

Schedule H: Coastal Marine Area[^] Activities and Water Management, Zones and Protection Areas

Schedule H is a component of the Regional Coastal Plan.

The *coastal marine area[^]* (CMA) is as defined in the RMA. This Schedule ~~comprises:~~ ~~includes the following maps.~~

Part A: CMA Boundaries: Figures H:1A-H:2A show a regional overview of the CMA and Figures H:3A-H:9A depict the location of the *mouth[^]* and the cross-river CMA boundary of identified *river[^]*. These figures also show the *Estuary Water Management Sub-zones^{*}* relevant to Part C.

Part B: Activity Management Areas: Figures H:10A-H:13A show the Port and Protection Activity Management Areas and the part of the General Activity Management Area in the vicinity of the Port. Table H.1 lists the ecological and other important characteristics in the Protection Activity Management Areas.

Part C: Water Quality Management: *Water Management Zone^{*}* and *Sub-zones^{*}*, Values, management objectives, and *water[^]* quality targets: Tables H.2-H.7. Note that the *Estuary Water Management Sub-zones^{*}* are shown in Figures H:3A to H:9A.

A description of the ~~maps~~ figures contained in this Schedule ~~and boundaries~~ is provided below.

Area	Figure	Description of Area
1- Coastal Marine Area [^]	H:1A H:2A	The west coast CMA, beaches and <u>some <i>river[^]</i></u> of the Manawatu-Wanganui Region The east coast CMA and <u>some <i>river[^]</i></u> of the Manawatu-Wanganui Region
2- Coastal Marine Area [^] - <u>river[^] mouths[^]</u> and cross-river CMA boundaries. These figures also show the <u>Estuary Water Management Sub-zones[*]</u> relevant to Part C.	H:3A H:4A H:5A H:6A H:7A H:8A H:9A	Kai Iwi <u>Stream</u> and Mowhanau Streams Whanganui River and Whangaehu River Turakina River and Rangitikei River Manawatu River and Hokio Stream Ohau River <u>Stream</u> and Waikawa Stream Akitio River and Owahanga River Wainui River
3- Activity Management Areas Zones	H:10A H:11A H:12A H:13A	Port <u>Activity Management Area Zone</u> Protection <u>Activity Management Areas Zones</u> : <ul style="list-style-type: none"> • Whanganui River and Whangaehu River • Turakina River and Rangitikei River • Manawatu River and Cape Turnagain

1. Coastal Marine Area Maps H1-H2 Part A: CMA Boundaries

Figures H:1A-H:2A ~~These maps~~ depict the extent of the CMA within the ~~boundaries of the~~ Manawatu-Wanganui Regional Council. On the open coast, the CMA extends from the line of mean high water springs (MHWS) seaward to the 12 nautical mile ~~an~~ outer limit of the *territorial sea[^]*. The rules in Chapter 20 apply to the CMA.

~~2. Coastal Marine Area Cross River Boundaries Maps H3-H9~~

~~Figures H:3A-H:9A These maps depict the *mouth*^ of identified *river*^ as was agreed between the Minister of Conservation, the *Territorial Authorities*^ and the Regional Council in 1994 in accordance with s2 RMA. The figures additionally show where the CMA boundary lies up when it crosses a *the identified rivers*^ (which include or streams). (ie., the line of MHWS follows the river/ stream bank inland to the boundary crossing). That is called the cross-river CMA boundary in this schedule.~~

~~The boundary For any *stream or river*^ which is not shown in these figures, maps the location of the *mouth*^ was agreed between the Minister of Conservation, the *Territorial Authorities*^ and the Regional Council in 1994 to be a straight line representing a continuation of the line of MHWS on each side of the *river*^, is deemed to be a line continuous to the line of MHWS on either side of the stream/river mouth. The upstream location of the cross-river CMA boundary on these *river*^ is not mapped, but it is consistent with s2 RMA. It is the lesser of:~~

- ~~(a) one kilometre upstream from the *mouth*^ of the *river*^; or~~
- ~~(b) the point upstream that is calculated by multiplying the width of the *river*^ *mouth*^ by five.~~

~~The *rules*^ in Chapter 20 17 apply to the CMA.~~

~~Note: in the event that the River banks or coastline change course over the lifespan of this Plan the boundary remains as being the line of MHWS.~~

~~(Note: s2 RMA definition: "coastal marine area" means the foreshore, seabed, and coastal water, and the air space above the water:~~

- ~~(a) of which the seaward boundary is the outer limits of the territorial sea:~~
- ~~(b) of which the landward boundary is the line of mean high water springs, except that where that line crosses a river, the landward boundary at that point shall be whichever is the lesser of:

 - ~~(i) one kilometre upstream from the mouth of the river; or~~
 - ~~(ii) the point upstream that is calculated by multiplying the width of the river mouth by five.)~~~~



Figure H:1 West Coast

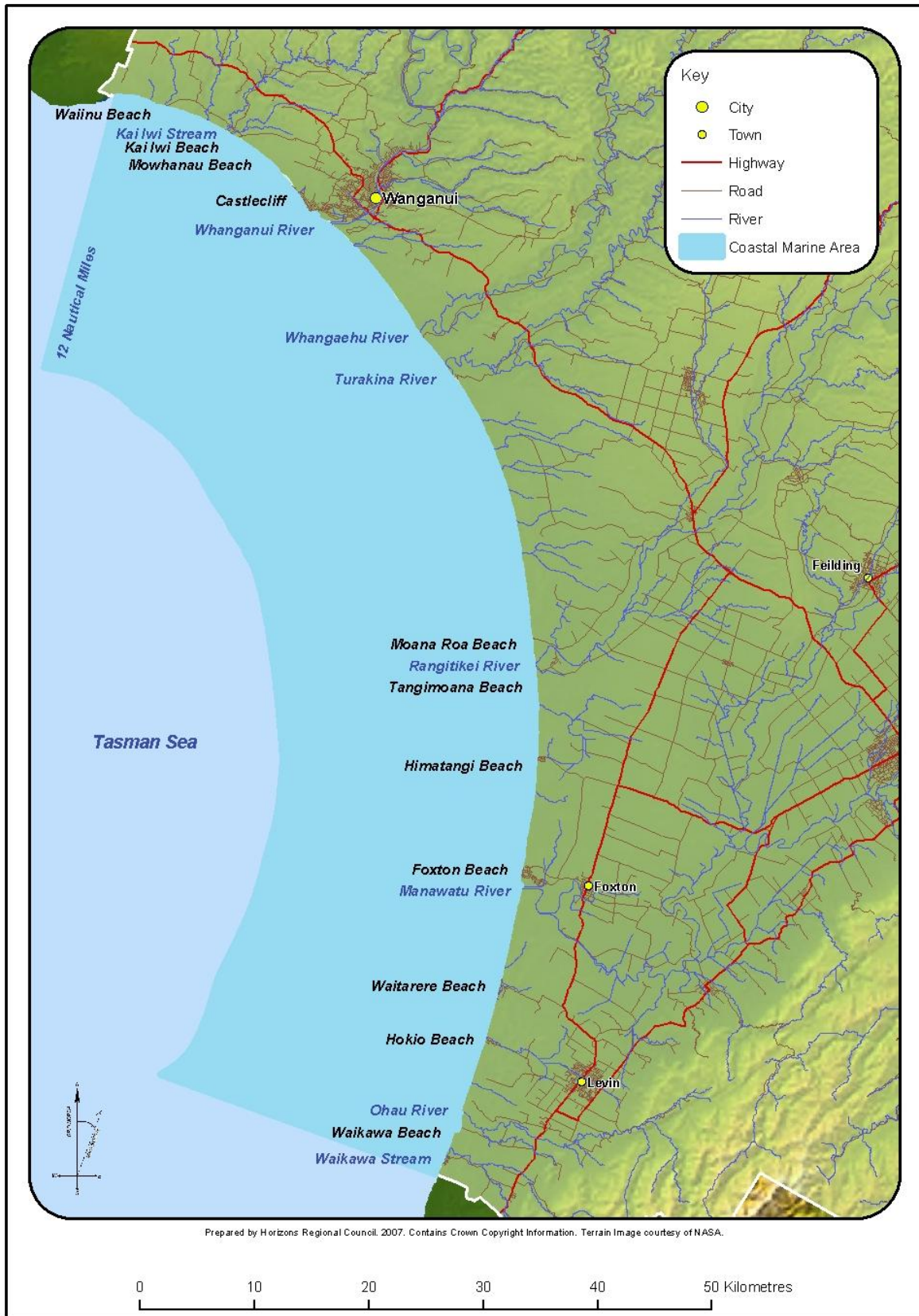


Figure H:1A West Coast CMA and some Rivers^A of the Region

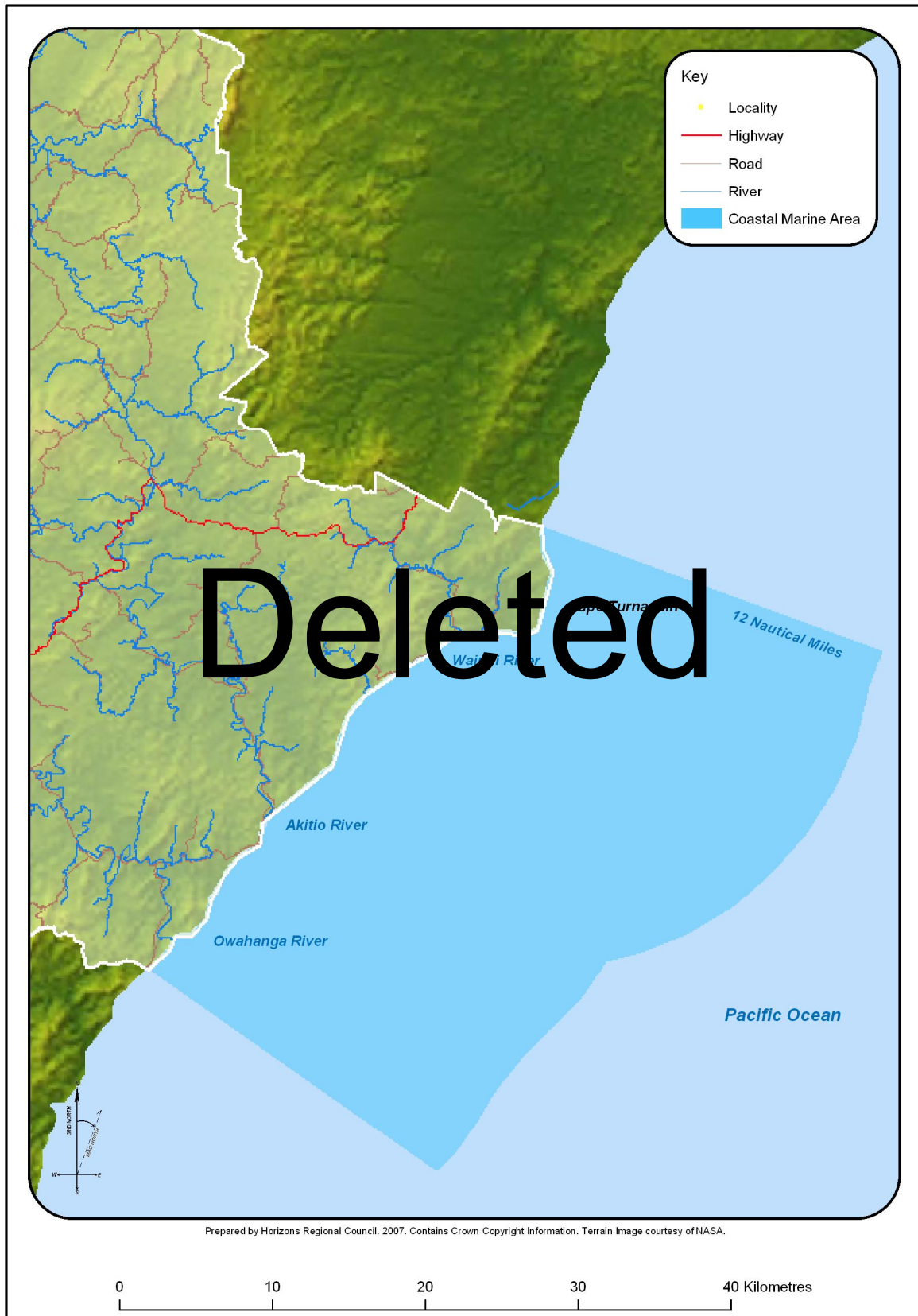


Figure H:2 – East Coast



Figure H:2A East Coast CMA and some Rivers^ of the Region

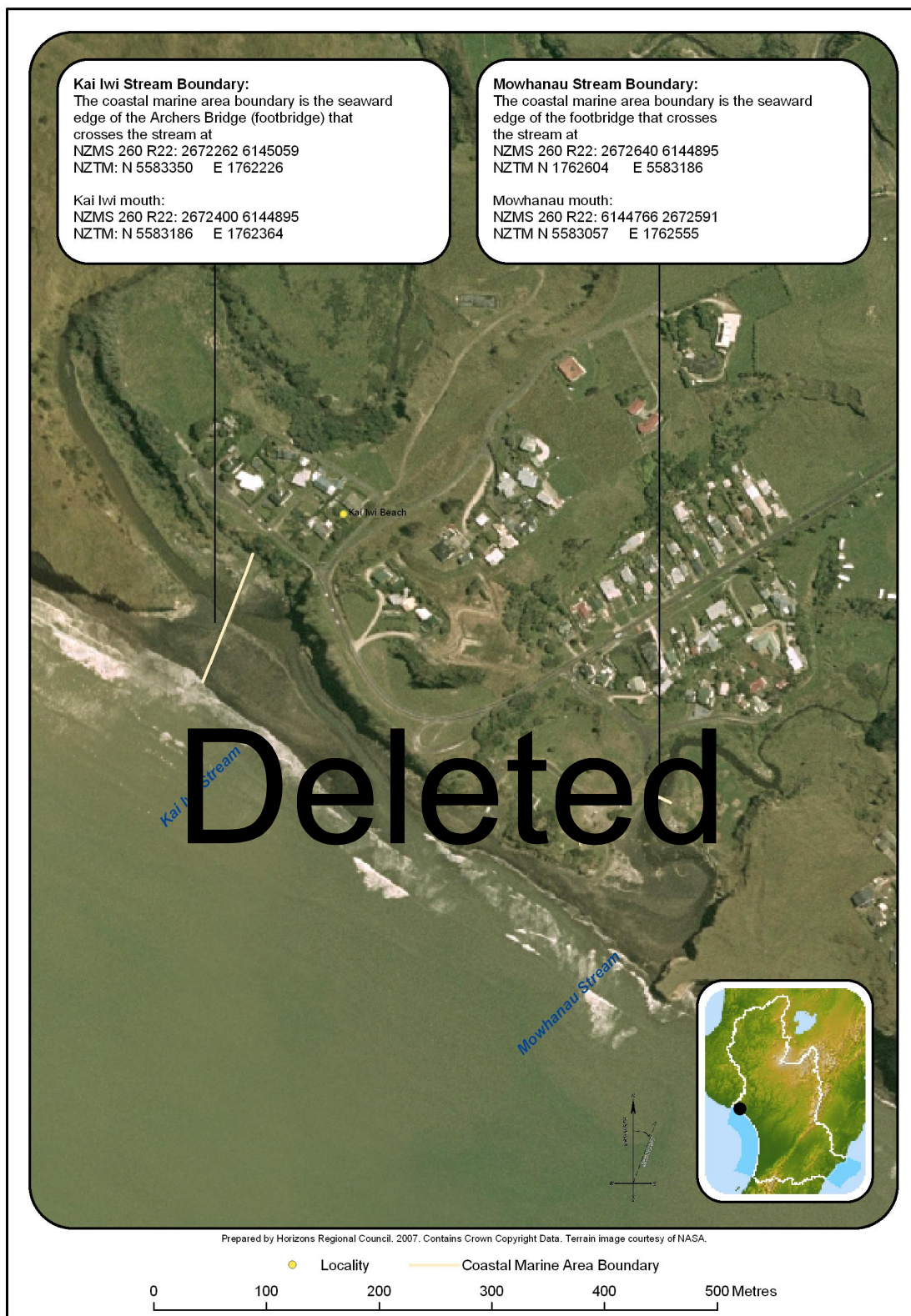


Figure H:3 Kai Iwi and Mowhanau Stream Boundaries



Figure H:3A Kai Iwi Stream and Mowhanau Stream *mouth*[^] locations, cross-river CMA boundaries and extent of the Estuary Water Management Sub-zones *



Figure H:4 Whanganui and Whangaehu River Boundaries



Figure H:4A Whanganui River and Whangaehu River *mouth*[^] locations, cross-river CMA boundaries and extent of the Estuary Water Management Sub-zones *

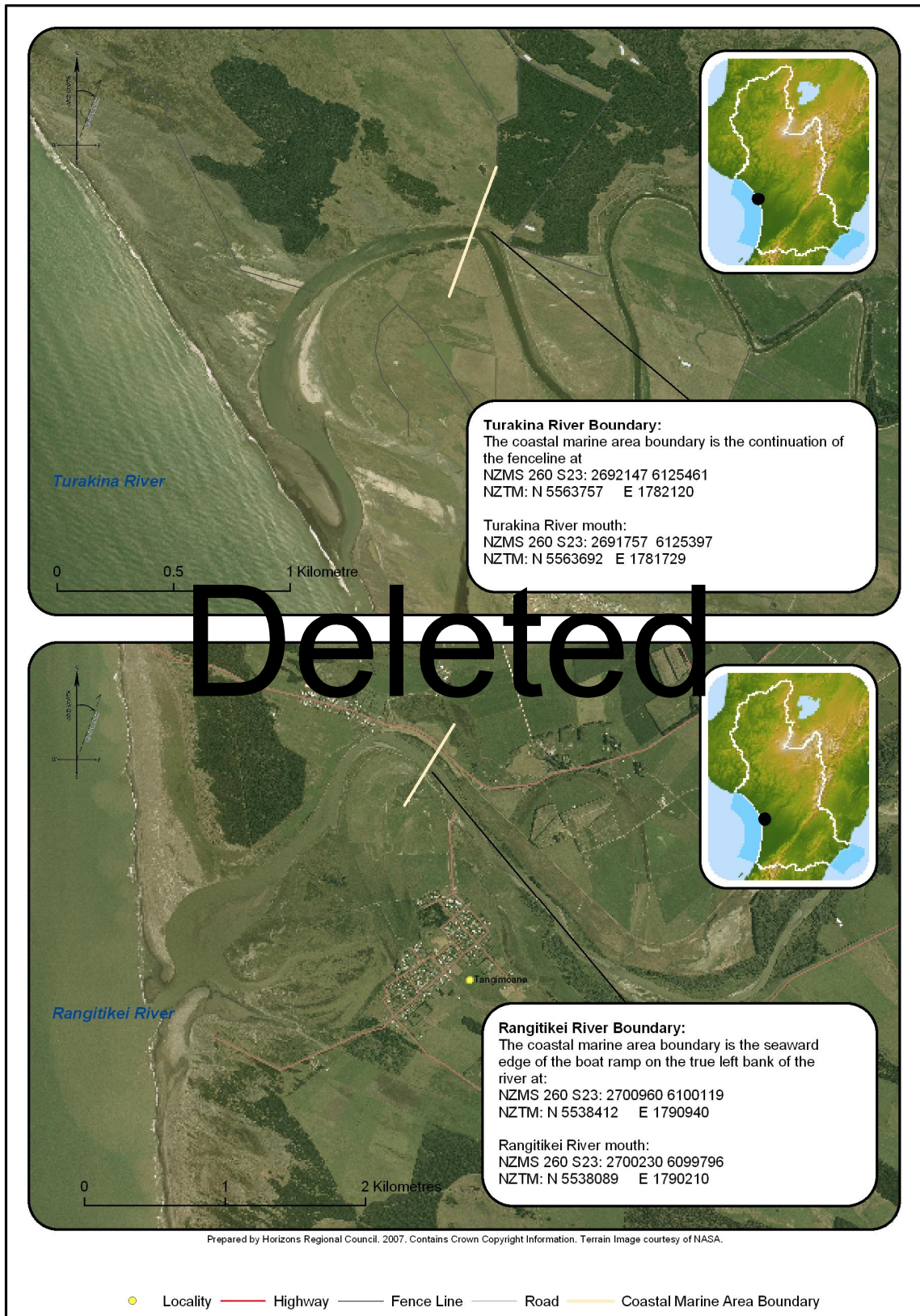


Figure H:5 Turakina and Rangitikei River Boundaries

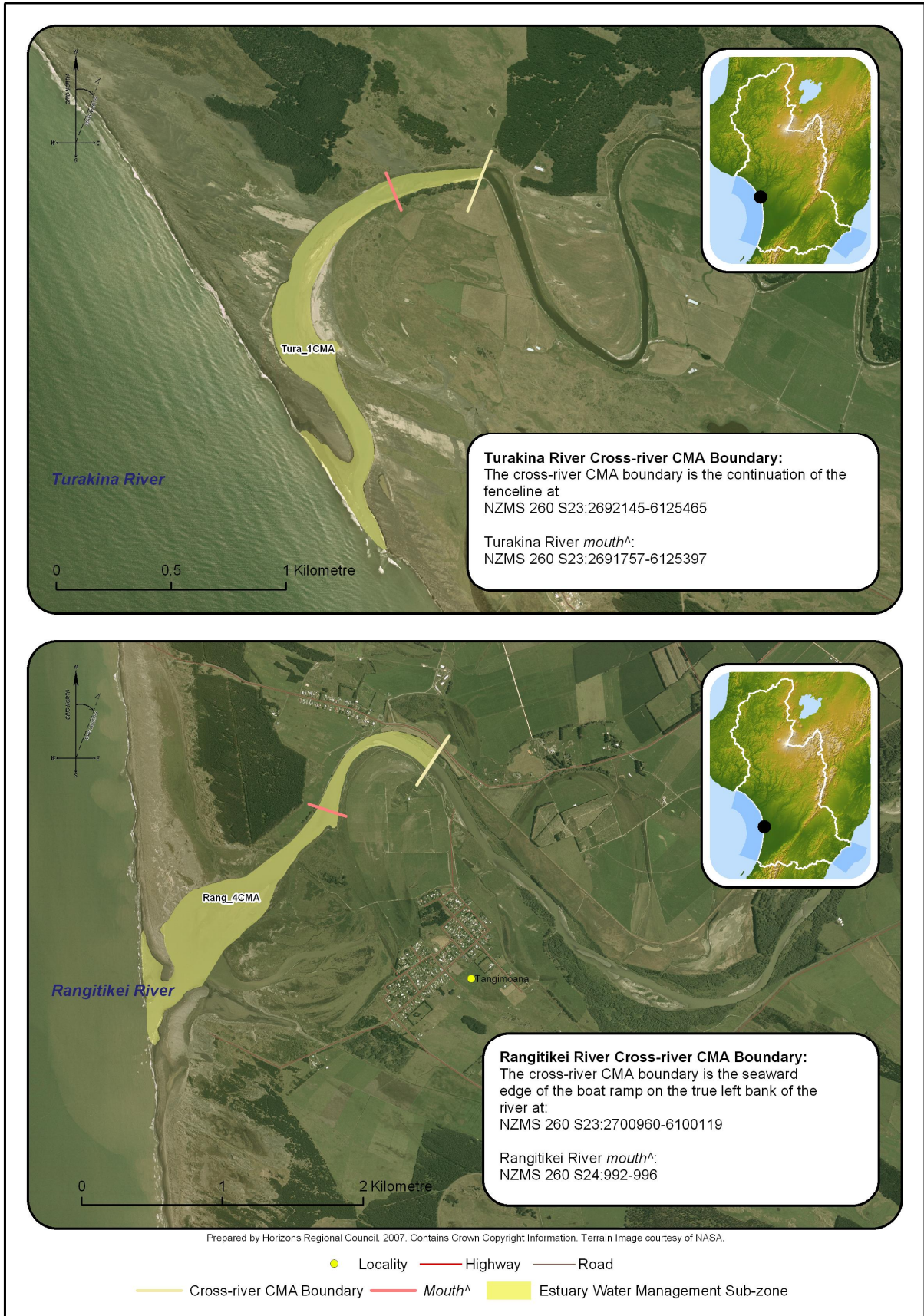


Figure H:5A Turakina River and Rangitikei River *mouth*[^] locations, cross-river CMA boundaries and extent of the Estuary Water Management Sub-zones *



Figure H:6 Manawatu River and Hokio Stream Boundaries

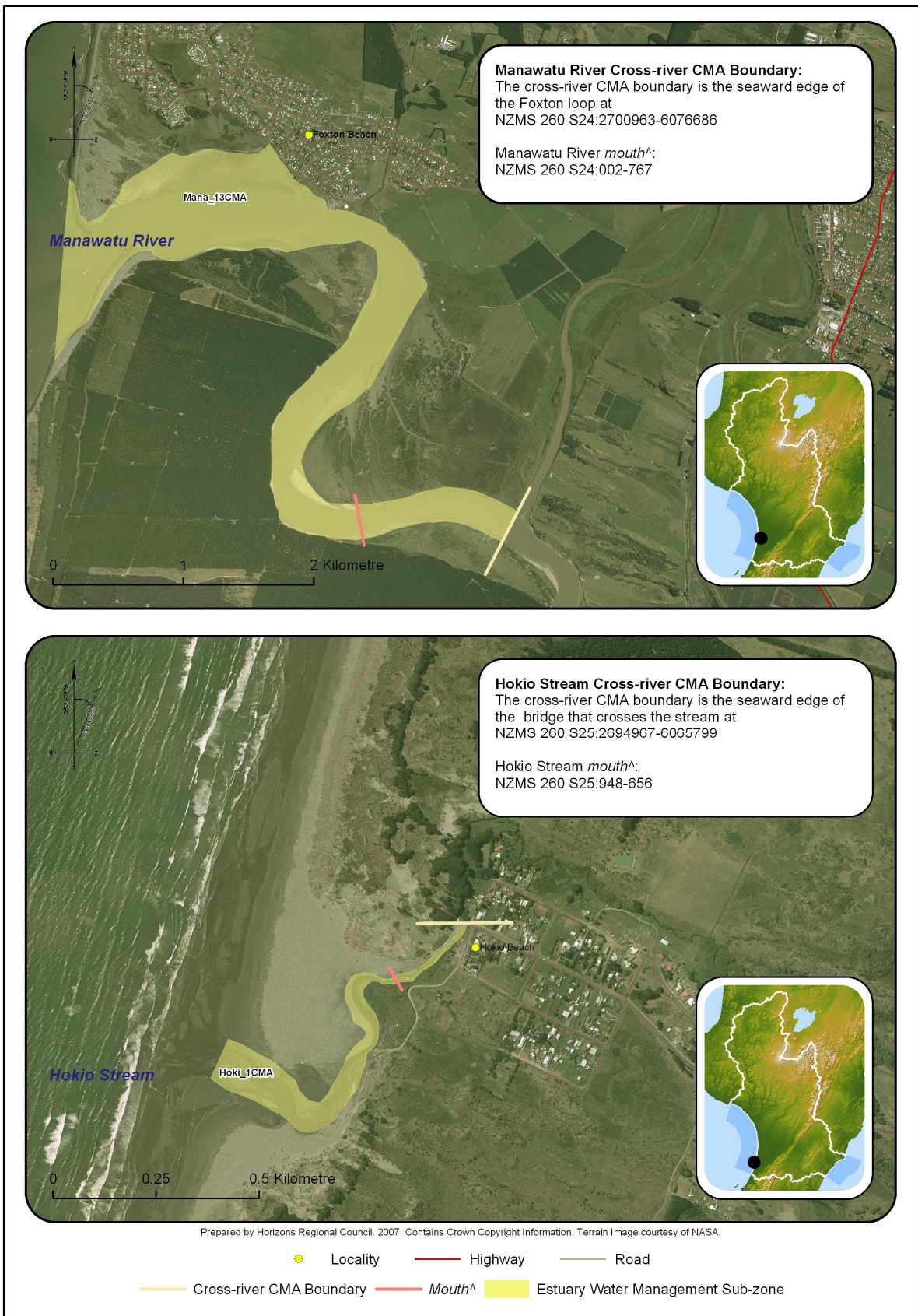


Figure H:6A Manawatu River and Hoki Stream *mouth*^ locations, cross-river CMA boundaries and extent of the Estuary Water Management Sub-zones *

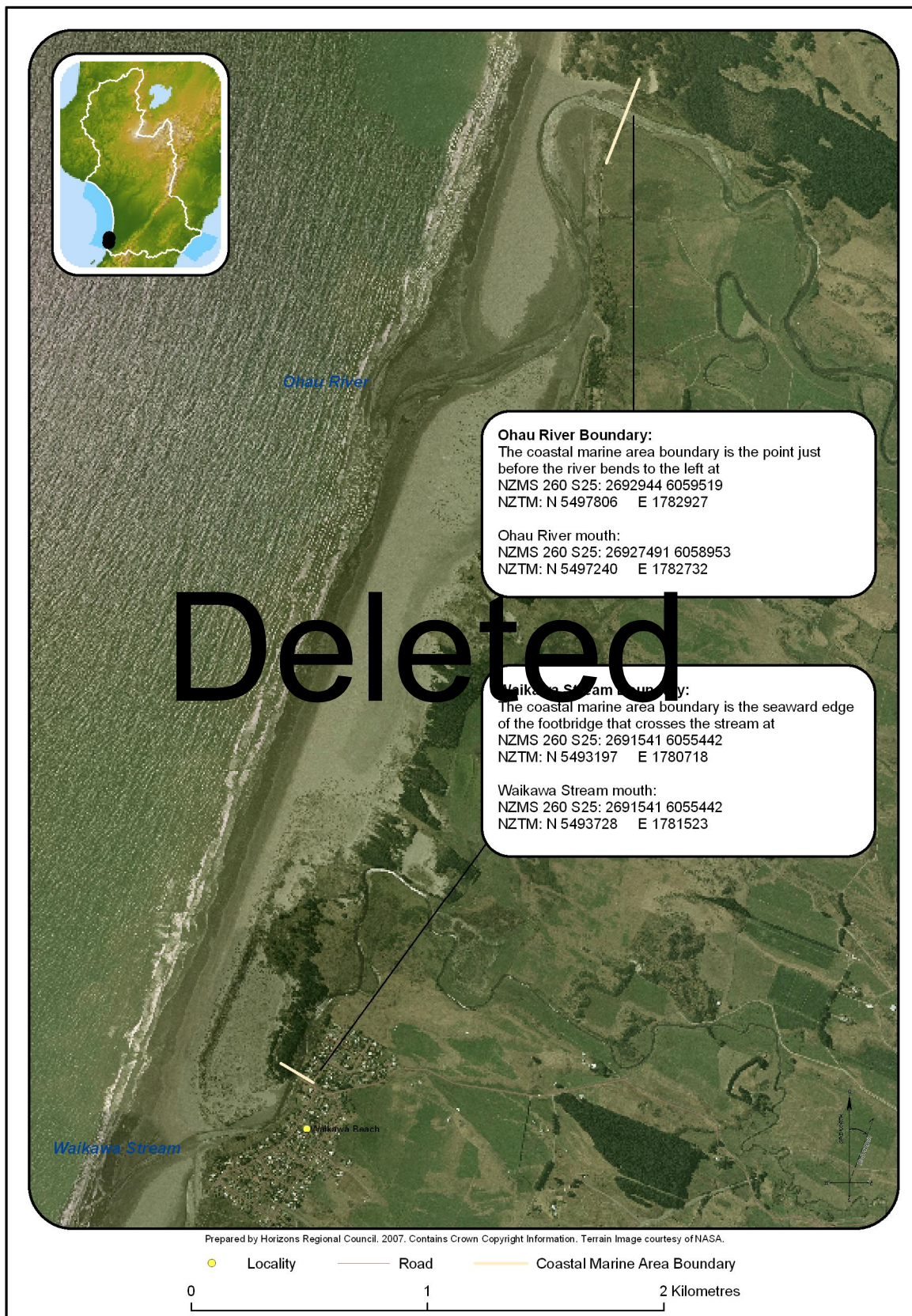


Figure H:7 Ohau River and Waikawa Stream Boundaries

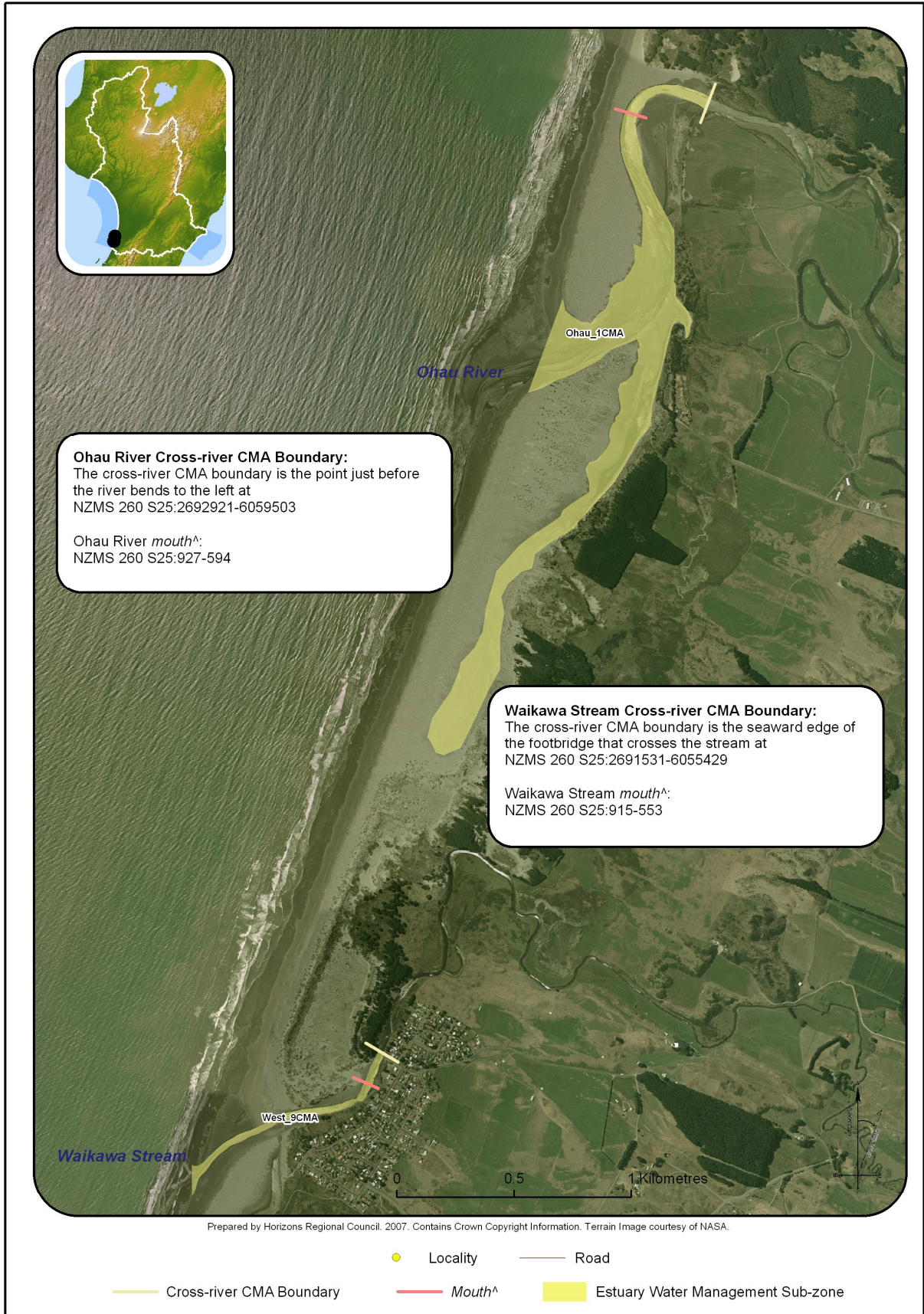


Figure H:7A Ohau River and Waikawa Stream *mouth*[^] locations, cross-river CMA boundaries and extent of the Estuary Water Management Sub-zones*

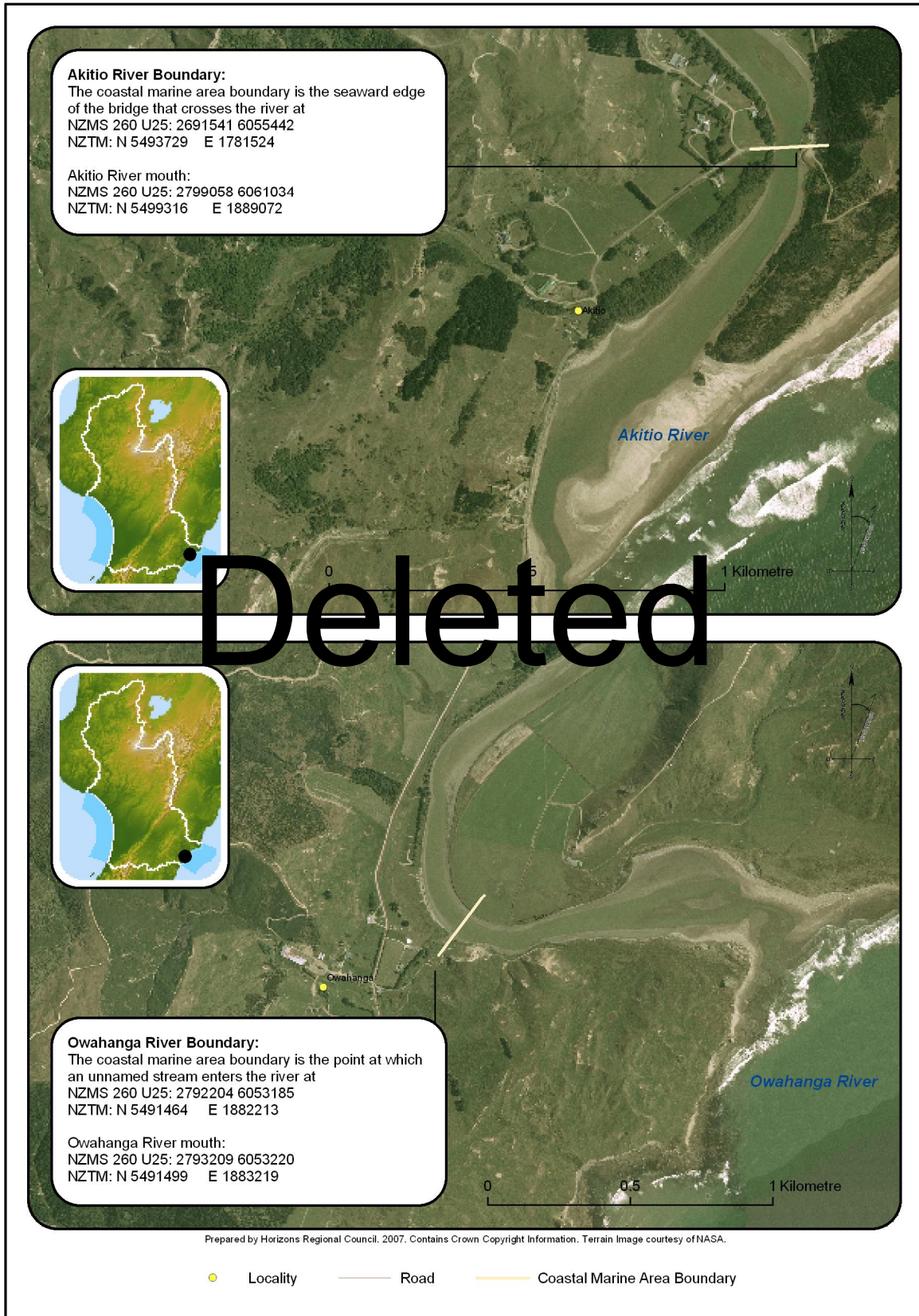


Figure H:8 Akitio River and Owahanga River Boundaries

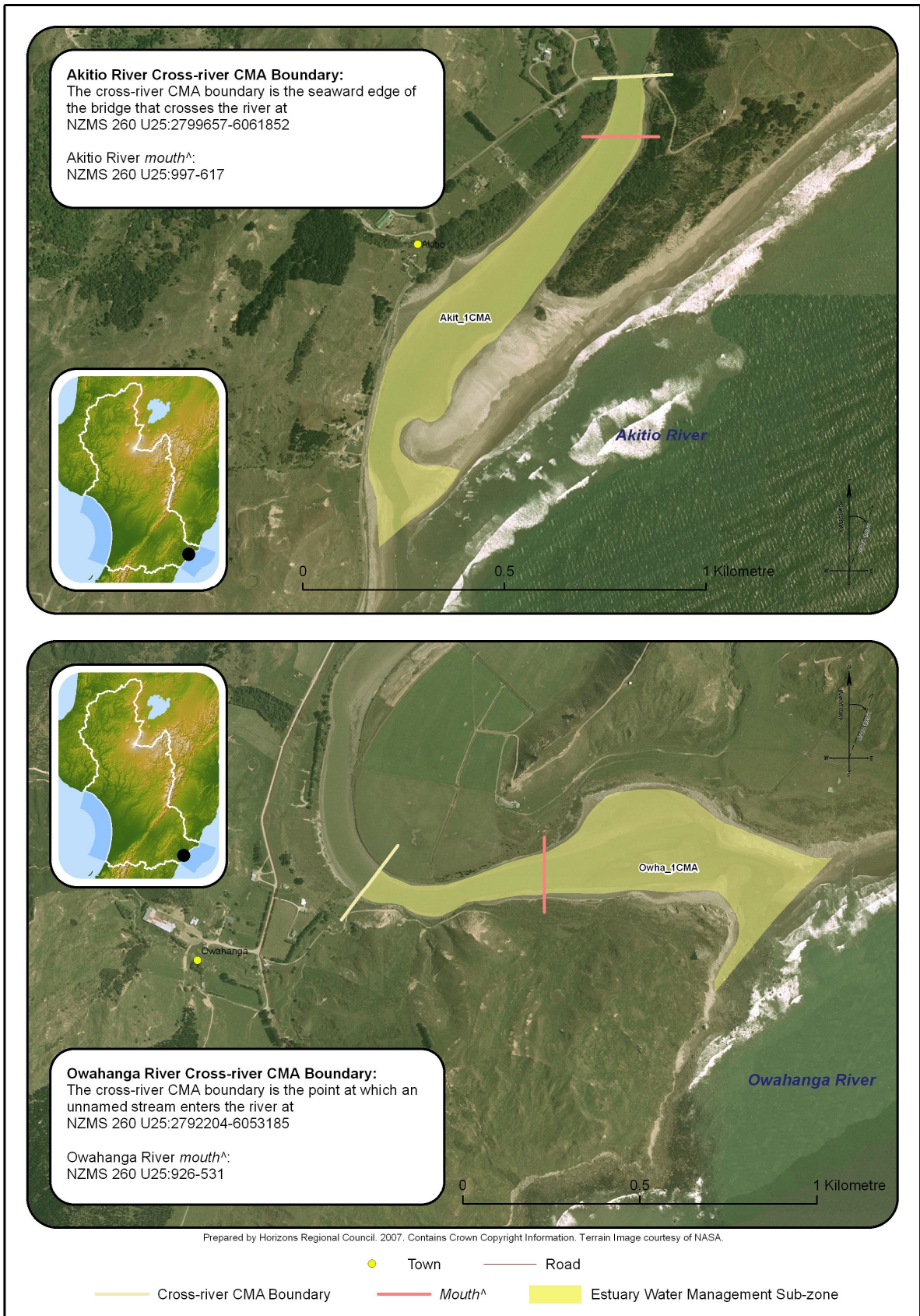


Figure H:8A Akitio River and Owahanga River *mouth*[^] locations, cross-river CMA boundaries and extent of the Estuary Water Management Sub-zones *



Figure H9 Wainui River Boundary



Figure H:9A Wainui River *mouth*[^] location, cross-river CMA boundary and extent of the Estuary Water Management Sub-zone *

3. Management Zones Maps H10-H13 Part B: Activity Management Areas

This Plan includes 3 ~~three~~ different Activity Management Areas ~~management zones~~: being the Port Zone, Protection Zones and General Activity Management Area Zone. These Activity Management Areas delineate discrete areas of the CMA within which different presumptions apply regarding the protection, use and development of the foreshore[^] and seabed.

~~The General Zone: This zone is not specifically mapped. It includes all other areas within the CMA that are not otherwise covered by the Port Zone or the Protection Zones.~~

For clarification:

- ~~the General Zone in the Whanganui River includes a band of 100 m width from the line of MHWS of the northern bank of the River, and from the edge of the Port Zone as shown in Map H10~~

~~The Port Activity Management Area Zone is depicted in Map Figure H:10A. There are some rules[^] in Chapter 20 17 which apply specifically to this Area zone.~~

For clarification:

- ~~the Port Activity Management Area Zone extends 50 m to the outside of the river[^] training wall as shown in Map Figure H:10A.~~
- ~~the identified dredging and discharge areas relate to Rule 17-243 and indicates that these activities are considered under this rule[^] (and not as an a RCA restricted coastal activity[^] under Rule 17-224).~~

~~The Protection Activity Management Areas Zones are shown in Maps Figures H:11A-13A.~~

~~There are some rules[^] in Chapter 17 which apply specifically to these Areas zones.~~

For clarification:

- ~~the landward edges of each Protection Activity Management Area Zone is the line of MHWS~~
- ~~the seaward boundary of the Cape Turnagain Protection Activity Management Area Zone extends seaward for a maximum distance of 100 m~~
- ~~the values of significance/importance characteristics relating to each Protection Activity Management Area zone and as referred to in Policy 9-2 of the Regional Policy Statement are shown in the table Table H.1 below: It is these characteristics that have led to each Area being identified as a Protection Activity Management Area and regard must be had to the characteristics by decision-makers considering use and development proposals in those Areas.~~

~~The General Activity Management Area Zone: This zone is not specifically mapped. It includes all other areas within the comprises the entire CMA that are not otherwise except those parts of the CMA covered by the Port Activity Management Area Zone or and the various Protection Activity Management Areas Zones. For clarification: In the General Zone in the Whanganui River, the General Activity Management Area includes part of the CMA comprising a band of 100 m width from the line of MHWS of the northern bank of the River, as well as a band of 50 m and from the edge of the Port Activity Management Area and includes the river[^] entrance between the South Mole and the North Mole and northern river[^] bank Zone as shown in Map Figure H:10A.~~

Table H.1: Protection Activity Management Areas: ecological and other important characteristics

Protection Activity Management Area	Ecological and other important values characteristics
Whanganui River	<ul style="list-style-type: none"> Nationally important as a nursery for freshwater and estuarine species Nationally important ecosystem for bird species Nationally important strategic <i>site*</i> for migratory bird species Provides habitat for threatened species Important roosting and feeding area for wading birds (especially shellfish beds) Important feeding and breeding ground for many fish species (especially access ways for <i>whitebait*</i> and lamprey) Corliss Island has a saltmarsh fringe and is important for hawks Languard Bluff comprises a nationally important sequence of Pleistocene sedimentary strata and pecten shells Coastal landforms and adjacent dunes are important nesting habitat
Whangaehu River	<ul style="list-style-type: none"> Nationally important strategic <i>site*</i> for migratory bird species Provides habitat for threatened bird species Important roosting and feeding area for wading birds Regionally important for its high degree of naturalness <p>Note:</p> <ul style="list-style-type: none"> The Whitiāu Scientific Reserve is located adjacent to the true right bank of the estuary There is a dense concentration of archaeological sites adjacent to the estuary
Turakina River	<ul style="list-style-type: none"> Nationally important strategic <i>site*</i> for migratory bird species Provides habitat for threatened bird species Important roosting and feeding habitat for wading birds Regionally distinct vegetation communities Regionally important for its high degree of naturalness Locally rich in archaeological sites
Rangitikei River	<ul style="list-style-type: none"> Contains regionally important plant species Regionally important for bird species Regionally important for saltmarsh communities and estuarine native turf species Provides habitat for rare and threatened bird species Important roosting and feeding area for wading birds Important for <i>whitebait*</i> spawning
Manawatu River	<ul style="list-style-type: none"> Nationally important as a nursery for freshwater and estuarine species Internationally important strategic <i>site*</i> for migratory bird species Provides habitat for rare and threatened bird species Important roosting and feeding area for wading birds Contains regionally important plant species Internationally recognised as a <i>wetland^</i> of international importance under the RAMSAR Convention Regionally important for its high degree of naturalness and diversity
Cape Turnagain	<ul style="list-style-type: none"> Important haul out area for marine mammals Important feeding, roosting and breeding area for birds (especially blue penguins) <i>Site*</i> of high value to <i>iwi*</i> <i>Site*</i> of geological importance



Figure H:10 Wanganui Port

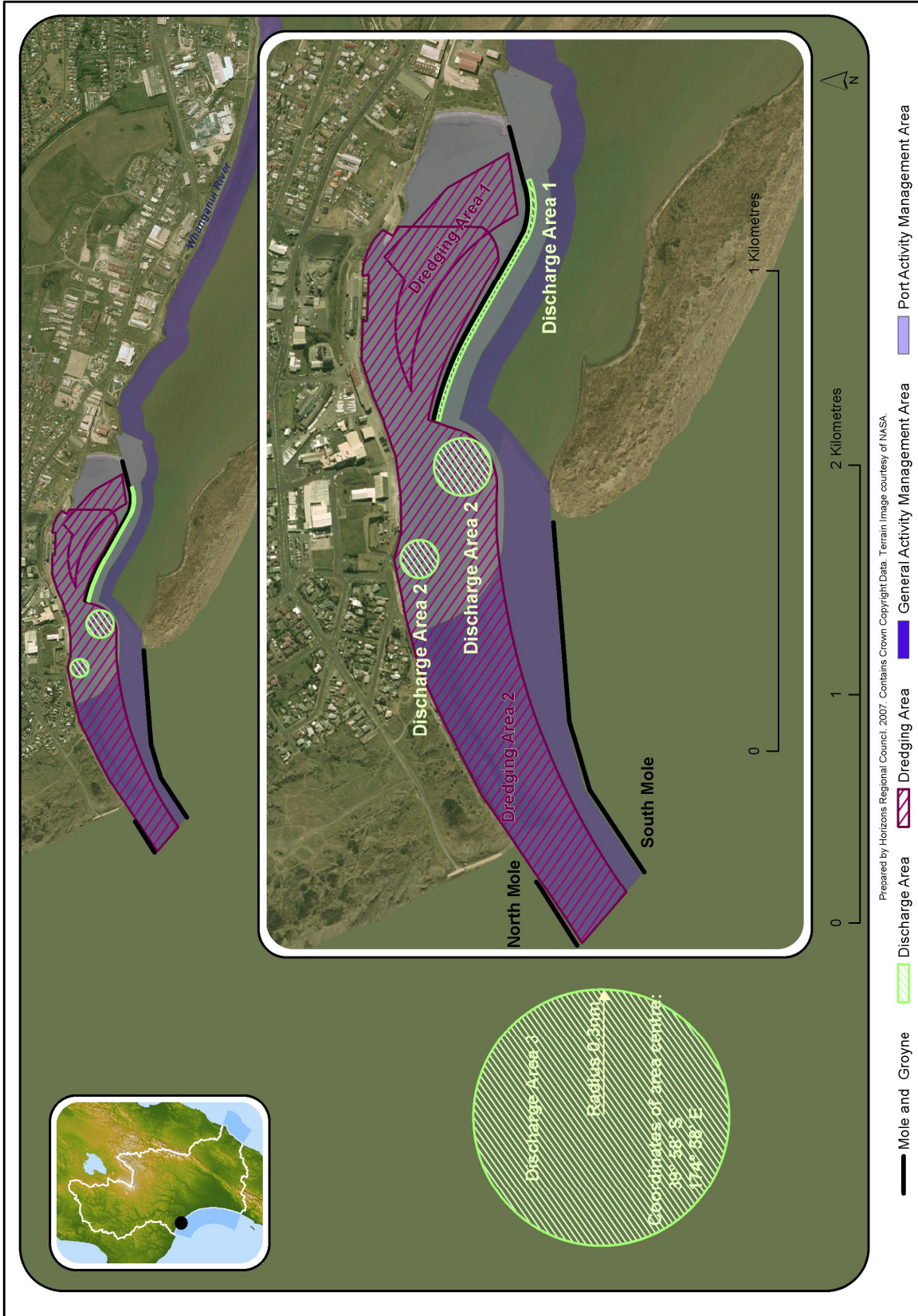


Figure H:10A Port Activity Management Area



Figure H:11 Coastal Protection



Figure H:11A Protection Activity Management Areas

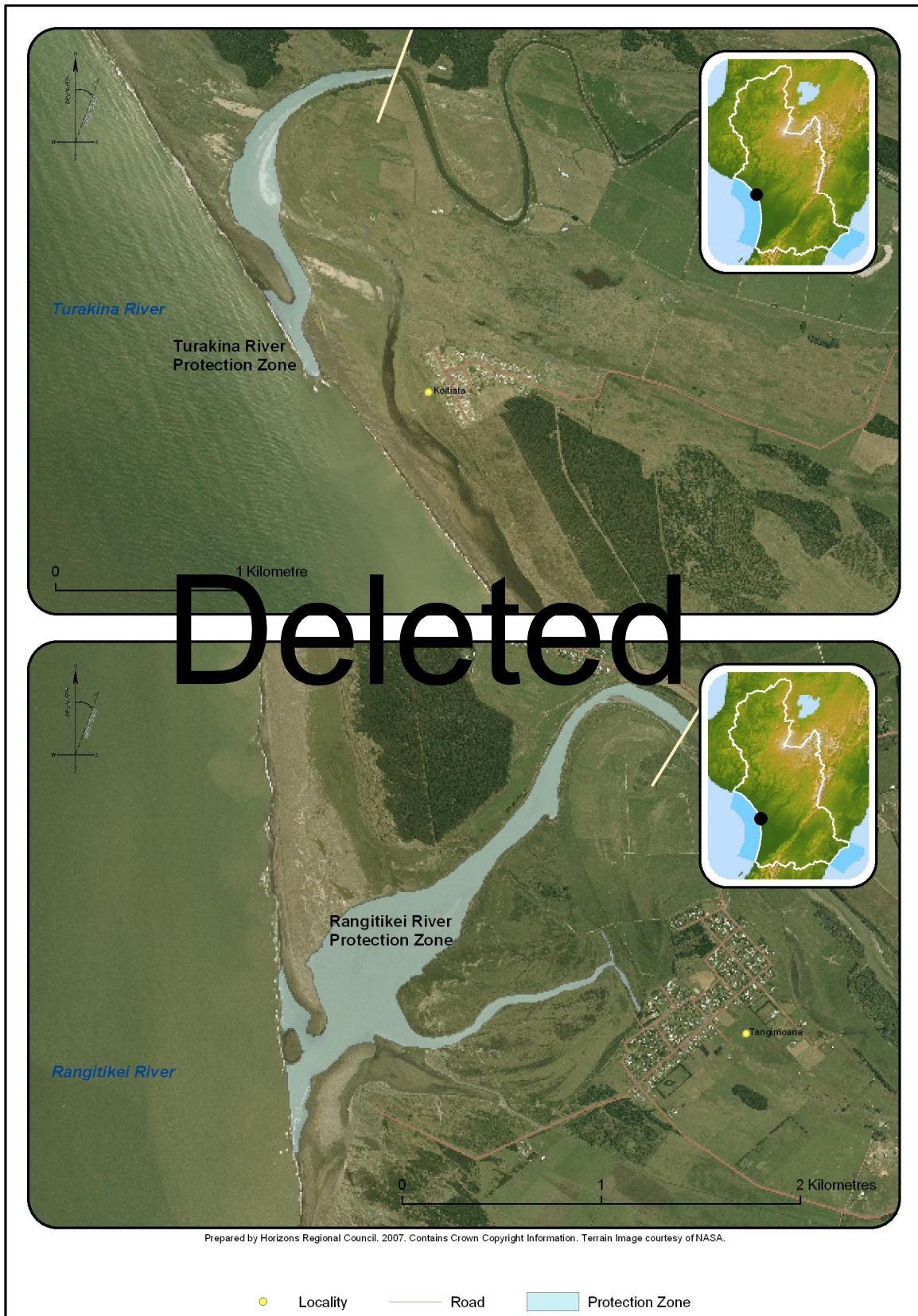


Figure H:12 Coastal Protection

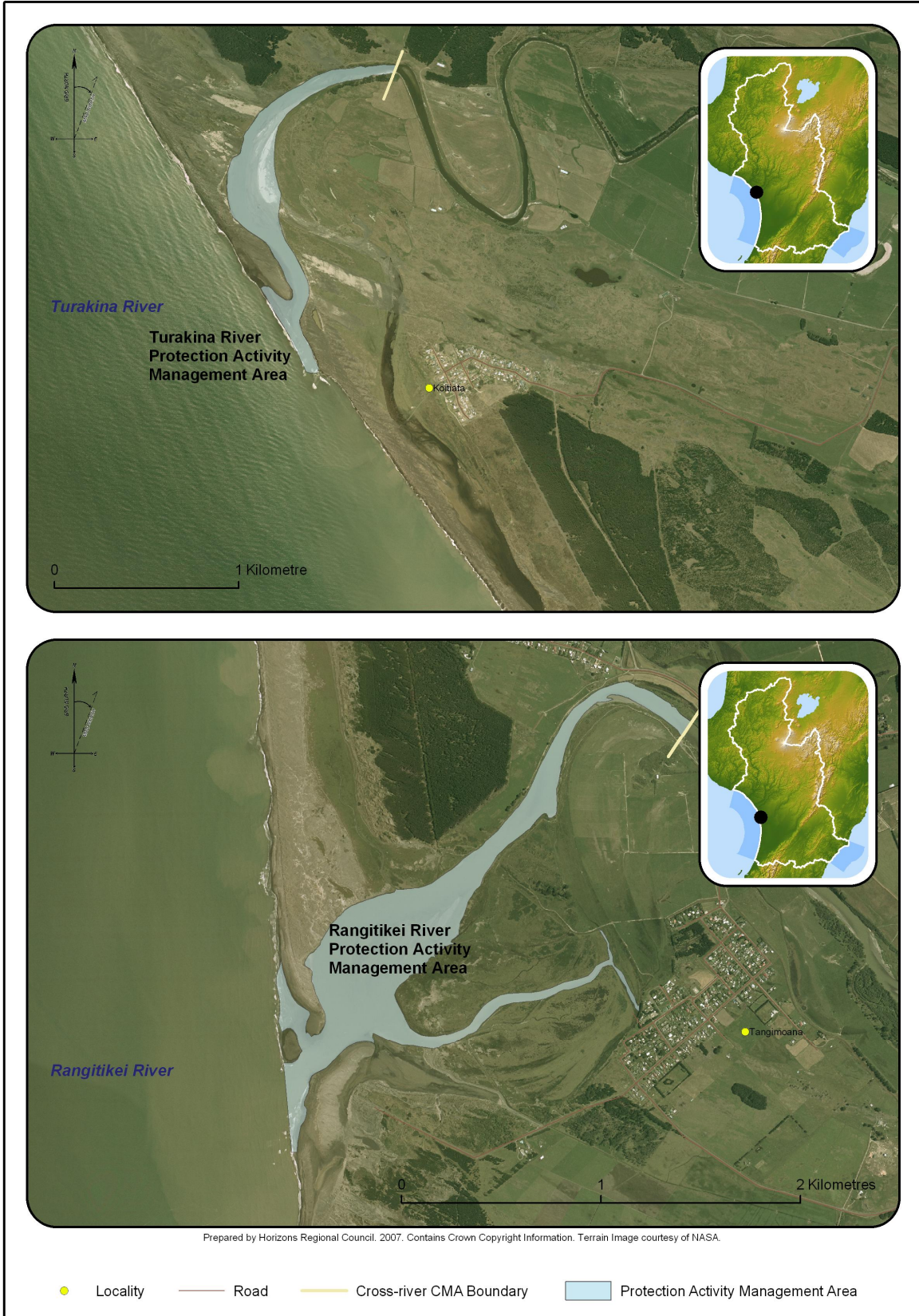


Figure H:12A Protection Activity Management Areas

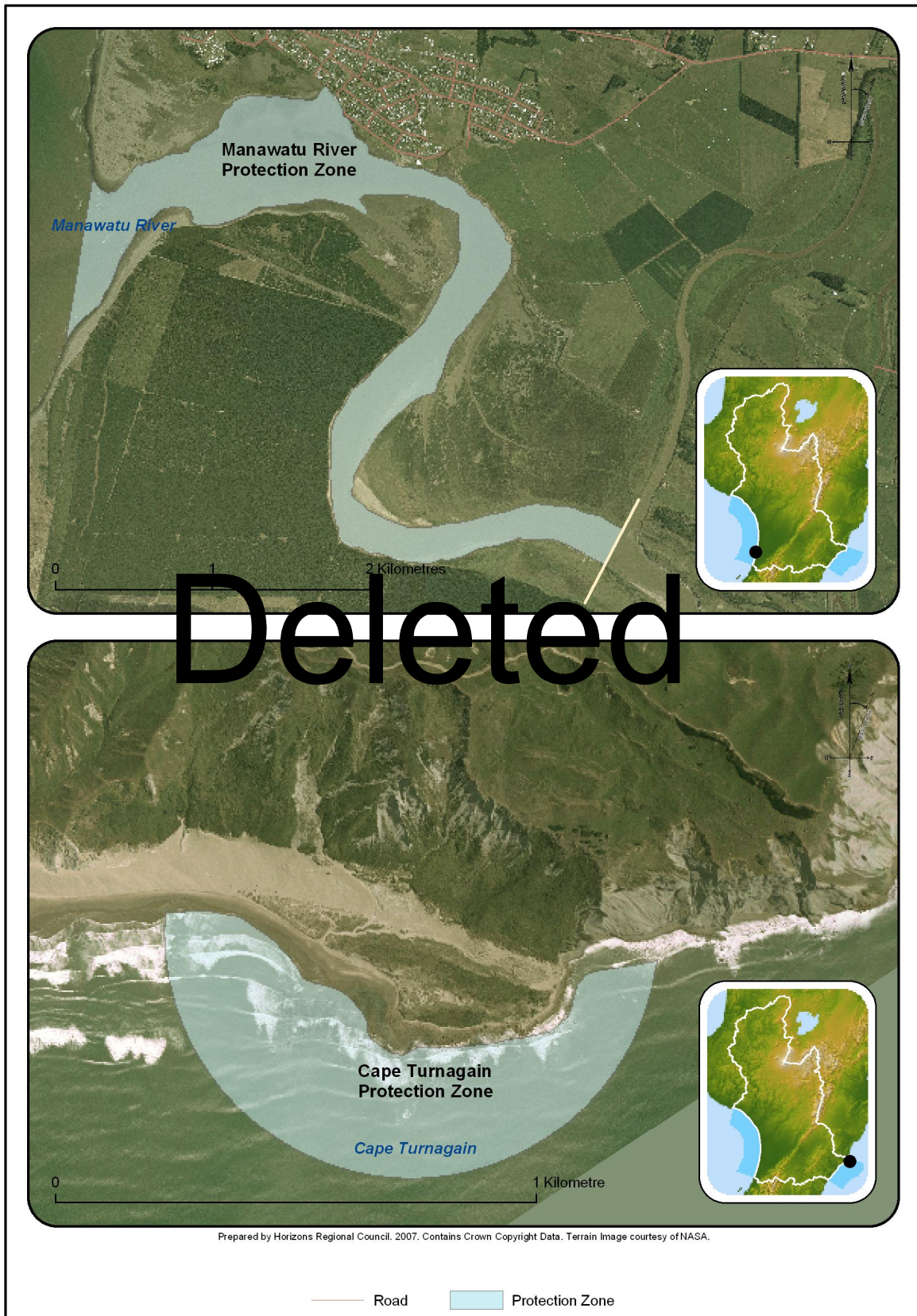


Figure H:13 Coastal Protection

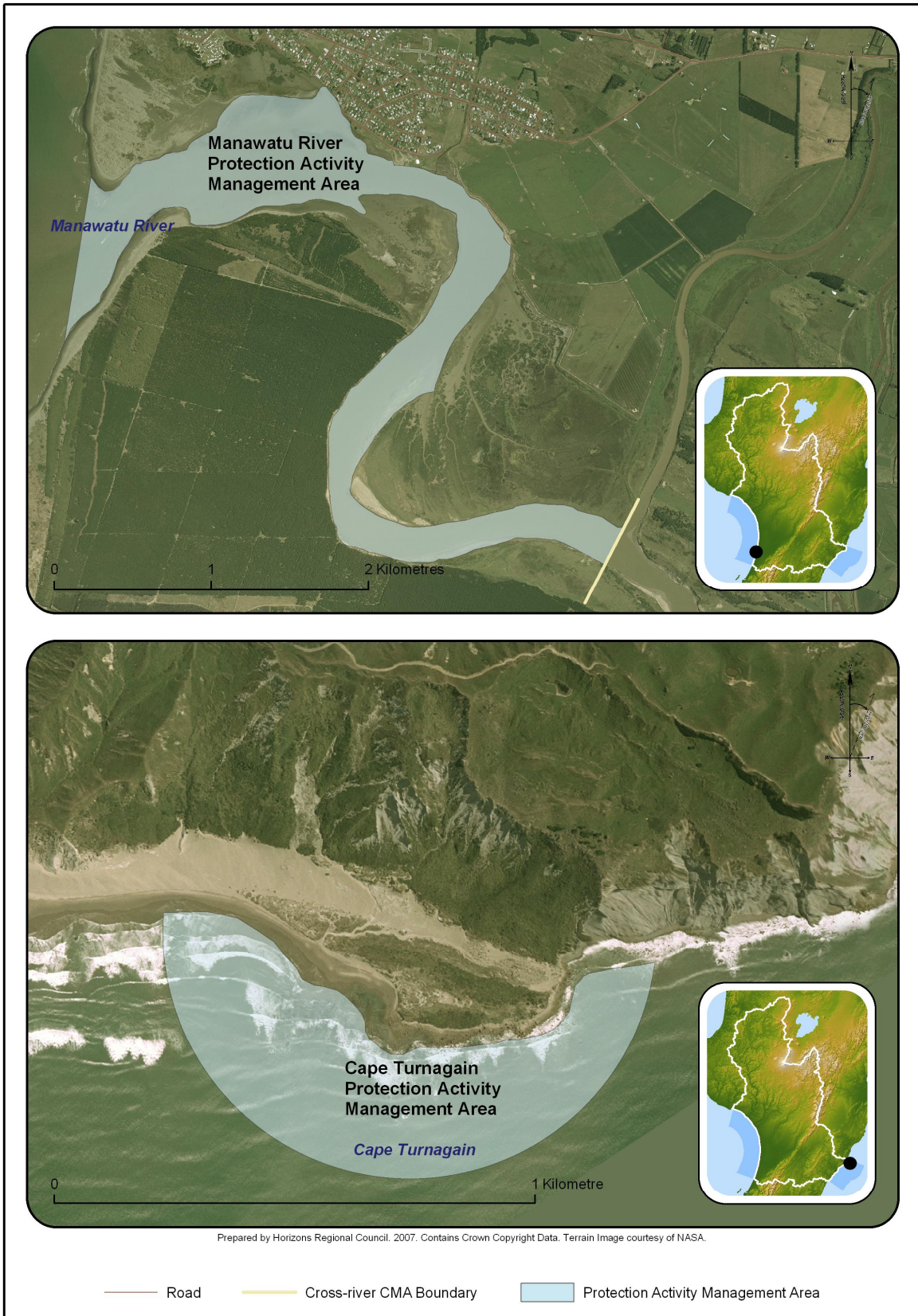


Figure H:13A Protection Activity Management Areas

Part C: Water Quality Management.

Water Management Zones* and Sub-zones*, Values, Management Objectives and Water^ Quality Targets

For *water^* quality management purposes, the CMA is divided into:

- (a) one *Seawater Management Zone** which comprises the entire CMA other than the *Estuary Water Management Sub-zones**
- (b) 13 *Estuary Water Management Sub-zones** associated with specified *estuary waters^* as shown on Figures H:3A to H:9A. The term *Sub-zone** is used because the *estuary waters^* are part of a larger *Water Management Zone** for each *river^* (see Schedule AA).

List of Tables relating to the *Seawater Management Zone and *Estuary Sub-zones**:**

<u>Table Number</u>	<u>Description</u>
<u>Table H.2</u>	<u><i>Seawater Management Zone*</i> and <i>Estuary Water Management Sub-zones*</i>: Values and Management Objectives</u>
<u>Table H.3</u>	<u><i>Seawater Management Zone*</i> and <i>Estuary Water Management Sub-zones*</i>: Where the Values apply</u>
<u>Table H.4</u>	<u><i>Estuary Water Management Sub-zones*</i>: <i>Water^</i> Quality Definitions</u>
<u>Table H.5</u>	<u><i>Estuary Water Management Sub-zones*</i>: <i>Water^</i> Quality Targets</u>
<u>Table H.6</u>	<u><i>Seawater Management Zone*</i>: <i>Water^</i> Quality Definitions</u>
<u>Table H.7</u>	<u><i>Seawater Management Zone*</i>: <i>Water^</i> Quality Targets</u>

Table H.2: Seawater Management Zone* and Estuary Water Management Sub-zones*: Values and Management Objectives

The following Values and Management Objectives apply in the *Seawater Management Zone** and *Estuary Water Management Sub-zones** listed in Table H.3.

<u>Value group</u>	<u>Values</u>	<u>Management Objective</u>
<u>Ecosystem Values</u>	<u>LSC</u>	<u>Life-supporting Capacity</u> The CMA supports healthy aquatic life / ecosystems
	<u>SOS-A</u>	<u>Sites of Significance - Aquatic</u> Sites of significance for indigenous aquatic biodiversity within the CMA are maintained or enhanced
	<u>SOS-R</u>	<u>Sites of Significance - Riparian</u> Sites of significance for indigenous riparian biodiversity within the CMA are maintained or enhanced
	<u>IS</u>	<u>Inanga Spawning</u> The CMA sustains healthy inanga spawning and egg development
	<u>WM</u>	<u>Whitebait* Migration</u> The CMA is maintained or enhanced to provide safe passage of inwardly migrating juvenile native fish known collectively as <i>whitebait*</i>
<u>Recreational and Cultural Values</u>	<u>CR</u>	<u>Contact Recreation</u> The CMA is suitable for contact recreation
	<u>Am</u>	<u>Amenity</u> The amenity values of the CMA are maintained or enhanced
	<u>Mau</u>	<u>Mauri*</u> The <i>mauri*</i> of the CMA is maintained or enhanced
	<u>SG</u>	<u>Shellfish Gathering</u> The CMA is suitable for shellfish harvesting
	<u>SOS-C</u>	<u>Sites of Significance - Cultural</u> Sites of significance for cultural values are maintained
<u>Water[^] Use</u>	<u>IA</u>	<u>Industrial Abstraction</u> The CMA is suitable as a <i>water[^]</i> source for industrial abstraction or use
<u>Social and Economic Values</u>	<u>CAP</u>	<u>Capacity to Assimilate Pollution</u> The capacity of the CMA to assimilate pollution is not exceeded
	<u>EI</u>	<u>Existing Infrastructure[^]</u> The integrity of existing <i>infrastructure[^]</i> is not compromised

Table H.3: Seawater Management Zone* and Estuary Water Management Sub-zones*: Where the Values apply**Legend:**

Table Headings: **LSC**: Life-supporting Capacity; **SOS-A**: Sites of Significance - Aquatic; **SOS-R**: Sites of Significance - Riparian; **IS**: Inanga Spawning; **WM**: *Whitebait** Migration; **CR**: Contact Recreation; **Am**: Amenity; **Mau**: *Mauri**; **SG**: Shellfish Gathering; **SOS-C**: Sites of Significance - Cultural; **IA**: Industrial Abstraction; **CAP**: Capacity to Assimilate Pollution; **EI**: Existing *Infrastructure*[^]

Key for LSC Classes: **M**: Marine; **LM**: Lowland Mixed; **HSS**: Hill Soft Sedimentary; **HM**: Hill Mixed; **LS**: Lowland Sand

The LSC Classes are listed as the geology of the catchment influences *water*[^] quality and life-supporting capacity

<u>Water Management Zone*</u>	<u>Estuary Water Management Sub-zone*</u>	<u>Zone-wide Values</u>												
		<u>LSC</u>	<u>SOS-A</u>	<u>SOS-R</u>	<u>IS</u>	<u>WM</u>	<u>CR</u>	<u>Am</u>	<u>Mau</u>	<u>SG</u>	<u>SOS-C</u>	<u>IA</u>	<u>CAP</u>	<u>EI</u>
<u>Seawater Management Zone* (entire CMA excluding Estuary Water Management Sub-zones*)</u>	<u>N/A</u>	<u>M</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>Coastal Manawatu (Mana 13)</u>	<u>Manawatu Estuary (Mana 13CMA) See Figure H:6A</u>	<u>LM</u>		<u>✓^{1,2}</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>		<u>✓⁴</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>Coastal Rangitikei (Rang 4)</u>	<u>Rangitikei Estuary (Rang 4CMA) See Figure H:5A</u>	<u>LM</u>		<u>✓¹</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>Lower Whanganui (Whai 7)</u>	<u>Whanganui Estuary (Whai 7CMA) See Figure H:4A</u>	<u>LM</u>		<u>✓^{1,2}</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>Coastal Whangaehu (Whau 4)</u>	<u>Whangaehu Estuary (Whau 4CMA) See Figure H:4A</u>	<u>HSS</u>		<u>✓^{1,2}</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>Turakina (Tura 1)</u>	<u>Turakina Estuary (Tura 1CMA) See Figure H:5A</u>	<u>HSS</u>		<u>✓^{1,2}</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>

1 Gravel and sand (dotterel)

2 Mud / silt habitat and estuarine roosts (wadlers)

3 Shortjaw kokopu and redfin bully

4 Density of cultural and historical sites* of significance including *wāhi tapu** and *taonga**. Details of the particular location of these sites* are available from Rangitaane o Manawatu.

<u>Water Management Zone*</u>	<u>Estuary Water Management Sub-zone*</u>	<u>Zone-wide Values</u>												
		<u>LSC</u>	<u>SOS-A</u>	<u>SOS-R</u>	<u>IS</u>	<u>WM</u>	<u>CR</u>	<u>Am</u>	<u>Mau</u>	<u>SG</u>	<u>SOS-C</u>	<u>IA</u>	<u>CAP</u>	<u>EI</u>
<u>Ohau (Ohau_1)</u>	<u>Ohau Estuary (Ohau_1CMA)</u> <u>See Figure H:7A</u>	<u>HM</u>		<u>✓^{1,2}</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>Lake Horowhenua (Hoki_1)</u>	<u>Hokio Estuary (Hoki_1CMA)</u> <u>See Figure H:6A</u>	<u>LS</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>Owahanga (Owha_1)</u>	<u>Owahanga Estuary (Owha_1CMA)</u> <u>See Figure H:8A</u>	<u>HSS</u>					<u>✓</u>	<u>✓</u>	<u>✓</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>East Coast (East_1)</u>	<u>Wainui Estuary (East_1CMA)</u> <u>See Figure H:9A</u>	<u>HSS</u>		<u>✓²</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>Akitio (Akit_1)</u>	<u>Akitio Estuary (Akit_1CMA)</u> <u>See Figure H:8A</u>	<u>HSS</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>Kai Iwi (West_2)</u>	<u>Kai Iwi Estuary (West_2CMA)</u> <u>See Figure H:3A</u>	<u>HSS</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>Mowhanau (West_3)</u>	<u>Mowhanau Estuary (West_3CMA)</u> <u>See Figure H:3A</u>	<u>LM</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>Waikawa (West_9)</u>	<u>Waikawa Estuary (West_9CMA)</u> <u>See Figure H:7A</u>	<u>HM</u>	<u>✓³</u>	<u>✓^{1,2}</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>

- 1 Gravel and sand (dotterel)
- 2 Mud / silt habitat and estuarine roosts (waders)
- 3 Shortjaw kokopu and redfin bully

Table H.4: Estuary Water Management Sub-zones*: Water^A Quality Definitions

The water^A quality targets for the Estuary Water Management Sub-Zones*, as defined in Table H.5, must read as follows (the numerical values in Table H.5 are indicated by [...])

Abbreviations used in Table H.5		Full wording of the target
Header	Sub-header	
Temp (°C)	≤	The temperature of the water ^A must not exceed [...] degrees Celsius.
DO (%SAT)	≥	The concentration of dissolved oxygen must exceed [...] % of saturation.
Algal biomass Chl a (mg/m ³)	≤	The annual average algal biomass must not exceed [...] milligrams of chlorophyll a per cubic metre.
Macro-algae (% cover)	≤	The maximum cover of visible shore surface by macro-algae must not exceed [...] %.
DRP (g/m ³)	≤	The annual average concentration of dissolved reactive phosphorus (DRP) when the river ^A flow is at or below the 20 th flow exceedance percentile* must not exceed [...] grams per cubic metre.
SIN (g/m ³)	≤	The annual average concentration of soluble inorganic nitrogen (SIN) ¹ when the river ^A flow is at or below the 20 th flow exceedance percentile* must not exceed [...] grams per cubic metre.
Ammoniacal nitrogen ² (g/m ³)	≤	The average concentration of ammoniacal nitrogen must not exceed [...] grams per cubic metre.
Tox.	%	For toxicants not otherwise defined in these targets, the concentration of toxicants in the water ^A must not exceed the trigger values for coastal waters defined in the 2000 ANZECC guidelines Table 3.4.1 as the level of protection for [...] % of species. For metals the trigger value must be adjusted for hardness and apply to the dissolved fraction as directed in the table.
<i>E.coli</i> / 100 ml	< 50 th %ile	The concentration of <i>Escherichia coli</i> must not exceed [...] per 100 millilitres 1 November - 30 April (inclusive) when the river ^A flow is at or below the 50 th flow exceedance percentile*.
	< 20 th %ile	The concentration of <i>Escherichia coli</i> must not exceed [...] per 100 millilitres year round when the river ^A flow is at or below the 20 th flow exceedance percentile*.
Euphotic depth	%Δ	The euphotic depth must not be reduced by more than [...] %.
Visual clarity (m)	%Δ	The visual clarity of the water ^A measured as the horizontal sighting range of a black disc must not be reduced by more than [...] %.
	≥	The visual clarity of the water ^A measured as the horizontal sighting range of a black disc must equal or exceed [...] metres when the river ^A is at or below the 50 th flow exceedance percentile*.

¹ Soluble Inorganic Nitrogen (SIN) concentration is measured as the sum of nitrate nitrogen, nitrite nitrogen and ammoniacal nitrogen or the sum of total oxidised nitrogen and ammoniacal nitrogen

² Ammoniacal nitrogen is a component of SIN. SIN standards should also be considered when assessing ammoniacal nitrogen concentrations against the standards

Table H.5: Estuary Water Management Sub-zones*: Water[^] Quality Targets

The following water[^] quality targets apply to the Estuary Water Management Sub-zones*

Water Management Zone*	Estuary Sub-zone*	Temp (°C)	DO (%SAT)	Algal Biomass	Macro-algae	DRP (g/m ³)	SIN (g/m ³)	Ammoniacal Nitrogen (g/m ³)	Tox.	E.coli / 100 ml		Euphotic Depth	Visual Clarity (m)	Visual Clarity (m)
		≤	≥	Chl a (mg/m ³)	% cover	≤	≤	≤	%	<50 th %ile	<20 th %ile	%Δ	≥	%Δ
<u>Coastal Manawatu (Mana 13)</u>	<u>Manawatu Estuary (Mana 13CMA)</u>	24	70	4	5	0.015	0.444	0.400	95	260	550	10	1.2	20
<u>Coastal Rangitikei (Rang 4)</u>	<u>Rangitikei Estuary (Rang 4CMA)</u>	24	70	4	5	0.015	0.167	0.400	95	260	550	10	1.2	20
<u>Lower Whanganui (Whai 7)</u>	<u>Whanganui Estuary (Whai 7CMA)</u>	24	70	4	5	0.015	0.167	0.400	95	260	550	10	1.2	20
<u>Coastal Whangaehu (Whau 4)</u>	<u>Whangaehu Estuary (Whau 4CMA)</u>	22	70	4	5	0.015	0.167	0.400	95	260	550	10	1.2	20
<u>Turakina (Tura 1)</u>	<u>Turakina Estuary (Tura 1CMA)</u>	22	70	4	5	0.015	0.167	0.400	95	260	550	10	1.2	20
<u>Ohau (Ohau 1)</u>	<u>Ohau Estuary (Ohau 1CMA)</u>	22	70	4	5	0.010	0.110	0.400	95	260	550	10	1.2	20
<u>Lake Horowhenua (Hoki 1)</u>	<u>Hokio Estuary (Hoki 1CMA)</u>	24	70	4	5	0.015	0.167	0.400	95	260	550	10	1.2	20
<u>Owahanga (Owha 1)</u>	<u>Owahanga Estuary (Owha 1CMA)</u>	22	70	4	5	0.015	0.167	0.400	95	260	550	10	1.2	20
<u>East Coast (East 1)</u>	<u>Wainui Estuary (East 1CMA)</u>	22	70	4	5	0.015	0.167	0.400	95	260	550	10	1.2	20
<u>Akitio (Akit 1)</u>	<u>Akitio Estuary (Akit 1CMA)</u>	22	70	4	5	0.015	0.167	0.400	95	260	550	10	1.2	20
<u>Kai Iwi (West 2)</u>	<u>Kai Iwi Estuary (West 2CMA)</u>	22	70	4	5	0.015	0.167	0.400	95	260	550	10	1.2	20
<u>Mowhanau (West 3)</u>	<u>Mowhanau Estuary (West 3CMA)</u>	24	70	4	5	0.015	0.167	0.400	95	260	550	10	1.2	20
<u>Waikawa (West 9)</u>	<u>Waikawa Estuary (West 9CMA)</u>	22	70	4	5	0.010	0.167	0.400	95	260	550	10	1.2	20

Table H.6: Seawater Management Zone*: Water^A Quality Definitions

The water^A quality targets for the Seawater Management Zone*, as defined in Table H.7, must read as follows (the numerical values in Table H.7 are indicated by [...])

Abbreviations used in Table H.7		Full wording of the target
Header	Sub-header	
DO (%SAT)	≥	The concentration of dissolved oxygen must exceed [...] % of saturation.
Algal biomass Chl a (mg/m ³)	≤	The annual average algal biomass must not exceed [...] milligrams of chlorophyll a per cubic metre.
TP (g/m ³)	≤	The annual average concentration of total phosphorus must not exceed [...] grams per cubic metre.
TN (g/m ³)	≤	The annual average concentration of total nitrogen must not exceed [...] grams per cubic metre.
Ammoniacal nitrogen (g/m ³)	≤	The average concentration of ammoniacal nitrogen must not exceed [...] grams per cubic metre.
Tox.	%	For toxicants not otherwise defined in these targets, the concentration of toxicants in the water ^A must not exceed the trigger values for coastal waters defined in the 2000 ANZECC guidelines Table 3.4.1 for the level of protection of [...] % of species. For metals the trigger value must be adjusted for hardness and apply to the dissolved fraction as directed in the table.
Visual clarity (m)	%Δ	The visual clarity of the water ^A measured as the horizontal sighting range of a black disc must not be reduced by more than [...] %.
	≥	The visual clarity of the water ^A measured as the horizontal sighting range of a black disc must equal or exceed [...] metres.
Enterococci	1 November - 30 April (inclusive)	The concentration of enterococci must not exceed [...] per 100 millilitres 1 November - 30 April (inclusive).
	1 May - 31 October (inclusive)	The concentration of enterococci must not exceed [...] per 100 millilitres 1 May - 31 October (inclusive).
Faecal coliforms	≤	The median concentration of faecal coliforms must not exceed [...] per 100 millilitres.
	90 th %ile	The 90 th percentile concentration of faecal coliforms must not exceed [...] per 100 millilitres.

Table H.7: Seawater Management Zone*: Water[^] Quality Targets

The following water[^] quality targets apply to the Seawater Management Zone*

Management Zone	DO (%SAT)	Algal Biomass	TP (g/m ³)	TN (g/m ³)	Ammoniacal Nitrogen (g/m ³)	Tox.	Visual Clarity (m)		Enterococci		Faecal Coliforms	
	≥	Chl a (mg/m ³)	≤	≤	≤	(%)	≥	%Δ	1 Nov - 30 April	1 May - 31 Oct	≤	90 th ile
Seawater Management Zone*	90	3	0.010	0.060	0.060	99	1.6	20	140	280	14	43