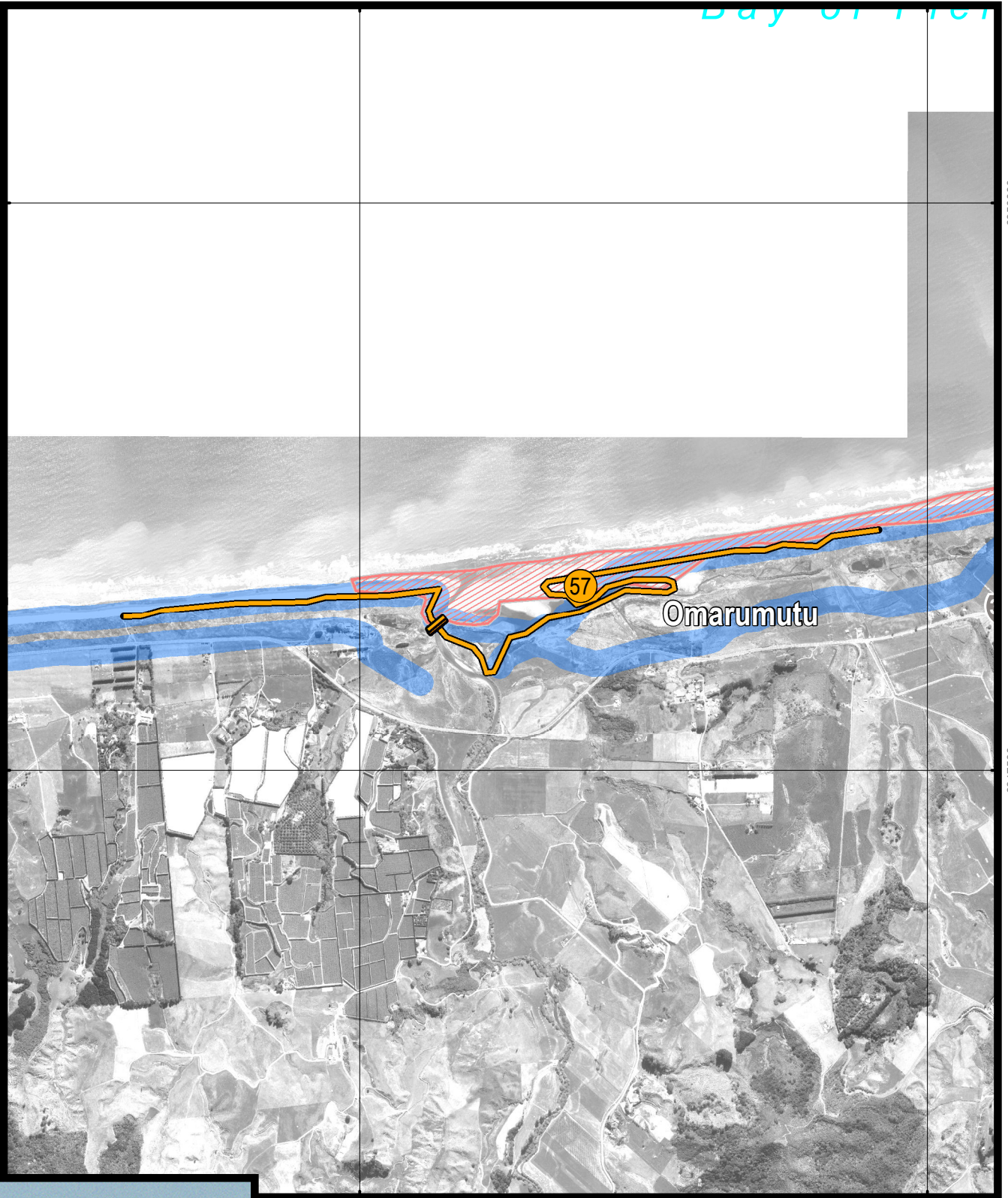


Site 57	Waiaua Estuary	Risk ranking: 1
<p>DESCRIPTION</p> <p>This site comprises bar-built estuary with a highly mobile mouth. A sandbar encloses the areas of significant salt-marsh habitat.</p>		
<p>Foreshore type/environmental value</p>	<p>Lagoon, Shorebird feeding areas, Open water in channel, saltmarsh Fish spawning</p>	
<p>Map sheets</p>	<p>NZ Topo 50 BE 41 Ōpōtiki</p>	<p>Chart Number NZ 542</p>
<p>Segments: EBOP 00080, EBOP 00090</p>		
<p>At Risk Resources</p> <ul style="list-style-type: none"> • Sand spit has nesting New Zealand dotterels (tuturiwhatu) (12) and nesting oyster catchers • Feeding estuarine birds • Usually strong outflow of water from the river • Whitebaiting (spawning March-April) • Lagoon behind spit to east • Saltmarsh vegetation in lagoon • Bird sanctuary on ocean side of spit for shore nesting birds • Beach has gravel sized particles • Intertidal areas are identified in the Regional Coastal Plan as areas of significant conservation/cultural value • Cultural sites: Urupe in sand dunes on western side of mouth 		
<p>Notes</p> <p>Oil that enters the low energy systems of this estuary will remain for some time. Oil will harm saltmarsh habitat and whitebait spawning areas.</p> <p>Actions</p> <ul style="list-style-type: none"> • Limit oil entering the eastern lagoon through protective barrier/booming • Capture oil on the north-western sandy intertidal and clean this area to limit the volume of oil in the estuary • Shoreline clean-up along the ocean beach on both sides of the mouth of the estuary • Notify wildlife team • Discuss pre-clean-up of intertidal debris - tidal range specific • Consider pre-emptive capture of New Zealand dotterel • Consider pre-emptive capture of wildlife generally • Activation of oiled wildlife response collection teams if required • Priority clean-up of spit entrances to limit remobilisation of oil into estuary (See STM for Sandy Beaches Shoreline Clean-up) 		
<p>Access</p> <p>Access to the entrance of the estuary is via SH 35: track access to the west; beach access from Opape to the east.</p>		

Preferred Response Option Matrix

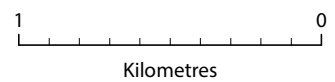
	Most preferred	Least preferred	Feasibility
Containment and Recovery	High		Deflection booms possible to enhance shoreline clean-up
On water Recovery	Medium		Possible off-shore with ORV or similar but weather and location may prohibit
Dispersant Application	Low	Requires escalation to Tier 3 and MNZ approval	Consider dispersant guidelines for off-shore use
Shoreline Clean-up	High		Sandy shoreline suitable for shoreline clean-up
Natural Recovery	Medium		Some natural recovery may be required due to shifting foreshore.



LEGEND

-  SCAT Sites
-  Shorebird Roosts
-  Site District of Local Significance
-  Coastal Habitat Preservation Zone
-  Beach Accessways
-  Area Sensitive to Coastal Hazards
-  ASCV - Area of Significant Conservational Value

SITE 57 Waiaua Estuary Oil Spill Management Plan



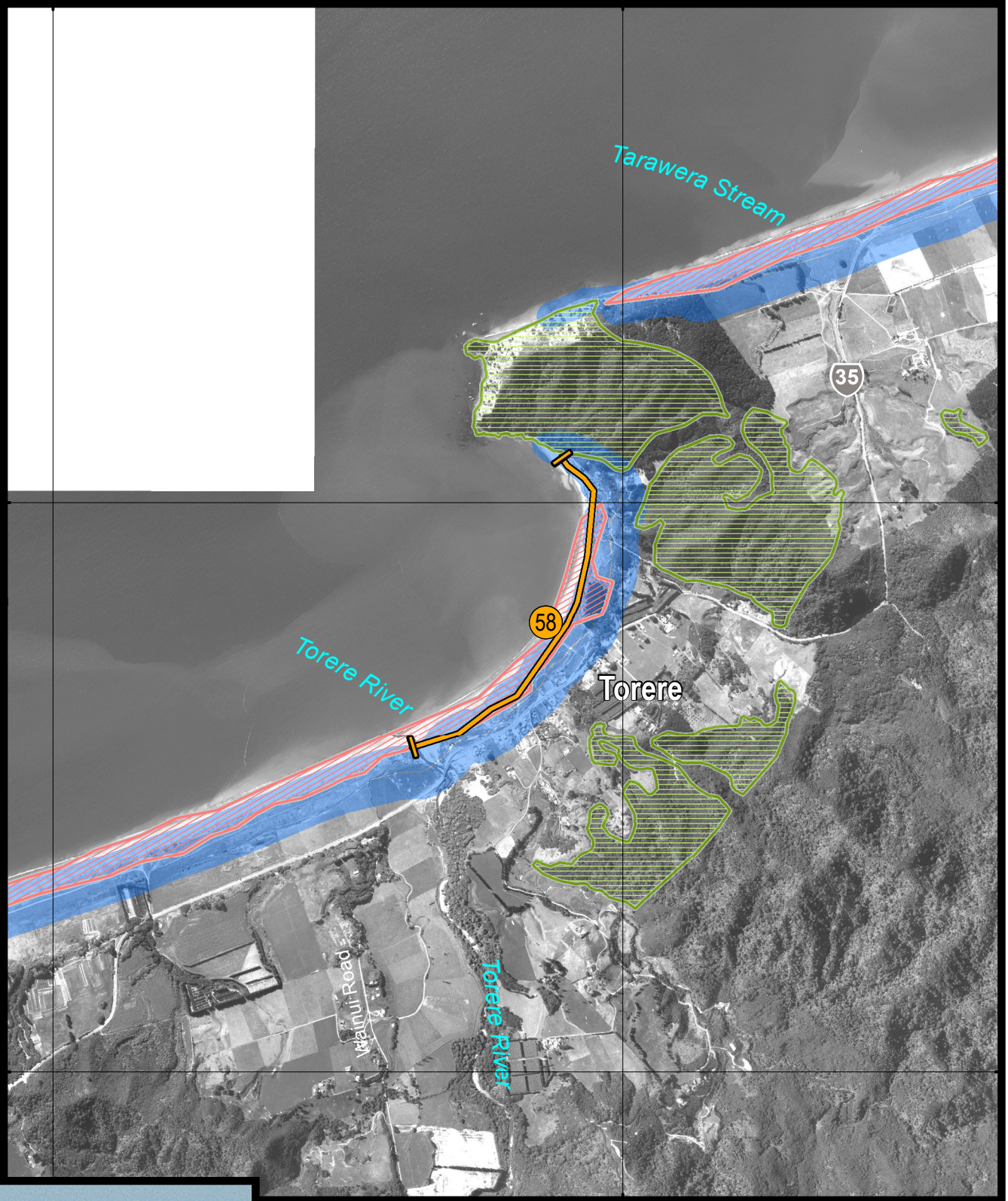
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 Aerial Photos flown summer of 2011



Site 58	Waiiti River and Torere	Risk ranking: 3
<p>DESCRIPTION</p> <p>This site includes two river mouths, one either side of Torere township with water crossing the ocean beach into estuary at higher tidal states.</p> <p>1 To the south-west: Waiiti is a small river mouth usually cut off from the beach at low tide forming a small lagoon behind the spit.</p> <p>2 To the north-east: Torere lagoon exits at small river mouth at the eastern end of the beach, with the narrow lagoon extending west towards Torere.</p>		
Foreshore type	Steep pebble/cobble beach, Lagoon, riparian vegetation	
Map sheets	NZ Topo 50 BD 43 Ruakokore	Chart Number NZ 542
Segments: EBOP 00150		
<p>At Risk Resources</p> <p>1 Waiiti: Shore birds including New Zealand dotterel (tuturiwhatu)</p> <p>2 Torere lagoon: Amenity value</p> <p>Both Waiiti and Torere lagoon:</p> <ul style="list-style-type: none"> • Kahawai fishery • All intertidal areas are identified in the Regional Coastal Plan as areas of significant conservation/cultural value • Cultural sites: including kaimoana 		
<p>Notes</p> <p>Oil that enters the low energy systems of this estuary will remain for some time. Oil will harm intertidal habitat.</p> <p>Actions</p> <ul style="list-style-type: none"> • Consider entrance closure at incoming tides and release river water when required (feasibility dependent on river flow) • Consider collection and recovery near river mouth • Booming near each mouth to prevent oil entering connecting channel • Notify wildlife team • Discuss pre-clean-up of intertidal debris - tidal range specific • Consider pre-emptive capture of wildlife generally • Activation of oiled wildlife response collection team 		
<p>Access</p> <p>1 Waiiti River: Beach access is from state Highway 35 south-west of Tōrere township</p> <p>2 Torere Lagoon: Access road just north-east of Torere township</p>		

Preferred Response Option Matrix

	Most preferred	Least preferred	Feasibility
Containment and Recovery	High		Booming is possible depending on weather conditions
On water Recovery	Medium		Logistics may prevent this
Dispersant Application	Low	Requires escalation to Tier 3 and MNZ approval	Suitable off-shore
Shoreline Clean-up	High		Good access to foreshore, but fine grainy gravel area
Natural Recovery	Medium		Some natural recovery a possibility but good to avoid



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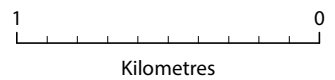
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LEGEND

-  SCAT Sites
-  Shorebird Roosts
-  Site District of Local Significance
-  Coastal Habitat Preservation Zone
-  Beach Accessways
-  Area Sensitive to Coastal Hazards
-  ASCV - Area of Significant Conservational Value

SITE 58 Waiti River & Torere Oil Spill Management Plan



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Site 59	Motu River	Risk ranking: 2
<p>DESCRIPTION</p> <p>Site of tidal braided river mouth. Highly active river mouth with sand bar enclosing lagoon and saltmarsh.</p>		
<p>Foreshore type/environmental value</p>	<p>River mouth, saltmarsh, Fishery, Lagoon. All shore segments have “habitat value”.</p>	
<p>Map sheets</p>	<p>NZ Topo 50 BE 42 Houputu</p>	<p>Chart Number NZ 542</p>
<p>Segments: EBOP R 00200</p>		
<p>At Risk Resources</p> <ul style="list-style-type: none"> • New Zealand dotterel (tuturiwhatu) (non 2011-11-05) • Some gulls, oystercatchers breeding on beach at mouth • Fish breeding location – nationally significant snapper spawning area and regionally significant kahawai fishery. The area extends seaward of Mean High Water Springs in a six nautical mile radius from Tokaroa Rock and along the coast from Haurere Point in the south to Ohae Point in the north • Kaimoana • All intertidal areas are identified in the Regional Coastal Plan as areas of significant conservation/cultural value <p>Cultural sites:</p> <ul style="list-style-type: none"> • Culturally significant kahawai fishery (December) 		
<p>Notes</p> <p>It is thought unlikely that oil will enter the estuary due to the bar that has formed across the river mouth and due to the net outflow of water from the river. Oil that does enter the low energy systems of this estuary will remain for some time. Oil will harm saltmarsh habitat</p> <p>Actions</p> <ul style="list-style-type: none"> • Vegetation adjacent to the estuary shore line– use snares to absorb oil and enhance the effectiveness of the natural flow for self-cleaning of the estuary. Consider using locally sourced manuka/kanuka in place of snares. Consult carefully with local iwi as these species are <i>te rongoa</i> (medicinal plants) and are therefore considered a <i>taonga</i> (cultural treasure). Experience during the 2015 pipeline spill in Tauranga found kanuka/manuka to be just as effective in absorbing oil as snares supplies which were quickly exhausted. • Limit oil entering the southern lagoon and saltmarsh through protective barrier/booming • Shoreline clean-up along the ocean beach on both sides of the mouth of the estuary Priority clean-up of spit entrances to limit remobilisation of oil into estuary • Notify wildlife team • Consider pre-emptive capture of New Zealand dotterel • Consider pre-emptive capture of wildlife generally • Activation of oiled wildlife response collection teams if required 		

Limited Communications

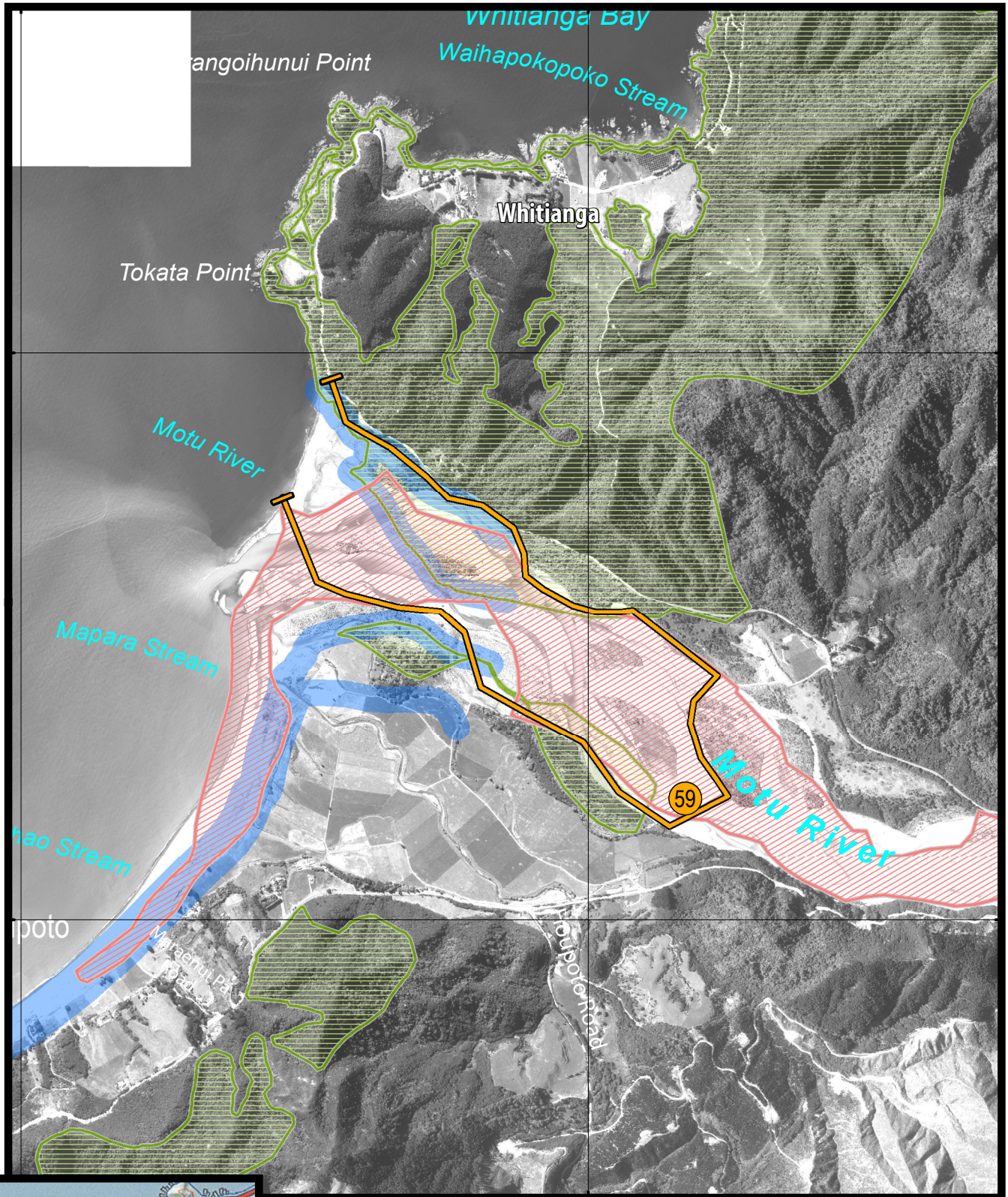
Council R.T may be patchy in the Motu Valley but good west of this area, no Marine VHF close to shore unless the On Scene Commander operates a hand held marine set, telephone from local residents, cell phone from SH 35 high up on the east side from the lookout at the top of the road.

Access

Access to beach areas and the Motu River Estuary is indicated on the topographical map, SH 35. Access to Motu Estuary from the east side of the Motu River is limited to walking down from the lookout. Access from the west side is via farmland or access track from turn off to marae. The nearest boat launching ramp is located at the Ōpōtiki Wharf.

Preferred Response Option Matrix

	Most preferred	Least preferred	Feasibility
Containment and Recovery	High		Deflection booms possible to enhance shoreline clean-up
On water Recovery	Medium		Possible off-shore with ORV or similar but weather and location may prohibit
Dispersant Application	Low	Requires escalation to Tier 3 and MNZ approval	Consider dispersant guidelines for off-shore use
Shoreline Clean-up	High		Sandy shoreline suitable for shoreline clean-up
Natural Recovery	Medium		Some natural recovery may be required due to shifting foreshore.



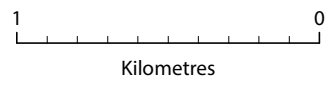
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LEGEND

-  SCAT Sites
-  Shorebird Roosts
-  Site District of Local Significance
-  Coastal Habitat Preservation Zone
-  Beach Accessways
-  Area Sensitive to Coastal Hazards
-  ASCV - Area of Significant Conservational Value

SITE 59 Motu River Oil Spill Management Plan



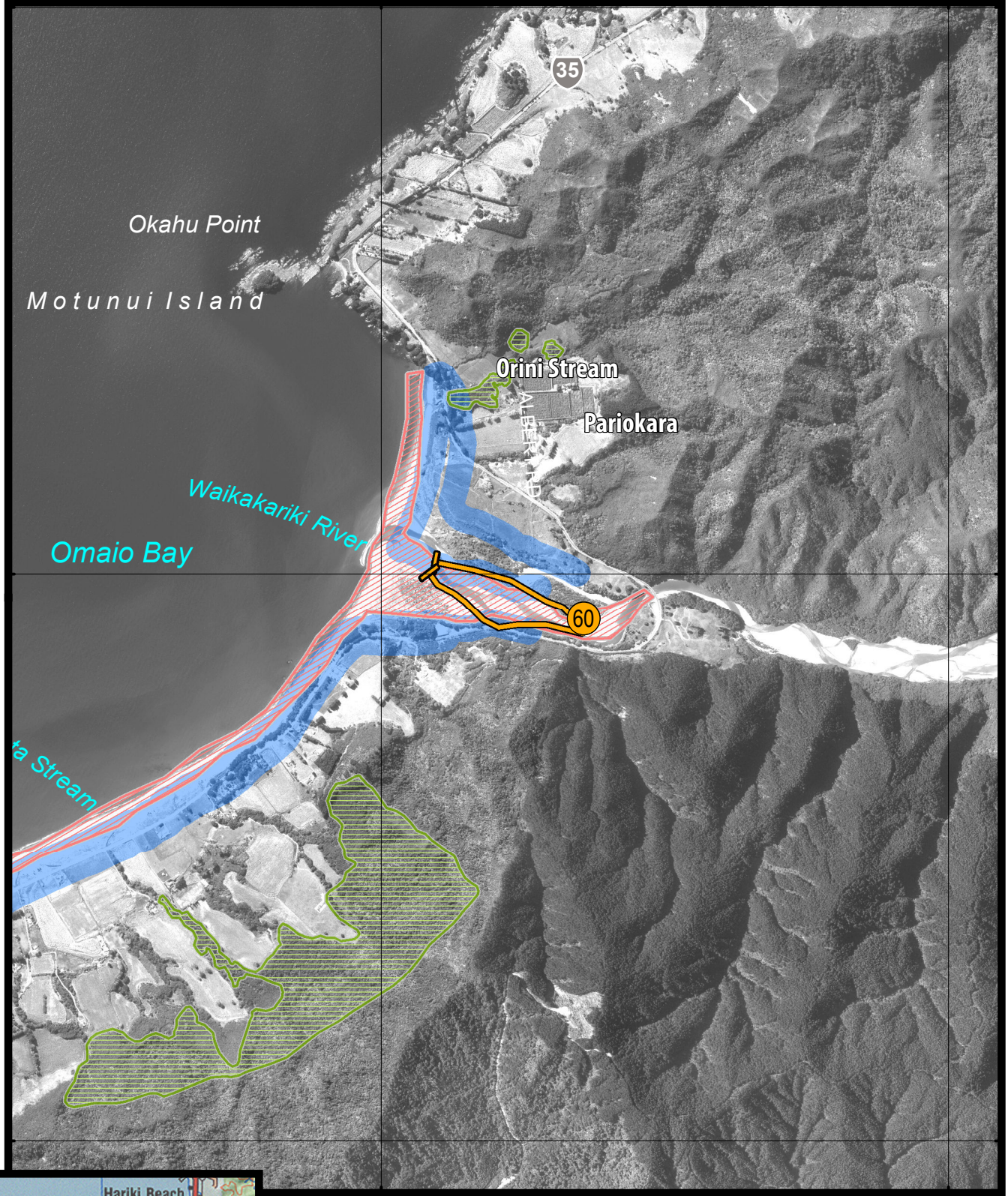
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Site 60	Haparapara	Risk ranking: 3
<p>DESCRIPTION</p> <p>Sandspit enclosed estuary located at northern end of beach in Omaio Bay. Haparapara River is generally a low flow river with a mobile entrance with a lagoon located to the south of entrance. Sandspits and beaches are pebble/cobble.</p>		
Foreshore type	Lagoon, Open water in channel, saltmarsh	
Map sheets	NZ Topo 50 BD 42 Te Kaha	Chart Number NZ 542
Segments: EBOP R 00230		
<p>At Risk Resources</p> <ul style="list-style-type: none"> • Shorebird feeding areas • Possible shell collecting sites • All intertidal areas are identified in the Regional Coastal Plan as areas of significant conservation/cultural value • Cultural sites 		
<p>Notes</p> <p>Oil that enters the low energy systems of this estuary will remain for some time. Oil will harm intertidal and sand flats habitat</p> <p>Actions</p> <ul style="list-style-type: none"> • Consider containment and recovery system as close as possible to the mouth, with deflection away from saltmarsh areas • OR bulldoze entrance closed at high tides and release river water when required to refresh water • Notify wildlife team • Discuss pre-cleanup of intertidal debris - tidal range specific • Consider pre-emptive capture of wildlife generally • Activation of oiled wildlife response collection teams if required 		
<p>Access</p> <p>State highway 35. Access possible from tracks to north and south of estuary</p>		

Preferred Response Option Matrix

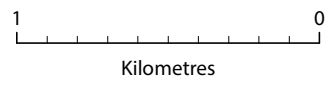
	Most preferred	Least preferred	Feasibility
Containment and Recovery	High		Deflection booms possible to enhance shoreline clean-up. Bulldoze entrance
On water Recovery	Medium		Logistics an issue
Dispersant Application	Low	Requires escalation to Tier 3 and MNZ approval	Consider dispersant guidelines for off-shore use
Shoreline Clean-up	High		Best option
Natural Recovery	Medium		Some natural recovery may be required.



LEGEND

-  SCAT Sites
-  Shorebird Roosts
-  Site District of Local Significance
-  Coastal Habitat Preservation Zone
-  Beach Accessways
-  Area Sensitive to Coastal Hazards
-  Area of Significant Conservation Value

SITE 60 Haparapara Oil Spill Management Plan



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INSET

ASCV