Research:

HMNZS Tui (A2, A05) - ZMSQ (this callsign was carried over from the previous Tui)
Displacement: 1200 tons, 1380 tons full load. Length overall 209ft, beam 37ft 9in, draught 15ft 4in.
Performance: 12 kts.
Machinery: diesel electric, one shaft, 10,000 hp, bow propellor 175 hp.
Complement: 24 and 15 scientists.
Communications equipment was predominantly US Merchant Navy RCA with 691/CUH, 643/CJP, RATT and BID660 equipment being added later.

Tui undertook a wide variety of oceanographic and international scientific research duties for the Defence Operational Technology Scientific Establishment (formerly DSE, formerly NRL), the Auckland University and various NZ Government departments. She participated in Exercise Joint Venture 1986 in the Cook Islands, watched over French nuclear weapons tests at Mururoa Atoll and finally paid off in 1995. She was sunk in 1999 as a diving wreck off Northland.
Tui carried 1 LRO who kept SOPs on Z13W, later fitted for Z12W and then for the Secondary on-line broadcast Z21W. About 1973/74, Tui travelled around the entire coastline of NZ carrying out SSB voice trials to determine a suitable frequency for the Coastal Common Net. The Chief’s Office at ZLO had a microphone and a remote line set up to be the Coast Station. Transmissions were carried out every hour on 2, 3, 4, 6, 8, 12 and 16 MHz. Eventually, the two frequencies selected were in the 3 and 8 MHz ranges but this Voice circuit didn’t become operational until about the mid-80’s.
Monowai was originally the NZ Government-owned Cook Islands cargo-passenger ship "Moana Roa". Built in Scotland in 1960, she was handed over to the RNZN in 1974 and sent to Scotland for refit and conversion at the Scott Lithgow Drydocks Ltd. This work was completed in 1977 and Monowai was commissioned in October of that year. As well as her survey duties, Monowai also serviced Raoul and Campbell Islands, went to the assistance of yachts during an ocean race, attended Pacific islands' conferences, monitored Chinese missile splashdown tests and stood by off Fiji for possible NZ civilian evacuations after the two military coups in 1987. Monowai paid off in 1998.
Communications Fit

1 x Redifon G685 1KW main transmitter
1 x 643/CJP 100W (also available for emergency power)
4 x CJP receivers
1 x Salvor III MF transmitter
1 x Lifeguard N 500 kHz auto receiver
2 x BID 580
3 x BID 660
5 x Extel teleprinters complete with tape readers
1 x Xerox 660 photocopier
1 x Furuno DF
1 x VHF 20B – on the Bridge
1 x AN/ARC 159 – on the Bridge
1 x Commercial VHF transceiver – on the Bridge
1 x Codan transceiver – on the Bridge with remote to Chart Room

Vehicles were fitted with Codan HF transceivers & aerials (2022 kHz)
Survey Motorboats and ISCs also Codan HF fitted (2022 kHz)
Tait VHF handhelds distributed for small boats and shore party use
2 x 634 UHF transceivers
2 x Racal Squadcal SSB HF transceivers

Aerials
2 x MF wire aerials – 1 x Salvor III transmitter & 1 x Lifeguard N 500 kHz auto receiver
1 x Codan Whip aerial
1 x AWW1 Whip – Redifon G685 main transmitter
3 x AWY1 Whip – 643/CJP/Fascimile machine
1 x UK/SRA 102 – AN/ARC 159
1 x AJL – VHF 20B

Inshore Survey Craft

**Takapu (A07) - ZMTB**

**Tarapunga (A09) - ZMTA**

Displacement: 92 tons. Length overall 88ft, beam 20 ft, draught 7ft 2in.
Machinery: 2-shaft Cummins diesels, bhp 730.
Performance: 12 kts.
Complement: 11.

Built by Whangarei Engineering & Construction Ltd, Tarapunga was built in 1979 and commissioned 28 March 1980. Takapu built in 1980 and commissioned 15 July 1980. These two replaced their ML namesakes and carried out inshore survey work. They usually worked together, but were also able to work alone or with Monowai. Boths ships were decommissioned in 2000.
Main Communications Office – HMNZS Monowai

Communications crew: 1 PORS and 3 AROs. Ship maintained constant Broadcast Z11W.

HMNZ Ships Monowai, Tui, Takapu and Tarapunga were replaced by one ship HMNZS Resolution for Hydrographic and Oceanographic survey work. Inshore survey work is carried out by a twin hulled vessel SMB Adventure. This is not a commissioned vessel but operates as an "as required" survey unit on short-notice for inshore work.
Tarapunga and Takapu

No operators carried.
Footnote:

In conjunction with Tui's propagation survey, it was also found that there were blind spots on the Coast to the East and West of Waiouru. Prior to the CCN SSB circuit becoming operational, a Half-wave dipole was erected at ZLO's transmitting site. The aerial was orientated 10 degrees off North/South and configured as a two frequency spider web, with the 3 MHz as the top wire and the 8 MHz on the bottom. When keyed, the aerial would automatically select the frequency to be used. This aerial was 10 metres above ground and gave higher takeoff angles, resulting in short to medium distance coverage around the coast.