraka Est/Maungawhio Lagoon | Very High | 2 | 1 | 4 | Boom inside estuary mouth. | Determine response option based on oil type and level of oiling |
| 19 | Pukenui Beach | High | 10 | 11 | 14 | Protection not possible, open ocean beach | Good, standard sandy beach. |

4.3.2.2 Risk Assessment Process and Assumptions

The process followed the specified process as outlined in the Maritime New Zealand document titled Guidance on Annex IV Completion for Tier II Plans dated 24 August 2012.

The key assumptions to complete the MNZ process are that HFO impacts the site for 24 hours and there is no human assisted cleanup, i.e. nature is left to itself.

Some specific assumptions made for this specific risk assessment for Hawke's Bay include:

- Due to declining habit and pollution, the estuaries that specifically mention important whitebait and fish spawning habit, it is assumed the site is regionally important.
- If oil is present for less than 1 year and 25% of an endangered species is killed by oil, then it would take at least 5-10 years for population to recover i.e. NZ Dotterel.
- If buried oil is present for more than 1 year and 25% of an endangered species is killed by oil, then it would take at least 10-20 years for population to recover i.e. NZ Dotterel.
- If HFO in estuary not cleaned, effects last for 10-20 years) buried hydrocarbon effect on benthic fauna (food source for birds). Oiling ongoing periodically as oil re-exposed. (Ref: Leigh Stevens - Wriggle - Aug 2013).
- There will be no long term significant effects on ocean food chain in parts of Hawke's Bay that are a high energy environment. Effects generally food safety while significant oil in water column. Assume minimal effects of shellfish/finfish etc from use of dispersant. (Ref: Leigh Stevens - Wriggle - Aug 2013).
- Seal winter haulouts are not something that need priority unless plenty of resources available. Responders limited ability to manage seals and increasing population around NZ mean one severely impacted colony would not be able to be prioritised when resources are stretched. (Ref: John Adams - HB Oiled Wildlife Expert- Aug 2013)
- In terms of conservation impact, equal weight has been given to Reef Heron and White Heron, despite White Heron being rarer. White Heron doesn't breed in HB and occur in smaller numbers at each site. Reef Heron's breed in HB and are slightly higher in numbers so oil is likely to have more impact on their long term national and regional population than that of the white Heron. (Ref: John Adams - HB Oiled Wildlife Expert- Aug 2013).
- When making an Impact Assessment choice, based on oil not being cleaned up, the severity of effect has been averaged over the length of the effect rather than the maximum severity of effect that may only occur over a short period at the start of a spill. Example, Recreation at Tukituki. For a short period of time, 100% of the area will be off limits for recreation, but over the course of the year about 30% of recreation activities would be prevented from occurring for the year. Relatively inconsequential in the overall weighting for sites.
- No feasibility has been indicated where it may be suitable to use dispersants. This is due the predictability of dispersant effectiveness depends on too many factors to be able to make a general statement.



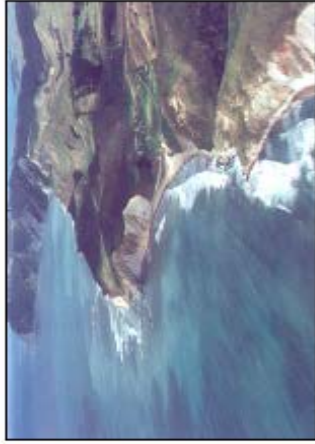
Hawke's Bay Marine Oil Spill Contingency Plan
Annex 7: Priority Areas for Protection

Map Location



| | | | | |
|-------------------|---|-------------------------|-------------|------------|
| Site 1 | Whangaehu | | Risk Rating | Med |
| Description | Situated at the Cook's Tooth Road end, there is a small stream flowing out onto a sandy beach. The beach is bounded by steep hills and rocky shoreline to the north and eroding headland to the south. It has a short sand beach, inter-tidal platforms and dunes that are regionally significant. See attached photo. | | | |
| Foreshore Types | <ul style="list-style-type: none"> • Dunes • Sand • Wave cut platforms | | | |
| Chart Number | NZ Topo | Coastal Plan Map | | |
| NZ 57 | BM38 | 125 | | |
| Segments | | | | |
| At Risk Resources | <p>Commercial Not significant in regional perspective. One crayfish business.</p> <p>Tourism Not significant in regional perspective. Seasonal recreational with a eco tourism business</p> <p>Recreation Not significant in regional perspective</p> <p>Wildlife</p> <ul style="list-style-type: none"> • The areas support a colony of white fronted terns & red billed gulls, together with northern blue penguins. NZ Dotterel are likely to visit along with other shorebirds. • The inter-tidal platforms support mussels, paua, rock lobster and kina, pupus (catseyes), chitons limpets and Karengo (Porphyra). • <p>Cultural This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan.</p> | | | |
| Notes | <p>Communications</p> <ul style="list-style-type: none"> • No radio or mobile phone communication. • If an extensive oil spill response is likely to occur at this site, a radio network needs to be prioritised and established to enable comms between EOC and responders. This will involve establishing a portable repeater network to allow portable radios transmit out of this area. If this option is not available, council vehicles (25 watt Regional Fleetlink) may be able to be positioned at high points to relay information back to Council reception. | | | |
| Actions | <p>Protection of the inter-tidal platforms has take priority over protection of the beach:</p> <ul style="list-style-type: none"> • Oil should be prevented from washing onto the inter-tidal platforms and the beach, by offshore dispersion if feasible. • Deflection booms are unlikely to be effective, unless the sea is calm, as the coastline is exposed and subject to rough seas. | | | |
| Key Contacts | | | | |
| Contact | Organisation | Landline | Mobile | |
| | | | | |
| | | | | |

| | | |
|---|-----------------------|--------------------|
| | | |
| <p>Boom Considerations</p> <ul style="list-style-type: none"> Exposed coastline reducing the effectiveness of booms. | | |
| <p>Access</p> <ul style="list-style-type: none"> No vehicle access north or south of the beach. Local advice should be sought for any boating activities. Beach launching area at the southern end of the beach (fishing boats operate from this area). A tractor would be required. The water that spreads across the beach from the small stream at times is not deep and does not impose significant restrictions to 4WD / tractor traffic. The nearest airstrip listed in Annex 1. | | |
| <p>Preferred Response Options Matrix</p> | | |
| | Most Preferred | Feasibility |
| Containment and recovery | No | Low |
| On Water recovery | No | Low |
| Dispersant application | Yes | |
| Shoreline cleanup | Yes | High |
| Natural recovery | Yes | High |



Hawke's Bay Marine Oil Spill Contingency Plan

Annex 7: Priority Areas for Protection

1. Whangaehu

| | | | |
|------------------------------|---|---------------------------------------|-------------------------------------|
| Staging Area | <input checked="" type="checkbox"/> Gravel (hardland) | <input type="checkbox"/> High | <input type="checkbox"/> Low |
| Mean Wave Height | <input type="checkbox"/> Moderate | <input type="checkbox"/> Sand | <input type="checkbox"/> Gravel |
| Substrate Composition | <input type="checkbox"/> Mixed (sand/gravel) | <input type="checkbox"/> <30m | <input type="checkbox"/> <30m |
| Width of Beach | <input type="checkbox"/> 30-150m | <input type="checkbox"/> Moderate | <input type="checkbox"/> Steep |
| Slope of Beach Face | <input type="checkbox"/> Moderate | <input type="checkbox"/> Intermediate | <input type="checkbox"/> Reflective |
| Beach Type | <input type="checkbox"/> Disappearing | <input type="checkbox"/> Reflective | |

| | | | | |
|--------------------------|---|-------------------------|-------------|---------------|
| Site 2 | Porangahau Estuary & Beach (NB Priority given to Estuary) | | Risk Rating | V.High |
| Description | The Porangahau Estuary is situated at the mouth of the Porangahau River, Central Hawke's Bay. It is a long, narrow estuary formed behind a low, largely unvegetated longshore bar (see attached topographical map and photos of the area). It encloses a variety of estuarine habitats ranging from saltmarsh to inter-tidal sand and mudflats, and shallow tidal channels. It is a nationally significant wildlife and fisheries habitat, and supports nationally significant dune vegetation types. The estuary, adjacent dune systems and wetlands have been identified as a recommended area for protection within the Eastern Hawke's Bay Ecological District. | | | |
| Foreshore Types | <ul style="list-style-type: none"> • Sand • Mudflats • Shallow tidal channels | | | |
| Chart Number | NZ Topo | Coastal Plan Map | | |
| NZ 57 | BM38 | 124,123 | | |
| Segments | | | | |
| At Risk Resources | | | | |
| Commercial | Not significant in regional perspective | | | |
| Tourism | Not significant in regional perspective | | | |
| Recreation | <ul style="list-style-type: none"> • There is a small-moderate use of the estuary for recreational water skiing and wakeboarding in the upper section below the main bridge, plus fishing at the lower end of estuary. | | | |
| Wildlife | <ul style="list-style-type: none"> • This is an important area for birdlife, including some nesting colonies (white fronted terns, Caspian terns, black billed gulls and variable oystercatchers) in spring-summer, and both NZ and international migratory waders. Breeding royal spoonbill and feeding area for NZ Dotterel • Department of Conservation includes the full area of Porangahau in it's Natural areas protection programme. • Species diversity and bird numbers are highest in summer. Significant numbers of waterfowl also use the area. • The inter-tidal platforms support mussels, paua, rock lobster and kina, pupus (catseyes), chitons limpets and Karengo (Porphyra). | | | |
| Cultural | <ul style="list-style-type: none"> • This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan. • This is also a traditional Maori fishing area (cockles, Rock lobster, non-salmonid wetfish). | | | |
| Notes | | | | |
| Communications | <ul style="list-style-type: none"> • 2013 SCAT Comms Survey <ul style="list-style-type: none"> – Mobile Phone – Not assessed, but all networks should work. – Handheld radio (5 watt) – CD ES1, Regional Fleetlink • Beach Road Holiday Park linked to CHB District Council via CD network. • 25W Marine VHF can communicate via Channel 82 to Napier. | | | |

Actions

Oil should also be prevented from entering the estuary, and this should take priority over protection of the beach:

- A boom should be placed across the entrance of the estuary- upstream of the area subject to wave action, and estuary entrance is prone to shifting.
- The shallow estuary prevents the use of dispersant.
- Prevention of oil washing ashore may best be achieved by the use of dispersants offshore.

Key Contacts

| | Contact Info | Facilities |
|------------|--|---|
| Porangahau | Don & Roseanne Steele (CD Managers) P: 06-855 5281 C: 0212576495 (Roseanne) E : gloria1@ihug.co.nz Address: Beach Road Holiday Park, 466 Beach Rd, Porangahau | Telephone, CD Radio linked with Central Hawke’s Bay District Council, toilets, showers, cooking and dining facilities and accommodation (tents & cabins) |
| | | |

Boom Considerations

- A boom should be placed across the entrance of the estuary- upstream of the area subject to wave action, and estuary entrance is prone to shifting.
- Deflection booms outside of the estuary are unlikely to be effective along the coastline, unless the sea is calm, as the area is exposed and subject to rough seas.

Access

- Access to the area is via public road (see topographical map).
- Tractor and 4WD access across the beach to the south side of the estuary from the Holiday Park.
- Access to the North side of the estuary is across Taikura Station. Limited 4WD access along the beach from the south side.
- Beach launching area directly off the beach and a tractor may be available, but local advice should be sought for any boating activities.
- Boat access to the mouth **may** be possible from the bridge. Depth of estuary near the river mouth restricts boat access from the bridge especially during low tide.
- The nearest airstrip is highlighted on the Map. Local Airstrips are listed in Annex 1.

Preferred Response Options Matrix

| | Most Preferred | Feasibility |
|--------------------------|----------------|-------------|
| Containment and recovery | Yes | Medium |
| On Water recovery | No | Low |
| Dispersant application | No | |
| Shoreline cleanup | Yes | High |
| Natural recovery | No | Low |



- Staging Area**
- None (Access only)
 - Green
- Mean Wave Height**
- High
 - Sand
 - Substrate Composition
 - Width of Beach
 - Slope of Beach Face
 - Beach Type
- Low**
- Gravel
 - <10m
 - Steep
 - Reflective
- Medium**
- Mixed substrates
 - 30-150m
 - Moderate
 - Intermediate

Hawke's Bay Marine Oil Spill Contingency Plan
Annex 7: Priority Areas for Protection
2. Porangahau



Date: 4/11/2014 Document Name: 2_Porangahau Document Path: M:\GIS\MapDocs\Emergency Management\Oil Spill Manual_CBSO_Porangahau.mxd

| | | | |
|--------------------------|--|-------------------------|-------------|
| Site 3 | Blackhead to Paoanui Point (includes Aramoana and Pourerere, and Te Angiangi Marine Reserve) | Risk Rating | High |
| Description | Exposed coastline interspersed with broad intertidal platforms and sandy beaches which are shown on the attached topographical maps of the area. Many of the smaller beaches have streams with small estuaries that are not regionally significant, can be protected if higher priority sites are not taking up resources. The Te Angiangi Marine Reserve covers an area of about 1.3 square nautical miles (446 hectares), extending one nautical mile offshore from mean high water mark between Blackhead and Aramoana beaches. It includes a broad rock platform. | | |
| Foreshore Types | <ul style="list-style-type: none"> • Sand and wave cut platforms • Rock | | |
| Chart Number | NZ Topo | Coastal Plan Map | |
| NZ 57 | BM39 | 122, 123, 92-97 | |
| Segments | | | |
| At Risk Resources | | | |
| Commercial | <ul style="list-style-type: none"> • There is a commercial Rock Lobster fishery in the area, with approximately 35 % of the catch taken on Charity Reef in Pourerere Bay. | | |
| Tourism | Not significant in regional perspective | | |
| Recreation | This site is important regionally with the Marine Reserve (No.1 drive site) | | |
| Wildlife | <ul style="list-style-type: none"> • All of the platforms support biologically diverse intertidal communities and are regionally significant wildlife habitats. Te Angiangi is considered of national importance based on habitats. • Key bird species include the eastern bar-tailed godwit, variable oystercatcher, white fronted tern, black shags, northern blue penguins and the threatened reef heron. NZ Dotterel primarily at Aramoana but they use the entire coastline. • The intertidal area supports mussels, paua, rock lobster and kina, pupus (catseyes), chitons limpets and Karengo (Porphyra). • Between 85-100 species of plants, macroinvertebrates and fish have been recorded from each platform. • The rock platform supports diverse species such as the golden limpet, large beds of Neptune's necklace, pink coralline seaweed and eel grass. Small fish, crabs, juvenile paua and kina inhabit the rock pools. | | |
| Cultural | <ul style="list-style-type: none"> • This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan. | | |
| Notes | | | |
| Communications | <ul style="list-style-type: none"> • 2013 SCAT Comms Survey <ul style="list-style-type: none"> – Mobile Phone – None at Pourerere, Not assessed at Aramoana and Blackhead, but not likely to be much. – Handheld radio (5 watt) – None at Pourerere, Not assessed at Aramoana and Blackhead but no likely to be any. | | |

- No direct link from Council vehicle (25 watt) to Council reception.
- If an extensive oil spill response is likely to occur at this site, a radio network needs to be prioritised and established to enable comms between EOC and responders. This will involve establishing a portable repeater network to allow portable radios transmit out of this area. If this option is not available, council vehicles (25 watt Regional Fleetlink) may be able to be positioned at high points to relay information back to Council reception.
- Communication via telephone from Blackhead Station and Pourerere Station (see Annex 3).
- DOC has a radio repeater above the Marine Reserve (at Omakere NSMS 260,V23,325/68).

Actions

Protection of the intertidal platforms will take priority over protection of beaches:

- Prevention of oil washing ashore may best be achieved by the use of dispersants offshore.
- Deflection booms outside of the estuary are unlikely to be effective along the coastline, unless the sea is calm, as the area is exposed and subject to rough seas.
- Consult the Department of Conservation for detailed information on Te Angiangi, including habitats and species within the reserve and the use of dispersant within the reserve.

| Key Contacts | Contact Info | Facilities |
|----------------------|--|---|
| Blackhead / Aramoana | Rod and Karen Hansen (CD Managers) P: 06 8577 866 C: 027 214 4123 (no coverage) E: rodhansen@xtra.co.nz | CD Radio, Police / Fire Radio at Shoal Bay |
| | John McKee P: 06 857 7833 C: 0274 415 763 (no coverage) F: 06 857 7834 E: mckiwicharture@xtra.co.nz Address: Blackhead Station, Longrange Road | CB VHF Radio in boat & house, cell phone, Council CD Radio in house, accommodation (20), toilets, showers, cooking etc. . |
| | Chip McHardy P: 06 8577 854 C: 027 2088 734 (no coverage) E: mmch@xtra.co.nz Address: Shearers Quarters, Gibraltar Road, Aramoana | Private telephone, 2 farm cottages, plus woolshed and campground ablutions and kitchen |
| Pourerere | Max and Sue Nathan (CD Managers) P: 06 8575185 C: 027 4464170 (no coverage) E: m.s.nathan@xtra.co.nz Address: 3382/4 Pourerere Beach Road RD1 Waipawa 4271 | CD Radio |
| | John Nation P/F: 06 857 3721 Address: Punawaitai Station Holiday accommodation, 3339 Pourerere Rd | Private telephone, 22 beds, cooking facilities, toilets, showers, can have tents / caravans. |

Boom Considerations

- A boom should be placed across the entrance of the estuary- upstream of the area subject to wave action, and estuary entrance is prone to shifting.
- Deflection booms outside of the estuary are unlikely to be effective along the coastline, unless the sea is calm, as the area is exposed and subject to rough seas.

Access

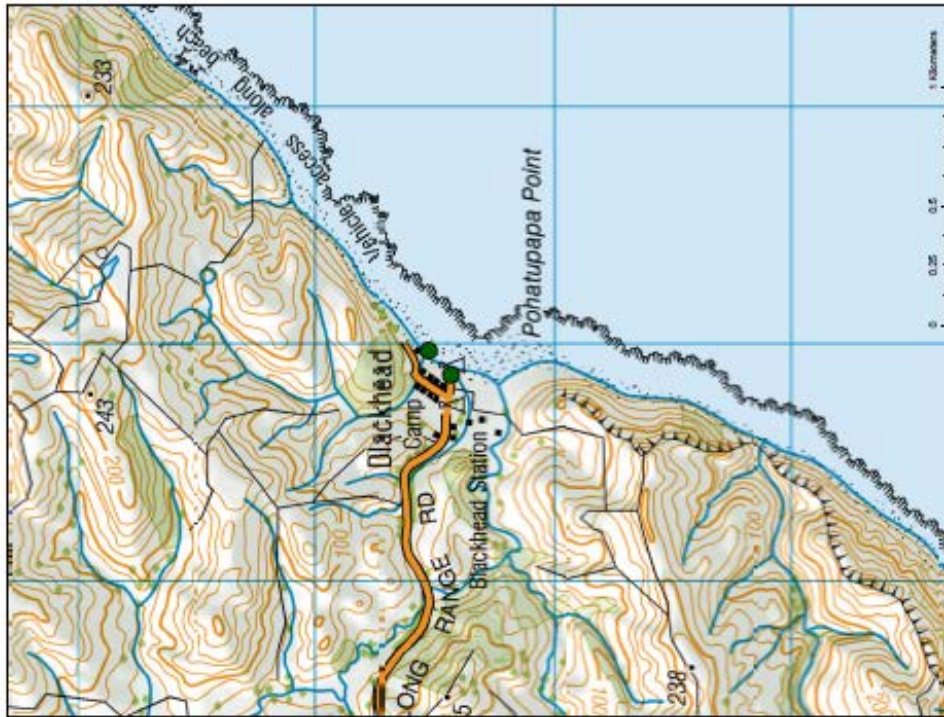
Vehicle:

- Access to the area is via public road (see topographical map) and along the coast.
- From Blackhead along the coast to Paoanui Point during most stages of the tide (note: driving on intertidal platforms is prohibited in normal conditions).
- Access south of Blackhead is prevented by rocky beach beginning approximately 200m south of Pohatupapa Point.
- The nearest airstrip is listed in Annex 1.

Boat:

- Limited access along the coast (the attached maps shown areas where 4WD vehicle access is possible at low tide).
- Local advice should be sought for any boating activities.
- Within the marine reserve launching possible within Stoney Bay and at the southern end of Shoal Bay.
- Beach launching area directly in front of the main road to the right if a tractor is available.
- Boat ramp at Pourerere.

| Preferred Response Options Matrix | | |
|--|-----------------------|--------------------|
| | Most Preferred | Feasibility |
| Containment and recovery | No | Low |
| On Water recovery | No | Low |
| Dispersant application | Yes | |
| Shoreline cleanup | Yes | High |
| Natural recovery | Yes | Medium |



Staging Area
 ● Grass

Mean Wave Height

Substrate Composition

Width of Beach

Slope of Beach Face

Beach Type

High

Moderate

Low

Sand

Mixed (sand/shells)

Gravel

> 15m

30-150m

< 30m

Steep

Moderate

Intermediate

Flat

Dispersive

Reflective

Reflective

Hawke's Bay Marine Oil Spill Contingency Plan
 Annex 7: Priority Areas for Protection

3. Blackhead





Hawke's Bay Marine Oil Spill Contingency Plan
Annex 7: Priority Areas for Protection

3a. Aramoana

Date: 26/11/2014 Document Name: 3a_Aramoana Document Path: M:\GIS\patial\Emergency Management\GIS\Spill\Manual_GIS\3a_Aramoana.mxd



- Staging Area**
- None
 - High
 - Sand
 - > 15km
 - Flat
 - Dispersive
 - Low
 - Gravel
 - < 5km
 - Steep
 - Reflective
- Microsite**
- Mixed (various)
 - 30-15km
 - Moderate
 - Intermediate
- Mean Wave Height**
- Substrate Composition**
- Width of Beach**
- Slope of Beach Face**
- Beach Type**



Hawke's Bay Marine Oil Spill Contingency Plan

Annex 7: Priority Areas for Protection

3b Pouterere - Paoanui Point



| | | | | |
|---|--|-------------------------|-------------|-------------|
| Site 4 | Mangakuri Beach | | Risk Rating | High |
| Description | Exposed coastline with sandy beach bounded in the north and south by rocky beach and intertidal platforms. | | | |
| Foreshore Types | <ul style="list-style-type: none"> • Sand and wave cut platforms • Rock | | | |
| Chart Number | NZ Topo | Coastal Plan Map | | |
| NZ 56 | BL39 | 120, 89 | | |
| Segments | | | | |
| At Risk Resources | | | | |
| Commercial | Not significant in regional perspective | | | |
| Tourism | Not significant in regional perspective | | | |
| Recreation | Not significant in regional perspective | | | |
| Wildlife | <ul style="list-style-type: none"> • All of the platforms support biologically diverse intertidal communities and are regionally significant wildlife habitats. • Key bird species include the eastern bar-tailed godwit, variable oystercatcher, white fronted tern, black shag, northern blue penguin (colony at north end of beach) and the threatened reef heron. NZ Dotterel • The inter-tidal platforms may support mussels, paua, rock lobster and kina, pupus (catseyes), chitons limpets and Karengo (Porphyra). • Between 85-100 species of plants, macroinvertebrates and fish have been recorded from each platform. | | | |
| Cultural | <ul style="list-style-type: none"> • This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan. | | | |
| Notes | | | | |
| Communications | <ul style="list-style-type: none"> • 2013 SCAT Comms Survey <ul style="list-style-type: none"> – Mobile Phone – Not assessed. – Handheld radio (5 watt) – Not assessed. • If an extensive oil spill response is likely to occur at this site, a radio network needs to be prioritised and established to enable comms between EOC and responders. This will involve establishing a portable repeater network to allow portable radios transmit out of this area. If this option is not available, council vehicles (25 watt Regional Fleetlink) may be able to be positioned at high points to relay information back to Council reception. • Patchy link from Council vehicle (25 watt Regional Fleetlink) to Council reception. • Communication via telephone from Mangakuri Station (see Annex 3). | | | |
| Actions | | | | |
| Protection of the intertidal platforms should take priority over protection of beaches: | | | | |

- Deflection booms are unlikely to be effective along the coastline, unless the sea is calm.
- Prevention of oil reaching the beach or the platforms may best be achieved by the use of dispersants offshore.
- Shallow water over the platforms may restrict the use of dispersant.

| Key Contacts | Contact Info | Facilities |
|---------------------|---|---|
| Mangakuri | Mark and Vicky Williams (CD Managers) E: black.dog@farmside.co.nz Address: Blackdog Cottage, Mangakuri Beach RD 14 Havelock North 4295 | CD Radio & satellite internet connection. |
| | Bruce D'Ath (Manager) P/F: 06 858 4280 Mark Williams P: 06 858 4947 C: 0274 756 560 (no coverage) Address: Mangakuri Station, Mangakuri Rd. | House on the beach, and telephone at the station house, accommodation approx. 9, toilets, showers available, cooking facilities. |
| | Joanne & Max Chatfield P: 06 858 4308 Address: | VHF marine set at house and in boat |

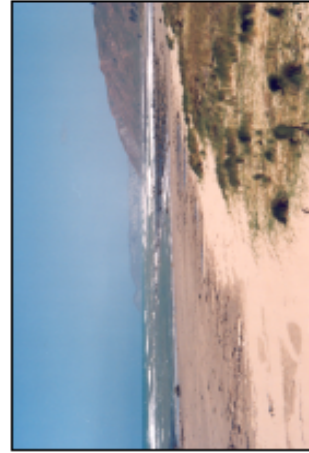
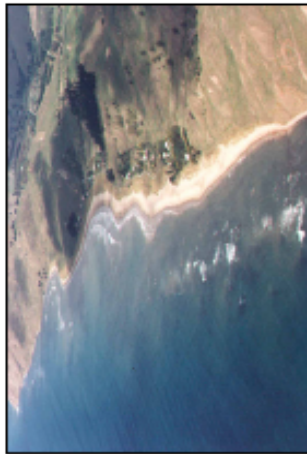
Boom Considerations

- Exposed coastline reducing the effectiveness of booms.

Access

- Access to the area is via public road (Williams Rd off Mangakuri Rd, see topographical map).
- Access along the beach is confined by the rocky shoreline and the intertidal platforms and driving on these platforms is prohibited in normal conditions.
- The nearest airstrip is listed in Annex 1.
- No access along the coast.

| Preferred Response Options Matrix | | |
|--|-----------------------|--------------------|
| | Most Preferred | Feasibility |
| Containment and recovery | No | Low |
| On Water recovery | No | Low |
| Dispersant application | Yes | |
| Shoreline cleanup | Yes | High |
| Natural recovery | Yes | Medium |



Staging Area

- Mean Wave Height
- Substrate Composition
- Width of Beach:
- Slope of Beach Face:
- Beach Type:

- High
- Sand
- >150m
- Flat
- Dispersive

Grass

- Moderate
- Mixed (Grass/Gravel)
- 30-150m
- Moderate
- Intermediate

- LOW
- Gravel
- <30m
- Steep
- Reflective

Hawke's Bay Marine Oil Spill Contingency Plan

Annex 7: Priority Areas for Protection

4 Mangakuri



| | | | |
|--------------------------|---|-------------------------|-------------|
| Site 5 | Kairakau Beach | Risk Rating | High |
| Description | Exposed coastline with sandy beach adjacent to Kairakau baches. The Kairakau intertidal platform begins immediately south of the mouth of the Mangakuri River and extends 2.5 km south along the coast to Mangakuri. Included in this area are offshore the Hinemahanga Rocks including Karamea (Red) Island which is a nationally significant geological site. Island is privately owned | | |
| Foreshore Types | <ul style="list-style-type: none"> Sand and wave cut platforms | | |
| Chart Number | NZ Topo | Coastal Plan Map | |
| NZ 56 | BL39 | 120, 88 | |
| Segments | | | |
| At Risk Resources | | | |
| Commercial | Not significant in regional perspective | | |
| Tourism | Not significant in regional perspective | | |
| Recreation | Recreational paua diving and crayfishing | | |
| Wildlife | <ul style="list-style-type: none"> All of the platforms support biologically diverse intertidal communities and are regionally significant wildlife habitats. Key bird species include the eastern bar-tailed godwit, variable oystercatcher, white fronted tern, black shag, northern blue penguin and the threatened reef heron. NZ Dotterel To date, 89 species of plants, macroinvertebrates and fish have been recorded in this area. Off the coast the Hinemahanga rocks are part of a reef system that forms a chain of small islets between the mouth of the Mangakuri River and the mouth of the Te Apiti stream. The rocks are a nationally significant geological site. Red Island has a few seals and penguins only. The inter-tidal platforms may support mussels, paua, rock lobster and kina, pupus (catseyes), chitons limpets and Karengo (Porphyra). In winter (April – Sept) the offshore rocky stacks provide a haul-out area for NZ fur seals. | | |
| Cultural | <ul style="list-style-type: none"> This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan. | | |
| Notes | | | |
| Communications | <ul style="list-style-type: none"> 2013 SCAT Comms Survey <ul style="list-style-type: none"> Mobile Phone – Not assessed. Handheld radio – Not assessed. If an extensive oil spill response is likely to occur at this site, a radio network needs to be prioritised and established to enable comms between EOC and responders. This will involve establishing a portable repeater network to allow portable radios transmit out of this area. If this option is not available, council vehicles (25 watt Regional Fleetlink) may be able to be positioned at high points to relay information back to Council reception. | | |

- Communication via Council vehicle (25 watt Regional Fleetlink) to Council reception is possible. Council vehicle Radio Telephones will operate from this area from high vantage points and it is possible to pass messages from hand held sets to vehicle or from vehicle to vehicle or from vehicle to local telephones which can then be relayed to the Council.
- Communication via telephone from permanent residences and on Beach road (see Annex 3).

Actions

Protection of the intertidal platforms should take priority over protection of the Hinemahanga rocks or the beach:

- Deflection booms are unlikely to be effective along the coastline, unless the sea is calm, as the area is exposed and subject to rough seas.
- Prevention of oil reaching the beach, the platforms or the Hinemahanga rocks may best be achieved by the use of dispersants offshore.
- Shallow water over the platforms may restrict the use of dispersants

| Key Contacts | Contact Info | Facilities |
|--------------|--|------------|
| Kairakau | <p>Mo and Viv Pearse (CD Managers) P: 06 8584251 E: clareview@xtra.co.nz Address: 1229 Kairakau Road, Elsthorpe 4295</p> | CD Radio |

Boom Considerations

- Exposed coastline reducing the effectiveness of booms.

Access

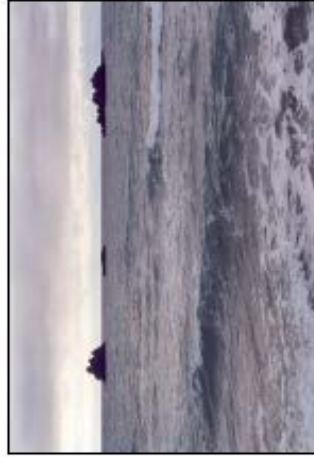
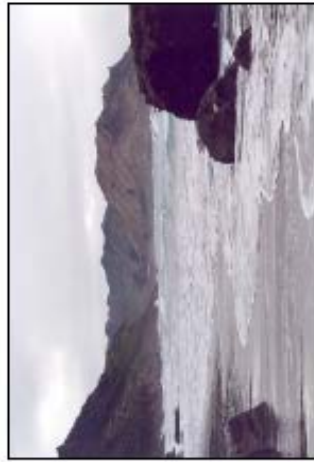
- Access to the area is via Elsthorpe and Kairakau Road (see topographical map).
- Access along the coast to the north and south of the beach is prevented by rocky platforms and cliffs on the high tide (see attached photos).
- Local advice should be sought for any boating activities.
- Access may be possible through farm land if permissions are gained.
- There is a beach launching area directly in front of the motorcamp (if a tractor is available).
- The nearest airstrips is listed in Annex 1.

| Preferred Response Options Matrix | | |
|-----------------------------------|----------------|-------------|
| | Most Preferred | Feasibility |
| Containment and recovery | No | Low |
| On Water recovery | No | Low |
| Dispersant application | Yes | |
| Shoreline cleanup | Yes | High |
| Natural recovery | Yes | Medium |



- Slipway Area**
- Grass
 - Mean Wave Height
 - Substrate composition
 - Width of Beach
 - Slope of Beach Face
 - Beach Type

- High
 - Sand
 - >150m
 - Flat
 - Dissipative
- Rock/ribs
 - Road (asphalt)
 - 30-150m
 - Road/rails
 - Intermediate
- Low
 - Gravel
 - <30m
 - Sleep
 - Reflective



Hawke's Bay Marine Oil Spill Contingency Plan
Annex 7: Priority Areas for Protection

5 Kairakau



| | | | | |
|--------------------------|---|-------------------------|-------------|---------------------|
| Site 6 | Waimarama to Ocean Beach | | Risk Rating | Med High |
| | Motu O Kura (Bare Island) | | | |
| Description | <p>A long sandy beach & dune system runs south from Cape Kidnappers to Waimarama, and large areas of sandy seafloor occur between the coast and Motu O Kura (Bare Island) which is situated 1.5 km off the coast.</p> <p>The coastal platform south of Waimarama, Cray Boulders (which cover the beach between Te Wainohu and the sandy beach of Cray Bay) are nationally significant geological sites. Island is privately owned and is Maori burial site.</p> <p>Small isolated reefs are found off the beach. South of Waimarama an inter-tidal rocky shore of irregular width runs along the base of coastal cliffs. The entire area is an important Maori traditional fishery.</p> | | | |
| Foreshore Types | <ul style="list-style-type: none"> • Sand • Rock | | | |
| Chart Number | NZ Topo | Coastal Plan Map | | |
| NZ 57 | BL39 | 119, 80-87 | | |
| Segments | | | | |
| At Risk Resources | | | | |
| Commercial | Not significant in regional perspective | | | |
| Tourism | <ul style="list-style-type: none"> • Minor tourism ventures operate on or near these beaches | | | |
| Recreation | <ul style="list-style-type: none"> • Waimarama is the most significant recreational beach in Hawkes Bay, used for launching boats, fishing, surfing, swimming etc. Motu o Kura attracts significant paua, rock lobster and spear divers throughout the year. | | | |
| Wildlife | <ul style="list-style-type: none"> • Motu O Kura supports nesting colonies of seabirds (spring-summer), including a nationally significant breeding population of northern blue penguin (750-1000 pairs recorded in 1988) and 10-20 pairs of sooty shearwaters. • It is also a NZ fur seal winter haulout area (April to Sept). • The inter-tidal rocky shore may support mussels, paua, rock lobster and kina, pupus (catseyes), chitons limpets and Karengo (Porphyra). • Moderate numbers of gulls, shags and oystercatchers use the beach areas. | | | |
| Cultural | <ul style="list-style-type: none"> • This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan. | | | |
| Notes | | | | |
| Communications | <ul style="list-style-type: none"> • 2013 SCAT Comms Survey – Assessed from beach Waimarama Beach <ul style="list-style-type: none"> – Mobile Phone – Telecom 3G, Vodafone 3G, 2 Degrees – Handheld radio – CD ES1, M62, M82, Regional Fleetlink • 2013 SCAT Comms Survey – Assessed from beach Ocean Beach <ul style="list-style-type: none"> – Mobile Phone – Telecom 3G – Handheld radio – Not assessed • Communication via telephone from permanent residences (see Annex 3). | | | |

| | | |
|--|---|---|
| Actions | | |
| <p>Protection of Motu O Kura and inter-tidal platforms should take priority over the other areas:</p> <ul style="list-style-type: none"> • Deflection booms are unlikely to be effective along the coastline or around Motu O Kura coastline, unless the sea is calm, as the area is exposed and subject to rough seas. • Shallower water between Motu O Kura (Bare Island) and the shore may restrict the use of dispersants. • Prevention of oil reaching areas above may best be achieved by the use of dispersants offshore. | | |
| Key Contacts | | |
| | Contact Info | Facilities |
| Waimarama | <p>Michelle Brightwell P: 06-874 6813 F: 06-874 6816 E: michelle.bright@xtra.co.nz Address: Waimarama Seaside Resort, 30Harper Road.</p> | Tent facilities. Toilets, showers, cooking facilities cater for approx. 100. Surf life saving tower would provide a good observation point. |
| Boom Considerations | | |
| <ul style="list-style-type: none"> • Exposed coastline reducing the effectiveness of booms. | | |
| Access | | |
| <p>Vehicle:</p> <ul style="list-style-type: none"> • Access to the area is via Ocean Beach Road to Ocean Beach and Waimarama Road to Waimarama (see topographical map). • Access along the beach is good for 4WD vehicles at low tide. • Access to northern Ocean Beach via Haupouri Station and farm tracks give access to rear dunes at northern Ocean Beach. <p>Boats:</p> <ul style="list-style-type: none"> • Boat access via two launching ramps at Waimarama and off beach at Ocean Beach. • Small boat access only to Bare Island in calm conditions, and the Island is very rocky. Karamea (Red Island) can be accessed at low tide on foot. • The nearest airstrip is listed in Annex 1. | | |
| Preferred Response Options Matrix | | |
| | Most Preferred | Feasibility |
| Containment and recovery | No | Low |
| On Water recovery | No | Low |
| Dispersant application | Yes | |
| Shoreline cleanup | Yes | High |
| Natural recovery | Yes | Medium |



Sloughing Area

Grass

None

- High Wave Height
- Substrate Composition
- Width of Beach:
- Slope of Beach Face
- Beach Type
- High
- Seal
- >100m
- Flat
- Disaggregative
- Low
- Gravel
- <30m
- Sleep
- Reflective
- Moderate
- Mixed sand/shells
- 30-150m
- Moderate
- Intermediate

Hawke's Bay Marine Oil Spill Contingency Plan
Annex 7: Priority Areas for Protection

6. Waimarama





- Staging Area**
- Gravel (Hardland)
- Mean Wave Height**
- High
 - Sand
 - >150m
- Substrate Composition**
- 30-150m
 - Moderate
 - Intermediate
- Width of Beach**
- <50m
 - Strip
 - Reflective
- Slope of Beach Face**
- Flat
 - Disruptive
- Beach Type**
- Low
 - Gravel
 - Gravel
 - <50m
 - Strip
 - Reflective



Hawke's Bay Marine Oil Spill Contingency Plan

Annex 7: Priority Areas for Protection

6a. Ocean Beach



| | | | |
|--------------------------|---|-------------------------|---------------|
| Site 7 | Cape Kidnappers and Rangaiika | Risk Rating | V.High |
| Description | Between Clifton and the Cape the coast is backed by almost vertical cliffs. South of the Cape to Flatrock the coast is backed by steep hills that descend to gravel beaches. Rangaiika is a predominantly sandy beach 4.25 km long, with a sand dune hinterland, backed by high cliffs. This dune system has been identified as a recommended area for protection under the Protected Natural Areas Programme (RAP 2; Maxwell et al., 1993). The intertidal area is composed of boulder fields resting on siltstone platforms. | | |
| Foreshore Types | <ul style="list-style-type: none"> • Cliffs and wave cut platforms • Cliffs and Sand • Sand | | |
| Chart Number | NZ Topo | Coastal Plan Map | |
| NZ 57 & NZ 561 | BK40 | 118, 79 | |
| Segments | | | |
| At Risk Resources | | | |
| Commercial | <ul style="list-style-type: none"> • There is a moderate rock lobster fishery in this area, which does contribute to HB economy. | | |
| Tourism | <ul style="list-style-type: none"> • There are two main tourist operators who takes many thousands of tourists to visit this site every year. If a spill response needs to stop tourist ventures to this area, strong consideration should be given to using these operators to transport responders and equipment to the operational area. Their staff have good local knowledge. | | |
| Recreation | <ul style="list-style-type: none"> • Most recreation is linked to the Tourism aspect of the site. | | |
| Wildlife | <ul style="list-style-type: none"> • The waters surrounding the Cape are important preening and washing areas for gannets from the internationally significant Black Reef and Cape Kidnappers colonies. The cliffs between Clifton and Cape Kidnappers have internationally significant geological and scenic values. • The Black Reef and Saddle gannet colonies are Nature Reserves, and the Plateau colony is a Government Purpose Reserve (Protection of Gannets). • In addition to the Black Reef, Saddle and Plateau gannet colonies, a fourth colony has established just above the beach on the southern side of the Cape. These represent some of the world's most accessible gannet colonies, and each year the Black Reef and Plateau colonies are visited by thousands of people (Department of Conservation, 1993). There are minimal gannets in the area over winter (May to August). Terns, shags, gulls and oystercatchers are also present and blue penguins breed along some parts of the coast. Recently the New Zealand dotterel have been recorded breeding near Rangaiika as a result of the predator control at the Cape Sanctuary. • The inter-tidal rocky shoreline may support mussels, paua, rock lobster and kina, pupus (catseyes), chitons limpets and Karengo (Porphyra). • There is a NZ fur seal haul-out area at the tip of the mainland Cape occupied all year round. | | |

Cultural

- This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan.

Notes

Communications

- 2013 SCAT Comms Survey
 - Mobile Phone – Not assessed.
 - Handheld radio – No assessed.
- Mobile phones will work on the northern side of Cape Kidnappers, and high up above the southern coast, but generally do not work lower down on the beach south of the cape.
- If an extensive oil spill response is likely to occur at this site, a radio network needs to be prioritised and established to enable comms between EOC and responders. This will involve establishing a portable repeater network to allow portable radios transmit out of this area. If this option is not available, council vehicles (25 watt Regional Fleetlink) may be able to be positioned at high points to relay information back to Council reception.
- Communication via between Council vehicle to Council (25 watt Regional Fleetlink) reception is patchy to the South of the Cape but good to the North of the Cape. Council vehicle Radio Telephones can operate with Council Reception from the area to the south of the Cape but only from high vantage points.
- DOC has telephone at cottage at Cape and good radio coverage.
- Marine VHF is another means of communication – Duplex Channels 82, 62 will often not trip the repeater when under the signal shadow of the cliffs, but other simplex channels should transmit from the beach to the EOC using handhelds.
- Previous exercises have identified that positioning a portable repeater at a high point at the Cape provides improved communication between field team and the Council EOC. A temporary repeater installed overlooking Black Reef provided better communications. Access to these high points is via 4WD vehicle through Cape Kidnappers Station.



A temporary aerial Pole installed overlooking Black Reef provided better communications between field teams and HBRC EOC in a exercise April 2008

Actions

Protection of the gannet preening and washing areas will take priority.

- Deflection booms are unlikely to be effective along the coastline, unless the sea is calm, as the area is exposed and subject to rough seas.

- Prevention of oil reaching the sensitive areas listed above may best be achieved by the use of dispersants offshore. There is deeper water to the southern/eastern side of the cape and more suited to dispersant use. Between Clifton and the cape, the water is relatively shallow.
- Pre-clean of the beach should be considered and shore clean up if required.

Protection of gannet colonies

- An option to protect the gannet colonies is to use water based hazing techniques on off-shore feeding areas of water threatened by the oil slick. This is best done using boats travelling away from the spill to corral birds/gannets away from the oil. Birdfrite shots and loud speakers have been trialed and are deemed as ineffective. But depending on the time of the year, there are a number of different factors involved; an appropriate response strategy will need to be developed with DOC at the time.
- The DoC shelter on the beach at the Cape is a preferred field stabilization site albeit there is limited water supply and no power but these are not crucial at a stabilization site. Following capture oiled wildlife needs to be stabilized within an hour of capture to maximize survival before then travelling to the holding facility. Access to the DoC shelter could be with Quad and trailer via the track that leads up to the DoC Range cottage.
- Several large heavy duty tarpaulins would make the field stabilization site better in bad weather and should be rapidly deployed with the MNZ Blue Box to the site.

Protection of seal colonies

- Whilst protection of seals is a lower priority due to difficulties in managing seals and their ability now increasing numbers around the coastline, consideration could be made to fencing in some seals that are in discrete areas that can be easily fenced and contained. These opportunities will be limited and not use much needed resources.

| Key Contacts | Contact Info | Facilities |
|---------------------|--|--|
| Clifton | Bob Pollack (Manager) P: 06 875 0263 C: 027 407 8107 F: 06 875 0265 E: cliftoncamp@xtra.co.nz Address: Clifton Motor Camp | Telephone , accommodation for approx 23, kitchen, toilets, showers, camp sites for tents and caravans |

Boom Considerations

- Exposed coastline reducing the effectiveness of booms.

Access

Set up a Forward Operating Base at Clifton. This could be at the Clifton Marine Club or on Clifton Stations land near the cafe.

Vehicle:

- Access along beach from Clifton to the Cape is restricted to 4WD at low tide (dependant on slips and sand movement) or via the inland private road through Cape Kidnappers Station which is controlled by a locked gate - security code has to be obtained before entry.
- Gannet Beach Adventures (commercial tractor-trailer tours) would also be able to provide access along the beach noting it will take 1½ hours from Clifton to Black Reef on a good day (contact details in local phone book). Consider using inflatables to get teams to spot quicker as well as the overland teams.

- Access down onto the beach from this road is limited to 4WD or quad bikes at two points only, which are Flat Rock and DOC visitor shelter (rest hut).
- Gannet Safaris (commercial tours) can transport teams through the farm.
- Note not all 4WD access tracks are well maintained. Care will be required if tracks are used and may be weather dependant.
- At the southern end of the beach access from Ocean Beach is impeded by a bluff – can only be passed at low tide with flat seas in n/westerly weather is best – only on foot.

Boats:

- Small boats, with floating trailers, may be able to launched from Clifton Marine Club, but this ramp may be not available in the future due to erosion. Otherwise vessels will need to depart from Napier.
- Consider using beach launched inflatable’s to get teams to area to do surveys quicker or at higher tides.

Aircraft:

- A minimum flying level of 600m (2000 ft) above mean sea level, established to prevent disturbance to the gannets, covers the reserve (Department of Lands and Survey, 1984; Department of Conservation, 1993). DoC can have this uplifted temporarily through CAA at short notice.
- The nearest airstrip is listed in Annex 1. There may be difficulty viewing the oil spill and assessing the whereabouts of birds, numbers of seals etc on the first flight due to the flying restrictions.
- Consider using drones to aid surveys.

| Preferred Response Options Matrix | | |
|--|-----------------------|--------------------|
| | Most Preferred | Feasibility |
| Containment and recovery | No | Low |
| On Water recovery | No | Low |
| Dispersant application | Yes ³ | High |
| Shoreline cleanup | Yes | High |
| Natural recovery | Yes | Medium |

³ On eastern/southern side where there is deeper water offshore.



Hawke's Bay Marine Oil Spill Contingency Plan - May 2004

Annex 7: Priority Areas for Protection

7. Cape Kidnappers



- Mean Wave Height
 - Substrate Composition
 - Width of Beach
 - Slope of Beach Face
 - Beach Type
- High
 - Low
 - Sand
 - Gravel
 - >150m
 - <30m
 - Flat
 - Steep
 - Discontinuous
 - Reflective
- Highly erodible
 - Stable
 - 30-100m
 - 100-200m
 - Intermediate
 - Reflective
- Low
 - Gravel
 - <30m
 - Steep
 - Reflective

| | | | |
|---|--|-------------------------|-------------|
| Site 8 | Tukituki River Mouth (Haumoana) | Risk Rating | High |
| Description | This is a small estuary of approximately 43 ha formed behind an unstable shingle river mouth bar, and surrounded by flat, low-lying alluvial plain. | | |
| Foreshore Types | • Gravel/shingle | | |
| Chart Number | NZ Topo | Coastal Plan Map | |
| NZ 56 | BK39 | | |
| Segments | | | |
| At Risk Resources | | | |
| Commercial | Regionally Minimal | | |
| Tourism | Regionally Minimal | | |
| Recreation | <ul style="list-style-type: none"> • This estuary is used for fishing as well as some on water recreation, but it is not significant. Surfing occurs on the river mouth bar when there is a good swell. • The area is used by a reasonable number of cyclists and walkers due to the cycle ways nearby. | | |
| Wildlife | <ul style="list-style-type: none"> • The estuary contains large numbers of gulls, terns and shags, with smaller numbers of wading birds, and the occasional white heron roosts here during winter. Spotless crane and the endangered Australasian bittern reside in the estuary's backwaters and Grange Creek. White fronted terns and black-bill gulls nesting site. NZ Dab chick feed in the estuary (nationally vulnerable species) • The estuary and offshore area continue to support important traditional fisheries for kahawai, flatfish, whitebait and smelt. Important inanga spawning sites are situated within the coastal marine area at the mouth of Grange Creek (see photo on topo map), and in a drain on the true left bank of the river (Rook, 1993). • The river mouth and estuary are vital for the passage of native diadromous fish between the sea and freshwater habitats higher in the catchment. | | |
| Cultural | <ul style="list-style-type: none"> • Recreational/Traditional Maori fishery, including mussels beds and flounder, in gravel zone (Clive Hard) off Maraetotara. | | |
| Notes | | | |
| Communications | <ul style="list-style-type: none"> • 2013 SCAT Comms Survey <ul style="list-style-type: none"> – Mobile Phone – Telecom 3G, Vodafone 3G, 2 Degrees – Handheld radio – CD ES1, CD ES133, M62, M82, Regional Fleetlink | | |
| Actions | | | |
| <p>If possible oil should be prevented from washing into the estuary formed behind the shingle river mouth bar. Oil may over top the bar during stormy conditions or may enter via the mouth on the incoming tide.</p> <ul style="list-style-type: none"> • A deflection boom is unlikely to be effective along the coastline, unless the sea is calm, as the area is exposed and subject to rough seas. | | | |

- However, a boom would be effective inside the estuary as the bar absorbs wave energy from the sea and conditions are generally calm. Watch for strong currents on an ebb tide.
- Dispersants are not recommended to be used in the Estuary .
- The depth of water in the estuary limits range of boats that may be used.
- Prevention of oil reaching the mouth may best be achieved by the use of dispersants offshore.

| Key Contacts | Contact Info | Facilities |
|--|--|--------------------|
| Tukituki | | |
| Boom Considerations | | |
| <ul style="list-style-type: none"> • Exposed coastline reducing the effectiveness of booms. | | |
| Access | | |
| Boats | <ul style="list-style-type: none"> • Access to the southern side of the estuary can be made from the beach and via the Gravel extraction works adjacent to the Mill Road Bridge. A HBRC key will be required. • Access from the North is also shown on the topographical map. • Vehicle access along the beach is possible for 4 WD vehicles and all terrain cycles. • The depth of water in the estuary limits range of boats that may be used. | |
| Preferred Response Options Matrix | | |
| | Most Preferred | Feasibility |
| Containment and recovery | Yes | High |
| On Water recovery | No | Medium |
| Dispersant application | No | |
| Shoreline cleanup | Yes | Medium |
| Natural recovery | No | Medium |



- Staging Area**
- Oravel (Maraband)
 - None
- Mean Tides Height**
- High
 - Sand
 - >15km
- Substrate Composition**
- Moderate
 - Flood
 - 30-150m
 - Moderate
 - Intermediate
- Width of Beach**
- Moderate
 - Intermediate
- Slope of Beach Face**
- Flat
 - Dispersive
- Beach Type**
- Low
 - Gravel
 - <30m
 - Steep
 - Reflective



Hawke's Bay Marine Oil Spill Contingency Plan - May 2004

Annex 7: Priority Areas for Protection

8. Tukituki River Mouth (Haumoana)



| | | | |
|--------------------------|--|-------------------------|---------------|
| Site 9 | Waitangi Estuary | Risk Rating | V.High |
| Description | This is a large tidal area formed at the confluence of the Clive, Ngaruroro and Tutaekuri Rivers, and enclosed by an unstable shingle river mouth bar. | | |
| Foreshore Types | • Gravel/shingle | | |
| Chart Number | NZ Topo | Coastal Plan Map | |
| NZ 56 | BK39 | | |
| Segments | | | |
| At Risk Resources | | | |
| Commercial | Regionally Minimal | | |
| Tourism | Regionally Minimal | | |
| Recreation | <ul style="list-style-type: none"> • The fisheries values of the estuary are classified as nationally significant. High recreational use area, both by fishers and water craft users. | | |
| Wildlife | <ul style="list-style-type: none"> • The estuary, bar and associated wetlands are important nesting, roosting and feeding areas for many species of wetland and coastal birds. White fronted terns and black billed gulls nest on the bar. Spotless crane and the endangered Australasian bittern occur in marginal rush and adjoining wetland habitats. Migrant waders occur in small numbers. • Muddy Creek is a small tributary of the estuary. Its lower reaches, including those adjoining the coastal marine area, are a designated Wildlife Refuge. This area contains important coastal wetland habitat and supports a small population of Australasian bittern. • The Estuary contains small areas of mudflat, saltmarsh, reed and succulent herb swamp. The estuary, including the Clive River, have been classified as a nationally important fisheries habitat. • One of the largest inanga spawning sites so far identified in Hawke's Bay is situated in the Clive River, just above the coastal marine area boundary (Rook, 1993). Man made spawning areas have recently been created on the western side of the lagoon. Larvae hatching from these sites are dependent on the estuary for access to and from the sea. Many other species of diadromous native freshwater fish are dependent on the estuary for access to Lake Poukawa, and the Ngaruroro and Tutaekuri River catchments. | | |
| Cultural | <ul style="list-style-type: none"> • This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan. | | |
| Notes | | | |

- Communications
- 2013 SCAT Comms Survey – Assessed from beach Waimarama Beach
 - Mobile Phone – Telecom 3G, Vodafone 3G, 2 Degrees
 - Handheld radio – CD ES1, CD ES133, M62, M82, Regional Fleetlink

Actions

Priority is to contain the oil at the lower end of the estuary. Oil may enter the estuary via the mouth on the incoming tide:

- One possible option is to physically close the river mouth (HBRC Works Group staff could organise this), but this would only be possible if the conditions were right.
- However, a deflection / containment boom would be effective inside the mouth as the bar absorbs wave energy from the sea and conditions are generally calm.
- Dispersants are not recommended to be used in the Estuary.
- Prevention of oil reaching the mouth may best be achieved by the use of dispersants offshore.

Key Contacts

| | Contact Info | Facilities |
|--------------------------------|--------------|------------|
| Clive Ngauroro Tutaekuri | | |

Boom Considerations

- Exposed coastline reducing the effectiveness of booms in the open coast
- River current may restrict the placement of booms in some areas.

Access

- Access to the Estuary is shown on the topographical map (over the page).
- A key may be required from the Hawke’s Bay Regional Council (phone 0-6-835 9200) to unlock some of the gates on the road adjacent to the south side of the Clive River or for access along the top of the stopbanks.
- From the North, vehicle access is via Colenso Memorial.
- Vehicle access along the beach is possible for 4WD vehicles and all terrain cycles.

Boats

- Depth of water in parts of the estuary limits the use of large vessels.

Preferred Response Options Matrix

| | Most Preferred | Feasibility |
|--------------------------|----------------|-------------|
| Containment and recovery | Yes | High |
| On Water recovery | No | High |
| Dispersant application | No | |
| Shoreline cleanup | Yes | Medium |
| Natural recovery | No | Medium |



Hawke's Bay Marine Oil Spill Contingency Plan

Annex 7: Priority Areas for Protection



9. Waitangi Estuary

| | | | | |
|--------------------------|--|-------------------------|-------------|---------------------------|
| Site 10 | Napier Port/Town Reef Napier Port Risk Rating Pania Reef Risk Rating | | Risk Rating | High Med |
| Description | <p>The Napier Port is situated adjacent to the base of Bluff Hill. The Port offers worldwide shipping links and is served by a range of liner services and charter vessels. The Port area is the main oil spill threat site in Hawke’s Bay and for this reason the Regional Council has chosen to locate the region’s oil spill response equipment at the Port. The attached topographical map and photos outline the position of the Port and visually describe the Port. See Section 4.1 for descriptions and diagrams of the oil transfer sites at the Port, and a map of the Port.</p> <p>The most significant wind waves at the Port entrance are generated by winds in the north west quadrant. They would render boom deployment in the harbour entrance extremely difficult but possibly unnecessary as they would hold the surface water in the harbour. A sea breeze on the other hand would very rapidly push the surface water from the harbour. However, given the short fetch of the Swinging Basin wave height would be minimal, allowing boom deployment.</p> <p>Surge at the entrance is directly proportional to the “lift” on swell height particularly swell from north-east to south-east. Recordings show that 50 percent of the time the swell height is 0.5 metres or less. Surge in the basin would be a significant factor on the comparatively short period of time that it is present. Records indicate that there is little correlation between surge/swell and the prevailing wind.</p> <p>Tidal streams are, at the port entrance, northeast on flood and southwest on ebb up to a maximum rate of 1.5 knots. However, observations over the years show the prevailing wind to be a dominant factor over this flow, completely masking it at times. A persistent easterly wind will create a surface water circulation anticlockwise off East Pier resulting in a strong set across the breakwater harbour channel against the wind.</p> <p>Tidal streams in the Swinging Basin are minimal, hence the dominant factors for this area are wind and surge.</p> | | | |
| Foreshore Types | <ul style="list-style-type: none"> • Rock • Man made | | | |
| Chart Number | NZ Topo | Coastal Plan Map | | |
| NZ 56 | BJ39 | | | |
| Segments | | | | |
| At Risk Resources | <p>Commercial The port is one of Hawke’s Bay’s most important commercial assets and the most threatened by an oil spill.</p> <p>Tourism The Napier Port attracts some 50-60 cruise ships per year which is becoming a significant factor in our economy.</p> <p>Recreation South of the Port main gate is a recreational area known as Town Reef used for harvesting of mussels, and also targeted by recreational and commercial rock lobster fisheries. There is a north moving current on Town Reef which is some</p> | | | |

| | |
|----------|--|
| | weather condition split with the main flow heading past the port breakwater and the smaller current moving up towards Wairoa up the outside of Pania Reef. |
| Wildlife | Habitat and nesting area for northern blue penguin within and adjacent to Port. |
| Cultural | This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan. |

Notes

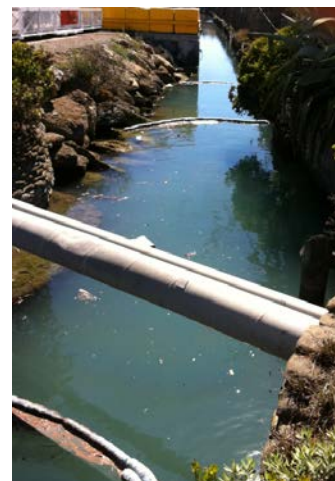
- Communications
- The Port has a good communication system in place which should be utilised.
 - Telephone, computer and fax linkages with the Council should be used.
 - Communication via Council vehicle to Council reception is good.
 - Cellphone coverage in this area.
 - Use CD ES 133 in port to communicate back to EOC and other work sites.
 - The hill blocks the marine VHF and CD ES1 so Handheld radios do not generally trip the repeaters for these. Therefore use simplex channels within the port.

Actions

Any spill event over 100 litres, will automatically generate a full response from the Incident Management Team, Pollution Response van and trailer and the Coastguard vessel CK Rescue. The response team can then be sized appropriately after proper assessment and development of an Incident Action Response Plan.

If possible oil should be prevented from leaving the Swinging Basin and Berths area:

- There is 300m of rapid deployment boom stored on the end of No. 4 wharf to be used to close the port entrance. This boom can be successfully deployed using the Napier Port Survey boat.
- If a lot of oil is within the port, the breakwater channel that begins at the corner between the tugboat wharf and No. 2 Wharf South should be protected, depending upon conditions and the size of the event options are:
 - a truck load or two of straight haul gravel being tipped into the drain. This is able to be delivered to the port within half an hour, then as clean up is finished it can be dug out.
 - lengths of sorbent booms can be placed at intervals along the drain, but these can be difficult to set if the tide is in, or with sea water surge during tide change.
- It is possible to use dispersants in the area.
- Any oil contained by booms should be collected and stored awaiting disposal for recycling.
- Check for oil that is trapped under the wharves before terminating a response operation. Jet boat propulsion can be used to move oil from under exposed piled wharves. This technique has been successfully tested in an exercise.
- Prevailing weather conditions, quick response required to prevent oil leaving the Port and pile wharves which restrict boom deployment by boat.



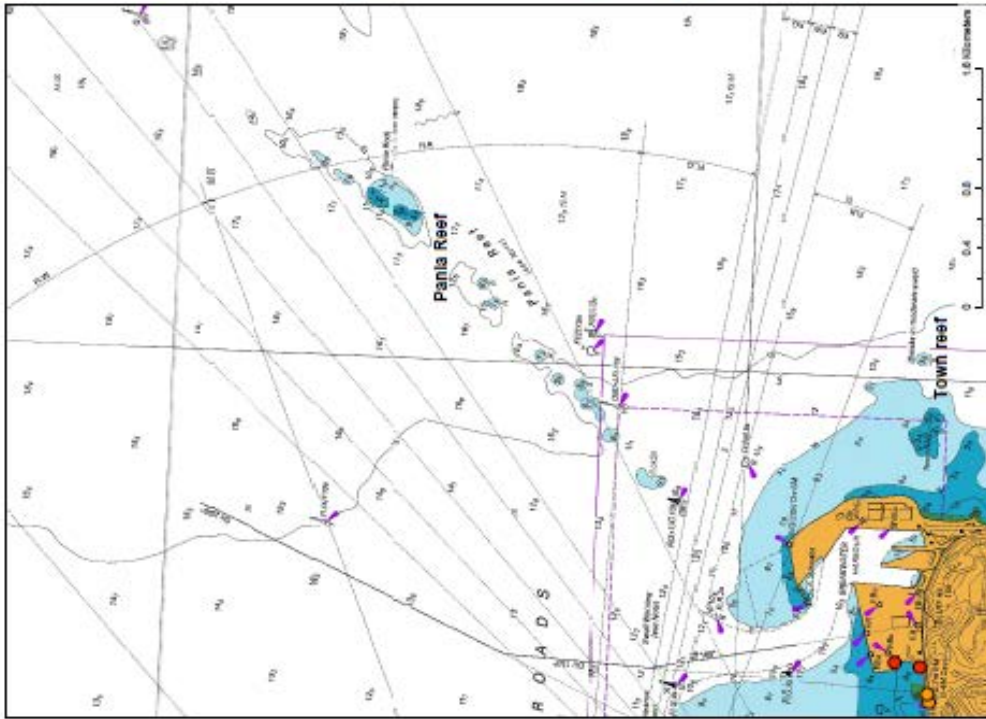
If significant amounts of oil are outside the port, but not in the port yet, the entrance to the port can be boomed off to reduce the impact of the oil.

Note this action shall not take priority over protecting and booming the Napier Inner Harbour/Estuary. Protection of the International Significant Wetland takes priority over the commercial interests of the port. The 300m of rapid deployment should be used to protect the Napier Inner Harbour if timing doesn't allow for 'boxed' booms to be transported to the inner harbour in time.



The preferred response option (and natural collection point) in the Napier Port for collection of spilt oil is the corner of No. 2 Wharf. The booms should be set appropriately to protection the breakwater channel and the rock nests under the wharf, and the collection point should be placed approximately at the point of the orange dot. This may require berthing the tugs elsewhere.

| Key Contacts | Contact Info | Facilities |
|---|-----------------------|--------------------|
| Napier Port | 04 833 4400 | Refer Annex 1 |
| Boom Considerations | | |
| Access | | |
| <ul style="list-style-type: none"> • There is good access around the Port. However, access from the wharfs/reclamations down to the water does impose some restrictions. • Pile wharves restrict boom deployment by boat. | | |
| Preferred Response Options Matrix | | |
| | Most Preferred | Feasibility |
| Containment and recovery | Yes | High |
| On Water recovery | Yes | High |
| Dispersant application | No | Medium |
| Shoreline cleanup | Yes | High |
| Natural recovery | No | Medium |



Staging Area



Hawke's Bay Marine Oil Spill Contingency Plan
Annex 7: Priority Areas for Protection



10. Port of Napier - Town Reef - 11. Pania Reef

| | | | |
|--------------------------|---|-------------------------|------------|
| Site 11 | Pania Reef | Risk Rating | Med |
| Description | <p>Pania Reef is the most significant sea bed feature in southern Hawke Bay. It is situated approximately 800 m north of the Napier Port breakwater, and consists of a broken linear series of banks and pinnacles extending 1.73 nm in a north easterly direction. Depth of the surrounding sea floor ranges from 13 m at its southern end, to 19 m at the northern end. Pania Rock itself rises to within 1.6 m of the surface, and is situated approximately halfway along the reef.</p> <p><u>Boundary of Significant Area:</u> Significant Area extends 2.59 nm SW from North Pania buoy and is 0.54nm wide. Boundaries of the area are shown on the accompanying chart.</p> <p><u>Local Environmental Conditions:</u> Tidal streams running NW on Flood and SE on Ebb are weak and may be masked by meteorological influences.</p> | | |
| Foreshore Types | <ul style="list-style-type: none"> • Rock | | |
| Chart Number | NZ Topo | Coastal Plan Map | |
| NZ 56 | BJ39 | | |
| Segments | | | |
| At Risk Resources | <p>Commercial</p> <ul style="list-style-type: none"> • Extensively fished by recreational and commercial rock lobster fishers. • Used by dive training companies <p>Tourism</p> <ul style="list-style-type: none"> • <p>Recreation</p> <ul style="list-style-type: none"> • Regionally significant amount diving & small vessel fishing. <p>Wildlife</p> <p>Pania Reef is the only significant offshore reef system inside Hawke Bay.</p> <ul style="list-style-type: none"> • Habitats present on the reef system include the low reef crest, dominated by dense beds of mussels (<i>Perna canaliculus</i>) urchin-grazed barrens; <i>Ecklonia</i> forest; and deep reef areas dominated by sponges, hydroid trees and large colonies of jewel anemones (<i>Corynactis haddoni</i>). All sections of the reef support large populations of reef fish and reef-associated planktivorous fish. Large schools of parore (<i>Girella tricuspidata</i>) are commonly seen on the shallow sections of Pania Reef. <p>Cultural</p> <ul style="list-style-type: none"> • Pania Reef is an important source of kaimoana (Pene, 1989). • It is also waahi tapu, as the dwelling place of Moremore, the kaitiaki of this part of Hawke Bay (Pischief, pers.comm.). • Recognised customary gazetted area as per Customary Fishing Regulations 1998. | | |
| Notes | | | |
| Communications | <ul style="list-style-type: none"> • Best conducted with marine VHF or mobile phones | | |
| Actions | | | |

Dispersant use is generally not appropriate in shallow areas like Pania Reef, so the MNZ Dispersant Guidelines should be followed before using dispersant in the associated environs.

Key Contacts

| | Contact Info | Facilities |
|-------|--------------|------------|
| Pania | | |

Boom Considerations

- Unlikely unless vessel aground on reef and weather conditions are calm

Access

Boat from Napier Port or Inner Harbour.

Preferred Response Options Matrix

| | Most Preferred | Feasibility |
|--------------------------|----------------|-------------|
| Containment and recovery | No | Low |
| On Water recovery | Yes | Low |
| Dispersant application | Yes | |
| Shoreline cleanup | N/A | |
| Natural recovery | N/A | |

| | | | |
|--------------------------|--|-------------------------|---------------|
| Site 12 | Inner Harbour Ahuriri Estuary | Risk Rating | V.High |
| Description | <p>A major mooring area for recreational boating and smaller commercial fishing vessels in Hawke's Bay which is located between Westshore, Pandora Pond Road Bridge and Ahuriri. A visual description of the area is shown on the attached topographical map. Currents in the harbour are strongly influenced by the ebb tide and a lesser extent the flood tide. During stormy seas a strong surge may move through the entrance and up the harbour.</p> <p>The Ahuriri Estuary is situated adjacent to the city of Napier, and represents the remnants of the former Te Whanganui a Orotu lagoon. Despite extensive modification the estuary continues to have high wildlife and fisheries values. This site covers all of the estuary from Pandora Bridge to the upper limit of the Coastal Marine Area. A Wildlife Refuge covers the Southern Marsh, Westshore Lagoon and the estuary from the low level bridge to Pandora Bridge.</p> <p>Oil will enter the Ahuriri Estuary via Pandora Road Bridge on a flood tide or during a strong north east wind. Tidal flow under the Pandora Bridge is very strong at times (even turbulent).</p> | | |
| Foreshore Types | <ul style="list-style-type: none"> • Rock • Man made • Sand/mud/shell • Mixed sand gravel | | |
| Chart Number | NZ Topo | Coastal Plan Map | |
| NZ 56 | BJ39 | | |
| Segments | | | |
| At Risk Resources | | | |
| Commercial | <ul style="list-style-type: none"> • The Napier Inner Harbour is home to the majority of the East Coast fishing fleet, which contributes to the economy. Consideration should be made where possible that booming operations for smaller sized spills should be configured to allow fishing vessel access where possible. | | |
| Tourism | <ul style="list-style-type: none"> • There are a small number of small-medium tourism ventures that use the Napier Inner Harbour. In a spill event they are unlikely to be able to operate in the area. | | |
| Recreation | <ul style="list-style-type: none"> • Between swimmers in the Estuary (Pandora Pond), the sailing, surf and kayak clubs, the sports fishing club, and families fishing, this is most used coastal area for recreation in Hawke's Bay. | | |
| Wildlife | <ul style="list-style-type: none"> • The estuary, Outfall Channel (see map) and associated wetlands are important breeding and feeding areas for a wide variety of bird life. Significant numbers of both NZ and international waders use the area along with shags, gulls, tern and waterfowl. • The estuary is classified as a nationally significant fisheries habitat. • Within Hawke Bay, the Ahuriri Estuary is the most important estuary in terms of fisheries production. It provides nursery and spawning habitat, feeding areas and is passed through by species migrating between freshwater and the sea. | | |

| | |
|--|---|
| Cultural | <ul style="list-style-type: none"> • This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan. |
| Notes | |
| Communications | <ul style="list-style-type: none"> • Communication via Council vehicle to Council reception is good. • Cellphone coverage in this area. • Use CD ES 133 in port to communicate back to EOC and other work sites. • The hill blocks the marine VHF and CD ES1 so Handheld radios do not generally trip the repeaters for these. Therefore use simplex channels within the Napier Inner Harbour. • All communications listed in the plan work in the Ahuriri Estuary. • The Coastguard building on West Quay has a full comms room and Emergency Operations Centre (EOC) which may be used as an Operations Base or an alternate EOC. • The Westshore Surf Club also has two VHF base sets and hand-helds. |
| Actions | |
| <p>Any spill event over 100 litres, will automatically generate a full response from the Incident Management Team, Pollution Response van and trailer and CK Rescue. The response team can then be sized appropriately after proper assessment and development of an Incident Action Response Plan.</p> | |
| Inner harbour: | |
| <p>An oil spill outside of the harbour should be prevented from washing into the harbour by using dispersants in the open coast and/or placing a containment booms across the entrance of the inner harbour.</p> | |
| <p>Option A - Place the rapid deployment (RD) boom directly across the channel, with secondary booms to protect boat ramps from being oiled. Both crates of RD boom are required, a total 198m to make the setting shown. See photograph on next page. For a quick deployment, use 200 m of the rapid deployment boom located at the end of No. 4, Herrick Wharf Container towing it to position.</p> | |
| <p>Option B - Alternatively RD boom may be placed from the eastern side, directing any oil to the 2nd RD boom deployed from the western side where oil can be collected.</p> | |
| <p>Sorbent booms can also be used to prevent oil escaping between the rocks. Also consider the benefits of deflection booms.</p> | |
| <p>Should a spill occur in the harbour it should not be prevented from leaving the inner harbour on the outgoing tide as any spill that occur in this area are likely to be light fuel oil which will quickly evaporate and the spills are likely to be small. In the event that a spill originating from the inner harbour is large and/ or is a heavy fuel oil then containment is the best option. In all cases oil should be prevented from entering Ahuriri Estuary. Boom deployment to prevent oil entering the Estuary is described in Section 12b.</p> | |
| <p>The use of dispersants in the inner harbour is not recommended.</p> | |



Option A



Option B

Option A



The V in the RD boom provides the ideal spot for recovery close to the quay. NB fix the boom low on pylons.

Restrictions on Options: Shallow area prohibits the use of dispersants, storm surge, moored boats, and tidal flow may limit boom deployment. This harbour is the only sheltered harbour for vessels maximum draft of 2.8 metres and length up to 25 metres between Wellington and Gisborne. This is also the main launching area for recreational fishers, and security on boat ramps should be considered.



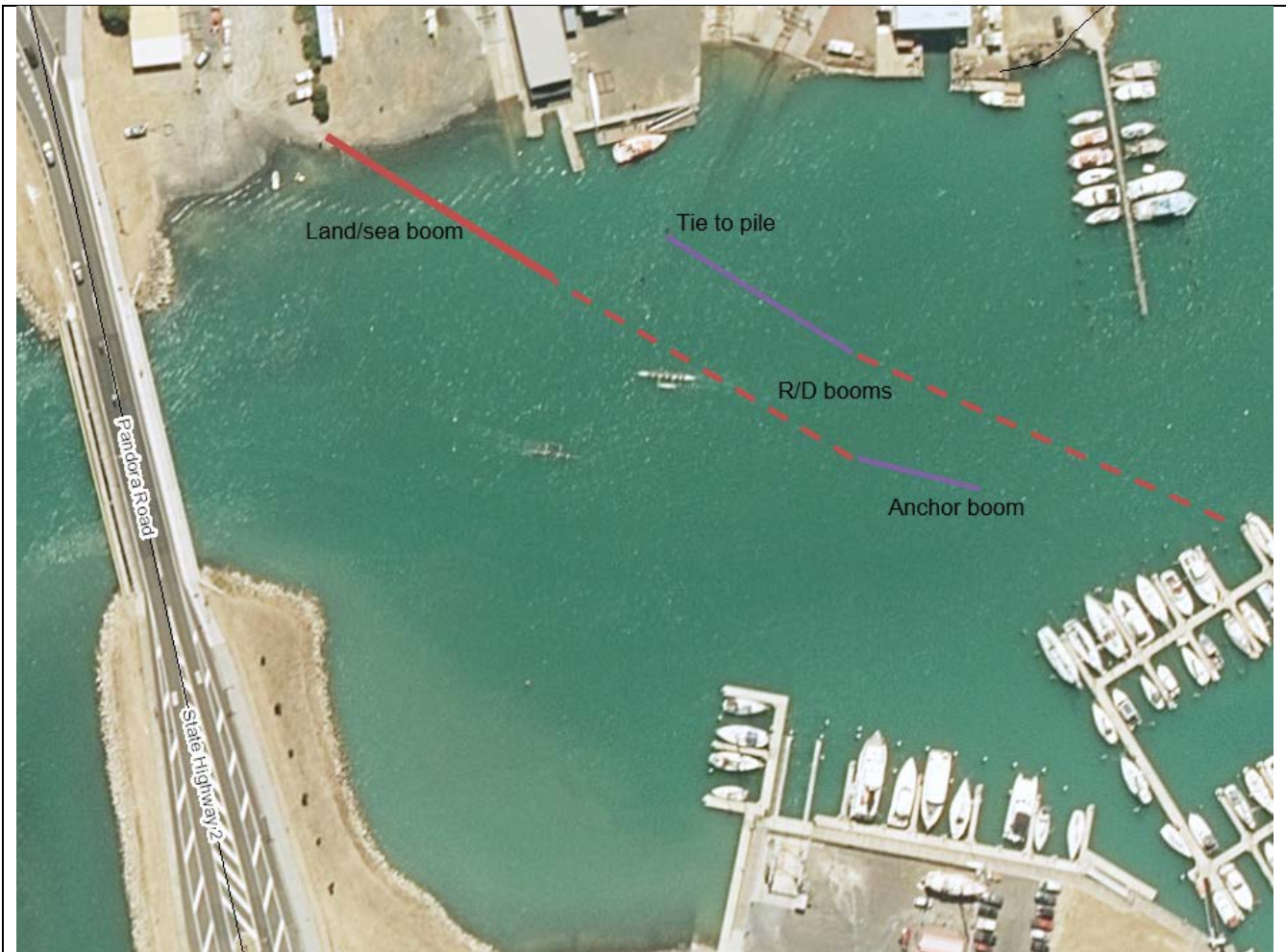
Try to boom to protect the launching area at HB Sports Fishing Club

12b Ahuriri Estuary:

- If oil is in the Napier Inner Harbour, the oil should be prevented from entering the estuary by placing a containment or deflection boom across the entrance of the Estuary downstream (North) of Pandora Bridge.
- The ramps downstream on either side of the Bridge may be used to launch a boom and to collect any incoming oil.
- For winds from the south and the east deploy booms as per diagram 1 below.
- For other wind conditions deploy as per diagram 2.
- The use of dispersants in the inner harbour is not recommended.
- Tidal flow on an ebb tide may restrict the use of a boom.
- Use of powered vessels are prohibited in the Estuary (Sect 12:4.2 HBRC Coastal Plan), but this can be overruled by the OSC during an emergency.

NB: Exercises have shown it is not possible to deploy a backup deflection boom upstream of Pandora Bridge given the flow velocities.

NB: Use of the city stormwater outfalls have been considered as part of a response options but would be impractical. Although the storm water flows into the channel and it might serve to assist in flushing oil out of the estuary this would only occur on an out going tide. The stormwater gates automatically shutting on in coming tide and opening on outgoing tide.



Key Contacts

| | Contact Info | Facilities |
|--|--------------|------------|
|--|--------------|------------|

| | | |
|----------------------------------|--|--|
| Inner Harbour Ahuriri Estuary | | |
|----------------------------------|--|--|

Boom Considerations

Inner harbour:

- See Option A and B
- Booming on an ebb tide is not necessary, or possible due to current flow. Booms should be placed during low/slack water.

Ahuriri Estuary:

- Tidal flow on an ebb tide may restrict the use of a boom. Ebb tide is strong at this location and booming during an ebb tide will not be necessary, or achievable.
- On the flood tide, currents into the estuary are minor at the boom locations (above) but increase near the Pandora Bridge, particularly after half tide.
- Use of powered vessels are prohibited in the Estuary (Sect 12:4.2 HBRC Coastal Plan).

Access

Inner harbour:

- There are a number of ramps in the inner harbour that may be used to launch vessels and to provide vacuum trucks with access to the waters edge.
- If possible oil should be contained in these areas before they reach Pandora Bridge.
- There are good launching areas and facilities at the HB Sports fishing club. Refer to photo below and attached map of the area.
- The Westshore Surf Life Saving Club could be used as a forward staging area for a response. It has showers, toilets etc, concrete floors and kitchen. The Club also has two VHF base sets and hand helds.

Ahuriri Estuary:

- As above, considering it is possible only for smaller vessels to navigate under Pandora Bridge.
- The state highway provides access adjacent to the eastern banks of the Estuary.
- There are pedestrian walkways and boardwalks present around the estuary.

Preferred Response Options Matrix

| | Most Preferred | Feasibility |
|--------------------------|-----------------------|--------------------|
| Containment and recovery | Yes | Low |
| On Water recovery | Yes | Low |
| Dispersant application | No | |
| Shoreline cleanup | Yes | High |
| Natural recovery | Yes | Medium |



Hawke's Bay Marine Oil Spill Contingency Plan
Annex 7: Priority Areas for Protection



12a. Inner Harbour / 12b. Ahuriri Estuary

| | | | |
|--------------------------|---|-------------------------|---------------------------|
| Site 13 | Taits Beach & Waipatiki beach Tangoio to Wairoa River | Risk Rating | High Low |
| Description | <p>For the purpose of this Annex, which shows the Hawke’s Bay coast line from south to north, the attached map shows six different sites stretching from Tangoio to Mohaka. There is also another stretch of coast line from Mohaka to the Wairoa River which is not shown on a map in this plan. As both these stretches of coast line have no areas defined as “Significant Areas” in the Regional Coastal Plan, there has been no advanced planning done for oil spill response.</p> <p>Despite the difficult access to this stretch of coast line it contains a number of amenity areas, such as Waipatiki Beach which is a popular swimming beach. Therefore, in the event of a spill affecting this remote coastal area of the region, the maps will be a useful point of reference in consultation with the appropriate interested parties as identified in Annex 2.</p> | | |
| Foreshore Types | <ul style="list-style-type: none"> • Rock • Sand • Gravel | | |
| Chart Number | NZ Topo | Coastal Plan Map | |
| NZ 56 | BJ39, BJ40, BH 40 | | |
| Segments | | | |
| At Risk Resources | <p>Commercial • Campground at Waipatiki</p> <p>Tourism</p> <p>Recreation • Popular swimming at Waipatiki. Diving along coast from Tangoio to Ridgemount. Fishing at Mohaka and Waikare Rivers</p> <p>Wildlife NZ Dotterel on Taits Beach.</p> <p>Cultural • This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan.</p> | | |
| Notes | <p>Protection status</p> <p>Communications</p> <ul style="list-style-type: none"> • 2013 SCAT Comms Survey – Assessed from beach Tangoio <ul style="list-style-type: none"> – Mobile Phone – Telecom 3G, Vodafone 3G, 2 Degrees – Handheld radio – CD ES1, CD ES133, M62, M82, Regional Fleetlink • 2013 SCAT Comms Survey – Assessed from beach Waipatiki Beach <ul style="list-style-type: none"> – Mobile Phone – Telecom 3G – Handheld radio – CD ES1, M82, Regional Fleetlink • 2013 SCAT Comms Survey – Assessed from beach Waikare River Beach <ul style="list-style-type: none"> – Mobile Phone – None but recheck – Handheld radio – none • 2013 SCAT Comms Survey – Assessed from beach Mohaka River Beach <ul style="list-style-type: none"> – Mobile Phone – None but recheck – Handheld radio – none • 2013 SCAT Comms Survey – Assessed from beach southern side of Wairoa River | | |

- Mobile Phone – Telecom 3G, Vodafone 3G, 2 Degrees
- Handheld radio – CD ES1, CD ES133, M62, M82, Regional Fleetlink

Action:

| Key Contacts | Contact Info | Facilities |
|----------------------|---|---|
| Waipatiki | Fay and Shane Ashforth P: 06 836 6075 E: camp@waipatikibeach.co.nz Address: Waipatiki Beach Motor Camp, 498 Waipatiki Road, RD1 Napier | Telephone, CD radios accommodation = cabins for approx. 30, caravan and tent sites. Toilets, showers, cooking facilities cater for approx. 150. |
| South Waikari | Contact Peter Manson at HBRC Wairoa for contacts 06 838 8527 Address: South Waikari Station | Telephone , accommodation, toilets, showers and cooking facilities. |
| Mohaka | Tim & Kelly Archer P: 06 837 6813 C: 027 267 0494 (patchy) F: 06 837 6823 E: springhill@farmside.co.nz Address: Springhill Station, Mohaka Coach Road | Telephone , accommodation for approx 12, toilets, showers and cooking facilities. |

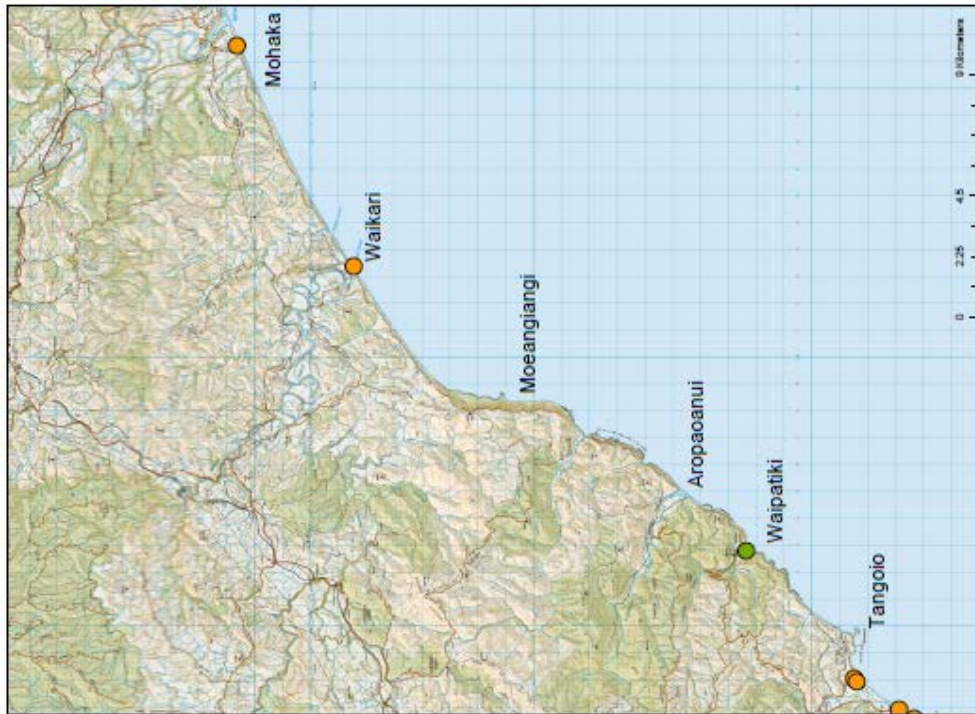
Boom Considerations

Not considered except if rivers were flowing at low volumes and oil could possibly enter river mouth.

Access

There is a variety of access point and staging areas along the coast. For details see 2013 SCAT Survey GIS layer.

| Preferred Response Options Matrix | | |
|--|-----------------------|--------------------|
| | Most Preferred | Feasibility |
| Containment and recovery | No | Low |
| On Water recovery | No | Low |
| Dispersant application | Yes | |
| Shoreline cleanup | Yes | High |
| Natural recovery | Yes | High |



Mohaka



Waikari



Moeangiangi



Aropoanui



Waipatiki



Tangoio

Saging Area



Grass



None

- Mean Wave Height:
 - High
 - Moderate
 - Low
- Substrate Composition:
 - Sand
 - Gravel
 - None
- Width of Beach:
 - >150m
 - 30-150m
 - <30m
- Slope of Beach Floor:
 - Flat
 - Steep
 - Reflective
- Beach Type:
 - Dissipative
 - Intermediate
 - Reflective

Hawke's Bay Marine Oil Spill Contingency Plan

Annex 7: Priority Areas for Protection

13. Tangoio - Mohaka Coastal



| | | | | |
|--------------------------|--|-------------------------|-------------|-----------------------------|
| Site 14 | Whakamahi Lagoon to Whakaki Lagoon | | Risk Rating | Medium Very High |
| | Wairoa river Estuary Risk Rating | | | |
| | Collective Lagoons Risk Rating | | | |
| Description | <p>These wetlands have been rated as Hawke's Bay's highest risk sites.</p> <p>This site comprises the Wairoa River Estuary, Ngamotu Lagoon, Whakamahi Lagoon and the adjacent open coastal area. It forms part of a chain of coastal wetlands that also includes the Ohuia, Wairau, Te Paeroa and Whakaki Lagoons.</p> | | | |
| Foreshore Types | <ul style="list-style-type: none"> • Rock • Sand • Gravel | | | |
| Chart Number | NZ Topo | Coastal Plan Map | | |
| NZ 56 | BH41, BH 42 | | | |
| Segments | | | | |
| At Risk Resources | <p>Commercial</p> <p>Tourism</p> <p>Recreation</p> <ul style="list-style-type: none"> • The site also has regionally significant flora, fishery and landscape values. <p>Wildlife</p> <ul style="list-style-type: none"> • Collectively these wetlands constitute the largest such system on the east coast of the North Island, and are recognised as a nationally significant wildlife habitat due to the presence of significant populations of both threatened and common coastal bird species (including NZ and international migratory waders, gulls, terns and shags), and a large waterfowl population. • Threatened species include the Australasian bittern, white heron, NZ dabchick and fernbird. • The Ngamotu Lagoon and Whakamahi Lagoon are Government Purpose Administration Reserves and gazetted Wildlife Management Reserves. They are saline lagoons with saltmarsh communities and waterfowl and waders present. Both areas are managed by Department of Conservation. • The Wairoa River estuary and its associated coastal wetlands provide regionally important whitebait spawning habitat and fishery. The estuary and coastal lagoons provide important habitat for indigenous fish species <p>Cultural</p> <ul style="list-style-type: none"> • These wetlands traditionally have been very important source of kai and wellbeing for the Maori communities in the area. In recent years significant effort has been put into restoring the natural features of these wetland systems. It is of utmost importance that any response involving these lagoons involves early input from the local hapu. | | | |
| Notes | <p>Communications</p> <ul style="list-style-type: none"> • 2013 SCAT Comms Survey – Assessed from beach southern side of Wairoa River <ul style="list-style-type: none"> – Mobile Phone – Telecom 3G, Vodafone 3G, 2 Degrees – Handheld radio – CD ES1, CD ES133, M62, M82, Regional Fleetlink | | | |

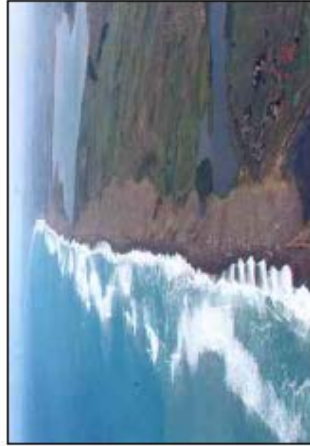
- Communication via Council vehicle (25 watt Regional Fleetlink) to Council reception is good.

Action:

If possible oil should be prevented from washing into the Wairoa River Estuary formed behind the shingle river mouth bar. Oil may over-top the bar and also other low-lying stretches of beach during high wave conditions or may enter via the mouth on the incoming tide.

- A deflection boom is unlikely to be effective along the coastline, unless the sea is calm, as the area is exposed and subject to rough seas. Tidal flow on an ebb tide may restrict the use of a boom.
- However, a containment or deflection boom could be effective inside the estuary, if conditions are suitable (check with the HBRC engineering team), as the bar absorbs wave energy from the sea and conditions are generally calmer than the open sea.
- Prevention of oil reaching the mouth may best be achieved by the use of dispersants offshore.
- Dispersants should not be used in Estuary.
- One possible option is to physically close the river mouths (HBRC Works Group staff could organise this), but this would only be possible if the conditions were right.

| Key Contacts | Contact Info | Facilities |
|--|---|---|
| Wairoa | (Wairoa DC EMO) P: 06 838 7309 ext 713 C: E: | Telephones, CD network, maps, whiteboards, etc., toilet facilities, 1 shower, accom. and food, etc can be arranged as required. |
| <p>Boom Considerations</p> <ul style="list-style-type: none"> • A deflection boom is unlikely to be effective along the coastline, unless the sea is calm, as the area is exposed and subject to rough seas. • Tidal flow on an ebb tide may restrict the use of a boom. • It may be difficult to establish a collection point due to the size of the estuary and limited road access. | | |
| <p>Access</p> <ul style="list-style-type: none"> • There are two ramps along the River that may be used to launch vessels. • Water depth may restrict the navigation of some vessels in the estuary. • There is access via public road most of the way to the east and west end of the River mouth. However, it may be necessary to offload equipment onto 4 wd quads (4WD vehicles will get stuck) to reach a suitable deployment site. • Access along the beach is possible with caution. | | |
| Preferred Response Options Matrix | | |
| | Most Preferred | Feasibility |
| Containment and recovery | Yes | Low |
| On Water recovery | Yes | Low |
| Dispersant application | No | |
| Shoreline cleanup | Yes | Medium |
| Natural recovery | No | Low |





HAWKE'S BAY
 REGIONAL COUNCIL

Hawke's Bay Marine Oil Spill Contingency Plan
 Annex 7: Priority Areas for Protection

14. Whakamahi Lagoon to Whakaki lagoon

Date: 4/11/2014 Document Name: 14_Whakamahi_Whakaki Document Path: M:\Graphics\Emergency Management\Oil Spill stuff\Oil Spill Manual_G1814_Whakamahi_Whakaki.mxd

| | | | | |
|---|--|--|---|--|
| <p>Staging Area</p> <ul style="list-style-type: none"> None | <p>Main Wave Height</p> <ul style="list-style-type: none"> High >150m | <p>Substrate Composition</p> <ul style="list-style-type: none"> Sand Flirt Deepspitve | <p>Moderate</p> <ul style="list-style-type: none"> Mixed 30: 150m Moderate Intermediate | <p>Low</p> <ul style="list-style-type: none"> Coral <30m Shoop Reflective |
|---|--|--|---|--|

| | | | |
|------------------------|--|-------------------------|------------|
| Site 15 | Waikokopu-Opoutama-Taylors Bay | Risk Rating | Med |
| Description | A very important amenity area, on the southern side of the Mahia tombolo, with some of the best, most popular beaches in Hawke's Bay that attracts many out of region visitors. There is also an important rock lobster fishery that is based in the township of Mahia that launch from Opoutama Beach. | | |
| Foreshore Types | <ul style="list-style-type: none"> • Sand • Rock | | |
| Chart Number | NZ Topo | Coastal Plan Map | |
| NZ 56 | BJ43 | | |
| Segments | | | |
| | At Risk Resources | | |
| Commercial | <ul style="list-style-type: none"> • The two main industries that will be effected by an oil spill is holiday accommodation and commercial rock lobster fishers launching their vessels. | | |
| Tourism | <ul style="list-style-type: none"> • Tourism (mainly through NZer's holidaying and camping etc.) and families with holiday homes provide a very significant source of income to the local economy. The loses from tourism as a result of a spill here, will have the most significant in the region when compared to effect on local GDP. | | |
| Recreation | <ul style="list-style-type: none"> • During the summer this area is one of the Hawke's Bays highest recreational hubs. There is a large amount of diving, fishing, water sports and beach use that will be impacted by an oil spill. | | |
| Wildlife | <ul style="list-style-type: none"> • Opoutama provides a nesting ground for several bird species, including variable oystercatcher and the threatened banded dotterel. A significant pipi and tuatua population (kaimoana) is also present at Opoutama. • The inter-tidal zone may support mussels, paua, rock lobster and kina, pupus (catseyes), chitons limpets and Karengo (Porphyra). This is also a significant commercial and recreational rock lobster fishery. • Operators need to be aware of rope and float hazards. | | |
| Cultural | <ul style="list-style-type: none"> • This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan. • HBRC has had initial discussion with representatives from several of the maraes during a recent exercise in Mahia. This establish that the local marae are able to valuable in put in an oil spill response. in the first instance, marae in the area can feed and accommodate many hundreds of responders if required with support from the logistics team. Secondly they are able to source and co-ordinate local labour will be able to help in response clean up operations. | | |
| Notes | | | |

- Communications :
- 2013 SCAT Comms Survey – Assessed from beach Opoutama (west)
 - Mobile Phone – Telecom 3G
 - Handheld radio – Not assessed
 - 2013 SCAT Comms Survey – Assessed from beach Mahia township
 - Mobile Phone – Telecom 3G, Vodafone 3G, 2 Degrees
 - Handheld radio – CD ES133, Regional Fleetlink.
 - 2013 SCAT Comms Survey – Assessed from beach Taylors Bay
 - Mobile Phone – Telecom 3G, Vodafone 3G, 2 Degrees
 - Handheld radio – CD ES133, M82, Regional Fleetlink
 - Communication via telephone from Mahia Beach Motor Camp.
 - DoC has good radio communications in this area.
 - The Mahia Boating/Fishing Club may provide a good area as Incident Command Point.

Action:

If possible, oil should be prevented from washing onto the beaches. Boat operators need to be aware of rope and float hazards.

- This area is generally fairly sheltered so a deflection boom is likely to be effective along the coastline, unless the sea is rough.
 - The use of dispersants offshore is an option as per guidelines.
 - Shallow area may restrict the use of dispersants.

| Key Contacts | Contact Info | Facilities |
|--------------|---|--|
| Mahia | Jocelyn Zamé (Part Owner / Manager) P: 06 837 5830 F: 06 837 5831 E: mahiabeach.motels@xtra.co.nz Address: Mahia Beach Motor Camp, 43 Moana Drive | Accommodation = motel for 45, cabins for 68. Toilet, shower & cooking facilities. |
| | Fire Force (contact National Fire Control) Fire station (unattended) P: 06 837 5555 Address: Newcastle St, Mahia Beach Fire Chief: Ian Pickering P: 06 8375977 Dep. Fire Chief: P: 06 | Radio Comms (Fire, St Johns and Police). Fire appliance, 4000l tanker & St Johns ambulance. |
| | Joe Hedley (Boating club & Fire Service) P: 06 837 5031 William (Bill) Short (Boating club) P: 06 837 5920 | Boat launching facilities Mokotahi beach (all tide) Whangawehi (limited to 3-4 hours either side of high tide). No coastguard at Mahia (nearest Napier). |

| | | |
|---|--|---|
| | Alan Dickson P: 06 837 5981 C:027 498 1343 | Alan Dickson has largest all weather commercial boat. |
| Mahia Beach Motor Camp may be used as accommodation for personnel working in the field (Refer Annex 3). | | |
| Boom Considerations | | |
| <ul style="list-style-type: none"> Effectiveness of booms in the open coast reduced during rough seas. | | |
| Access | | |
| <ul style="list-style-type: none"> Boat access to beaches also possible. There are two launching areas, South end of Mahia Beach and Waikokopu. Water depth may restrict the navigation of some vessels at low tide. Tractors are available locally. Boat operators need to be aware of rope and float hazards. | | |
| Preferred Response Options Matrix | | |
| | Most Preferred | Feasibility |
| Containment and recovery | No | Low |
| On Water recovery | No | Low |
| Dispersant application | Yes | |
| Shoreline cleanup | Yes | High |
| Natural recovery | Yes | Medium |



- Staging Area Substrate**
- Grass
 - None
 - High Substrate
 - Moderate Substrate
- Mean Wave Height:
 Substrate Composition:
 Width of Beach:
 Slope of Beach Face:
 Beach Type:
- Low
 - Gravel
 - <10m
 - Steep
 - Reflective
 - High
 - >150m
 - Flat
 - Deepwater
 - Moderate
 - Intermediate



Waikokopu



Opoutama



Opoutama



Mahia Beach, Mokotahi, Taylors Bay

Hawke's Bay Marine Oil Spill Contingency Plan
 Annex 7: Priority Areas for Protection

15. Waikokopu - Opoutama - Taylors Bay



| | | | |
|--------------------------|--|------------------|------------|
| Site 16 | Western Mahia Peninsula | Risk Rating | Med |
| Description | The western side from Mahia Beach to Ahuriri Point. This site has significant ecological flora and fauna and wildlife values, the subtidal area contains spectacular underwater scenery and the coastal landscape is outstanding. The coastline at Long Point is a designated Marginal Strip held for conservation purposes under Section 24 (2)(a) of the Conservation Act 1987. It is held for the conservation of its natural and historical resources and those of the adjacent water. | | |
| Foreshore Types | <ul style="list-style-type: none"> • Sand • Gravel | | |
| Chart Number | NZ Topo | Coastal Plan Map | |
| NZ 56 | BJ43 (BJ42, BH42) | | |
| Segments | | | |
| At Risk Resources | | | |
| Commercial | <ul style="list-style-type: none"> • See Site 15 Waikokopu-Opoutama-Taylors Bay for details. Supports important Rock Lobster Fishery. | | |
| Tourism | <ul style="list-style-type: none"> • See Site 15 Waikokopu-Opoutama-Taylors Bay for details | | |
| Recreation | <ul style="list-style-type: none"> • There is a large amount of both shore based and boat based diving, fishing in this area and a recreational rock lobster fishery. | | |
| Wildlife | <ul style="list-style-type: none"> • The inter-tidal marine platforms around Long Point support a significant population of coastal bird species, including variable oystercatcher, white fronted terns, cormorants, and the reef heron . • The inter-tidal zone has mussels (limited), paua, rock lobster and kina, pupus (catseyes), chitons limpets and Karengo (Porphyra). • Black Reef and Long Point are seal haul out sites. | | |
| Cultural | <ul style="list-style-type: none"> • This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan. | | |
| Notes | | | |
| Communications : | <ul style="list-style-type: none"> • 2013 SCAT Comms Survey – Not Assessed <ul style="list-style-type: none"> – Mobile Phone – Not assessed but should be similar to Mahia (Opoutama Beach) – Handheld radio (5 watt) – Not assessed. • Communication via Council vehicle (25 watt) to Council reception is good (Regional Fleetlink). • Partial cellphone coverage in this area. • Good communication via DoC network. | | |

- If an extensive oil spill response is likely to occur at this site, a radio network needs to be prioritised and established to enable comms between EOC and responders. This will involve establishing a portable repeater network to allow portable radios transmit out of this area. If this option is not available, council vehicles (25 watt Regional Fleetlink) may be able to be positioned at high points to relay information back to Council reception.

Action:

If possible oil should be prevented from washing onto the coastline, and protection of the inter-tidal platforms would be the priority:

- A deflection boom is unlikely to be effective along the coastline, unless the sea is calm, as the area is exposed and subject to rough seas.
- Prevention of oil reaching the coastline may best be achieved by the use of dispersants offshore.
- Shallow area may restrict the use of dispersants.
- Shore clean up if required – refer to Chapter 6.
- Operators need to be aware of rope and float hazards.

Key Contacts

| | Contact Info | Facilities |
|--------------------------|--------------|------------|
| Refer Mahia key contacts | | |

Boom Considerations

- Exposed coastline reducing the effectiveness of booms in the open coast during rough seas.
- Tidal flow on an ebb tide may restrict the use of a boom.
- It may be difficult to establish a collection point due to limited road access.

Access

- Vehicle access to coast shoreline is restricted.
- Getting down onto the platforms may be possible by 4WD through farm tracks in the area.
- Vehicle access around the platforms is very limited.
- Boat Access to these platforms is possible. However, water depth and the rocks may restrict the navigation of some vessels.

| Preferred Response Options Matrix | | |
|-----------------------------------|----------------|-------------|
| | Most Preferred | Feasibility |
| Containment and recovery | No | Low |
| On Water recovery | No | medium |
| Dispersant application | Yes | Medium |
| Shoreline cleanup | Yes | High |
| Natural recovery | Yes | High |



Te Hoe



Te Heruotaraia point



Long Point



Ahimanawa



Hekurangangi Point



Ahuriri Point

Hawke's Bay Marine Oil Spill Contingency Plan
Annex 7: Priority Areas for Protection

16. Western Mahia Peninsula



- Mean Wave Height
 - Substrate Composition
 - Width of Beach:
 - Slope of Beach Face:
 - Beach Type:
- High
 - Sand
 - >150m
 - Flat
 - Dissipative
- Moderate
 - Mixed (irregular)
 - 10-100m
 - Moderate
 - Intermediate
- Low
 - Gravel
 - <30m
 - Steep
 - Reflective

| | | | | |
|--------------------------|---|------------------|-------------|---------------|
| Site 17 | Waikawa (Portland) Island | | Risk Rating | V.High |
| Description | The most significant island on the Hawke's Bay Coast, Waikawa (Portland) Island is located at the southern end of the Mahia Peninsula. The site has significant ecological, fauna and flora and wildlife values, and is a significant coastal landscape feature. The island is remote, access is by boat from Mahia or helicopter | | | |
| Foreshore Types | <ul style="list-style-type: none"> • Sand • Gravel • Rock | | | |
| Chart Number | NZ Topo | Coastal Plan Map | | |
| NZ 56 | BJ43 | | | |
| Segments | | | | |
| At Risk Resources | | | | |
| Commercial | <ul style="list-style-type: none"> • See Site 15 Waikokopu-Opoutama-Taylors Bay for details. Supports important Rock Lobster Fishery. | | | |
| Tourism | <ul style="list-style-type: none"> • See Site 15 Waikokopu-Opoutama-Taylors Bay for details | | | |
| Recreation | <ul style="list-style-type: none"> • There is a large amount of both shore based and boat based diving, fishing in this area and a recreational rock lobster fishery. • | | | |
| Wildlife | <ul style="list-style-type: none"> • The inter-tidal zone has mussels, paua, rock lobster and kina, pupus (catseyes), chitons limpets and Karengo (Porphyra). The extensive subtidal reef systems offshore are known to support a diverse marine ecosystem but have not been studied in detail. • The coastal dunelands support populations of the threatened endemic sand binding plant pingao and sand tussock. • The island supports a recently established breeding population of the nationally critical shore bird (for further information contact DoC), along with breeding colonies of redbilled and blackbilled gulls, variable oystercatcher, blackwinged petrel, white fronted storm petrel, grey faced petrel, white fronted tern and the threatened NZ dotterel • Haul out site for seals on south-western end of Waikawa Island. | | | |
| Cultural | <ul style="list-style-type: none"> • This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan. | | | |
| Notes | | | | |
| Communications | <ul style="list-style-type: none"> • 2013 SCAT Comms Survey – Not Assessed | | | |
| : | <ul style="list-style-type: none"> – Mobile Phone – Not assessed but based on coverage maps supplied by Vodafone and Telecom, adequate coverage exists to enable mobiles to be used for voice comms on the island. | | | |

- Handheld radio (5 watt) – Not assessed.
- Communication via telephone from Onenui Station (Refer Annex 3).

Action:

If possible oil should be prevented from washing onto the island:

- A deflection boom is unlikely to be effective along the coastline, unless the sea is calm, as the area is exposed and subject to rough seas.
- Prevention of oil reaching the Island may best be achieved by the use of dispersants offshore.
- Shallow water close to shore may restrict the use of dispersants and marine hazards may limit navigation.
- Operators need to be aware of rope and float hazards.

Key Contacts

| | Contact Info | Facilities |
|------------------------|--------------|------------|
| see Mahia Key Contacts | | |

Boom Considerations

- Exposed coastline reducing the effectiveness of booms in the open coast.

Access

- The Island is privately owned, and DoC should be contacted to gain access.
- There is boat access only to the island but it is limited to good weather.
- Access to the Island is via boat from Mahia Beach (15 nm - estimated travel time 30-40 minutes at 25knots).
- Boat landing on the island may be treacherous (particularly from seas from the west) due to the exposed nature of the coast, so helicopter access is preferred.
- Operators need to be aware of rope and float hazards.

Preferred Response Options Matrix

| | Most Preferred | Feasibility |
|--------------------------|----------------|-------------|
| Containment and recovery | No | Low |
| On Water recovery | No | Low |
| Dispersant application | Yes | |
| Shoreline cleanup | Yes | High |
| Natural recovery | Yes | High |



Hawke's Bay Marine Oil Spill Contingency Plan
Annex 7: Priority Areas for Protection

17. Portland Island



| | | | |
|--------------------------|---|------------------|-------------|
| Site 18 | Ahuriri Point to Oraka (Eastern Mahia Peninsula) | Risk Rating | High |
| Description | This site comprises the eastern most part of the Mahia Peninsula and contains significant ecological, fauna, flora and wildlife values, and is a coastal landform and landscape of international significance. | | |
| Foreshore Types | <ul style="list-style-type: none"> • Sand with wave cut platform • Rock | | |
| Chart Number | NZ Topo | Coastal Plan Map | |
| NZ 56 | BJ43, BH43 | | |
| Segments | | | |
| At Risk Resources | | | |
| Commercial | <ul style="list-style-type: none"> • A significant commercial and recreational rock lobster fishery. | | |
| Tourism | <ul style="list-style-type: none"> • See Site 15 Waikopu-Opoutama-Taylors Bay for details | | |
| Recreation | <ul style="list-style-type: none"> • There is a large amount of both shore based and boat based diving, fishing in this area and a recreational rock lobster fishery. | | |
| Wildlife | <ul style="list-style-type: none"> • The extensive intertidal rock platform supports a diverse population of coastal birds, including golden plover, variable oystercatcher, shags, turnstones and reef herons, the threatened Caspian tern and migratory bar-tailed godwit, and a rich and diverse intertidal plant and animal community. • Subtidal habitats have not been studied in detail but are reputed to support a diverse range of species typical of similar habitat types found elsewhere on the east coast of the Mahia Peninsula. • The inter-tidal zone has mussels, paua, rock lobster and kina, pupus (catseyes), chitons limpets and Karengo (Porphyra). • White Rock underneath Table Cape | | |
| Cultural | <ul style="list-style-type: none"> • This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan. | | |
| Notes | | | |
| Communications | <ul style="list-style-type: none"> • 2013 SCAT Comms Survey – Assessed from beach Auroa Point <ul style="list-style-type: none"> – Mobile Phone – Telecom 3G, Vodafone 3G, 2 Degrees – Handheld radio – Regional Fleetlink. • The SCAT Comms survey did not assess the area between Ahuriri Point and Table cap on the far eastern side of the peninsula. It is unlikely that there will always be reliable cellphone reception from the beach along this stretch of coast. | | |

- Mobiles and Council vehicle Radio Telephones will operate between Ahuriri Point and Table Cape from high vantage points.
- Good communications networks through DoC.
- If an extensive oil spill response is likely to occur at this site, a radio network needs to be prioritised and established to enable comms between EOC and responders. This will involve establishing a portable repeater network to allow portable radios transmit out of this area. If this option is not available, council vehicles (25 watt Regional Fleetlink) may be able to be positioned at high points to relay information back to Council reception.

Action:

Protection of the inter-tidal platforms will take priority:

- Prevention of oil reaching the beach or the platforms may best be achieved by the use of dispersants offshore.
- Shallow water close to shore may restrict the use of dispersants and marine hazards may limit navigation.

Key Contacts

| | Contact Info | Facilities |
|------------------------|--------------|------------|
| See Mahia key contacts | | |

Mahia Beach Motor Camp may be used as accommodation for personnel working in the field (Refer Annex 3).

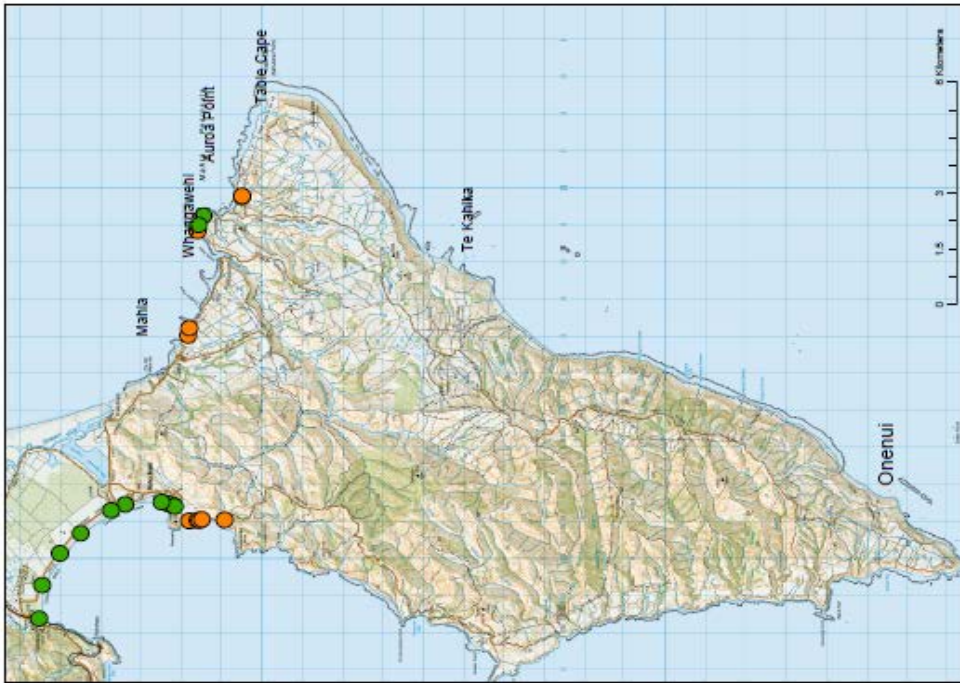
Boom Considerations

- Exposed coastline reducing the effectiveness of booms in the open coast during rough weather.

Access

- Access to the area is via public road and along the beach during low tide from the point where the road stops.
- The nearest air strips are shown on the topographical maps.
- Whangawehi Harbour is the closest boat launching facility, but is limited to mid to high tide useage.
- Vehicles can drive above high tide in sections, although driving on intertidal platforms is prohibited in normal conditions.

| Preferred Response Options Matrix | | |
|-----------------------------------|----------------|-------------|
| | Most Preferred | Feasibility |
| Containment and recovery | No | Low |
| On Water recovery | No | Low |
| Dispersant application | Yes | |
| Shoreline cleanup | Yes | High |
| Natural recovery | Yes | High |





Hawke's Bay Marine Oil Spill Contingency Plan
Annex 7: Priority Areas for Protection
18. Ahuriri Point to Oraka (Eastern Mahia Peninsula)

Date: 4/11/2014 Document Name: 18_EasternMahia Document Path: M:\Graphics\Emergency Management\Oil Spill\aufrOI_Spill Manual_018\18_EasternMahia.mxd

| | | | | |
|--------------------------|---|------------------|-------------|----------------------------------|
| Site 19 | Pukenui Beach / Oraka / Maungawhio Lagoon | | Risk Rating | V.Hi gh Hig h |
| | Maungawhio Lagoon Risk Rating Pukenui Beach Risk Rating | | | |
| Description | Maungawhio Lagoon is a Wildlife Management Reserve which has significant ecological, fauna, and flora values. The site is located on the western side of the Mahia tombola, a nationally significant geological feature. Pukenui Beach comprises part of the sediment source for the tombola and the intertidal beach is a feeding area for many of the estuary's wildlife species. | | | |
| Foreshore Types | <ul style="list-style-type: none"> • Sand with wave cut platform • Rock | | | |
| Chart Number | NZ Topo | Coastal Plan Map | | |
| NZ 56 | BJ43, BH43 | | | |
| Segments | | | | |
| At Risk Resources | | | | |
| Commercial | Not applicable | | | |
| Tourism | <ul style="list-style-type: none"> • Beach adds to visitor experience of collective area. | | | |
| Recreation | <ul style="list-style-type: none"> • Beach adds to visitor experience of collective area. | | | |
| Wildlife | <ul style="list-style-type: none"> • The site supports regionally important shellfish and whitebait fisheries. • The Maungawhio Lagoon is rated of national importance due to the quality of its estuarine habitat. • It is also an important habitat for a range of international and NZ migratory waders, including bar-tailed godwit, Asiatic whimbrel, white heron, Royal spoonbill, as well as wetland species such as fernbird, spotless crane, banded rail and the endangered Australasian bittern. • The intertidal zone of Pukenui Beach is a feeding area for small numbers of coastal birds, such as variable oystercatcher, banded dotterel and the threatened NZ dotterel. | | | |
| Cultural | <ul style="list-style-type: none"> • Pipi beds at Oraka Estuary are an important local kaimoana. • This section of water holds local significance to Marae and Hapu in the local area. HBRC intends to better summarise this in the future for the purposes of this plan. | | | |
| Notes | | | | |
| Communications : | <ul style="list-style-type: none"> • 2013 SCAT Comms Survey – Assessed from beach Auroa Point <ul style="list-style-type: none"> – Mobile Phone – Telecom 3G, Vodafone 3G, – Handheld radio – Not assessed. • Communication via Council vehicle (25 watt Regional Fleetlink) to Council reception is possible. • If an extensive oil spill response is likely to occur at this site, a radio network needs to be prioritised and established to enable comms between EOC and | | | |

responders. This will involve establishing a portable repeater network to allow portable radios transmit out of this area. If this option is not available, council vehicles (25 watt Regional Fleetlink) may be able to be positioned at high points to relay information back to Council reception.

Actions:

If possible oil should be prevented from washing onto Pukenui and Oraka Beach and from entering Maungawhio Lagoon. **Protection of the Lagoon/Estuary will take priority over responding to the beach.**

- Shallow water close to shore may restrict the use of dispersants and marine hazards may limit navigation for larger vessels.
- Dispersants should not be used in the Lagoon/Estuary.
- It may be possible to deploy a boom across the mouth of the estuary away from rough seas in order to contain the oil and prevent it spreading throughout the Lagoon.
- The public road at the south end of Oraka Beach is one possible collection point where vacuum trucks may be able to be used.

Key Contacts

| | Contact Info | Facilities |
|------------------------|--------------|------------|
| see Mahia key contacts | | |

Mahia Beach Motor Camp may be used as accommodation for personnel working in the field (Refer Annex 3).

Boom Considerations

- Exposed coastline reducing the effectiveness of booms in the open coast.
- Tidal current may restrict the use of booms in the mouth of the Lagoon.
- See images below for boom set developed during 2013 exercise.



Access

- Access via public road from the south & along the beach from the north at Mahanga.
- Whangawehi Harbour is the closest boat launching facility, but is limited to mid to high tide usage.
- Vehicle access from the end of the public road around to Table Cape is restricted to low tide only.

- The Maungawhio Lagoon itself is very shallow and options may be restricted by depth of water for vessels/access, etc.
- At Maungawhio Lagoon and Oraka there is a vehicle restriction by-law.

| Preferred Response Options Matrix | | |
|-----------------------------------|---|-------------|
| | Most Preferred | Feasibility |
| Containment and recovery | Yes | High |
| On Water recovery | Yes | Low |
| Dispersant application | No in lagoon/estuary. Yes offshore from beach. | |
| Shoreline cleanup | Yes | High |
| Natural recovery | No | Low |



Mahunga - Pukenui Beach



Northern Pukenui Beach



Maungawhio Lagoon



Pukenui Beach Dunes



Hawke's Bay Marine Oil Spill Contingency Plan
Annex 7: Priority Areas for Protection



19. Mahunga, Pukenui, Oraka, Maungawhio

Date: 4/11/2014 Document Name: 19_Pukenui_Oraka_Maungawhio Document Path: M:\Graphics\Emergency Management\Oil Spill stuff\01 Spill Manual_GIS\19_Pukenui_Oraka_Maungawhio.mxd

| | | | |
|---------|---|-------------|-------------|
| Site 20 | Hawke's Bay Coast – Historical Sites | Risk Rating | High |
|---------|---|-------------|-------------|

Description

The historical sites identified on the attached map of the Hawke's Bay Coast have been identified by Heritage New Zealand/ Pouhere Taonga as significant value to the Hawke's Bay community and some are also of national significance. The Heritage Schedules from District Plans should be referenced for up to date information, along with the NZ Archaeological Associations site recording scheme which contains the most up to date recorded or known archaeological sites. www.archsite.org.nz

The areas identified (Diagram 3) include historic pa sites, ovens with hangi stones, shipwreck sites, historic European schools, and whaling stations sites, etc.

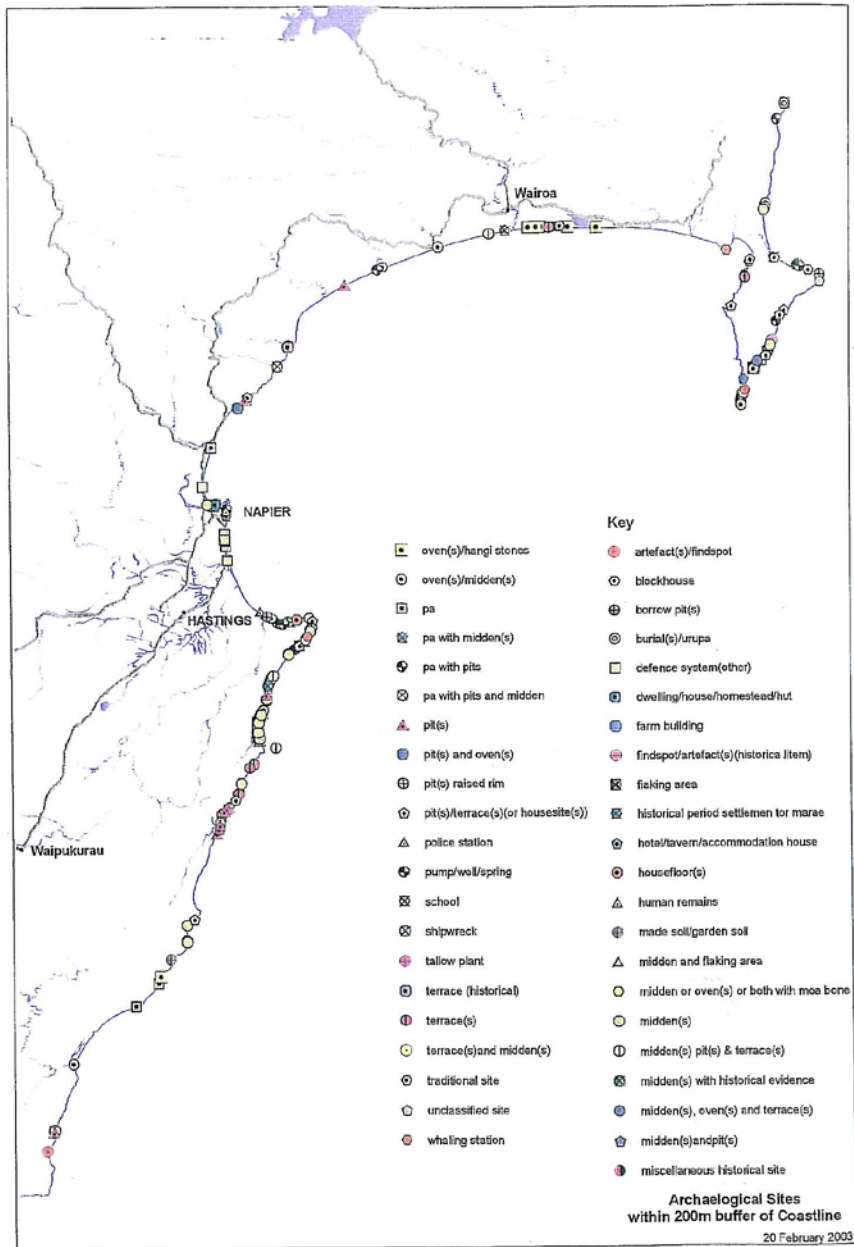


Diagram 3: Hawke’s Bay Coast – Historical Sites

| | | | |
|--------------------|---|-------------|-------------|
| Site 21 | Hawke’s Bay Coast – Rohe Moana | Risk Rating | High |
| Description | <p>A map showing the coastal and marine area over which iwi or a hapū exercises its mana and its kaitiakitanga, referenced from the National Aquatic Biodiversity Information System (NABIS) Dataset administered by the Ministry of Primary Industries.</p> <p>Also link to map showing all areas where Tangata Whenua interests are held HBRC NZTM CitrixDefault101 Tangata Whenua Maps.mxd</p> <p>Layers include among others:</p> <ul style="list-style-type: none"> Marae location and contact details Maori Administrative Boundaries Rohe Boundaries Statutory Acknowledgements Hapu Management Plans | | |

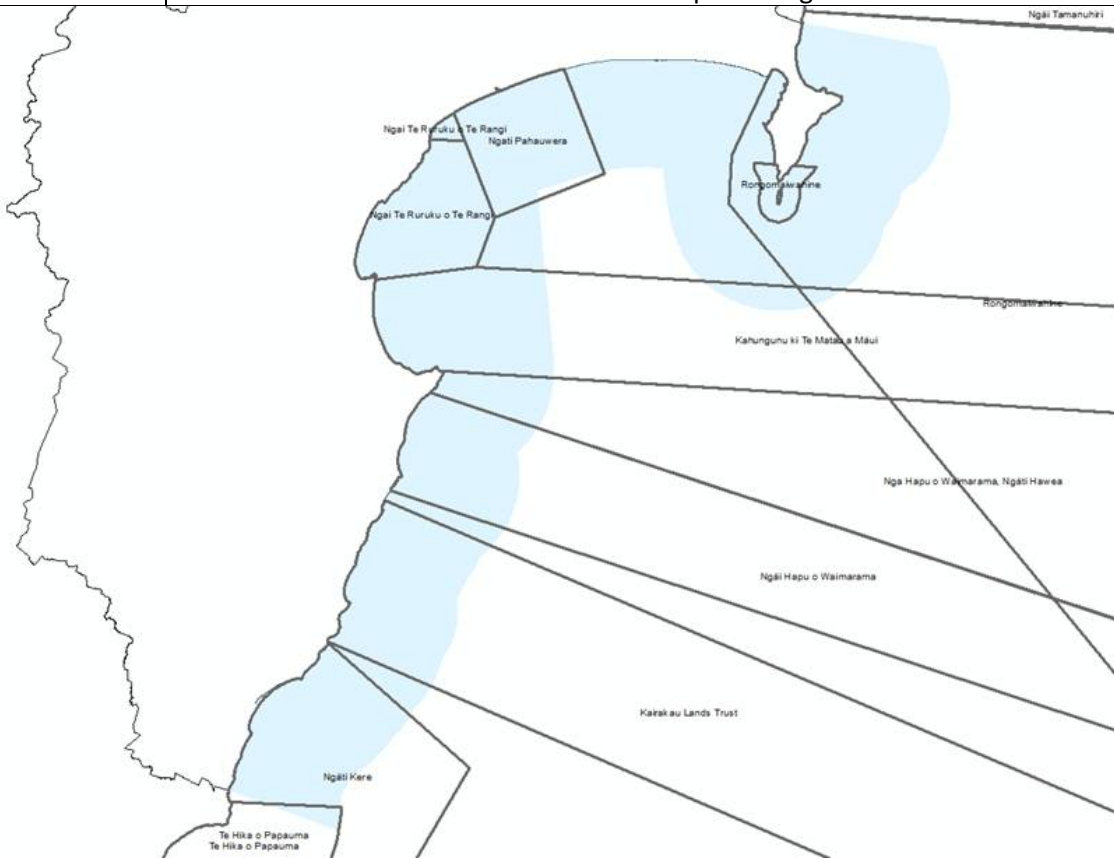


Diagram 4: Hawke’s Bay Coast – Location and extent of ‘Rohe Moana’