

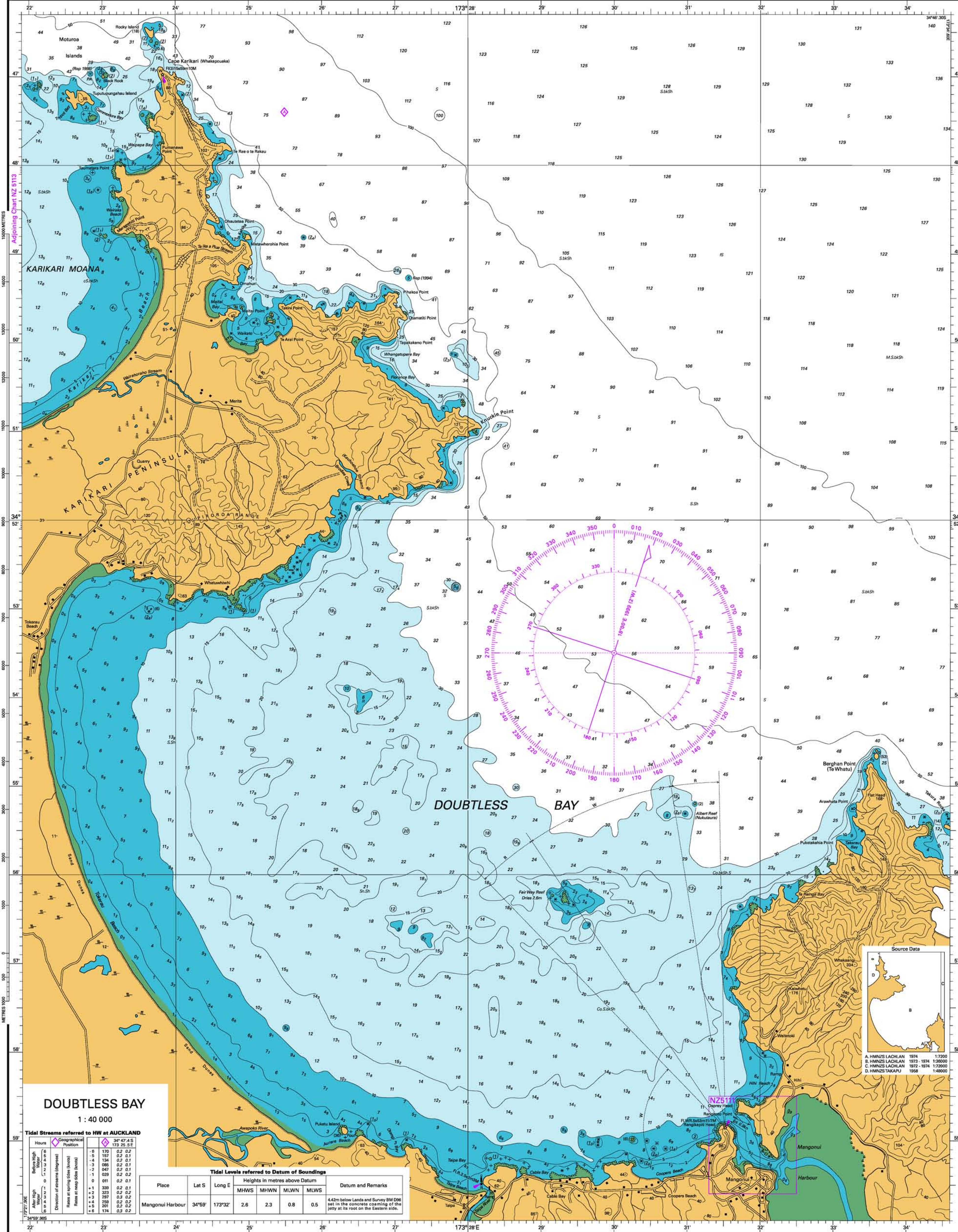
Depths in metres (under thirty-one in metres and decimetres) reduced to Chart Datum which is approximately Lowest Astronomical Tide.
 Heights in metres. Underlined figures are drying heights above Chart Datum; all other heights are above Mean High Water Springs.
 Navigational Marks: IALA Maritime Buoyage System Region A (Red to Port).

Positions are on World Geodetic System 1984 (WGS 84).
 Projection: Transverse Mercator.
 Sources: For information on the quality of the hydrography see the Source Data Diagram. Topography derived mainly from Land Information New Zealand data.

DOUBTLESS BAY

NZ 5114

DEPTHS IN METRES



DOUBTLESS BAY

1 : 40 000

Tidal Streams referred to HW at AUCKLAND

Hours	Direction of stream (lograds)	Rate at spring tides (knots)	Rate at neap tides (knots)
0	0	0.0	0.0
1	1	0.1	0.1
2	2	0.2	0.2
3	3	0.3	0.3
4	4	0.4	0.4
5	5	0.5	0.5
6	6	0.6	0.6
7	7	0.7	0.7
8	8	0.8	0.8
9	9	0.9	0.9
10	10	1.0	1.0
11	11	1.1	1.1
12	12	1.2	1.2
13	13	1.1	1.1
14	14	1.0	1.0
15	15	0.9	0.9
16	16	0.8	0.8
17	17	0.7	0.7
18	18	0.6	0.6
19	19	0.5	0.5
20	20	0.4	0.4
21	21	0.3	0.3
22	22	0.2	0.2
23	23	0.1	0.1
24	24	0.0	0.0

Tidal Levels referred to Datum of Soundings

Place	Lat S	Long E	Heights in metres above Datum				Datum and Remarks
			MHWS	MHW	MLWN	MLWS	
Mangonui Harbour	34°59'	173°32'	2.6	2.3	0.8	0.5	4.42m below Lands and Survey BM D96 set in the concrete coaming of the jetty at its root on the Eastern side.



Source Data
 A. HMNZS LACHLAN 1974 1:7200
 B. HMNZS LACHLAN 1973 1974 1:30000
 C. HMNZS LACHLAN 1972 1974 1:72000
 D. HMNZS TAKAPU 1958 1:48000