

# **Proposed local rules for the Aotea rock lobster (kōura) fishery**

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For Aotea / Great Barrier Local Board and Ngāti Rehua Ngātiwai ki Aotea Trust Board

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## **Introduction**

The communities of Aotea Great Barrier Island have been concerned about the observed decline in rock lobster populations around the island for a number of years. Local monitoring during the Ahu Moana pilot project confirmed this decline, which is also supported by long-term monitoring conducted by the University of Auckland and more recently, by the Department of Conservation (DoC). The island community have also expressed grave concerns about increased fishing pressure around the island following the closure of the inner Hauraki Gulf to all rock lobster fishing in April this year. Local observations have confirmed this during the autumn and winter months, which is expected to increase dramatically during the coming summer season.

In light of this, the Aotea Great Barrier Local Board, with the support of the Ngāti Rehua Ngātiwai Ki Aotea Trust commissioned a public survey to canvas the Aotea communities' thoughts on a range of local rules for managing the rock lobster fishery around the island in a sustainable manner. The survey received 185 responses, with the majority from permanent residents and tangata whenua. In addition to the specific questions in the survey there were also more than 200 comments expressing views on the sustainability of the fishery as well as more generally on the importance of looking after the rock lobster populations in relation to their ecological roles in maintaining resilient local marine ecosystems. The survey results were presented to the Local Board and Ngāti Rehua Ngātiwai Ki Aotea Trust, followed by a public hui held on the island. In addition, other key stake holders (e.g. island-based commercial rock lobster fishers and charter operators) were consulted and provided valuable feedback. The proposed measures outlined below reflect this careful and thoughtful consideration.

## Daily bag limits

The vast majority of respondents ( 84%) supported lowering daily bag limits for both species as well as a lower combined daily bag limit. Currently the daily bag limits of three for spiny rock lobster and six for packhorse, with a combined daily bag limit of six. Based on the results of the survey and the preferences of the Aotea community we propose lowering the daily bag limits to **two** spiny rock lobster and **two** packhorse rock lobster, with a combined daily bag limit of **two** (e.g. one of each species or two of one species). Combined with the other local rules proposed we consider these bag limits strike the right balance between restoring and protecting populations of both species, whilst supporting the subsistence harvest of local families and recognising the important social and economic benefits of the recreational fishery to the island.

## Accumulation of daily bag limits

There is currently no rule for accumulation of daily bag limits in CRA2. This creates a significant stress on the populations of both species around Aotea as many boats stay for multiple days and often have multiple divers onboard. There are numerous accounts of boats leaving the island with multiple days catch in excess of 30 to 40 lobsters. With the full closure of the inner Hauraki Gulf to all rock lobster fishing, the Aotea community have already witnessed an increase in multi-day boat and diving activities and is very concerned that this practice will increase further as summer approaches, putting even greater stress on the already struggling lobster populations. For that reason, **we are proposing a complete ban on daily bag limit accumulation.** Boaties or shore-based fishers staying for multiple days will be welcome to catch their daily limit and enjoy consuming them fresh each day they are in Aotea waters, but will not be able to accumulate multiple days' worth of bag limits.

## Maximum Size Limits

Currently there are minimum size limits for males and females of both species, which are based on size at onset of maturity (SOM) (MacDiarmid & Sainte-Marie, 2006). Research shows that large individuals are the most important breeders (MacDiarmid & Butler, 1999; MacDiarmid et al., 2013), with large females producing exponentially more eggs than smaller individuals (Kelly et al., 2000), requiring large males to provide enough sperm for successful fertilisation (Butler et al., 2015). However, there are currently no maximum size

limits. Previous analysis by MPI suggests that introducing maximum size limits in the commercial fishery could be counterproductive and result in greater numbers of rock lobster being taken due to the quota management system (QMS) working on biomass rather than number of lobsters, whilst their introduction in the recreational fishery, which works on daily bag limits, would be beneficial. The results of the public survey show strong support for introducing a maximum size limit for both species to apply to both the commercial and recreational fishery. As the goal of introducing a maximum size limit is to increase breeding success overall, we would welcome further discussion on this. The rationale for determining an “ideal” maximum size limit is informed by potential fecundity and sperm production in females and males respectively. Based on MacDiarmid and Butler (1999) and Fry et al. (2014), **we propose introducing maximum sizes for spiny rock lobster (*Jasus edwardsii*) of 80mm tail width (TW) for males and 85mm TW for females.** There is little comparable research available for packhorse lobsters, so we therefore propose a similar ratio, taking into account their much larger potential size, of **120mm for males and 130mm for females.** We acknowledge that introducing maximum size limits would require fishers to have the ability to measure these maximum tail widths, as they do for minimum sizes, which will require some form of measurement tool.

## **Seasonal closures during the mating and breeding periods**

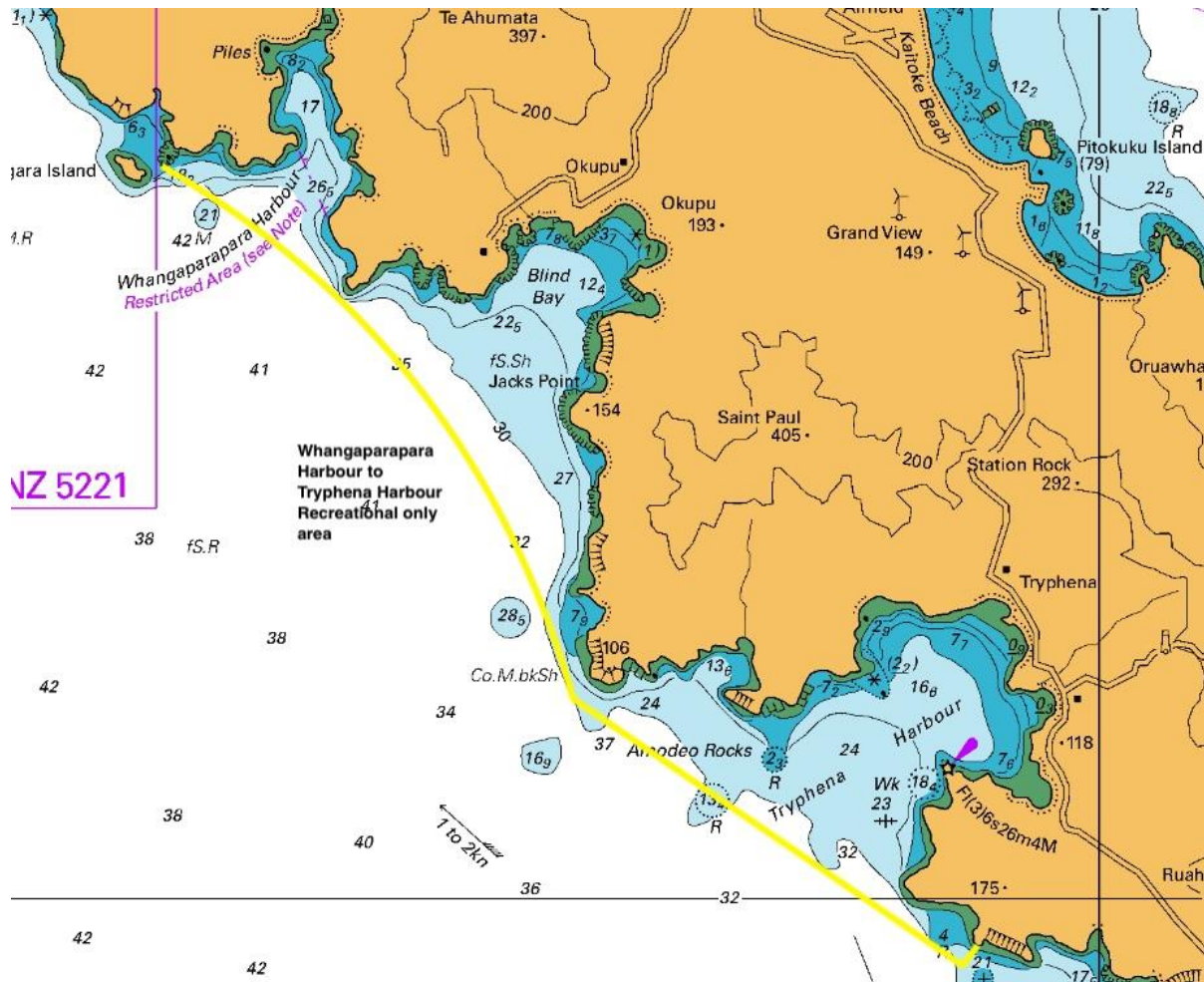
Eighty three percent of respondents to the survey were in favour of closed breeding seasons for both species, which would apply to both recreational and commercial fishers. Research highlights the potential negative impacts on mating success from disturbance and/or injury to both males and females during the courting and mating period of the breeding cycle (MacDiarmid et al., 2013; MacDiarmid & Sainte-Marie, 2006). Disturbance or injury to females whilst they are in a soft-shell state prior to mating may result in an unsuccessful mating window, causing them to re-absorb unfertilised eggs, leading to scarring of the ovaries and reduced fecundity in subsequent years (MacDiarmid & Butler, 1999; MacDiarmid & Sainte-Marie, 2006). Once females have successfully mated and extruded their eggs they will remain in berry until hatching occurs during September. Whilst there is still a risk of injury and loss of eggs during this time from disturbance by divers, there is less risk of failed breeding success or permanent injury, although disturbance or injury may impact the size and survival of phyllosoma (Smith & and Ritar, 2005). Once in berry, females are more easily identified by divers than when they are in soft shell, so inadvertent capture and injury can be more readily avoided.

Based on extensive local knowledge the mating period on Aotea for spiny rock lobster starts in late March - early April, through to approximately the end of June, although there may still be some mating activity during July. For Packhorse, the mating period begins in July and runs through until approximately the end of October. **We therefore propose a closed mating season for spiny rock lobster from 1<sup>st</sup> April until June 30<sup>th</sup> and from July 1<sup>st</sup> until October 31<sup>st</sup> for Packhorse.**

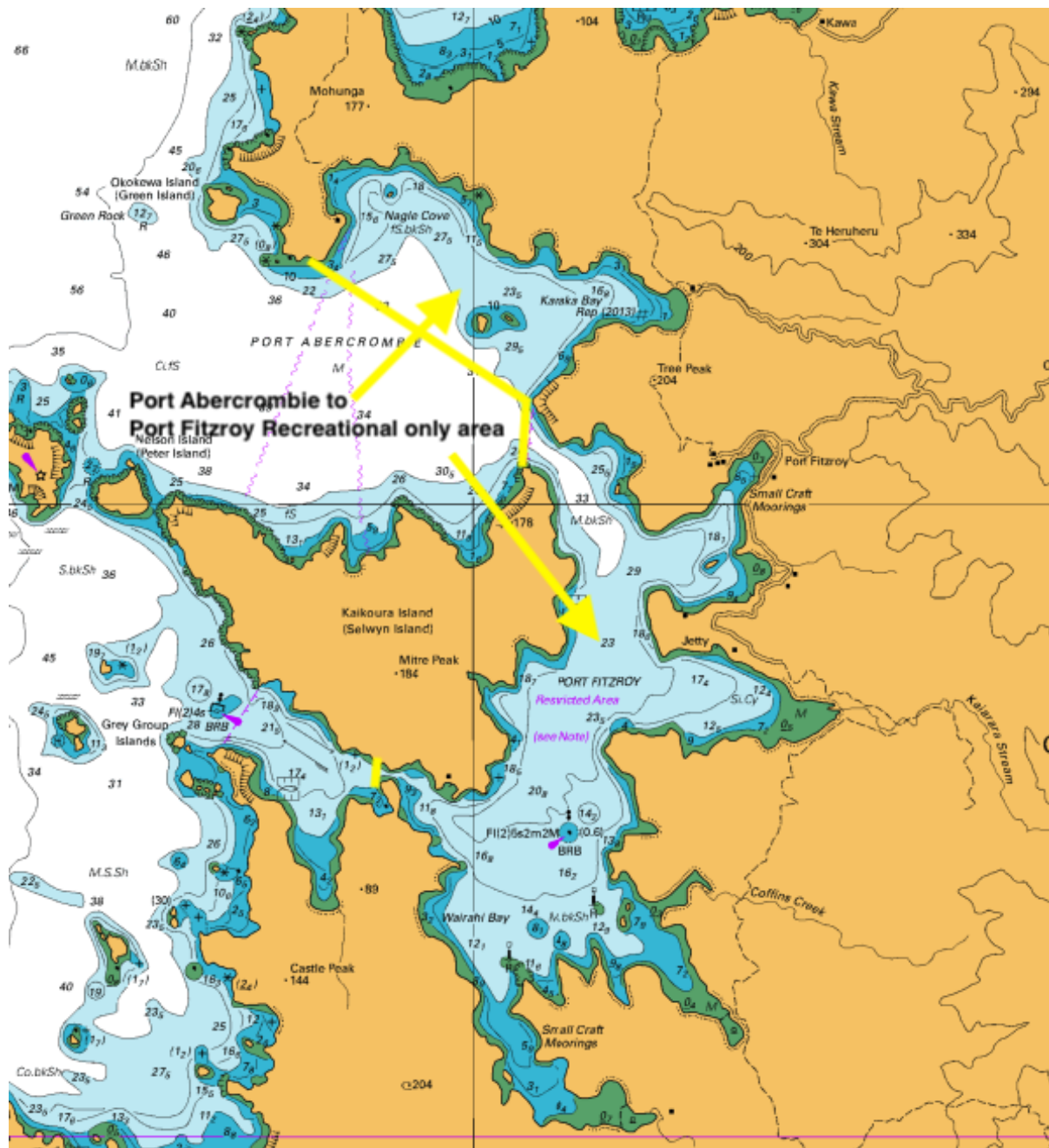
## **Recreational only areas**

Rock lobster fishing activity is not evenly spread around the island, with the majority of recreational fishing happening in proximity to the main population areas, primarily in the western side of the island, particularly in the harbours, bays, headlands and around the Broken Islands. Some of these areas are also fished by commercial fishers, further increasing pressure. **To help reduce fishing pressure in these areas, we are proposing several recreational only areas.** These designated, recreational only areas would be open for recreational hand gathering and recreational potting for both species, but would exclude all commercial rock lobster fishing. The proposed areas shown in the maps below are based on feedback and comments from the public survey and in-depth consultation with on-island recreational and commercial rock lobster fishers. The designated areas shown are indicative only.

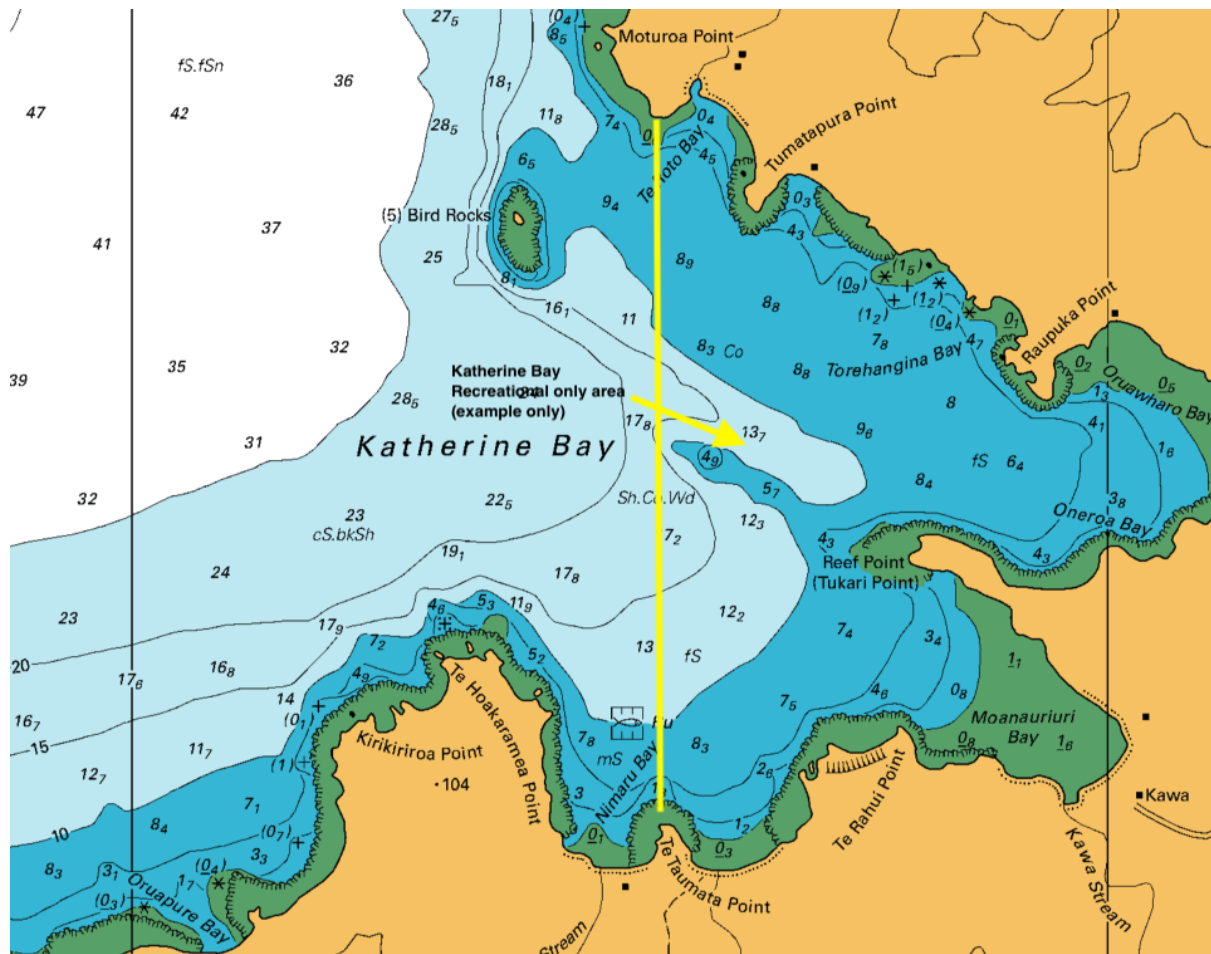
## Recreational only area - Whangaparapara to Tryphena harbour (indicative only)



**Recreational only area – Port Abercrombie to Port Fitzroy (indicative only)**



## Recreational only area – Katherine Bay (indicative only)

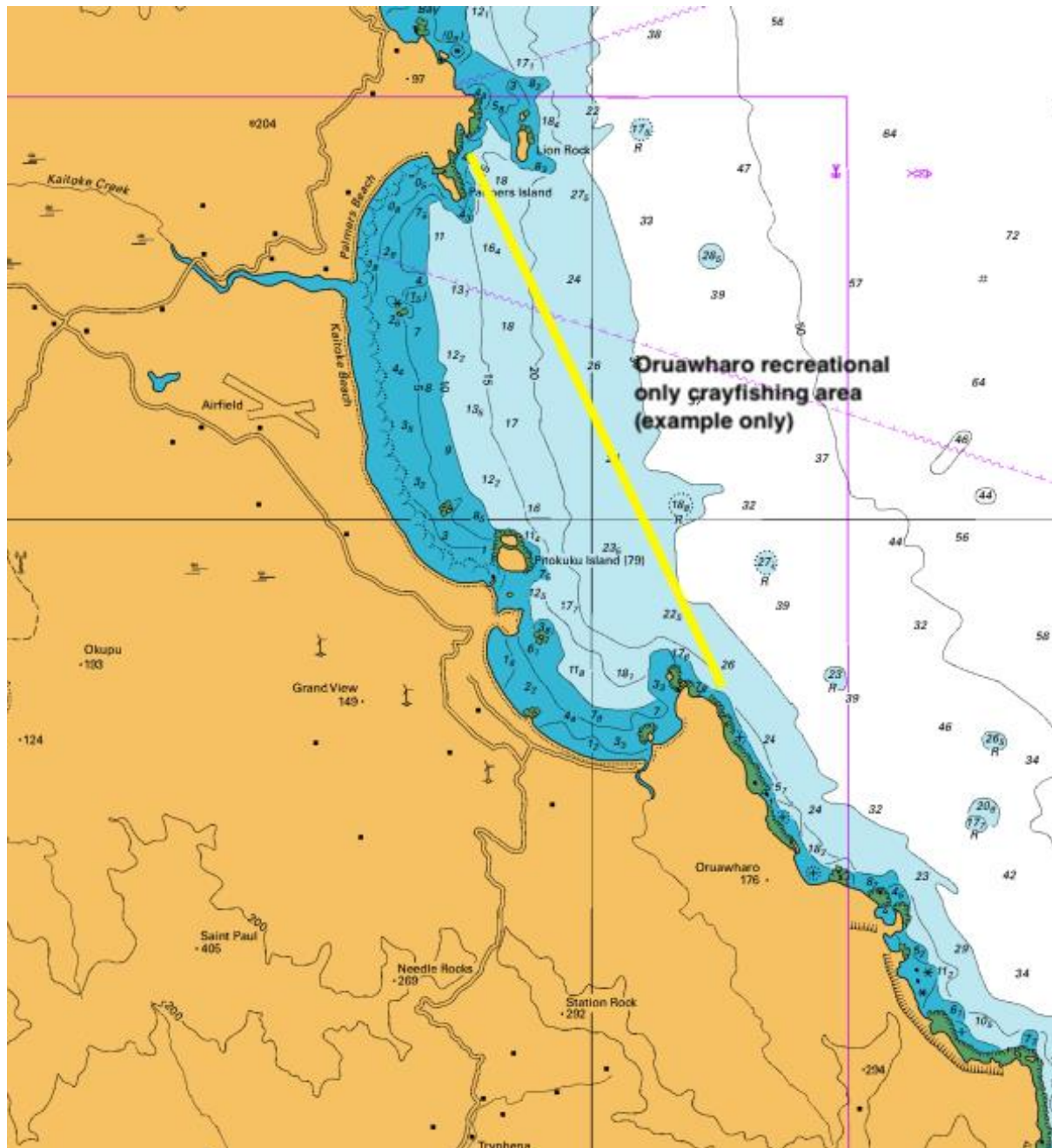


## Special consideration for Motairehe/Katherine Bay.

Whilst Katherine Bay was suggested as a recreational only area by several tangata whenua and Pākehā respondents to the survey, the Local Board recognises that Motairehe/Katherine Bay is of particular significance to Ngāti Rehua ki Aotea, and therefore will be guided by NRNWKAT, kaumātua and haukāinga about how any of the above local rules might be applied in Katherine Bay, including designating it as a recreational only area.



**Recreational only area – Oruawharo Bay (indicative only)**



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