

Boundary options assessment report associated with the Mimiwhangata marine reserve proposal



Photo credit: Roger Grace

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WHANGAREI.

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2.0 Executive summary

This report evaluates a range of boundary options for a marine reserve proposed at Mimiwhangata.

Appended information includes legislative and policy considerations, **(Appendix 1)**, and consultation undertaken by the Department of Conservation with regard to the proposal, **(Appendix 2)**.

The Department of Conservation received 1109 submissions in response to the *“Marine Reserve Proposal. Mimiwhangata: Community Discussion Document”*, (the Discussion Document). Many of the respondents commented on the size and location of the proposed reserve area(s).

‘Alternative boundary’ submissions, i.e. different to Options 1 and 2 in the Discussion Document, were sorted into 6 groups to assist in identifying different ‘types’ and sizes of boundary suggestions.

Boundary options considered for further, or ‘formal’ assessment’, include:

- Boundary lines associated with Options 1 and 2.
- Alternative boundary options as suggested in submissions to the Discussion Document.
- Boundary options as identified during field trips to Mimiwhangata between 6.9.04 and 5.8.05.

From these boundary options, a short list was identified for formal assessment. The ecological, social, cultural and technical considerations that assisted in identifying this short list included:

- The protection of the range of habitats and associated ecology of the Mimiwhangata marine environment.
- Discussions with tangata whenua.
- A number of issues related to the proposed boundaries as identified in submissions to the Discussion Document, e.g. popular tarakihi fishing ground within proposed areas.
- Identifying, where possible, representative boundary options from the 6 boundary submission groups.
- Other issues identified through consultation with interested parties, e.g. fishing interests expressed by the Whangarei Deep Sea Anglers Club.
- Analysis of topographical maps and marine charts, in particular the identification of landmarks / headlands that would assist in the identification of boundaries from sea.
- The criteria as identified in section 7.2 of this report.

Boundary position and definition assessment sheets, (assessment sheets), were developed to provide a 'formal' assessment. Hereby, boundary options identified in the short list could be assessed against the aforementioned considerations; and compared with each other.

Based on these assessments, 4 revised boundary lines are recommended for inclusion in a formal marine reserve application, i.e. if the applicant(s) decide to proceed with a formal application.

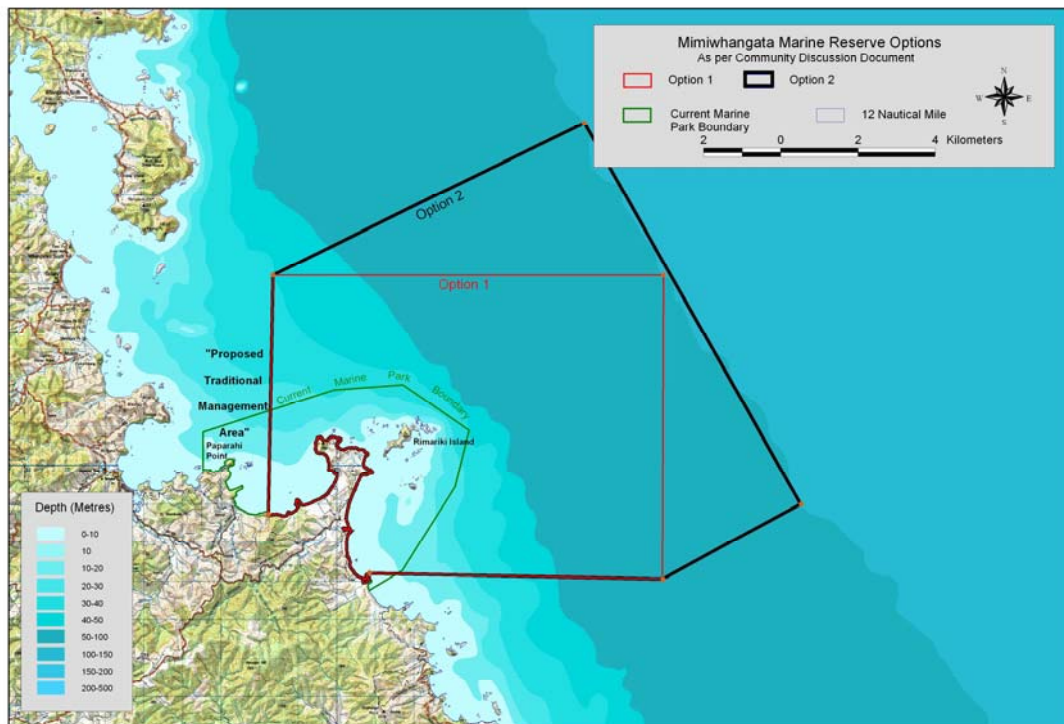
3.0 Introduction

In the 1970s, New Zealand Breweries commissioned scientific studies that revealed an exceptional diversity of Northland east coast near-shore habitats within the Mimiwhangata marine area (Ballantine et al 1973). There were concerns expressed in the reports that fishing pressures were increasing and would continue to threaten the ecology of the area if special protection measures were not put in place.

The Mimiwhangata Marine Park was established in 1984. There was a vision that the marine park would preserve and enhance one of New Zealand's special environments for people to visit and enjoy.

The current marine park regulations do allow for restricted recreational fishing but exclude all commercial fishing. Recent surveys of the marine park, carried out during the past five years, have shown that the marine park's environment has not recovered, and in some respects is in a worse state than in 1980. As the scientific investigation progressed, members of the Mimiwhangata community, including tangata whenua / moana, local land owners, visitors, fishers, divers, scientists, environmentalists and the Department of Conservation (the Department) began to discuss "where to next" for the area (Department of Conservation 2004).

This led to the distribution of the *"Marine Reserve Proposal. Mimiwhangata: Community Discussion Document"* and the insert questionnaire entitled *"Mimiwhangata Have Your Say"*, (the Discussion Document). The proposed marine reserve area(s) within the Discussion Document covered the majority of the marine park and extended to include the deepwater reefs adjoining the marine park (**Map 1**).



Map 1 - Mimiwhangata marine park and 2 marine reserve proposal areas – Options 1 and 2.

The Department received 1109 submissions in response to the Discussion Document. Many of the respondents commented on the size and location of the proposed reserve area(s) (Department of Conservation 2004a).

4.0 The purpose of this report

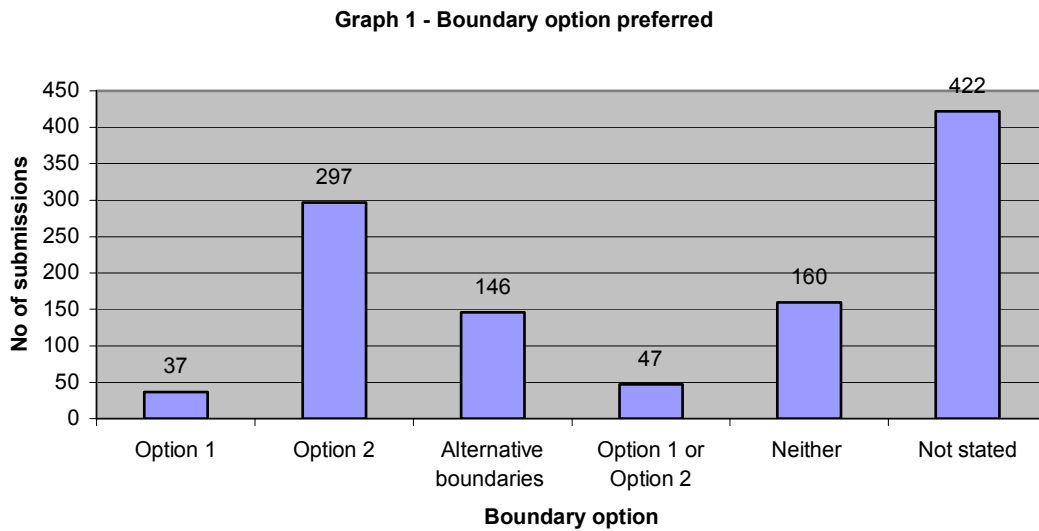
The purpose of this report is to consider and assess the suitability of a range of boundary options for a marine reserve proposed at Mimiwhangata. This process included:

1. Grouping 'alternative boundary' submissions into different 'types' based on a 'natural' grouping process.
2. Consideration of boundary lines associated with Options 1 and 2 and boundary lines as identified during field trips to Mimiwhangata between 6.9.04 and 5.8.05
3. Describing the process and considerations in determining which boundary options were, and were not, 'formally' assessed.
4. Developing a methodology that enabled the Department to assess boundary options against
 - a. ecological, social, cultural and management considerations; and

- b. practical management considerations such as methods for marking and defining marine reserve boundaries.
5. Recommending revised boundaries based on the aforementioned assessment.

5.0 Submissions received with regard to boundaries.

Many submissions clearly indicated a preference for either Option 1, Option 2, (or either), or suggested alternative boundaries (**Graph 1**).



Graph 1 – Submissions received with regard to boundaries.

Alternative marine reserve boundaries and alternative marine management regimes included:

- Keeping the existing marine park boundaries with the current regulations, or as a marine reserve.
- Expanded areas to the west, to the south and to the 12-mile limit, e.g. the inclusion of Paparahi Point within a marine reserve.
- Reduced marine reserve boundaries, usually larger in extent than the existing park, but smaller than Option 1.
- A combination of marine park and a marine reserve.

5.1 Grouping of ‘boundary submissions’

To assist in the identification of different ‘types’ and sizes of boundary suggestions, ‘alternative boundary’ submissions were sorted into 6 groups (**Table 1**).

The 6 groups and associated descriptions reflect a ‘natural’ grouping of the submissions received, i.e. all alternative boundary submissions received fall into one of these groups (**Appendix 3**). Groups 1 and 2 also reflect there is an ecological system associated with the range of marine

habitat types and assemblage of marine organisms found at Mimiwhangata.

Group	Description of alternative boundary submission groups
1	Submissions that did not include the range of marine habitat types at Mimiwhangata ¹
2	A smaller marine reserve area within either Option 1 or 2 that did include the range of marine habitat types at Mimiwhangata
3	Submissions with an alternative fisheries management focus , i.e. not a marine reserve. Submissions included both smaller and larger areas than Option 1 and 2
4	An alternative marine reserve area , i.e. not at Mimiwhangata
5	A bigger marine reserve area than Option 2
6	A combination marine reserve area , i.e. combining part of Option 1 or 2 areas and an adjacent area

Table 1 – Alternative boundary submission groups

6.0 Boundary options considered and assessed.

An initial consideration of all boundary options took into account:

- The protection of the range of habitats and associated ecology of the Mimiwhangata marine environment
- Discussions with tangata whenua.
- A number of issues related to the proposed boundaries as identified in submissions to the Discussion Document, e.g. popular tarakihi fishing ground within the proposed areas.
- Identifying where possible, representative boundary options from the 6 boundary submission groups.
- Other issues identified through consultation with interested parties, e.g. fishing interests expressed by the Whangarei Deep Sea Anglers Club.
- Analysis of topographical maps and marine charts, in particular the identification of landmarks / headlands that would assist in the identification of boundaries from sea.
- The criteria as identified in section 7.2 of this report.

This identified boundary options that **did** or **did not** warrant further, or 'formal' assessment, as per the assessment sheets (see section 7.2)

¹ As per research reports referenced in the Discussion Document

The following options **were not** formally assessed:

1. Maintaining the existing marine park boundaries as a marine reserve. The primary reasons for not assessing this option were:
 - Lack of protection for the range of marine habitats at Mimiwhangata.
 - A mapping exercise combined with field observations confirmed that these boundaries would not 'line up' with either
 - a) suitable sites for the placement of boundary markers, or
 - b) transits with distinctive land marks that would assist in the identification of the boundaries from sea.

The marine park boundaries were also difficult to work within terms of any future compliance and law enforcement work that may be required.

2. Some of the boundary lines associated with Options 1 and 2. This was done primarily to exclude fishing activities / areas from a proposed marine reserve area:
 - Several hapuka fishing grounds were identified within the Option 1 and 2 areas. By excluding some of these from a marine reserve area, continued access to those hapuka grounds would be maintained.
 - The northern boundary of Option 1 is north of an important local tarakihi fishing ground. This would place it within the proposed marine reserve area(s).
 - The Whangarei Deep Sea Anglers Club expressed concern that:
 - a) At times, game boats tended to pass through the Mimiwhangata area at around 70 metres depth or deeper.
 - b) Cruising and game boats tend to travel in the 50 -100m depth zones while going past the Mimiwhangata area. To ask fishers to pull their trolling gear in while crossing a marine reserve area would be a major inconvenience, hard to enforce and not be welcomed by the game fishers.
3. Boundary options in Group 1 (**Table 1**) were not considered as they compromised the ecological integrity of protecting a representative range of marine habitat types in the Mimiwhangata area.
4. Group 4 (alternative marine reserve areas) identified 3 other locations. None of these were assessed as the focus of the Discussion Document and associated consultation is at Mimiwhangata. Boundary assessments should therefore only include sites / boundary lines associated with Mimiwhangata.

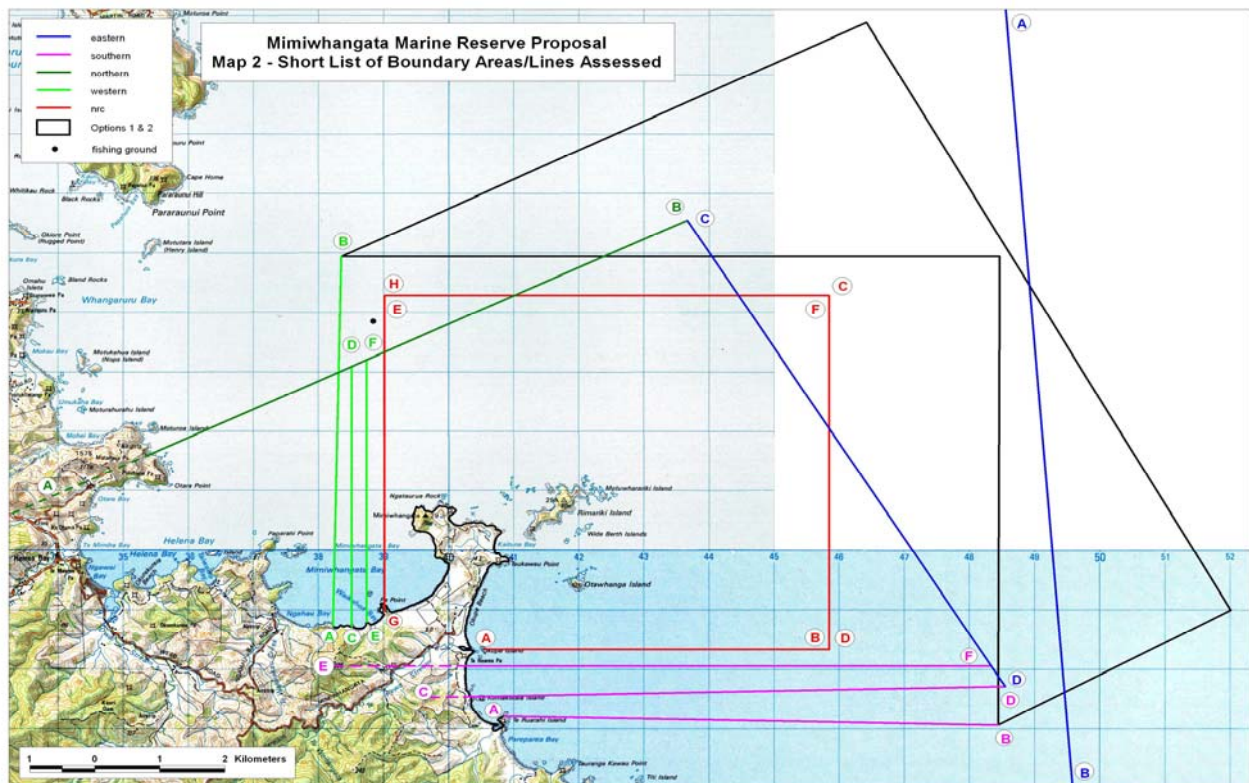
5. Group 5 (a bigger marine reserve area than Option 2) comprised 10 submissions. None of these were assessed, as
 - a. the focus of the proposal is to protect a representative range of marine habitat types in the immediate Mimiwhangata area
 - b. a larger area would have undermined the attempts to address issues as identified in the Discussion Document
 - c. the Department is keen to balance conflicting community expectations of marine protection and fishing interests in relation to the complex and important shallow water habitats of Mimiwhangata.
6. Group 6 (combination marine reserve areas) included areas to the west and to the south of Options 1 and 2. For the same reasons as with group 5, none of the group 6 submissions were assessed.

This 'elimination process' resulted in a short list of boundary options being identified for formal assessment (**Map 2 and Appendix 4**).

Note that the circled alpha numerals on Map 2 relate to the name on each of the assessment sheets in Appendix 5, e.g. assessment sheet 'Southern boundary A / B' relates to the line between the circled A and B on Map 2.

The results of these formal assessments are recorded on the appended assessment sheets (**Appendix 5**). Please note the following:

1. Field trips measured these boundary options against the individual assessment sheet criteria. During these field trips new boundary options were identified, e.g. southern boundary line E / F.
2. While other marine protection regime type / mechanisms are not assessed in this report, a smaller marine reserve area was identified during field trips to Mimiwhangata, i.e. primarily to exclude fishing grounds / fishing activities from a marine reserve, (Department of Conservation 2005 B), and facilitate improved transits for ease of identification at sea
3. The Northland Regional Council Proposal (**Appendix 6**) was representative of Group 2 type submissions and a formal assessment was undertaken.



Map 2 - Short list of boundary ideas / lines assessed.

7.0 Considerations and methods for identifying marine reserve boundaries

7.1 Introduction

The protection and conservation of marine ecological values is a primary driver in determining the location of marine reserve boundary lines. For example, Options 1 and 2 identified in the Discussion Document, both encompass a complex of marine habitat types including significant areas of low-relief reef and sandy soft-bottomed areas surrounding a deep high-relief reef centred due east of Rimariki Island. These soft bottomed habitats include a very different range of invertebrate communities, as compared to the reef habitats, and are important feeding areas for large mobile predatory species.

Boundary locations also need to take into account other considerations. This is to avoid conflicts during the proposal and establishment stages of a marine reserve, and to facilitate ease of future management. An important goal in this process is to ensure that boundary locations and markers are appropriately placed and can be easily determined by the public.

7.2 *Boundary Position and Definition Assessment sheets*

Assessment sheets provided a method by which

- boundary options could be assessed against specific considerations
- each boundary option assessment could be compared against one another.

To develop the assessment sheets, both 'proposed' and 'potential' methods for defining marine reserve boundaries were considered (**Appendix 7**). This included their respective pros and cons in terms of applying them at Mimiwhangata. From this list of 12 methods, 5 were identified for inclusion into the assessment sheets. These 5 methods were:

- Use of marine reserve triangle marker signs.
- Use of natural features.
- Use of artificial features.
- Radar reflection.
- Use of a depth sounder.

The assessment sheets in turn measured other considerations against these methods. These considerations were:

- Is the site safe from sea impact.
- Access to the boundary marker site.
- Marker site stability and size.
- Land ownership / stewardship.
- Protection of cultural / historic features.
- Ecological issues, e.g. protected species at boundary marker site.
- Visibility of markers along shoreline and from offshore.
- Significance of site to recreational fishers.
- Compliance and law enforcement issues.
- Navigation aids, e.g. headlands, transits.
- Potential conflicts between these matters.
- Other issues as identified during consultation with the community.

Individual boundary lines and triangle marker locations were assessed against these considerations with either a yes or no, e.g. "Are there distinctive landscape feature(s) that help identify this boundary location site?". These answers were given a score between 1 and 10, (1 = low and 10 = high), and where appropriate, relevant comments recorded. The combined answers, scores and comments provided a measure with which to compare the different boundary options assessed against each other (**Appendices 8 and 9**).

7.3 Offshore boundaries

Please note that the 'offshore' boundaries do not bisect the shore. Therefore, these assessments did not consider the use of shoreline triangle marker signs. This needs to be taken into account when the 'offshore' boundary assessment scores are compared with the 'onshore' boundary assessment scores, i.e. 'offshore' scores have a lower relative score.

7.4 Boundary line Eastern C / D)

Boundary line Eastern C / D (the 75 metre depth contour²) was identified by finding '75 metres deep' along the Northern A / B and southern E / F boundary lines. These locations were recorded as waypoints and depths tide corrected to chart datum (75 metres). Boundary line Eastern C / D line is a line drawn between these 2 waypoints.

7.5 Use of a buoy

The reader should also note that in the case of boundary line Northern A / B (Huruiki mountain / Otara Point); the assessment included marking the northwest corner of the proposed marine reserve with a buoy. No score was given to this part of the assessment.

The reason that a buoy is being considered at this junction is because the nearest placement of a triangle boundary marker, (on Otara point), is too far away from the proposed reserve for boaties to effectively use these markers as a transit with Huruiki Mountain. In addition, there is likely to be concentrated fishing activity in this area at times, due to the proximity of a popular tarakihi fishing ground.

7.6 Photos

Where appropriate, the assessment sheets are accompanied with photos of the boundary location sites and associated landscape features.

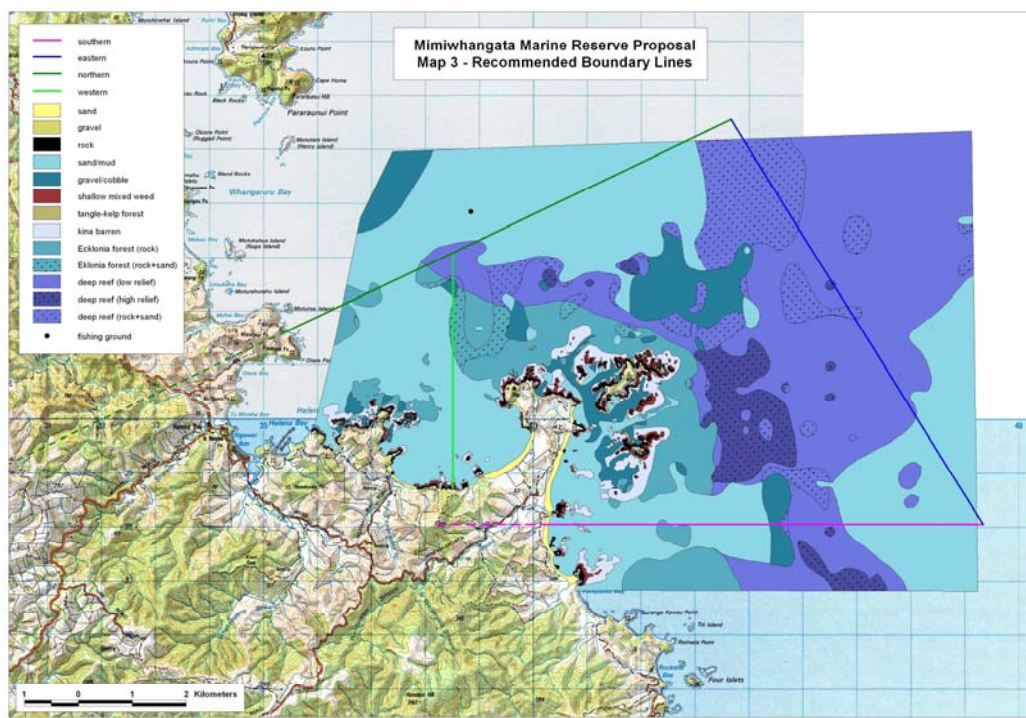
In addition, a series of photos (different distances off shore) were taken of mock triangle markers placed on Komakoraia Island. This assisted in assessing the likely visibility of the markers at various other sites, e.g. Otara Point.

² Map 2 and 3 identify the approximate location of the 75 metre depth contour line

8.0 Recommended boundaries

Based on the aforementioned formal assessments, the following 4 boundary lines, (**Map 3 and Appendix 10**), are recommended for inclusion in a formal marine reserve application, i.e. if a decision is made by the applicant(s) to proceed with a formal application

Please note that these recommendations reflect some of the significant issues raised by submitters to the Discussion Document and by other interested parties. They also achieve the highest range of attributes for combining marine protection and practical management.



Map 3 - Recommended boundary lines.

In summary:

- Southern boundary line E / F has good access and ground stability. There has been an attempt to minimise any adverse effect on cultural values and the shore boundary and marker would be on DOC estate. This line also provides for some shore fishing within the southern part of the Mimiwhangata coastal park. The most significant factor in the choice of this boundary line is the good transit / sightline from sea between the proposed triangle markers site and Tohumoana hill.
- Eastern C / D provides vessels with a 'measurable boundary', i.e. 75 metre depth contour, and is sensible in ecological terms, i.e. a boundary based on a depth is less likely to cut across different habitats.

- Northern A / B utilises Huruiki mountain as a distinctive feature which would aid boundary identification from sea. There has been an attempt to minimise any adverse effect on cultural values
- Western C / D provides good visibility of triangle markers on a clay background. These triangle marker sites are also on DOC estate. There has been an attempt to minimise any adverse effects on cultural values. This line also provides for some shore fishing within the western end of Mimiwhangata coastal park, in particular for campers at Waikohoa Bay.

9.0 Summary

The assessment of marine reserve boundary options endeavours to combine ecological, social, cultural and management aspects associated with the protection and conservation of the marine environment.

This report identifies the process undertaken by the Department and community in identifying recommended boundaries associated with the Mimiwhangata marine reserve proposal. A strong emphasis of the boundary assessment has been placed on consideration of traditional and recreational fishing activities / fishing grounds in the Mimiwhangata area. These have been incorporated into the resultant recommendations while not undermining the ecological integrity of a reserve area.

Fishing activities / fishing grounds excluded from the recommended boundary area include:

- Te Ruatahi Island reef
- Fishing areas deeper than 75 metres.
- A popular tarakihi fishing ground.
- Some hapuka grounds within the Option 1 and Option 2 areas.
- Beach and rock fishing areas at both the western and southern ends of the Mimiwhangata Coastal Park.

Where possible, natural features such as prominent hills and headlands have been incorporated to assist with the identification of boundary lines. The Department is keen to ensure that boundaries can be easily determined at sea by all types of boats.

Finally, it should be noted that the use of a buoy at the intersection between the recommended western and northern boundaries would incur extra costs for the Department (installation and ongoing maintenance). However it is believed that this cost is warranted given that:

- the distance to the closest triangle marker site (Otara Point) would mean that a marker sign would not be easily visible from the proposed marine reserve area (approximately 3 km away).
- the proximity of a popular tarakihi fishing ground (approximately 500 metres to the north) would mean there is concentrated fishing in this area at times.
- there is no suitable prominent depth contour to assist in determining a vessel's position.

10.0 References

Ballantine W.J., Grace R.V., & Doak W.T. 1973. Mimiwhangata Marine Report. *Turbott & Halstead for New Zealand Breweries Ltd, Auckland 98p.*

Department of Conservation 1999. Conservation Management Strategy. *Northland Conservancy 1999 – 2009 Vol 1.*

Department of Conservation 1994. Marine Reserves: A guidelines for prospective applicants. *Department of Conservation, Head Office Wellington.*

Department of Conservation (2004). Marine Reserve Proposal Mimiwhangata: Community Discussion Document. *DOC Northland Conservancy 2004. Compiled by V.C. Kerr and Dr R.V. Grace.*

Department of Conservation (2004a). Submission Results: Mimiwhangata Marine Reserve Proposal & Community Discussion Document. *DOC Northland Conservancy 2004 Fleming A.*

Department of Conservation 2005 A. Mimiwhangata marine reserve proposal - submission analysis report. *DOC Northland Conservancy 2005 Fleming A and Nieuwland P.*

Department of Conservation 2005 B. An analysis of the possible effects the Mimiwhangata marine reserve proposal may have on recreational and commercial fishing. *DOC Northland Conservancy 2005 Fleming A.*

Kerr V.C., Grace R.V. 2004. Marine Reserve Proposal Mimiwhangata: Community Discussion Document. *Department of Conservation, Northland Conservancy.*

Marine Reserves Act 1971.

11.0 List of Appendices

1	Legislative and policy considerations with regard to marine reserve boundaries
2	Consultation undertaken by the Department of Conservation with regard to the Mimiwhangata marine proposal
3	Table 2 - Alternative boundaries as suggested in submissions to the Discussion Document
4	Table 3 - Short list of boundary options considered and formally assessed
5	Boundary position and definition assessment sheets / photos (assessment sheets)
6	Northland Regional Council Submission
7	Table 4 - Boundary Definition Methods - Proposed Mimiwhangata Marine Reserve
8	Table 5 - Final assessment scores sheet
9	Table 6 - Conclusions from assessment sheets
10	Table 7 – Recommended boundary lines

Appendix 1

Appendix 1 - Legislative and policy considerations with regard to marine reserve boundaries

If a decision is made to proceed with a formal marine reserve application at Mimiwhangata, then the applicant(s) will need to consider the following legislative requirements. Please note that the **bold and underlined** text in this report is the emphasis of the report writer.

Marine Reserves Act 1971

Sections 5(1)(b), 5 (1)(c)(ii) and (iii) of the Marine Reserves Act 1971 states:

“5. Procedure for declaring a marine reserve

(1) No Order in Council shall be made under section 4 of this Act unless

(b) Notice of intention to apply for an Order in Council declaring the area a marine reserve has, after consultation with the [Director-General], been published by the applicant...

(c) Every notice published pursuant to paragraph (b) of this subsection

*(ii) States the place where **the plan referred to in subsection (2) of this section** may be inspected:*

*(iii) Gives a **general description of the area proposed** to be declared a marine reserve:*

Section 5(2) of the Marine Reserves Act 1971 states:

“5. Procedure for declaring a marine reserve

*(2) The [Director-General] shall cause **a plan to be prepared on a suitable scale** showing all tidal waters coloured blue, **and the boundaries and extent of the area** sought to be declared a marine reserve...*

It is therefore necessary that an applicant(s) identifies and maps the proposed marine reserve area at the time an application for an order in council is made, i.e. at the start of the “formal” application process¹.

Section 22(1) and (2) of the Marine Reserves Act 1971 goes onto state:

“22. Boundaries of marine reserves to be marked

*(1) Subject to subsection (2) of this section, the Director-General may cause to be **marked and at all times to be kept marked, by means of such beacons, lights, buoys, or marks** as the Director-General considers may be necessary, the boundaries of the marine reserve.*

(2) The Director-General shall act under this section only with the concurrence of the Secretary for Transport.

¹ The marine reserve process can be divided into 2 stages, i.e. informal and formal stages (DOC 1994).

Conservation Management Strategy

Section 5.9 (Marine Reserves Management) of the Northland Conservancy Conservation Management Strategy states:

“Where possible and appropriate, mark the boundaries of marine reserves with shore based markers, or significant features such as headlands, or other suitable methods”.

It is therefore sensible that an applicant(s) also identifies the proposed method(s) for marking and / or identifying the boundaries of a marine reserve at an early stage.

Appendix 2

Appendix 2 - Consultation undertaken by the Department of Conservation with regard to the Mimiwhangata marine proposal.

File note	Precis of consultation associated with the Mimiwhangata marine reserve proposal
From:	Alan Fleming
Date:	9.5.05

Approximately 4,200 Discussion Documents were distributed to approximately 270 organisations, groups, clubs and businesses, approximately 1650 individuals made up from lists of interested parties such as absentee landowners at Oakura, Teal Bay and Whananaki, persons on the Rural Delivery (RD) routes and Postal Delivery Centres (PDC's) along the Whananaki and Hikurangi coasts, and Mimiwhangata campers and persons staying at the Mimiwhangata accommodation. Letters informing people of where they could access the Discussion Document were also sent to all persons on the RD route and PDC along the Tutukaka coast.

The Department also:

- Continued dialogue with tangata whenua at a hapu, whanau and lwi level.
- Established the Mimiwhangata Call Centre and e-mail for the purposes of providing access to the Discussion Document, providing interested parties with the opportunity to speak with a departmental staff member and for submissions to be received.
- Held a media/press conference in Whangarei including widespread distribution of associated media release and Mimiwhangata information pack.
- Posted the Discussion Document and questionnaire on the Department of Conservation website. In addition Forest and Bird, World Wild Fund and Option 4 posted hyper links to the Discussion Document on their respective websites.
- Distributed the Discussion Document to several community distribution points in Whangarei and the Mimiwhangata Coast.
- Telephoned many recipients of the Discussion Document to ask whether they had any queries or wished to meet and/or discuss the proposal. This included several local commercial fishers and representatives from local recreational fishing clubs.
- Various presentations were given to interested groups and persons within the Whangarei and Northland region. This included Tangata whenua, the Northland Regional Council, Whangarei District Council, Russell Environmental Expo, the Northland Conservation Board and a local dive club.
- Held 7 Community meetings at Oakura, Whananaki, Whangarei, Matapouri, Ngunguru, Russell and Paihia.

- In addition articles and advertisements appeared in a number of newspapers, radio stations, and magazines including the NZ Herald, Northern Advocate, the Oakura Pothole, Tutukaka Focus, Russell Lights, KCC FM, Newstalk ZB, NZ Fishing News, NZ Dive Log and Forest and Bird magazine. An article was also screened on the Maori Television (insert date).
- Informed all submitters to the Discussion Document where they could access the submission results and analysis.
- Responded to several requests for information under the Official Information Act and to direct enquiries to the Minister of Conservation regarding the proposal.
- Meet with interested parties including representatives from the Whangarei Deep Sea Anglers Club.

Appendix 3

Appendix 3 - Alternative boundaries as suggested in submissions to the Discussion Document

Mimiwhangata Marine Reserve Proposal		
Code	Description of Alternative Boundary Groups 1 - 6	
1	Submissions which did not include the range of marine habitat types at Mimiwhangata	
2	A smaller marine reserve area within either Option 1 or 2 that did include the range of marine habitat types at Mimiwhangata.	
3	Submissions with an alternative fisheries management focus , i.e. not a marine reserve. Submissions included both smaller and larger areas than Option 1 and 2.	
4	An alternative marine reserve area i.e. not at Mimiwhangata	
5	A bigger marine reserve area than Option 2	
6	A combination marine reserve area , i.e. combining part of Option 1 or 2 areas and an adjacent area.	
Code	Brief Description of Alternative Boundary submissions	Number of submissions supporting this option
1	800m from land like at Poor Knights Islands	1
1	Existing park boundary as a reserve	5
2	Option 1 with area west of Rimarikis excluded	1
2	Modified option 2: Straight line from Mimiwhangata trig	1
2	Modified option 2: A – A1 – C – D1 – G	1
2	Option 1 reduced by about 30%	2
2	Option 1 reduced by approx 40%	1
2	Much reduced option 1 forming a square from Waikahoa Bay pa point around to Okupe Island/Te Rearea Pa	1
2	Not as far out as is proposed. Not specific.	1
2	Reduced option 2 orientation from W side of Rimarikis out to sea	2
2	Marine park boundary NW by about 1km	1
2	Option 2 with S boundary E – G (removes kink in line)	1
2	Much smaller area but not specified	1
2	Similar to submission 434 but extends to A – B	1
2	Reduced option 2 on S boundary but not clear	1
3	Keep existing marine park & boundaries as is	65
3	Existing park boundary with no fishing & no commercial fishing or nets within option 2 area	1
3	Existing marine park but W area around Paparahi Point excluded	1
3	Option 2 with some fishing allowed within existing park area	1
3	Marine park area (& rules) expanded to undefined extent	1
3	Existing park boundary excluding Paparahi Point.	1
3	Option 1 or 2 boundaries as marine park	1
3	Larger marine park no specified boundary	2

Table 2 - Alternative boundaries as suggested in submissions to the Discussion Document

Code	Brief Description of Alternative Boundary submissions	Number of submissions supporting this option
3	Close option areas to commercial fishing & west of a line from Home Point to marine park boundary also closed to commercial fishing.	1
3	Propose three reserves, one on go & other 2 rotationally fished every 2 years. Boundaries not specified.	1
3	Coastal management plan required from Cape Brett to Mimiwhangata	1
3	Marine park for option 2 area	2
4	Out in open ocean not in sheltered waters	1
4	Shift reserve to Bay of Islands	2
4	Whangaruru harbour	1
5	Expanded version of Option 2	5
5	Extend to Poor Knights Islands	3
5	Also reserves at Elizabeth Reef, Tauwhara Bay & Moureeses Bay.	1
5	Rimarikis – D then south to undefined point	1
5	Option 2 but extended in S from F – southern park boundary	1
5	Option 2 expanded on West & South boundaries	1
5	Reserve should include Paparahi Point	1
5	Option 2 plus Paparahi Point area	1
5	Option 2 extended to 12 mile limit	1
5	Option 1 out to 12 mile limit	1
6	Check original for red area	1
6	Much reduced option 1 skewed	1
6	Not so far out to sea	1
6	Shift northern boundary of Option 1 or 2 south close to Rimarikis & extend reserve to Moureeses Bay or Otamure Bay.	1
6	Go elsewhere & keep park, or line NW from Mimiwhangata Bay to Rimariki. North of line is marine park, S of line is marine reserve, or develop Accord as in Fiordland.	1
6	Alternative but not specified	1
6	Remove S third of option 2 & include Paparahi Point.	1
6	Not specified, use prominent landmarks, not NS, WE lines	1
6	Existing boundary of park extended W to include all of Helena Bay	1

Appendix 4

Appendix 4 - Boundary options considered and formally assessed

Boundary line / location assessed	Boundary line name	Brief description of proposed boundary line
Part of Option 1 and 2 area (Discussion Document)	Southern A / B	Line due east (T) of Te Ruatahi Island
	Western A / B	Line due north (T) of small bay below Mimiwhangata Coastal Park boundary fence, adjoining Webb's property.
Komakoraia Island	Southern C / D	Line due east (T) of Komakoraia Island
Tohumoana Hill	Southern E / F	Line due east (T) of Tohumoana Hill
Te Whara / Tutukaka Gable	Eastern A / B	Transit between Te Whara (Whangarei Heads) and the Tutukaka Gable (entrance to Tutukaka harbour)
70 metre depth contour	Eastern C / D	70 metre depth contour running approximately parallel to the coastline
Huruiki mountain / Otara Point	Northern A / B	Transit between Huruiki mountain and buoy
	Western C / D	Line due north (T) of steep face approximately 150 metres east along coast from Mimiwhangata / Webb boundary fence
Waikahoa Bay 2	Western E / F	Line due north (T) of headland on the western side of Waikahoa Bay.
Northland Regional Council submission	NRC A / B	Line due east (T) of Okupe Island
	NRC C / D	Line running north / south (T) approximately 5 kms east of Okupe Beach
	NRC E / F	Line running west / east (T) approximately 5 kms north of Mimiwhangata Bay
	NRC G / H	Line due north (T) of Pa Point (headland on the eastern side of Waikahoa Bay).

Table 3 – Short list of boundary areas / lines formally assessed

Appendix 5

Boundary Position and Definition Assessment Sheet - Mimiwhangata Marine Reserve Proposal							
		Assessment target is yes with a high rating / number .					
		no problems of significance		high	8-10 points		
		some problems or risks		mod	5 - 7 points		
		many problems, significant problems or potential risks		low	2 - 4 points		
		not practical or significant issues to overcome.		no	0 - 1 points		
Boundary option assessed: See line identified Southern A / B on Map 2 - Te Ruatahi Island		Specific site on boundary line assessed: Point A on Te Ruatahi Island.					
	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No
1	Marine Reserve Triangle Markers Signs	On seaward side of Te Ruatahi Island	Site safe from sea impact (minimum 6 metres clear of MHWS)	yes high	8	on top and face of headland approx 8 metres above and 6 m back from MHWS	1
	<i>Requires two triangle markers (3 metre sides). One triangle visible above other on same vertical plane</i>	<i># useful for identifying boundary on shore and providing transect line out from land to sea.</i>	Confirm good access for erection & maintenance	yes mod	6	on small headland steep access all sides. Can drive vehicle to 50m from site.	
		<i># does not provide assistance for determining distance offshore and can be difficult to see at distance or in poor light.</i>	Confirm there is suitable position and ground stability	yes mod	3	site has siting restrictions (space). Need to either place markers with helicopter or use of abseiling equipment as island is probably "rotten rock" (confirmed on Komakoraiia Island)	
		<i># could be lit for assistance at night</i>	Confirm use of land (no land use consent, i.e. DOC land)	yes mod	8	need to confirm land status appears to be DOC estate.	
			Confirm there is no cultural / historic features that prevent the site being used	yes mod	5	No historic features on the site. Advise from kaumatua (Eta Haika - 1.4.05) site has no cultural significance that would be affected by structure	
			Confirm there are no ecological issues e.g. significant spp at site that could be affected by markers	yes high	9	Common lizards spp likely to be present but insignificant impact	
			Site visible along shoreline (both directions and not affected by vegetation now or in the future)	no low	2	markers on headland not visible from either direction along shore therefore would require further signage / markers on shore. Some future vegetation control required	
			Distinctive site with regards to visibility from offshore (contrast background terrain colour / type [veg / rock] summer / winter)	yes mod	5	site tends to blend into landscape as distance offshore exceeds 2 km	

	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No
1	Marine Reserve Triangle Markers Signs		Accept site would be of no significance to fishers	no low	2	headland used by both boat and land based fishers. Vince Kerr had been informed that northern side of headland was particularly important to rock fishers as this was the best side to access "further out" on the headland.	
		On seaward side of Te Ruatahi Island	Accept there are no other issues / objections if site used	no mod	5	adjoining owners on the southern boundary concerned that this will force fishers off public land (DOC estate) onto private land (south of Te Ruatahi) to fish.	
			Accept there are no cle issues with the site	no low	4	shape of headland could allow take inside a reserve.	
			subtotals	7 yes 4 no	57		
2	Use of Natural feature(s)	# could be on mainland	Are there distinctive background landscape feature(s) that help ID the site	no low	2	as distance offshore increases background continually changes. No single distinctive feature	
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines suitable for textual description</i>	# could be offshore (island)	Are there offshore islands which could assist in providing sight / transit line(s)	no low	2	high point of Tawhiti Rahi island provides a "rough guide" for a line but not as a transit line.	
			subtotals	2 no	4		
3	Use of Artificial features	# could be on mainland	Are there artificial structures present or could be placed on the background to assist site ID.	no mod	5	none at present but could be placed, e.g. small shed. Additional costs but is on DOC estate (2 needed)	
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (structure or nav lights)	Are there offshore features present to assist with boundary ID.	no low	2	light on Tawhiti Rahi evident but limited value as not a transit	
			subtotals	2 no	7		
4	Radar	from shoreline landscape	Does the boundary location of the shoreline marker provide radar reflection	yes low	4	definition of Te Ruatahi rapidly deteriorates at distance due to surrounding landscape	
			subtotals	1 yes	4		
5	Depth Sounder	offshore / seabed	Are there any bathymetry features that support this boundary	no low	2	boundary runs offshore at gently increasing depth so specific depth could apply to range of 100 to 300 metres . Needs to be used with transit line or bearing.	
			subtotals	1 no	2		
Conclusion							
Some CLE concerns							
Boundary and marker on DOC estate							
Restriction in area for marker placement							
No distinctive features to aid boundary identification							
Provides no / limited shore fishing on southern end of Mimiwhangata DOC estate							
# not recommended							
				TOTALS	8 yes 9 no	74	

1. Southern A / B boundary – Te Rua Tahī Island



Boundary Position and Definition Assessment Sheet - Mimiwhangata Marine Reserve Proposal						
		Assessment target is yes with a high rating / number.				
		no problems of significance		high	8-10 points	
		some problems or risks		mod	5 - 7 points	
		many problems, significant problems or potential risks		low	2 - 4 points	
		not practical or significant issues to overcome.		no	0 - 1 points	
	Boundary option assessed: See line identified Western A / B on map 2 - DOC / Webb fenceline	Specific site on boundary line assessed: Point A on small bay below Mimiwhangata coastal park boundary fence adjoining Webb's property.				
Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No
1	Marine Reserve Triangle Markers Signs	Along fence line (DOC / Webbs) on land above small Bay	Site safe from sea impact (minimum 6 metres clear of MHWS)	yes high	8	Site reasonably sheltered from sea conditions
	<i>Requires two triangle markers (3 metre sides). One triangle visible above other on same vertical plane</i>	<i># useful for identifying boundary on shore and providing transect line out from land to sea.</i>	Confirm good access for erection & maintenance	yes mod	7	Pasture / farm land. Boat access 20m from site. No vehicle access
		<i># does not provide assistance for determining distance offshore and can be difficult to see at distance or in poor light.</i>	Confirm there is suitable position and ground stability	yes mod	5	Ample space and secure terrain. Site easily accessible to vandals
		<i># could be lit for assistance at night</i>	Confirm use of land (no land use consent, i.e. DOC land)	no mod	5	need to confirm land status which would require survey and associated costs (DOC, WDC or Webb's land)..
			Confirm there is no cultural / historic features that prevent the site being used	yes high	9	Advise from kaumatua (Eta Haika - 1.4.05) site has no cultural significance affected by a structure
			Confirm there are no ecological issues e.g. significant spps at site that could be affected by markers	yes high	9	no impact, i.e. grass
			Site visible along shoreline (both directions and not affected by vegetation now or in the future)	no low	2	Limitations due to being in small confined bay / gully. Would not see until passing in front of gully though coast doesn't permit ease of foot travel. Control over vegetation (land ownership issue) not secure.
			Distinctive site with regards to visibility from offshore (contrast background terrain colour / type [veg / rock] summer / winter)	yes mod	5	Site in small gully, some distinction as demarcation line (bush to farmland) along fenceline behind beach. This fence line just about lines up with Tohumoana hill. Small stony beach, bare faces 150m to east and west. Actual marker location less distinctive.
			Accept site would be of no significance to fishers	no low	2	Site not used by shore fishers but removes any area on DOC estate where they could fish

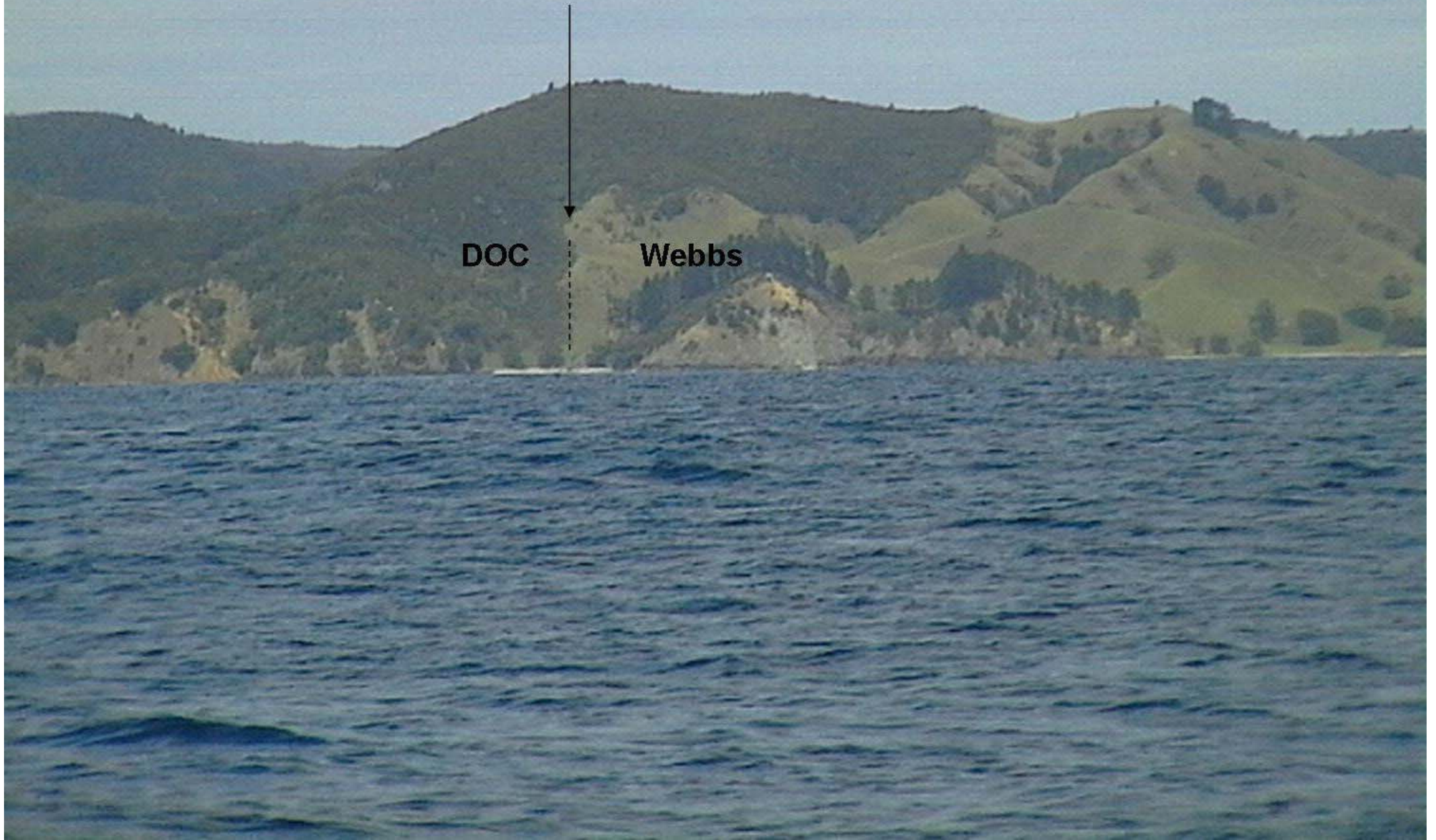
	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No
	Marine Reserve Triangle Markers Signs	Along fence line (DOC / Webbs) on land above small Bay	Accept there are no other issues / objections if site used	no mod	5	adjoining owners may be concerned that this boundary would force fishers off public land onto private land to fish	
			Accept there are no cle issues with the site	yes mod	7	lack of any opportunity for fishers on DOC estate. Land based ranger can see site from farm headland	
			subtotal	7 yes 4 no	64		
2	Use of Natural feature(s)	# could be on mainland	Are there distinctive background landscape feature(s) that help ID the site	yes mod	7	bush to farmland with fenceline but small risk of vegetation growth lessening feature in future. Summit of hill reasonable distinctive as just about in line with fenceline.	2
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (island)	Are there offshore islands which could assist in providing sight / transit line(s)	no	0		
	<i>suitable for textual description</i>						
			subtotal	1 yes 1 no	7		
3	Use of Artificial features	# could be on mainland	Are there artificial structures present or could be placed on the background to assist site ID.	yes mod	4	Fenceline between DOC estate and Webb property but risk of removal in future	2
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (structure or nav lights)	Are there offshore features present to assist with boundary ID.	no	0		
			subtotal	1 yes 1 no	4		
4	Radar	from shoreline landscape	Does the boundary location of the shoreline marker provide radar reflection	yes mod	5	reasonable radar reflection to calculate distance offshore but specific site not specifically distinct	
			subtotal	1 yes	5		
5	Depth Sounder	offshore / seabed	Are there any bathymetry features that support this boundary	no low	1	boundary runs offshore at gently increasing depth so specific depth could apply (range of 100 to 300 m) for intersection with outer boundary. Needs to be used with transect line or bearing.	
			subtotal	1 no	1		

Conclusion

Some CLE concerns
no cultural values compromised
Provides no / limited shore fishing on western end of Mimiwhangata DOC estate
Boundary and marker on DOC estate / private land boundary
Restriction in area for marker placement
Limited distinctive features to aid with boundary identification
not recommended

TOTAL	10 yes 7 no	81
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2. Western A / B boundary – DOC / Webbs fenceline



Boundary Position and Definition Assessment Sheet - Mimiwhangata Marine Reserve Proposal							
			Assessment target is yes with a high rating / number.				
			no problems of significance	high	8-10 points		
			some problems or risks	mod	5 - 7 points		
			many problems, significant problems or potential risks	low	2 - 4 points		
			not practical or significant issues to overcome.	no	0 - 1 points		
	Boundary option assessed: See line identified Southern C / D on map 2 - Komakoraia Island	Specific site on boundary line assessed: Point C is on Komakoraia Island. Small island joined to the main land by intertidal rock platform					
	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	Comments	photo refer No
1	Marine Reserve Triangle Markers Signs	On seaward side of Komakoraia Island	Site safe from sea impact (minimum 6 metres clear of MHWS)	yes high	8	on top and face of island approx 8 metres above and 6 m back from MHWS	3
	<i>Requires two triangle markers (3 metre sides). One triangle visible above other on same vertical plane</i>	<i># useful for identifying boundary on shore and providing transect line out from land to sea.</i>	Confirm good access for erection & maintenance	yes mod	6	on small island steep access all sides. Remote from vandalism. Can drive vehicle to 50m and boat 20m from site	
		<i># does not provide assistance for determining distance offshore and can be difficult to see at distance or in poor light.</i>	Confirm there is suitable position and ground stability	no low	4	There appears to be suitable positions although limited however site inspection indicated that the headland was made of "rotten rock".	
		<i># could be lit for assistance at night</i>	Confirm use of land (no land use consent, i.e. DOC land)	yes high	9	DOC administered land	
			Confirm there is no cultural / historic features that prevent the site being used	yes mod	7	Advise from kaumatua (Eta Haika - 1.4.05) site has no cultural significance that would be affected by structure	
			Confirm there are no ecological issues e.g. significant spp at site that could be affected by markers	yes high	9	Common lizards spp likely to be present but insignificant impact	
			Site visible along shoreline (both directions and not affected by vegetation now or in the future)	no low	2	Probably not visible from either direction on shore. Would require further signage / poles on shore. Some future vegetation control required	
			Distinctive site with regards to visibility from offshore (contrast background terrain colour / type [veg / rock] summer / winter)	yes mod	6	yellow markers against dark rock background	
			Accept site would be of no significance to fishers	yes mod	7	No specific site use known. Known fishing spot available to south within Mimiwhangata Farm Park area (Te Ruatahi Island) without going onto private property	

	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	Comments	photo refer No
1	Marine Reserve Triangle Markers Signs	On seaward side of Komakoraia Island	Accept there are no other issues / objections if site used	yes mod	7	reasonable compromise for all values	
			Accept there are no cle issues with the site	yes mod	7	minor issue as reef extending either side of mark and recreational fishers may fish southern side of headland.	
			sub totals	9 yes 2 no	72		
2	Use of Natural feature(s)	# could be on mainland	Are there distinctive background landscape feature(s) that help ID the site	yes mod	6	Site (island) distinctive due to white sandy beaches each side and shape of island against non descriptive landscape behind. Slight line / transit between markers and hilltop behind (half bush / half pasture) of moderate / good assistance within 3 km's of shore . However as distance offshore increases hilltop falls below skyline and is hard to see. White sandy beaches each side and shape of island against non descriptive landscape behind assist in ID of site.	4
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (island)	Are there offshore islands which could assist in providing sight / transit line(s)	yes low	2	Transit between hilltop (half bush / half pasture), triangle markers and northern end of Tawhiti Rahi (Poor Knights Islands)	
	<i>suitable for textual description</i>						
			sub totals	2 yes	8		
3	Use of Artificial features	# could be on mainland	Are there artificial structures present or could be placed on the background to assist site ID.	yes mod	6	None at present but opportunity to be placed (DOC estate, good elevation). Could place structure on hilltop (half bush / half grass) or on grass in front of hilltop	
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (structure or nav lights)	Are there offshore features present to assist with boundary ID.	yes low	1	Light on Tawhiti Rahi visible at night but of limited value as does not line up with transect but could indicate to a fisher that they are outside the marine reserve boundary, i.e. if they use this as a transect with a light on the hilltop / structure / markers	
			sub totals	2 yes	7		
4	Radar	<i>from shoreline landscape</i>	Does the boundary location of the shoreline marker provide radar reflection	yes mod	6	Island provides good radar image due to flat surrounding features.	
			sub totals	1 yes	6		
5	Depth Sounder	<i>offshore / seabed</i>	Are there any bathometry features that support this boundary	no low	2	boundary runs offshore at gently increasing depth so specific depth could apply (range of 100 to 300 m) for intersection with outer boundary. Needs to be used with transect line or bearing.	
			sub totals	1 no	2		

TOTALS	14 yes 3 no	95
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See overleaf for conclusion

Conclusion
minor CLE concerns
no cultural values compromised
Boundary and marker on DOC estate
Restriction in area for marker placement
Distinctive natural features to aid in boundary identification
Provides some shore fishing on Mimiwhangata DOC estate (south of Komakoraia Island)
not recommended

3. Southern C / D boundary – Komakoraia Island



4. Southern C / D boundary – Komakoraia Island



Boundary Position and Definition Assessment Sheet - Mimiwhangata Marine Reserve Proposal							
		Assessment target is yes with a high rating / number.					
		no problems of significance		high	8-10 points		
		some problems or risks		mod	5 - 7 points		
		many problems, significant problems or potential risks		low	2 - 4 points		
		not practical or significant issues to overcome.		no	0 - 1 points		
	Boundary option assessed: See line identified southern E / F on map 2 - Tohumoana hill	Specific site on boundary line assessed: Point E behind the beach true east of Tohumoana hill					
	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No
1	Marine Reserve Triangle Markers Signs	approx 50 metres south of Okupe Island behind the beach berm	Site safe from sea impact (minimum 6 metres clear of MHWS)	yes high	8	site is wide flat area behind beach berm (approx 10 m wide). Behind this is fence line and large flat paddock	
	<i>Requires two triangle markers (3 metre sides). One triangle visible above other on same vertical plane</i>	<i># useful for identifying boundary on shore and providing transect line out from land to sea.</i>	Confirm good access for erection & maintenance	yes high	9	drive to within 5 metres of site. Access along the beach	
		<i># does not provide assistance for determining distance offshore and can be difficult to see at distance or in poor light.</i>	Confirm there is suitable position and ground stability	yes mod	7	site appears stable (covered in grass and mature shrubs). However could suffer some erosion during big storm events.	
		<i># could be lit for assistance at night</i>	Confirm use of land (no land use consent, i.e. DOC land)	yes high	9	DOC administered land	
			Confirm there is no cultural / historic features that prevent the site being used	yes mod	7	as discussed with Eta Haika (August 2005 - meeting with Vince Kerr to discuss map of recommended boundary lines	
			Confirm there are no ecological issues e.g. significant spp at site that could be affected by markers	yes high	9	as discussed with Keith Hawkins	
			Site visible along shoreline (both directions and not affected by vegetation now or in the future)	yes high	8	markers would need to be placed on posts and would be visible from both ends of shoreline	
			Distinctive site with regards to visibility from offshore (contrast background terrain colour / type [veg / rock] summer / winter)	yes mod	5	background is hillside covered in grass and pohutukawa's. Yellow may blend in more so during times of drought	
			Accept site would be of no significance to fishers	yes mod	7	No specific site use known. However some fishers may use Okupe Island just to the north. Known fishing spot available to south within Mimiwhangata Farm Park area (Te Ruatahi Island) without going onto private property. Also fishing at Komakoraia Island	
			Accept there are no other issues / objections if site used	yes mod	7	reasonable compromise for all values	

	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No
	Marine Reserve Triangle Markers Signs	approx 50 metres south of Okupe Island behind the beach berm	Accept there are no cle issues with the site	yes mod	7	The lines is south of Okupe Island where some rock fishing takes place. Markers and Tohumoana are clearly visible form sea. However further offshore fishers would rely on compass bearing.	
			subtotals	11 yes	83		
2	Use of Natural feature(s)	# could be on mainland	Are there distinctive background landscape feature(s) that help ID the site	yes high	8	sight line between markers and Tohumoana hill (highest hil on Mimiwhangata peninsula	5
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (island)	Are there offshore islands which could assist in providing sight / transit line(s)	no	0		
	<i>suitable for textual description</i>						
			subtotals	1 yes 1 no	8		
3	Use of Artificial features	# could be on mainland	Are there artificial structures present or could be placed on the background to assist site ID.	yes mod	6	None at present but opportunity to be placed (DOC estate, some elevation). Could place on ridge behind	
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (structure or nav lights)	Are there offshore features present to assist with boundary ID.	no	0		
			subtotals	2 no	6		
4	Radar	from shoreline landscape	Does the boundary location of the shoreline marker provide radar reflection	no	0		
			subtotals	1 no	0		
5	Depth Sounder	offshore / seabed	Are there any bathometry features that support this boundary	no low	2	boundary runs offshore at gently increasing depth so specific depth could apply (range of 100 to 300 m) for intersection with outer boundary. Needs to be used with transect line or bearing.	
			subtotals	1 no	2		

Conclusion

suitable site, access to and stability of ground
good sightline between triangle markers and Tohumoana hill
minor CLE concerns
no cultural values compromised
Boundary and marker on DOC estate
reasonable compromise for all values
Distinctive natural features to aid in boundary identification
recommended

TOTALS	11 yes 5 no	99
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5. Southern E / F boundary – Tohumoana hill



Boundary Position and Definition Assessment Sheet - Mimiwhangata Marine Reserve Proposal							
		Assessment target is yes with a high rating / number.					
		no problems of significance		high	8-10 points		
		some problems or risks		mod	5 - 7 points		
		many problems, significant problems or potential risks		low	2 - 4 points		
		not practical or significant issues to overcome.		no	0 - 1 points		
	Boundary option assessed: See line identified Eastern A / B on Map 2 - Te Whare / Tutukaka Gable	Specific site on boundary line assessed: The boundary line in it's entirety					
	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No
1	Marine Reserve Triangle Markers Signs	N/A as no points on this boundary line meet the shoreline		N/A			
2	Use of Natural feature(s)	# could be on mainland	Are there distinctive background landscape feature(s) that help ID the site	yes low	3	transit between top of Tutukaka Gable and 1/2 way between "horns" on top of Te Whara. A long distance away so only visible in clear conditions.	6
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (island)	Are there offshore islands which could assist in providing sight / transit line(s)	no	0		
	<i>suitable for textual description</i>						
			subtotals	1 yes 1 no	3		
3	Use of Artificial features	# could be on mainland	Are there artificial structures present or could be placed on the background to assist site ID.	yes low	2	light house situated on the top of Tutukaka Gable. During night boaties could take a known compass bearing to determine whether they were inside or outside a marine reserve	
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (structure or nav lights)	Are there offshore features present to assist with boundary ID.	no	0		
			subtotals	1 yes 1 no	2		
4	Radar	from shoreline landscape	Does the boundary location of the shoreline marker provide radar reflection	no	0	the Tutukaka headland would be too far away from the proposed marine reserve boundary to be picked up by radar, i.e. maximum range of most recreational radars is less than distance from Mimiwhangata to Tutukaka Gable	
			subtotals	1 no	0		

	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No
5	Depth Sounder	offshore / seabed	Are there any bathometry features that support this boundary	no	0	this boundary option runs at an angle of approximately 10° to the "average depth contour" therefore a depth contour would not be practicable for the purposes of locating a boats position	
			subtotals	1 no	0		

Conclusion
only eastern transit observed during field trips, however not always visible due to distance from a marine reserve area
CLE concerns - difficult to enforce
not recommended

TOTALS	2 yes 4 no	5
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6. Eastern A / B boundary – Te Whare / Tutukaka Gable



Boundary Position and Definition Assessment Sheet - Mimiwhangata Marine Reserve Proposal							
		Assessment target is yes with a high rating / number.					
		no problems of significance		high	8-10 points		
		some problems or risks		mod	5 - 7 points		
		many problems, significant problems or potential risks		low	2 - 4 points		
		not practical or significant issues to overcome.		no	0 - 1 points		
	Boundary option assessed: See line identified Eastern C / D on Map 2 - 70 metre depth contour	Specific site on boundary line assessed: The boundary line in it's entirety					
	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No
1	Marine Reserve Triangle Markers Signs	N/A as no points on this boundary line meet the shoreline		N/A			
2	Use of Natural feature(s)	# could be on mainland	Are there distinctive background landscape feature(s) that help ID the site	no	0		
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (island)	Are there offshore islands which could assist in providing sight / transit line(s)	no	0		
	<i>suitable for textual description</i>						
			subtotals	2 no	0		
3	Use of Artificial features	# could be on mainland	Are there artificial structures present or could be placed on the background to assist site ID.	no	0		
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (structure or nave lights)	Are there offshore features present to assist with boundary ID.	no	0		
			subtotals	2 no	0		
4	Radar	<i>from shoreline landscape</i>	Does the boundary location of the shoreline marker provide radar reflection	no	0		
			subtotals	1 no	0		
	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No

5	Depth Sounder	<i>offshore / seabed</i>	Are there any bathymetry features that support this boundary	yes mod	5	a 70 metre "depth contour" can be accurately measured by boats with depth sounders. An actual depth restriction of ?? , i.e. cannot fish in a depth < ?? metres, takes into account that the 70 metre mark meanders over the sea floor where the "70 metre mark" on the surface is a straight line. Also note that using depth as an outer boundary is a sensible approach in ecological terms, as the boundary is less likely to cut across different habitats	
			subtotals	1 yes	5		

Conclusion
 # a depth contour provides vessels with a "measurable boundary"
 sensible approach in ecological terms
 # recommended

TOTALS 1 yes 5 no 5

Boundary Position and Definition Assessment Sheet - Mimiwhangata Marine Reserve Proposal						
		Assessment target is yes with a high rating / number.				
		no problems of significance		high	8-10 points	
		some problems or risks		mod	5 - 7 points	
		many problems, significant problems or potential risks		low	2 - 4 points	
		not practical or significant issues to overcome.		no	0 - 1 points	
Boundary option assessed: See line identified Northern A / B on map 2 - Huruiki mountain / Otarā Point		Specific site on boundary line assessed: Point A is on Otarā Point shoreline. Sight line on skyline with Huruiki Mountain				
Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer no
1 Marine Reserve Triangle Markers Signs	in gully towards southern end of Otarā Point approximately 10 - 25 metres above MHWS	Site safe from sea impact (minimum 6 metres clear of MHWS)	yes high	8	on face in spur of grazed paddock approx 10-25 m above MHWS	7
<i>Requires two triangle markers (3 metre sides). One triangle visible above other on same vertical plane</i>	<i># useful for identifying boundary on shore and providing transect line out from land to sea.</i>	Confirm good access for erection & maintenance	yes mod	7	easy terrain, vehicle access over private property likely to within 150m. Could also take boat to within 30m but would need to transfer signs / equipment etc	
	<i># does not provide assistance for determining distance offshore and can be difficult to see at distance or in poor light.</i>	Confirm there is suitable position and ground stability	yes high	8	good location and terrain (clay / pasture)	
	<i># could be lit for assistance at night</i>	Confirm use of land (no land use consent, i.e. DOC land)	yes mod	5	Private landowner (Mike Daniels) currently considering whether to allow erection of structure. No reserve land alternatives in sector.	
		Confirm there is no cultural / historic features that prevent the site being used	yes high	8	Advise from kaumatua (Eta Haika - 1.4.05) no pa present. Due to location unlikely. Historic Places Trust check / archeologist check to guarantee situation.	
		Confirm there are no ecological issues e.g. significant spp at site that could be affected by markers	yes high	9	pasture, insignificant impact	
		Site visible along shoreline (both directions and not affected by vegetation now or in the future)	yes high	8	Mute point as proposed marine reserve boundary does not start until approx 4 km offshore. Also unlikely that many people would walk along this shoreline. If they do good visibility either side but the fact it's in a gully and elevated may mean people don't see it. No vegetation control required.	

	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer no
	Marine Reserve Triangle Markers Signs	in gully towards southern end of Otaru Point	Distinctive site with regards to visibility from offshore (contrast background terrain colour / type [veg / rock] summer / winter)	yes low	2	Main factor against this site is fact that markers would not be visible at start of marine reserve area (approx 4 km offshore). Would need to erect a larger structure, e.g. medium sized shed. Otaru Point itself is a reasonably distinctive location, i.e. clean pasture landscape against bush background. Good as possible in sector. Note that no distinctive features on Otaru Point itself. Pasture contrast may influence ID at a distance during dry period.	
			Accept site would be of no significance to fishers	yes mod	5	transect boundary line placed to avoid recognised tarakihi grounds (Eta Haika - Mourea ground) and leave 500 metre margin to marine reserve boundary. Shoreline marker is only to provide a transit line for the boundary	
			Accept there are no other issues / objections if site used	yes mod	5	depend on any issues raised by land owner	
			Accept there are no cle issues with the site	yes high	8	see comments under fishers and site. Note only a transit point.	
			subtotal	11 yes	73		
	Buoys	assist in identifying boundary lines and corners	suitable depth for installation and maintenance of buoy / anchor point				
	(lights could be added)		confirm buoy and mooring protected from swell and sea effect	no mod	5	relatively exposed to swell from NE - SE sector	
			confirm buoy is visible to vessels	yes mod	5	only vis up to 0.8 - 2 kms (depending on swell, background, light conditions etc	
			acceptable cost for installation and maintenance			high installation and maintenance costs	
			confirm consents are not required	no mod	5	Maritime Safety Authority and Regional Council consents required	
			subtotal	1 yes 2 no	15		
2	Use of Natural feature(s)	# could be on mainland	Are there distinctive background landscape feature(s) that help ID the site	yes low	4	Unfortunately no uniquely distinctive feature on Otaru Point (or in that sector). However transit with Huruiki and artificial feature may be good. Other natural features (Pukemoremore , Oraka bay put boundary out too wide)	8
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (island)	Are there offshore islands which could assist in providing sight / transit line(s)	no low	0	no	
	<i>suitable for textual description</i>						
			subtotal	1 yes 1 no	4		
3	Use of Artificial features	# could be on mainland	Are there artificial structures present or could be placed on the background to assist site ID.	yes high	8	none at present but opportunity to be placed on Otaru Point but depend on agreement of land owner and cost	
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (structure or nav lights)	Are there offshore features present to assist with boundary ID.	no	0		
			subtotal	1 yes 1 no	8		

	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer no
4	Radar	<i>from shoreline landscape</i>	Does the boundary location of the shoreline marker provide radar reflection	yes low	4		
			subtotal	1 yes	4		
5	Depth Sounder	<i>offshore / seabed</i>	Are there any bathometry features that support this boundary	no low	2	boundary runs offshore at gently increasing depth so specific depth could apply (range of 100 to 300 m) for intersection with outer boundary. Needs to be used with transect line or bearing.	
			subtotal	1 no	2		

TOTAL	15 yes 5 no	91
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Conclusion

no cultural values compromised
 Structure on private land
 Huruiki is a distinctive features to
 aid boundary identification

recommended

7. Northern A / B boundary – Otara Point



Approx location of markers

8. Northern A / B boundary – Huruiki mountain



Boundary Position and Definition Assessment Sheet - Mimiwhangata Marine Reserve Proposal						
			Assessment target is yes with a high rating / number.			
			no problems of significance	high	8-10 points	
			some problems or risks	mod	5 - 7 points	
			many problems, significant problems or potential risks	low	2 - 4 points	
			not practical or significant issues to overcome.	no	0 - 1 points	
	Boundary option assessed: See line identified Western C / D on map 2.	Specific site on boundary line assessed: Point C is on a steep face approximately 150 m east along coast from Mimiwhangata / Webb boundary				
	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments
	Marine Reserve Triangle Markers Signs	On headland esarpment	Site safe from sea impact (minimum 6 metres clear of MHSWS)	yes high	8	steep cliff face site -safe from sea (20m above sea) appears very stable
1	<i>Requires two triangle markers (3 metre sides). One triangle visible above other on same vertical plane</i>	<i># useful for identifying boundary on shore and providing transect line out from land to sea.</i>	Confirm good access for erection & maintenance	yes mod	7	steep face (40 degrees +) need safety procedures (harness) to erect signs. Boat access 20m. No vehicle access
		<i># does not provide assistance for determining distance offshore and can be difficult to see at distance or in poor light.</i>	Confirm there is suitable position and ground stability	yes mod	7	ample space and appears secure terrain. Remote for vandalism
		<i># could be lit for assistance at night</i>	Confirm use of land (no land use consent, i.e. DOC land)	yes high	9	DOC estate or possible road reserve (WDC). No issues
			Confirm there is no cultural / historic features that prevent the site being used	yes high	9	Cliff face - no cultural significance affected by structure
			Confirm there are no ecological issues e.g. significant spp at site that could be affected by markers	yes high	9	no impact - predominantly bare rock / clay and some scrub
			Site visible along shoreline (both directions and not affected by vegetation now or in the future)	yes high	8	Excellent shore / shoreline visibility. Ample height for offshore ID. No vegetation issues . Future control easy
			Distinctive site with regards to visibility from offshore (contrast background terrain colour / type [veg / rock] summer / winter)	yes high	8	Very good offshore visibility to site. Distinctive cliff face
			Accept site would be of no significance to fishers	no low	3	site not used by shore fishers. Short (150m) shore within Mimiwhangata still available to fish but limited in area. Access is tide determined
			Accept there are no other issues / objections if site used	yes high	8	camper debate for / against fishing may not be satisfied. See above.
			Accept there are no cle issues with the site	yes high	8	Land based ranger can see marker site from farm headland
			subtotal	10 yes 1 no	84	

	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No
2	Use of Natural feature(s)						
		# could be on mainland	Are there distinctive background landscape feature(s) that help ID the site	yes mod	7	Cliff face with domed hilltop on background skyline (highest of 2 bush clad hills behind, though not particular dramatic (domed in shape)	10
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (island)	Are there offshore islands which could assist in providing sight / transit line(s)	no	0		
	<i>suitable for textual description</i>						
			subtotal	1 yes 1 no	7		
3	Use of Artificial features						
		# could be on mainland	Are there artificial structures present or could be placed on the background to assist site ID.	yes mod	5	nothing at present but some potential to use area of cliff face to place addition identification feature	
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (structure or nav lights)	Are there offshore features present to assist with boundary ID.	no	0		
			subtotal	1 yes 1 no	5		
4	Radar						
		from shoreline landscape	Does the boundary location of the shoreline marker provide radar reflection	yes mod	6	reasonable radar reflection to calculate distance offshore but specific site not specifically distinct	
			subtotal	1 yes	6		
5	Depth Sounder						
		offshore / seabed	Are there any bathometry features that support this boundary	no low	1	boundary runs offshore at gently increasing depth so specific depth could apply (range of 100 to 300 m) for intersection with outer boundary. Needs to be used with transect line or bearing.	
			subtotal	1 no	1		

TOTAL	13 yes 4 no	103
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Conclusion

no cultural values compromised
good visibility of triangle markers on clay background
Boundary and marker on DOC estate
Provides some shore fishing on Mimiwhangata DOC estate
Recommended

9. Western C / D boundary – 150 metres east of DOC Webbs boundary



10. Western C / D boundary – 150 metres east of DOC Webbs fenceline



Boundary Position and Definition Assessment Sheet - Mimiwhangata Marine Reserve Proposal							
		Assessment target is yes with a high rating / number.					
		no problems of significance		high	8-10 points		
		some problems or risks		mod	5 - 7 points		
		many problems, significant problems or potential risks		low	2 - 4 points		
		not practical or significant issues to overcome.		no	0 - 1 points		
	Boundary option assessed: See line identified Western E / F on map 2 - Waikohoa Bay	Specific site on boundary line assessed: Point E is on the face of headland on the western side of Waikohoa Bay.					
Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No	
1	Marine Reserve Triangle Markers Signs	on headland	Site safe from sea impact (minimum 6 metres clear of MHWS)	yes high	8	steep cliff face site 5-8m above sea.	11
	<i>Requires two triangle markers (3 metre sides). One triangle visible above other on same vertical plane</i>	<i># useful for identifying boundary on shore and providing transect line out from land to sea.</i>	Confirm good access for erection & maintenance	yes mod	7	steep face (35 degrees approx) need safety procedures (harness) to erect signs.	
		<i># does not provide assistance for determining distance offshore and can be difficult to see at distance or in poor light.</i>	Confirm there is suitable position and ground stability	yes mod	5	some restriction in space unless veg cleared. Face appears sound but evidence of erosion on part. Remote for vandalism	
		<i># could be lit for assistance at night</i>	Confirm use of land (no land use consent, i.e. DOC land)	yes high	9	DOC or possible road reserve (WDC). No issues	
			Confirm there is no cultural / historic features that prevent the site being used	yes high	9	Cliff face - no cultural significance affected by structure	
			Confirm there are no ecological issues e.g. significant spp at site that could be affected by markers	yes high	9	no impact	
			Site visible along shoreline (both directions and not affected by vegetation now or in the future)	yes high	8	Marker site clearly visible. Very minor vegetation control may be required in future (flax / pohutakawa).	
			Distinctive site with regards to visibility from offshore (contrast background terrain colour / type [veg / rock] summer / winter)	yes mod	7	Site of steep face, distinctive, good textural contrast. Smaller clear area (compared to site CD) so not as evident - see photo	
			Accept site would be of no significance to fishers	no mod	5	Boundary cuts thru exposed reef / mussel rock 30m offshore. Site not used by shore fishers. Short (300m) shore within Mimiwhangata still available to fish but limited in area. Access is tide determined	11
			Accept there are no other issues / objections if site used	yes high	8	camper debate for / against fishing may not be satisfied. See above.	

	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No
	Marine Reserve Triangle Markers Signs	on headland	Accept there are no cle issues with the site	no	1	Undesirable CLE issues. Boundary cuts thru exposed reef / mussel rock 30m offshore. Limited / lack of any opportunity for fishers on property. Bisecting the reef in front would likely give rise to cross boundary cle issues. Land based ranger can see site from farm headland	
			subtotal	9 yes 2 no	76		
2	Use of Natural feature(s)	# could be on mainland	Are there distinctive background landscape feature(s) that help ID the site	yes low	3	small cliff face with bush covered hill top behind (lower of 2) on background skyline. However does not line up with this hill. Not very distinctive	
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (island)	Are there offshore islands which could assist in providing sight / transit line(s)	no	0	A line true north of headland bisects small flat offshore rock (approx 500 m offshore). Popular with campers for mussels	
	<i>suitable for textual description</i>						
			subtotal	1 yes 1 no	3		
3	Use of Artificial features	# could be on mainland	Are there artificial structures present or could be placed on the background to assist site ID.	no low	0	no features and no obvious location or space to do so.	
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (structure or nav lights)	Are there offshore features present to assist with boundary ID.	no	0	no	
			subtotal	2 no	0		
4	Radar	from shoreline landscape	Does the boundary location of the shoreline marker provide radar reflection	yes mod	5	radar reflection definition of shoreline poor due to terrain but site ID assisted by flat land to east of headland	
			subtotal	1 yes	5		
5	Depth Sounder	offshore / seabed	Are there any bathometry features that support this boundary	no low	1	boundary runs offshore at gently increasing depth so specific depth could apply (range of 100 to 300 m) for intersection with outer boundary. Needs to be used with transit line or bearing.	
			subtotal	1 no	1		

Conclusion

high CLE concern, i.e. Boundary cuts thru exposed reef / mussel rock 30m offshore
no cultural values compromised
reasonable / good visibility of triangle markers on clay background
Provides some shore fishing on Mimiwhangata DOC estate
not recommended

TOTAL**11 yes 6 no****85**

11. Western E / F boundary – Waikohoa Bay (western end)

mussell rock



Boundary Position and Definition Assessment Sheet - Mimiwhangata Marine Reserve Proposal							
		Assessment target is yes with a high rating / number.					
		no problems of significance		high	8-10 points		
		some problems or risks		mod	5 - 7 points		
		many problems, significant problems or potential risks		low	2 - 4 points		
		not practical or significant issues to overcome.		no	0 - 1 points		
Boundary Option Assessed: Northland Regional Council submission. See line identified NRC A / B on map 2 - Okupe Island		Specific site on boundary line assessed: Okupe Island					
	Definition method	Location	Site	Assessment	Rating	Comments	photo refer No
1	Marine Reserve Triangle Markers Signs	On seaward side of Okupe Island	Site safe from sea impact (minimum 6 metres clear of MHWS)	yes high	8	place markers on top and face of headland or hill behind. Over 8m above MHWS	12
	<i>Requires two triangle markers (3 metre sides). One triangle visible above other on same vertical plane</i>	<i># useful for identifying boundary on shore and providing transect line out from land to sea.</i>	Confirm good access for erection & maintenance	yes mod	6	could place markers on the island itself or the small hill behind (NOTE there is a small tin shed on this hill already but does not line up with west / east (T) line.	
		<i># does not provide assistance for determining distance offshore and can be difficult to see at distance or in poor light.</i>	Confirm there is suitable position and ground stability	yes mod	6	site has siting restrictions (space) but appears stable rock material	
		<i># could be lit for assistance at night</i>	Confirm use of land (no land use consent, i.e. DOC land)	yes high	9	DOC administered lands	
			Confirm there is no cultural / historic features that prevent the site being used	no - need to discuss with Eta Haika - Pa site - urupa - tauranga waka		need to discuss with archaeologists and Eta Haika	
			Confirm there are no ecological issues e.g. significant spp at site that could be affected by markers	yes high	8	no ecological values as discussed with Keith Hawkins	
			Site visible along shoreline (both directions and not affected by vegetation now or in the future)	no low	2	Unsure. Likely to need signage on shore. Some vegetation clearance likely	
			Distinctive site with regards to visibility from offshore (contrast background terrain colour / type [veg / rock] summer / winter)	yes mod	6	site visible at 3 kms offshore. Triangle markers visible to 2 km's	

	Definition method	Location	Site	Assessment	Rating	Comments	photo refer No
			Accept site would be of no significance to fishers	no mod	4	Okupe Island is likely to be popular with shore fishers however a boundary here would allow shore fishing between Okupe and Te Rua Tahu Island (on DOC estate)	
			Accept there are no other issues / objections if site used	yes mod	5	fishers could fish on southern side of Okupe Island	
	Marine Reserve Triangle Markers Signs		Accept there are no cle issues with the site	yes low	4	shape of shoreline could allow fishers to take inside boundary	
			subtotal	8 yes 3 no	58		
2	Use of Natural feature(s)					sight / transit line between Okupe Island and Tohumoana hill unsuitable as cuts through the southern end of deep reef high relief area and also reduces buffer zone to south of the entire reef area .	
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	<i># could be on mainland</i>	Are there distinctive background landscape feature(s) that help ID the site	no low	1		
	<i>suitable for textual description</i>	<i># could be offshore (island)</i>	Are there offshore islands which could assist in providing sight / transit line(s)	no low	1	bearing east (T) of Okupe runs 1/2 way between nth end of Tawhiti Rahi and Poor Knights light house.	
			subtotal	2 no	2		
3	Use of Artificial features					none at present. Could be placed behind Okupe but would not be very effective. Additional costs but is on DOC administered land	
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	<i># could be on mainland</i>	Are there artificial structures present or could be placed on the background to assist site ID.	no low	2		
		<i># could be offshore (structure or nav lights)</i>	Are there offshore features present to assist with boundary ID.	no - maybe Poor Knights light house		check with transit between Poor Knights lighthouse and Okupe	
			subtotal	2 no	2		
4	Radar					more prominent than Te Rua Tahu and Komakoraia Islands	
		<i>from shoreline landscape</i>	Does the boundary location of the shoreline marker provide radar reflection	yes mod	7		
			subtotal	1 yes	7		
5	Depth Sounder					boundary runs offshore at gently increasing depth so specific depth could apply (range of 100 to 300 m) for intersection with outer boundary. Needs to be used with transect line or bearing.	
		<i>offshore / seabed</i>	Are there any bathometry features that support this boundary	no low	2		
			subtotal	1 no	2		

TOTAL	9 yes 8 no	71
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See overleaf for conclusion

Conclusion
Some CLE concerns
Boundary and marker on DOC estate
Restriction in area for marker placement
minimal buffer zone between boundary line and deep reef high relief area
largest of 3 headlands within this sector
Provides some shore fishing on Mimiwhangata DOC estate
not recommended

Boundary Position and Definition Assessment Sheet - Mimiwhangata Marine Reserve Proposal							
		Assessment target is yes with a high rating / number .					
		no problems of significance		high	8-10 points		
		some problems or risks		mod	5 - 7 points		
		many problems, significant problems or potential risks		low	2 - 4 points		
		not practical or significant issues to overcome.		no	0 - 1 points		
Boundary Option Assessed: Northland Regional Council submission. See line identified NRC C / D on map 2		Specific site on boundary line assessed: the boundary line in it's entirety					
	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	Comments	photo refer No
1	Marine Reserve Triangle Markers Signs	N/A as no points on this boundary line meet the shoreline, i.e. southern end of boundary starts approximately 5 kms east (T) of Okupe Island and then heads north (T) for approximately 5 kms					
2	Use of Natural feature(s)	# could be on mainland	Are there distinctive background landscape feature(s) that help ID the site	no	0		
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (island)	Are there offshore islands which could assist in providing sight / transit line(s)	no	0		
	<i>suitable for textual description</i>						
			subtotal	2 no	0		
3	Use of Artificial features	# could be on mainland	Are there artificial structures present or could be placed on the background to assist site ID.	no	0		
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (structure or nav lights)	Are there offshore features present to assist with boundary ID.	no	0		
			subtotal	2 no	0		
4	Radar	<i>from shoreline landscape</i>	Does the boundary location of the shoreline marker provide radar reflection	N/A			
5	Depth Sounder	<i>offshore / seabed</i>	Are there any bathymetry features that support this boundary	no low	2	depth contours run on a NWN bearing (T). This boundary is north (T).	
			subtotal	1 no	2		
Conclusion							
minimal buffer zone between boundary line and deep reef high relief area							
# not recommended							
TOTAL				5 no	2		

Boundary Position and Definition Assessment Sheet - Mimiwhangata Marine Reserve Proposal							
		Assessment target is yes with a high rating / number.					
		no problems of significance		high	8-10 points		
		some problems or risks		mod	5 - 7 points		
		many problems, significant problems or potential risks		low	2 - 4 points		
		not practical or significant issues to overcome.		no	0 - 1 points		
Boundary Option Assessed: Northland Regional Council submission. See line identified NRC E / F on map 2.		Specific site on boundary line assessed: the boundary line in it's entirety					
	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	Comments	photo refer No
1	Marine Reserve Triangle Markers Signs	N/A as no points on this boundary line meet the shoreline, i.e. western end of boundary starts approximately 5 kms north (T) of Pa point and then heads east (T) for approximately 5 kms				western end of MR too far from land to see shore based triangle markers	
2	Use of Natural feature(s)	# could be on mainland	Are there distinctive background landscape feature(s) that help ID the site	no	0		
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (island)	Are there offshore islands which could assist in providing sight / transit line(s)	no	0		
	<i>suitable for textual description</i>						
			subtotal	2 no	0		
3	Use of Artificial features	# could be on mainland	Are there artificial structures present or could be placed on the background to assist site ID.	no	0		
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (structure or nav lights)	Are there offshore features present to assist with boundary ID.	no	0		
			subtotal	2 no	0		
4	Radar	from shoreline landscape	Does the boundary location of the shoreline marker provide radar reflection	N/A			
5	Depth Sounder	offshore / seabed	Are there any bathometry features that support this boundary	no low	2		
			subtotal	1 no	2		

TOTAL	5 no	2
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Conclusion
not recommended

Boundary Position and Definition Assessment Sheet - Mimiwhangata Marine Reserve Proposal							
		Assessment target is yes with a high rating / number.					
		no problems of significance		high	8-10 points		
		some problems or risks		mod	5 - 7 points		
		many problems, significant problems or potential risks		low	2 - 4 points		
		not practical or significant issues to overcome.		no	0 - 1 points		
Boundary Option Assessed: Northland Regional Council submission. See line identified NRC G / H on map 2 - Pa Point		Specific site on boundary line assessed: Pa Point (headland on the eastern side of Waikohoa Bay).				Map reference: grid point:	
	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No
1	Marine Reserve Triangle Markers Signs	On seaward side of Pa Point	Site safe from sea impact (minimum 6 metres clear of MHWS)	yes high	8	steep cliff face site approx 10m above sea. Reasonably sheltered	
	<i>Requires two triangle markers (3 metre sides). One triangle visible above other on same vertical plane</i>	<i># useful for identifying boundary on shore and providing transect line out from land to sea.</i>	Confirm good access for erection & maintenance	yes mod	7	walk (vehicle 50m away) to headland with steep face. Need safety procedures (harness) to erect signs.	
		<i># does not provide assistance for determining distance offshore and can be difficult to see at distance or in poor light.</i>	Confirm there is suitable position and ground stability	yes mod	5	limited space and secure terrain.	
		<i># could be lit for assistance at night</i>	Confirm use of land (no land use consent, i.e. DOC land)	yes high	9	DOC estate	
			Confirm there is no cultural / historic features that prevent the site being used	no mod	5	Pa site on headland. Cultural / Historic Places Trust consent issues	
			Confirm there are no ecological issues e.g. significant spp at site that could be affected by markers	no high	9	no significant values. Expect common lizard spp at site	
			Site visible along shoreline (both directions and not affected by vegetation now or in the future)	yes high	8	Very good shoreline vis. Some vegetation. May need some markers visible on track linking Mimiwhangata Bay and Waikohoa Bay.	
			Distinctive site with regards to visibility from offshore (contrast background terrain colour / type [veg / rock] summer / winter)	yes mod	8	Site / headland distinctive as featured between 2 sandy beaches (and camp ground in summer)	
			Accept site would be of no significance to fishers	no low	7	site used by shore fishers (campers) but area to west on DOC estate would be available	
			Accept there are no other issues / objections if site used	no high	8	Those who want to experience MR in front of camp site may not be satisfied.	
			Accept there are no other issues with the site	no low	4	Headland fishing with cross boundary issues.	
			subtotal	6 yes 5 no	78		

	Definition method	Location	Position - Considerations of the Site	Assessment	Rating	comments	photo refer No
2	Use of Natural feature(s)	# could be on mainland	Are there distinctive background landscape feature(s) that help ID the site	yes mod	4	small clear ridge in bush landscape but reducing in size annually. No significant background feature	
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (island)	Are there offshore islands which could assist in providing sight / transit line(s)	no low	0		
	Use of Natural feature(s)						
	<i>suitable for textual description</i>						
			subtotal	1 yes 1 no	4		
3	Use of Artificial features	# could be on mainland	Are there artificial structures present or could be placed on the background to assist site ID.	no low	2	Nothing on transit line, and very limited space to locate on transit line . Campers tents (Dec-Feb) feature to west of point.	
	<i>dominant / distinctive features assisting in locating the boundary point and / or transit lines</i>	# could be offshore (structure or nav lights)	Are there offshore features present to assist with boundary ID.	no	0	no	
			subtotal	2 no	2		
4	Radar	<i>from shoreline landscape</i>	Does the boundary location of the shoreline marker provide radar reflection	no low	2	reasonable radar reflection though very small at distance. Site distinct by lack of features (beaches) either side.	
			subtotal	1 no	2		
5	Depth Sounder	<i>offshore / seabed</i>	Are there any bathymetry features that support this boundary	no	1	boundary runs offshore at gently increasing depth so specific depth could apply (range of 100 to 300 m) for intersection with outer boundary. Needs to be used with transect line or bearing.	
			subtotal	1 no	1		

TOTAL	1 yes 5 no	87
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Conclusion
Some CLE concerns
Pa site on headland
Restriction in area for marker placement
distinctive headland to aid boundary identification, but no distinctive background feature
Provides some shore fishing on Mimiwhangata DOC estate
not recommended

Appendix 6

NORTHLAND REGIONAL COUNCIL

SUBMISSION OF THE NORTHLAND REGIONAL COUNCIL ON THE MIMIWHANGATA MARINE RESERVE COMMUNITY DISCUSSION DOCUMENT

Introduction:

The Northland Regional Council (the Council) acknowledges the Department of Conservation's progress on marine reserve advocacy in Northland culminating in the production of the Mimiwhangata Community Discussion Document promoting a Marine Reserve Proposal around Mimiwhangata. However, the Northland Regional Council is disappointed that the Department chose not to involve significant parties such as the Regional Council in consultations earlier in the development of this proposal.

The Council is a strong supporter of the concept of marine reserves and believes that appropriate marine reserves can contribute to the Council's task of promoting the sustainable management of the coastal marine area.

The operative Regional Coastal Plan for Northland provides real encouragement and support for marine reserve establishment. The following objective, policy and method are relevant:

36.2 OBJECTIVE

The establishment of more marine reserves within Northland's coastal marine area as a means of both preserving the natural character of selected areas and facilitating environmental education.

36.3 POLICIES

1. To promote the establishment of marine reserves where these can be shown to provide social benefits to the community of Northland.

Explanation. Marine reserves facilitate public understanding of the ecology of the coastal marine area. They also provide recreational opportunities, tend to increase fish stocks in adjacent waters, and can provide economic benefits to the region.

36.4 METHODS OF IMPLEMENTATION

1. Actively support specific marine reserve proposals by other organizations where it can be shown that these will:
 - (a) Help ensure that there is representation of all major coastal types protected by marine reserves; and
 - (b) Result in significant identified public benefits, including environmental education.

In terms of 36.4.1(a), there is no doubt that the ecological features of the Mimiwhangata Marine Reserve Proposal are both representative and unique features of the marine environment of the east coast of Northland and protection of them will assist in meeting the Council's biodiversity objectives in terms of the marine environment.

In terms of 36.4.1(b), a reserve at Mimiwhangata will enhance recreational opportunities, increase tourism (both local and international), provide educational opportunities and promote economic activity in nearby communities (eg: Diving businesses, tourism enterprises, concessions).

Statement of Qualified Support:

1. The Council **supports** the creation of a “no-take” marine reserve established under the Marine Reserves Act 1971 in the vicinity of the existing Mimiwhangata Marine Park.
2. The Council notes that many recreational opportunities arise from the establishment of a marine reserve such as diving, swimming, boating, and observing marine life in a near natural state. Additional benefits arise from the commercial opportunities which may be both direct, e.g. Charter Boat Operators, glass bottom boat concessions, guided interpretation concessions; and indirect, e.g. accommodation, transport, dive servicing. Marine Reserves create a wider spectrum of recreational opportunities than general open coast does.
3. However, the Council does not support boundary options 1 and 2 proposed in the Marine Reserve Proposal Mimiwhangata: Community Discussion Document as appropriate boundaries for a marine reserve.
4. The Council wishes to propose a modified boundary (set out in Appendix 1 to this submission), which it believes will provide better balance between the ecological integrity of the reserve and the social (including recreational) needs of the community of Northland.
5. The Council has identified a number of additional concerns and comments that either requires public clarification or may be of assistance to the Department of Conservation as it develops this proposal further.

Reasons for Opposition to Proposed Boundary Options:

1. The Council understands and accepts the importance of establishing boundaries of marine reserves based on ecological principles such as ensuring that successional ecosystems should be protected in order to maximise the ecological dynamism and diversity of the overall marine environment. Examples of appropriate successional habitat should be protected to the extent practicable.
2. However, the Council believes that ecological principles for marine reserve design are not the only matters that should be taken into account. There should be careful consideration given to the social values that may be affected by the establishment of marine reserves. It is the Council’s belief that ultimately a marine reserve can only be successful if the communities that surround it understand its importance and function and support its creation and maintenance. It is therefore necessary to consider several matters, other than ecology, in the creation of appropriate marine reserve boundaries. These include:
 - i. Impacts on other lawful uses of the marine environment such as recreational and traditional fishing activities.
 - ii. Clear and easily identified boundaries located on land.
 - iii. Clear and enforceable boundaries for the off-shore component of a marine reserve.
 - iv. The size and scale of the marine reserve should provide for social acceptance of the reserve, especially given the stated intention of establishing further marine reserves to form a representative network.
 - v. Creation and maintenance of good public access to the marine reserve.

3. The Council is not persuaded that these social factors have been included in the boundary proposals of the Mimiwhangata Marine Reserve Proposals, or if they have, that appropriate weight was given to these factors.
4. Put more succinctly the Council believes that the proposals 1 and 2 are too large to gain wide public acceptance, particularly for local residents and regular fishers currently using the general area.
5. The Council is also not persuaded that the boundaries based on ecological considerations are appropriate and believes that they should be revised to recognise existing natural ecological boundaries on the southern side of the proposal and the seaward extent of the two options available. A specific proposal is attached.

Other Matters:

Boundary Marking

6. The discussion on boundaries for the marine reserve in the discussion document is incomplete. There is no discussion on how the boundary for the proposed marine reserve would be marked. For enforcement purposes, it will be necessary to clearly mark the boundary so that people can know whether they are inside or outside the marine reserve when they are boating and fishing near the reserve. The burden of proof in the Marine Reserves Act 1971 rests with the person charged with a breach of the Act. They must be able to demonstrate that they did not know they were in the marine reserve in order to mount a successful defence against a prosecution.

If there is uncertainty about where the boundary of the marine reserve is then the ability to enforce the marine reserve is restricted. The Council understands that the intention is to erect line-of-sight marker posts on shore and to ensure that the boundaries are marked on marine charts and other such instruments with sufficient detail to enable people using GPS devices to identify the boundaries.

The line-of-sight marker posts are unlikely to be visible at the furthest seaward extent of either of the two boundary options proposed. Not all vessels are GPS capable and not all people are capable of interpreting marine charts for navigational accuracy. Anecdotal evidence suggests that line-of-sight marker posts are effective up to five km off-shore in reasonable weather conditions.

Provided that there is a buffer distance taken into account into the marine reserve (say 30 metres), the evidence is that the courts will support prosecutions based on line-of-sight marker posts. The closer to the shore, the more effective the markers become. This information may assist in informing the design of the marine reserve.

Existing Marine Park Boundaries

7. The current Marine Park status was established under the Fisheries Act and is administered by the Ministry of Fisheries. It consists of restrictions on the type of fishing technology that can be used within the marine park. The seaward boundaries of the marine park are much closer to the shore than the draft Marine Reserve boundaries, but the northern and southern marine park boundaries extend beyond the draft Marine Reserve Proposal.

Nowhere in the discussion document is there an indication of what is to happen to the existing marine park, especially those areas lying outside the draft Marine Reserve Boundaries. For example there is no discussion on the mechanism or timing for the removal of the marine park (if that is to occur). This should be clarified.

The Northland Regional Council submits that the Mimiwhangata Marine Park should be revoked simultaneously with the gazettal of the Mimiwhangata Marine Reserve (should it be established)

Suggested Taiapure/Mataitai Reserve Area:

8. The Community Discussion Document refers to the likely establishment of a Taiapure/Mataitai Reserve adjoining the Marine Reserve on the Northern side of Mimiwhangata. However, the discussion document reveals little of what such a management area might mean in terms of the effects on recreational opportunities for the general public in this area.

To the general public and in particular recreational fishers, this may be seen as an extension of the marine reserve by stealth, though the Council is aware that this is an unlikely outcome of such an instrument. Nevertheless, the Council believes that the scope of such instruments should be discussed with affected communities and would welcome a detailed briefing on the issues to be addressed through the creation of such a reserve.

Communications Strategy:

9. The Council believes that the Department should establish a clear communications strategy for the process of developing the Mimiwhangata Marine Reserve Proposal. The communications strategy should emphasise the principles behind the concept of marine reserves and should be inclusive of all stakeholders and communities. The Council would welcome the opportunity to work with the Department of Conservation in developing such a strategy in order to ensure an integrated approach is adopted to the management of Northland's marine resources.

Co-Management of the proposed Marine Reserve

10. The Council is aware that the Department of Conservation is contemplating a co-management approach to the management of the marine reserve (if it is established). The Council believes that any management structure, including co-management, must include the whole of the local community, not just one (or a few) elements of that community.

Thank you for this opportunity to share the views of the Northland Regional Council on this conservation initiative for our marine environment. The Council wishes to enter into an active partnership with the Department of Conservation in the promotion and creation of marine reserves in Northland. The Council looks forward to receiving feedback from the Department of Conservation on the issues raised in this submission.

Yours faithfully

Warren MacLennan
Chief Executive Officer

33 metres

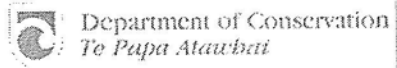
Boundary for Discussion

Approximate
Option 1
Boundaries

Mimiwhangata Marine Habitats

- | Subtidal | | Intertidal | |
|----------|-----------------------------|------------|------------------------------|
| | mud | | sand |
| | cobble | | gravel |
| | shallow mixed weed | | rock |
| | tangle-kelp forest | | Current Marine Park Boundary |
| | kina barren | | 33m bathymetry line |
| | Ecklonia forest (rock) | | |
| | Ecklonia forest (rock+sand) | | |
| | deep reef (low relief) | | |
| | deep reef (high relief) | | |
| | deep reef (rock+sand) | | |

This map is from a habitat study of the area by Dr Roger Grace and Vince Kerr. A technical report on this work is in preparation.



Mimiwhangata Habitat Map - 2004

1000 0 1000 2000 Meters

- References:
- 1 Kerr, V.K., Grace, R.V., 2002. Mimiwhangata Deep Reef Survey Draft Report 2002. A report to the Department of Conservation.
 - 2 Kerr, V.K., Grace, R.V., 2004. Habitat Investigations of Mimiwhangata. Report in progress.

Appendix 7

Appendix 7 - Boundary Definition Methods - Proposed Mimiwhangata Marine Reserve			
Methods (proposed)	Issues at Mimiwhangata		Application
	Positive	Negative (limitations)	
Marine Reserve Survey - office plan	Provides bearings, distance and features	Requires users to use other equipment to determine position	Requirement of marine reserve establishment. <u>No action</u> required during boundary determination
Marine Reserve markers (no lighting)	ID of shoreline boundary point	Only visible during day / good light	This method of boundary definition is required at all marine reserves
		People need to know what they are or mean	Essential for shore identification
		Need to know where to look	Action required during boundary determination, i.e. for purposes of boundary recommendations
		only visible up to 0.8 - 2 kms offshore (depending on swell, background, light conditions etc	Priority to find highly visible sites and apply
		unless tied in with an intersecting transit line, does not assist with determining the end point of boundary line	Try to have sites where location assisted by significant other features in landscape.
Marine Reserve Markers (with lighting)	may assist ID of shoreline boundary point during darkness	above points	Limited benefit
	may assist in seeing markers further offshore	supplying power source. Higher cost and maintenance	limited fishing activity during night hours
		needs Maritime New Zealand consent and inclusion on charts (for formal value)	Review use after establishment of markers
			<u>No action required</u> during boundary determination
Hydrographic Chart	Requirement for charts on commercial vessels	Delay in getting new chart printed.	Advise Hydrographic Office or LINZ as soon as possible to implement
	International recognition of feature	Delay / difficulty in circulation of chart and associated costs	
	Expectation all vessels hold charts and know where they are	user still needs ability to work out their position (bearings or transects / transits)	<u>No action required</u> during boundary determination
	no cost to DOC		
G.P.S - Points (chart / brochures)	relatively low cost and extremely accurate	need to have a good number of points	Initiate chart (through LINZ) as soon as possible.
	Good during both day and night	doesn't work as well on complex or curved boundaries	
	not affected by compass variation	not all boats have GPS	
		getting the information out	<u>No action required</u> during boundary determination
Electronic chart (plotters)	very good during both day and night	requires software manufactures to add to electronic chart	Inform available software manufactures as soon as GPS chart and Hydrographic chart completed
	provides accurate position at all times	cost of equipment is high so distribution is low	<u>No action required</u> during boundary determination
	no cost to DOC	few boats have them. Tend to be larger vessels.	
Significant natural features (transect / transits & or bearings)	No cost	Only vis during day / good light	assist skippers and fishers of boundary location
with textual description	assist in identifying boundary at greater distance than shore markers (5 - 10kms)	getting the information out in a form that is easily understood	
		need to know where to look	Action during determination of boundaries try to locate boundary lines supported by significant (permanent) natural features

Methods (proposed)	Issues at Mimiwhangata		Application
	Positive	Negative (limitations)	
Significant natural features (transects / transits & or bearings)		unless ties in with other transect lines / buoy doesn't give a distance offshore from shore boundary point	Support description with photograph of artificial feature concerned.
Significant artificial features (transects / transit & or bearings)	Likely to be distinctive in landscape so easily recognised (lighthouse light / building)	unless ties in with other transect lines / buoy doesn't give a distance offshore from shore boundary point	Action during determination of boundaries effort to locate boundary lines supported by significant (permanent) artificial features that assists with boundary definition
with description	assist in identifying boundary at greater distance than shore markers (5 - 10kms)	getting the information out in a form that is easily understood	Support textual description with photograph of feature.
may be illuminated so visible at night	maybe no cost	need to know where to look	
Buoys (lights could be added)	assist in identifying boundary lines and corners	Only visible during day / good light People need to know what they are and mean need to know where to look	Not recommended due to limitations versus benefit No action required during boundary determination
		only vis up to 0.8 - 2 kms (depending on swell, background, light conditions etc high maintenance costs Maritime New Zealand and Regional Council consents required	NOTE: An assessment of the use of a buoy was carried out on Northern AB boundary. See Section 8.0
Speedometer	most boats have them	user need to start from known point and have a bearing (and compass) user needs to be able to compute distance (i.e. 20km / hr for 6 minutes = 2 kms)	limited application. inform boat users No action required during boundary determination
Depth Sounder	Good day / night many boaties have them	need to increase minimum depth limit for fishing activity so as to allow for meandering depth contour (unless consistent depth along boundary and bearing)	Limited application. Action during determination of boundaries consider depth profile. ID depths at corners, transect points (GPS waypoints).
Radar	Good for assisting offshore distance	Few boaties have them	Limited application. Action during determination of boundaries, consider shore features for radar reflection.
	Works day / night	Parts of coast (flat) equate to poor definition Required to be used with chart, a bearing or transect to determine position	Limitation due to "soft-flat" coastline over parts of Mimiwhangata, particularly southern end.

Table 4 - Boundary Definition Methods - Proposed Mimiwhangata Marine Reserve

Conclusion

The marking of marine reserve boundaries is extremely challenging with no one single perfect solution. Though there is a maritime responsibility for a vessel's skipper to know where they are at all times, the provision of simple and easily determined marine reserve boundaries is important for the public and enforcement agency, to avoid unnecessary management conflicts. When determining the boundary positions for a marine reserve it is critical to ensure a wide range of methods as possible can be applied to achieve this. The associated assessment sheets identify 5 methods for which specific actions are warranted during the determination of boundary positions for a potential marine reserve at Mimiwhangata.

Appendix 8

Appendix 8 - Final Assessment Scores Sheet

Please note that the "offshore" boundaries assessed do not bisect the shore. Therefore these assessments do not consider the use of shoreline triangle marker signs. This needs to be taken into account when the "offshore" boundary assessment scores are compared with "onshore" boundary assessment scores, i.e. "offshore" scores have a lower relative score

Should also note that in the case of boundary line Northern A / B (Huruiki mountain / Otara Point), an assessment of marking the northwest corner with a buoy was undertaken. No score was given to this part of the assessment.

Final assessment scores

Boundary line names (as per assessment sheets)	# of yes	# of no	assessment score	comment
"Onshore" boundary locations				
Southern A / B	8	9	74	
Western A / B	10	7	81	
Southern C / D	14	3	95	
Southern E / F	11	5	99	reccommended boundary
Western C / D	13	4	103	reccommended boundary
Western E / F	11	6	85	
NRC A / B	9	8	71	
NRC G / H	1	5	87	
"Offshore" boundary locations				
Eastern A / B	2	4	5	
Eastern C / D	1	5	5	reccommended boundary
NRC C / D	0	5	2	
NRC E / F	0	5	2	
includes buoy assessment (but does not effect relative scoring)				
Northern A / B	15	5	91	reccommended boundary
Recommended boundary lines				
Southern E / F	11	5	99	
Eastern C / D	1	5	5	does not include assessment of triangle markers as these boundary lines are off shore
Northern A / B	15	5	91	
Western C / D	13	4	103	

Table 5 - Final assessment score sheet

Appendix 9

Appendix 9 - Conclusions from Boundary Position and Definiton Assessment Sheets					
Boundary name	Southern A / B	Western A / B	Southern C / D	Southern E / F	Eastern A / B
Conclusions	Some CLE concerns	Some CLE concerns	minor CLE concerns	suitable site, access to and stability of ground	# only eastern transit observed during field trips, however not always visible due to distance from a marine reserve area
	Boundary and marker on DOC estate	no cultural values compromised	no cultural values compromised	good sightline between triangle markers and Tohumoana hill	# CLE concerns - difficult to enforce
	Restriction in area for marker placement	Provides no / limited shore fishing on western end of Mimiwhangata DOC estate	Boundary and marker on DOC estate	minor CLE concerns	
	No distinctive features to aid boundary identification	Boundary and marker on DOC estate / private land boundary	Restriction in area for marker placement	no cultural values compromised	
	Provides no / limited shore fishing on southern end of Mimiwhangata DOC estate	Restriction in area for marker placement	Distinctive natural features to aid in boundary identification	Boundary and marker on DOC estate	
		Limited distinctive features to aid with boundary identification	Provides some shore fishing on Mimiwhangata DOC estate (south of Komakoraia Island)	reasonable compromise for all values	
				Distinctive natural features to aid in boundary identification	
onshore or offshore boundary	onshore	onshore	onshore	onshore	offshore
number of yes and no	8 yes 9 no	10 yes 7 no	14 yes 3 no	11 yes 5 no	2 yes 4 no
Score	74	81	95	103	5
recommended or not	not recommended	not recommended	not recommended	recommended	not recommended

Table 6 - Conclusions from Boundary Position and Definiton Assessment Sheets

Eastern C / D	Northern A / B	Western C / D	Western E / F	NRC A / B	NRC C / D
# a depth contour provides vessels with a "measurable boundary"	no cultural values compromised	no cultural values compromised	high CLE concern, i.e. Boundary cuts thru exposed reef / mussel rock 30m offshore	Some CLE concerns	minimal buffer zone between boundary line and deep reef high relief area
sensible approach in ecological terms	Structure on private land	good visibility of triangle markers on clay background	no cultural values compromised	Boundary and marker on DOC estate	
	Huruiki is a distinctive features to aid boundary identification	Boundary and marker on DOC estate	reasonable / good visibility of triangle markers on clay background	Restriction in area for marker placement	
		Provides some shore fishing on Mimiwhangata DOC estate	Provides some shore fishing on Mimiwhangata DOC estate	minimal buffer zone between boundary line and deep reef high relief area	
				largest of 3 headlands within this sector	
				Provides some shore fishing on Mimiwhangata DOC estate	
offshore	offshore	onshore	onshore	onshore	offshore
1 yes 5 no	15 yes 5 no	13 yes 4 no	11 yes 6 no	9 yes 8 no	0 yes 5 no
5	91	103	85	71	5
recommended	recommended	recommended	not recommended	not recommended	not recommended

NRC E / F	NRC G / H
	Some CLE concerns
	Pa site on headland
	Restriction in area for marker placement
	distinctive headland to aid boundary identification, but no distinctive background feature
	Provides some shore fishing on Mimiwhangata DOC estate
offshore	onshore
0 yes 5 no	1 yes 5 no
2	87
not recommended	not recommended

Appendix 10

Appendix 10 - Recommended boundary lines.

Boundary line names	Brief description of recommended boundary lines
Southern E / F	Line due east (T) of Tohumoana Hill.
Eastern C / D	70 metre depth contour running parallel (approximately) to the coastline.
Northern A / B	Transit between Huruiki mountain and buoy.
Western C / D	Line due north (T) of steep face approximately 150 metres east of Mimiwhangata Coastal Park / Webb boundary fence line.

Table 7 – Recommended boundary lines