

# **New Zealand Report**

**To the South West Pacific Hydrographic Commission,  
Tahiti, September 2007**

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## **1. Hydrographic Office**

Land Information New Zealand (LINZ) is in the 4<sup>th</sup> year of its programme to establish true regulatory regimes for the information and services it provides. In general this involves the establishment of risk based interventions to meet government's outcomes. The responsibility for compliance with regulatory instruments, such as standards, is being transferred to the providers of information. Hydrography does not fit this model as neatly as surveying or land registration but good progress is being made.

Initially attention was devoted to the determination of the level of risk hydrography created for the government, then the identification of the correct interventions to address it and now the rewriting of standards. See Annex A. There is a separation between policy, regulatory and operational activities. Standards are either based on those of the IHO or non-proprietary New Zealand versions based on ISO principles. A limiting factor during the last 2 years has been the inability to hire an experience Category A Surveyor. This has slowed the rewriting of HYSPEC, our survey standard, and to some extent CHARTSPEC. It is hoped both will be complete by July 2008.

The operational hydrographic capability has grown with Notices to Mariners being moved in-house. The Raster Chart Service has also moved into the department. The stewardship of ENC's transferred from the RNZN earlier this year. A CARIS system has been installed to verify ENC compliance with S-57 and S-52. An ENC specialist has been hired from the United Kingdom to extend the level of corporate capability. The nautical Almanac is now published in-house.

LINZ continues to contract out surveying to the RNZN and NIWA. Charting is still contracted to SKM and HSA. The map and chart warehouse remains under contract to HSA.

The RNZN is undertaking a review of its hydrographic services and it is not known what the outcome will be. The NZ Defence Force is heavily involved in military geospatial applications and the RNZN is taking delivery of seven new ships.

## **2. Surveys**

Only one major survey was undertaken in the 05/06 year. This was part of Shipping Lane 4 on the East coast of the North Island.

HMNZS RESOLUTION was commissioned to undertake navigational surveys during a recent military deployment to the South West Pacific. Surveys were conducted around Atafu and Fakaofu, Tokelau. The data will be used to update NZ 885.

LINZ and the RNZN are now working closely together to collaborate on future deployments to the Pacific Islands where the needs of both organisations can be met.

The survey programme for 07/08 includes Shipping Lane 4. This should be completed during 2008. Surveys are planned off Abel Tasman National Park and in Mercury Bay, Dusky Sound, Milford Sound and around the Kermadec Islands. These surveys will be fully contestable and specifications are being prepared as part of the contracting process.

### **3. Charts and Publications**

#### **a) Charts**

A new chart of NZ 8655 Apia Harbour is due for release in September 2007. It is at 1:7,500 and is based primarily on surveys by HMNZS RESOLUTION in 2005. Areas outside of the harbour and approaches are from surveys by the RAN in 1985, HMNZS MONOWAI in 1982 and small scale surveys from 1953 and 2005. This new chart will supersede the current chart NZ 8655 which is based on NZ Government surveys from 1953 to 1982.

New charts and new editions around New Zealand programmed for FY 07/08 are:

NZ 4265 Kaipara Harbour  
NZ 532 Approaches to Auckland  
NZ 5227 Goat Island to Waiwera River  
NZ 5321 Kawau Island to Rangitoto Island  
NZ 5322 Auckland Harbour East; Calliope Wharves; Commercial Harbour  
NZ 5323 Auckland Harbour West; Chelsea Wharf; Kauri Point Wharf  
NZ 5324 Tamaki Strait and Approaches including Waiheke Island  
NZ 5325 Tamaki River  
NZ 4432 Taranaki Roads; Port Taranaki  
NZ 5571 Poverty Bay and Approaches to Gisborne; Gisborne Harbour and Entrance (currently NZ 5613)  
NZ 6142 Nelson Harbour and Entrance; Port Nelson  
NZ 7625 Thompson and Doubtful Sounds (new chart)  
NZ 222 Kermadec Islands  
NZ 2225 Plans in the Kermadec Islands  
NZ 3111 Campbell Islands, Bounty Islands and the Antipodes Island Group  
NZ 14904 (INT 9004) Scott Island (new chart)  
NZ 14060 (INT 60) Australasia and Adjacent Waters  
NZ 14061 (INT 61) South Pacific Ocean (West part)

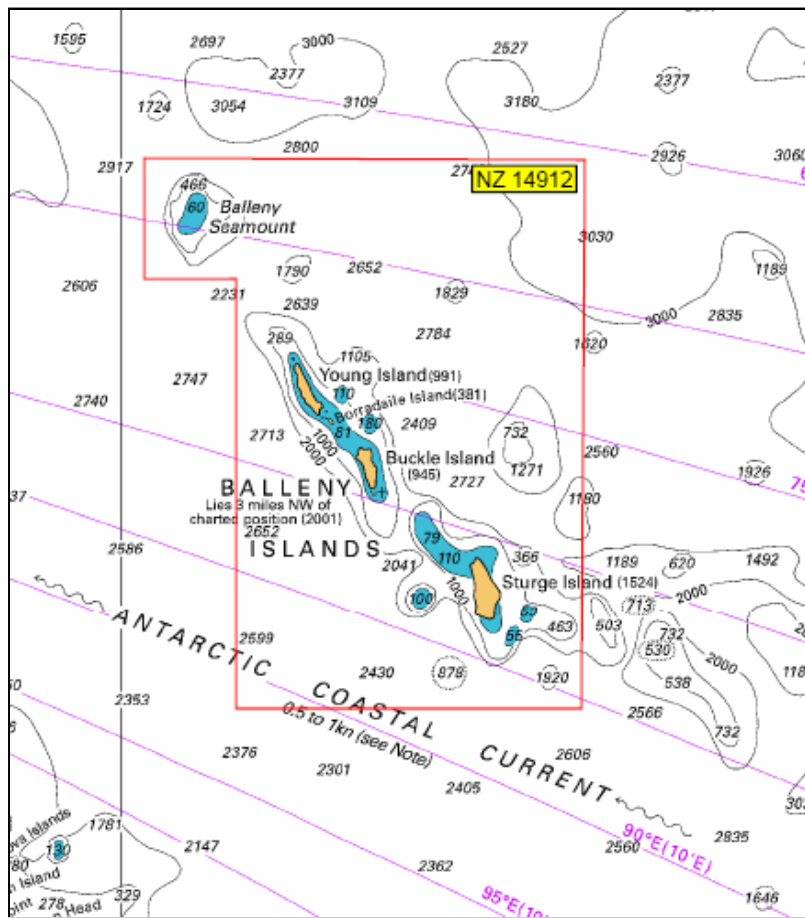
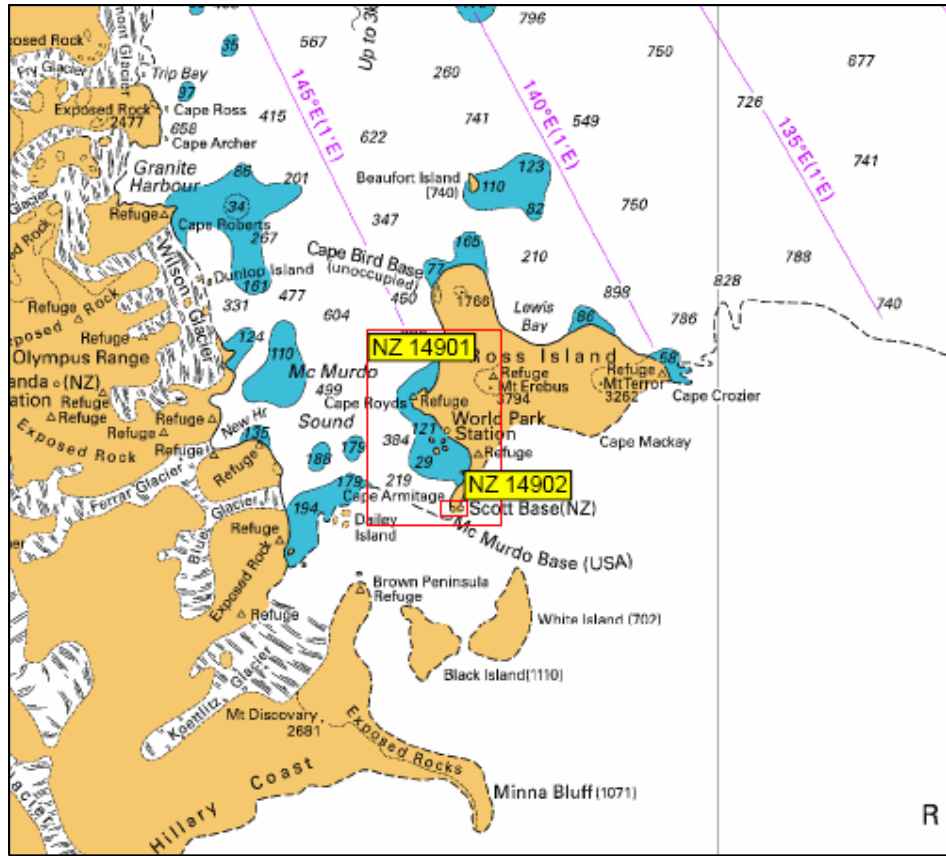
#### **b) International Charting**

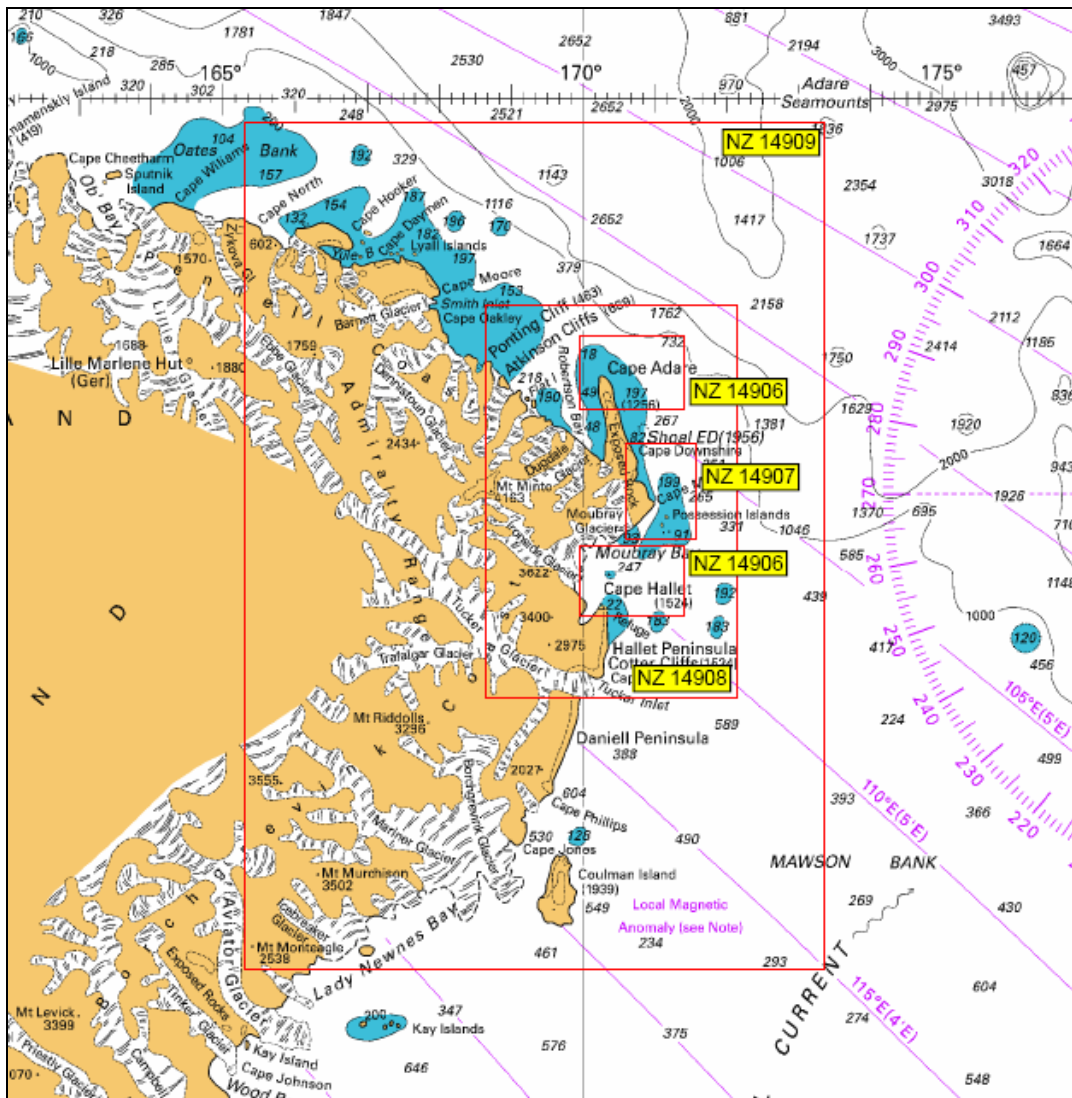
New editions of the following NZ produced international charts are due to be released in September 2007:

INT 600  
INT 601  
INT 605  
INT 606

INT 61 is currently under production as a new edition and due to be released in about June 2008.

The following shows New Zealand's Antarctic Charts. NZ 14901 and 14902 at Ross Island which will be released in September 2007. The others have been released already.





**c) Digital Charting**

New Zealand maintains a near complete folio of RNCs. The following South West Pacific Charts continue to be excluded as the local datums cannot be accurately transformed to WGS84.

Tonga

- T/NZ 8234
- T/NZ 8235
- T/NZ 8247
- T/NZ 8248
- T/NZ 8259
- T/NZ 8266

Samoa/American Samoa

- NZ 86
- NZ 865
- NZ 1414
- NZ 8655
- NZ 8685

A total of 120 ENC's were transferred from the RNZN to LINZ earlier this year. See Annex B. This was a necessary step in the conferring of official status and the

issuing of authoritative data. While these were very suitable for Naval purposes further validation has been required to ensure they fully comply with S-57 and meet the requirements of SOLAS class vessels. Currently 48 ENC's have been validated to date. None have been signed off as official so far. This is because of the way production is being staged and is not a reflection of the level of compliance.

It is intended that the first official ENC's will be available in 2008 with 10 -20 covering areas around Auckland and Wellington. There will be sufficient available to comply with the IMO mandatory regulations for high speed and dynamically controlled craft.

#### **d) Publications**

LINZ published its annual Almanac on 1 July of this year. This does not contain any information outside New Zealand territorial waters.

Data is supplied to the UKHO for the NZ Pilot as it became available. Often this material is sent directly to the UKHO by port operators and mariners.

#### **4. MSI**

The New Zealand Search and Rescue Area and NAVAREA XIV extends into the South West Pacific. The functional responsibility for SAR, MSI and NAVAREA XIV are now handled by Maritime NZ. There are no plans to change these arrangements in the foreseeable future.

#### **5. Hydrographic Capacity**

Recruitment of skilled hydrographers remains difficult in New Zealand. LINZ has had no success in obtaining an experienced surveyor for its Regulatory Advisory position. This was advertised world wide but did not attract a suitably experienced person. Graduates from Otago University are being hired by overseas companies before they complete their qualifications.

The Customer Services Group in LINZ has had more success attracting people from the United Kingdom and has hired two Surveyors and a Cartographer specialising in ENC's.

A senior Category A Surveyor from the RNZN is leaving the service. A senior LINZ Cartographer transferred to the private sector in a different role. The National Topographer/Hydrographer will retire in early March 2008.

It is difficult to see what the long term outlook for hydrography will be given the current nation wide shortage of skilled people. It is possible that new people may be attracted to New Zealand through the restructuring and down sizing of larger Hydrographic Offices. This could happen as more and more production work is contracted to Asia.

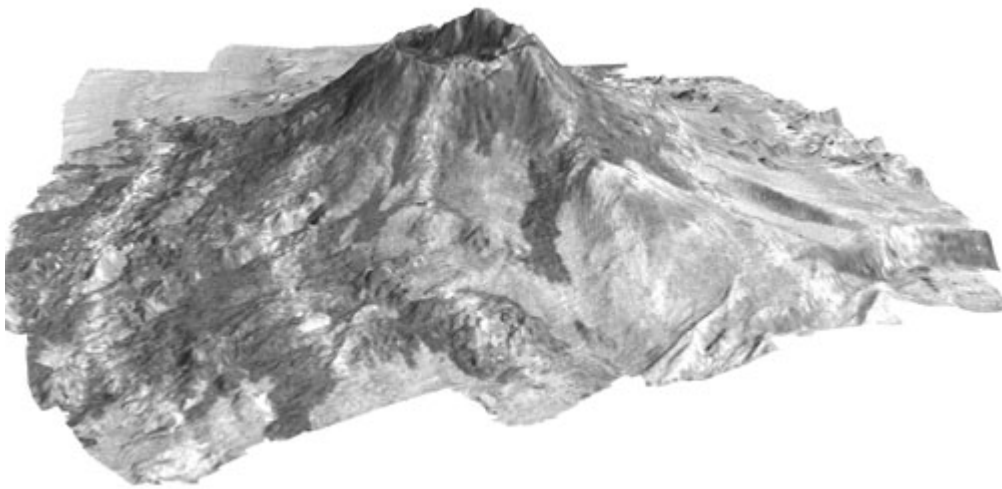
#### **6. S-55 Update**

S-55 contains the latest information for New Zealand. The level of new information becoming available is relatively small compared to the extent of charting responsibilities.

## 7. Oceanographic Activities

New Zealand has active Oceanographic programmes undertaken by science institutes such as National Institute of Water and Atmospheric Research Ltd (NIWA) and Geological and Nuclear Sciences. The Ministry of Fisheries, Department of Conservation and LINZ have been meeting science exploration objectives under the Oceans 20/20 Programme. This has been underway for 2 years and the first activity completed. Hydrographic, biodiversity and seabed habitat projects were undertaken over the Chatham Rise.

NIWA has been undertaking scientific surveys of a number of uncharted undersea volcanoes to the North of New Zealand.



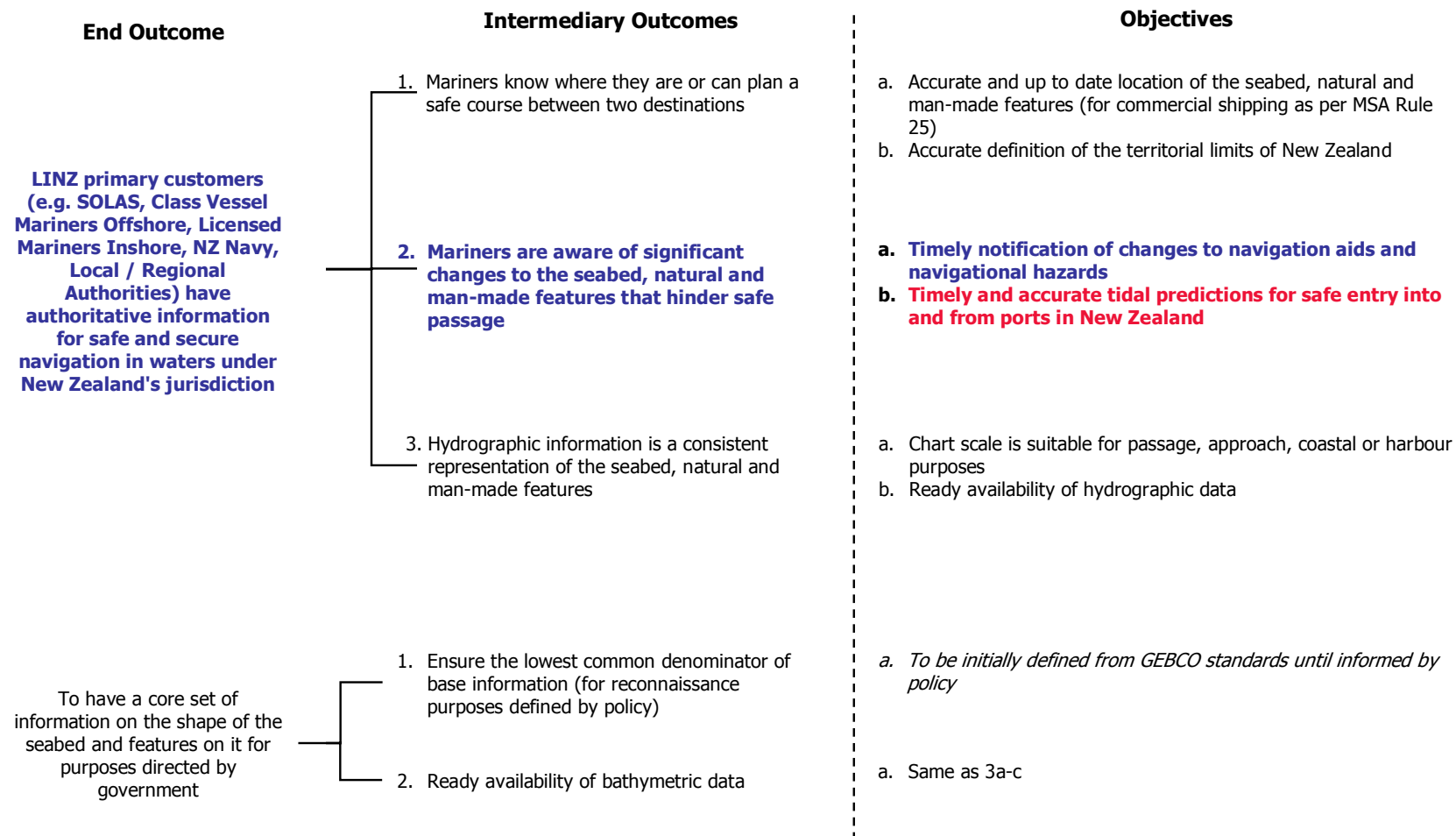
The Kermadec section of the Pacific Rim of Fire extends over 1,400 km between NZ and Tonga. New volcanoes are routinely being discovered with 40 or so found in the last 5 years. Some are up to 5 km in diameter. Some are only 60 to 80 metres below the ocean's surface. Calderas have been found with diameters of 3 to 10 kms and walls of 700 to 800 metres.

An active oil exploration programme is about to commence off the south of the South Island. Licences are currently being let and several large consortiums are taking them up.

## 8. Conclusions

Hydrography in NZ is progressing at a reasonable pace with major advances being made on the establishment of Official ENC's. There is an active survey and charting programme for 2007/2008 and out years. Many hydrographic services have been moved into LINZ although surveying and charting continue to be outsourced to external agencies. There are some potential issues that may impact on the future. Maintaining a country wide pool of skilled hydrographers and an adequate survey capacity may become challenges.

# NTHA Hydrography Outcomes





## Outcomes and Objectives - Hydrography 2.a (i) and (ii)

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| End Outcome   | Intermediate Outcome   | Objectives  | Sub -Objectives   |
|---|--|---|---|
| <p><b><i>LINZ primary customers (e.g. SOLAS, Class Vessel Mariners Offshore, Licensed Mariners Inshore, NZ Navy, Local/ Regional Authorities) have authoritative informaiton for safe and secure navigation in waters under NZ's jurisidiciton.</i></b></p> | <p><b><i>2 Mariners are aware of significant changes to the seabed, natural and man-made features that hinder safe passage</i></b></p> | <p><b><i>a. Timely notification of changes to navigation aids and navigational hazards</i></b></p> <p><b><i>Note: The above Objective cannot be changed now, but agreed to change wording to:</i></b></p> <p><b><i>a. Timely notification of changes for aids and hazards to navigation</i></b></p> | <p><b><i>i. Accurate definition of changes to the seabed, other natural features and/or man-made object features known to LINZ, that are hazardous to safe navigation</i></b></p> <p><b><i>ii. Corrections are notified in a timely manner to mitigate the risk of unsafe passage</i></b></p> |

## Outcomes and Objectives - Hydrography 2.b (i) to (iii)

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| End Outcome   | Intermediate Outcome  | Objectives   | Sub -Objectives  |
|---|---|--|--|
| <p><i>LINZ primary customers (e.g. SOLAS, Class Vessel Mariners Offshore, Licensed Mariners Inshore, NZ Navy, Local/ Regional Authorities) have authoritative information for safe and secure navigation in waters under NZ's jurisdiction.</i></p> | <p><i>2 Mariners are aware of significant changes to the seabed, natural and man-made features that hinder safe passage</i></p> | <p><i>b. Timely and accurate tidal predictions for safe entry to and from ports in New Zealand</i></p> | <p><i>i. Accurate definitions of time and height of the high and low waters for tidal predictions notified in a timely manner.</i></p> |
|   |   | <p><i>Note: Cannot change above Objective now, but recommend future change of wording to:</i></p>      | <p><i>ii. Accurate definitions of lowest sea-level for chart datum</i></p>   |
|   |   | <p><i>b. Timely and accurate tidal predictions for safe passage within New Zealand waters</i></p>      | <p><i>iii. Accurate definitions of direction and velocity, time of waters for tidal streams notified in a timely manner.</i></p>       |

