



WATER & SOIL

MISCELLANEOUS PUBLICATION

NO. 28

**Bibliography of oceanography
and sedimentology for the
Northland—Auckland coast**

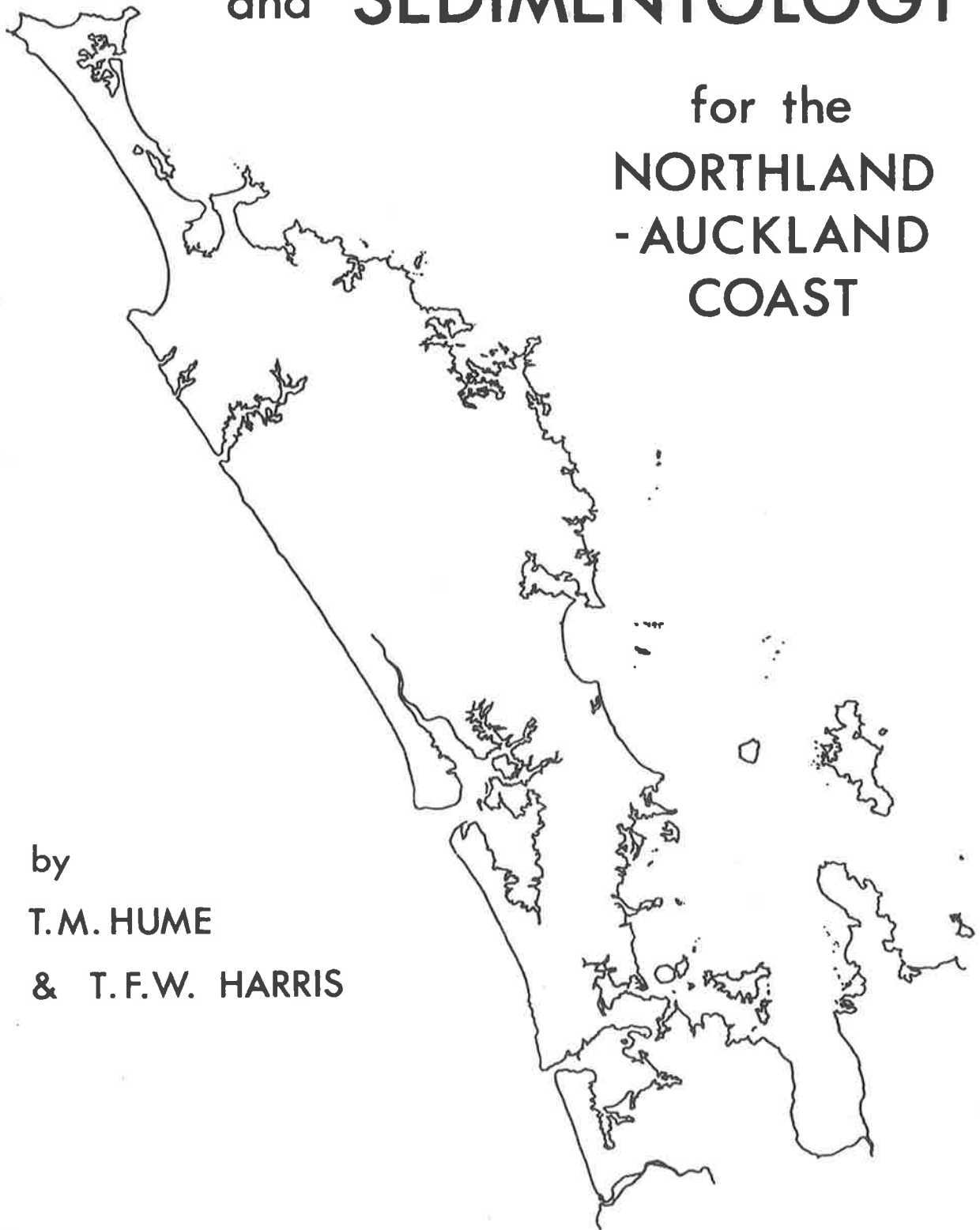


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BIBLIOGRAPHY
of OCEANOGRAPHY
and SEDIMENTOLOGY

for the
NORTHLAND
-AUCKLAND
COAST



by
T.M. HUME
& **T.F.W. HARRIS**

WATER & SOIL MISCELLANEOUS PUBLICATION NO. 28

WELLINGTON 1981

**Bibliography of oceanography and sedimentology for the
Northland—Auckland coast**

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This bibliography brings together references concerning the oceanography and sedimentology of the coast and coastal waters, including major estuaries, of Northland—Auckland, New Zealand. It excludes, however, the Manukau and Waitemata Harbours, these being covered by existing bibliographies.

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Alphabetical arrangement with subject index.

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1. Oceanography--Pacific Ocean, Southwestern--Bibliography. 2. Oceanography--Tasman Sea--Bibliography. 3. Marine sediments--Pacific Ocean, Southwestern--Bibliography. 4. Marine sediments--Tasman Sea--Bibliography. I. Harris, T.F.W. II. Title. III. Series.

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PREFACE

The purpose of this bibliography is to bring together references to all material concerning the oceanography and sedimentology of the coast and coastal waters of Northland - Auckland, New Zealand. The material selected for inclusion was that which seemed likely to bear on the coastal problems of erosion, sediment mining and the disposal of wastes, these being matters of interest to the sponsors, the National Water and Soil Conservation Organisation. The bibliography therefore contains references to papers which treat the following kinds of subjects; coastal morphology, bathymetry, sediments, geology and soils (where they relate to sediment provenance), sea-level, tides, winds, currents, dispersion, water quality (especially salinity, temperature and suspended sediments) and coastal engineering.

The area of interest includes the coasts and coastal waters, bounded by the Waikato River on the west, and the Coromandel Peninsula on the east, together with major estuaries but excluding the Manukau and Waitemata Harbours, which are covered by existing bibliographies, in course of being updated by one of us (T.M.H.).

Attention is drawn to the four topics whose inclusion is impractical and which are in any case being handled by specialists who are the best sources of information:

- Sea levels: In addition to measurements being made at the major harbours, there are many others, sometimes 'ad hoc' made by a variety of agencies. The Hydrographic office of the Royal New Zealand Navy has a New Zealand Tidal Library which holds microfilm copies of tide gauge charts and results of harmonic tidal analyses.
- Bathymetry: More detailed charts at varying scales, used to prepare referenced charts, are available by arrangement with the Hydrographer of the Royal New Zealand Navy.

- Aerial photography: Apart from the Lands and Survey Department, there are several organisations which hold aerial photographs of the coast. Amongst these are Aero Services (New Zealand) Ltd., New Zealand Aerial Mapping, Whites Aviation Ltd., Air Logistics, and the New Zealand Forest Service.

- Satellite Imagery: Satellite sensed images of coastal waters are now becoming available. The central authority handling these is the Physics and Engineering Laboratory of the Department of Scientific and Industrial Research, distribution being made by the Lands and Survey Department, Wellington.

In the main bibliography the references are set out in alphabetical order of the authors. To most have been added a short annotation which seeks to draw attention to the scope and usefulness of the work, that might not otherwise be apparent from the title. This is especially true for the biological references that have embedded in them valuable oceanographic or sediment data. The references are also listed in a subject index. Location maps have been included for reference.

When possible, copies of the material cited have been incorporated in a collection which is housed in the Water and Soil Division of the Ministry of Works Auckland District Office, and which may be servicable to those having difficulty in locating items. Where reports were commissioned privately, the commissioning authority should naturally be approached if use is to be made of the data.

The sources of references show an interesting distribution; as follows (expressed as a percentage).

(iii)

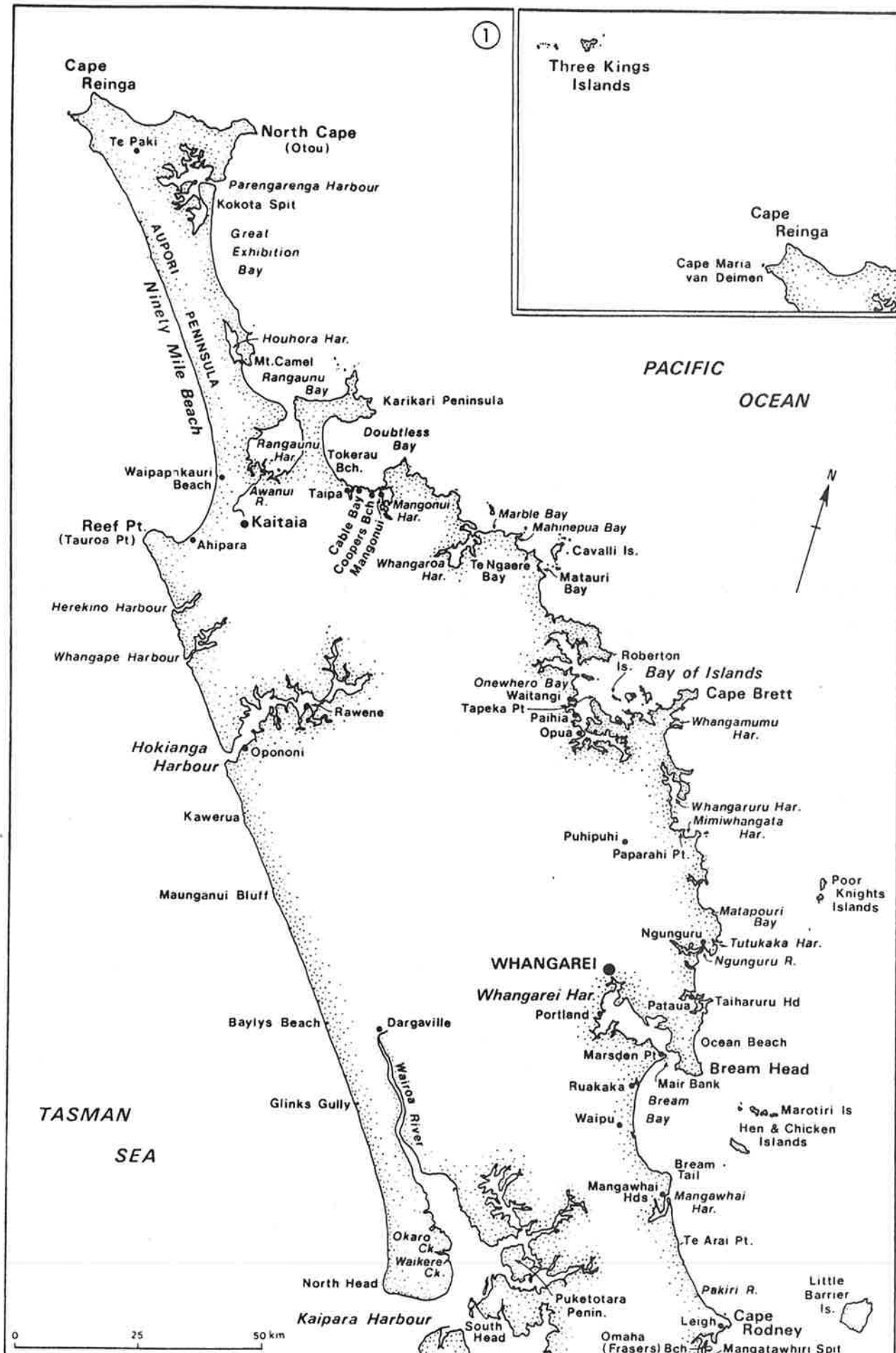
<u>Published</u>	<u>%</u>	<u>Total</u>
Authorities and Government Agencies	23	
Serials (Journals)	21	
Conferences	4	
Books	3	<u>51%</u>
 <u>Unpublished</u>		
Consultants	18	
Authorities and Government Agencies	15	
University theses	14	
University material	2	<u>49%</u>

When, during the course of the literature search, the productivity of the unpublished category became apparent, personal enquiries were instituted, amongst local and catchment authorities, harbour boards and government files. Sometimes the existence of a reference was revealed by the chance recollection of one person, so it is difficult to be sure that the search was exhaustive. In the files category the bibliography includes references to technical reports and filed maps and drawings. In addition to these however the files contain a considerable amount of miscellaneous technical data and background information that for practical reasons is not cited in the bibliography.

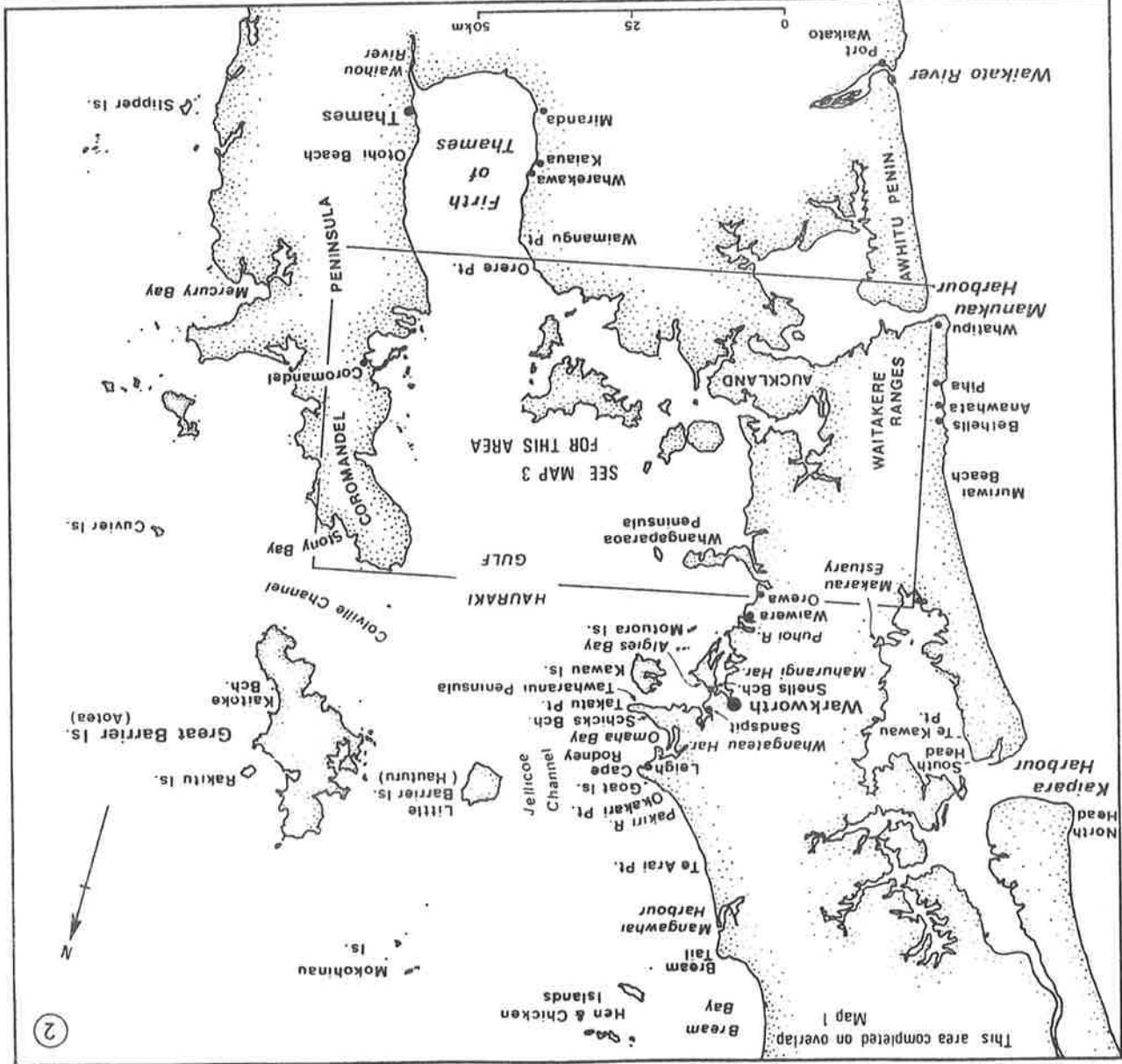
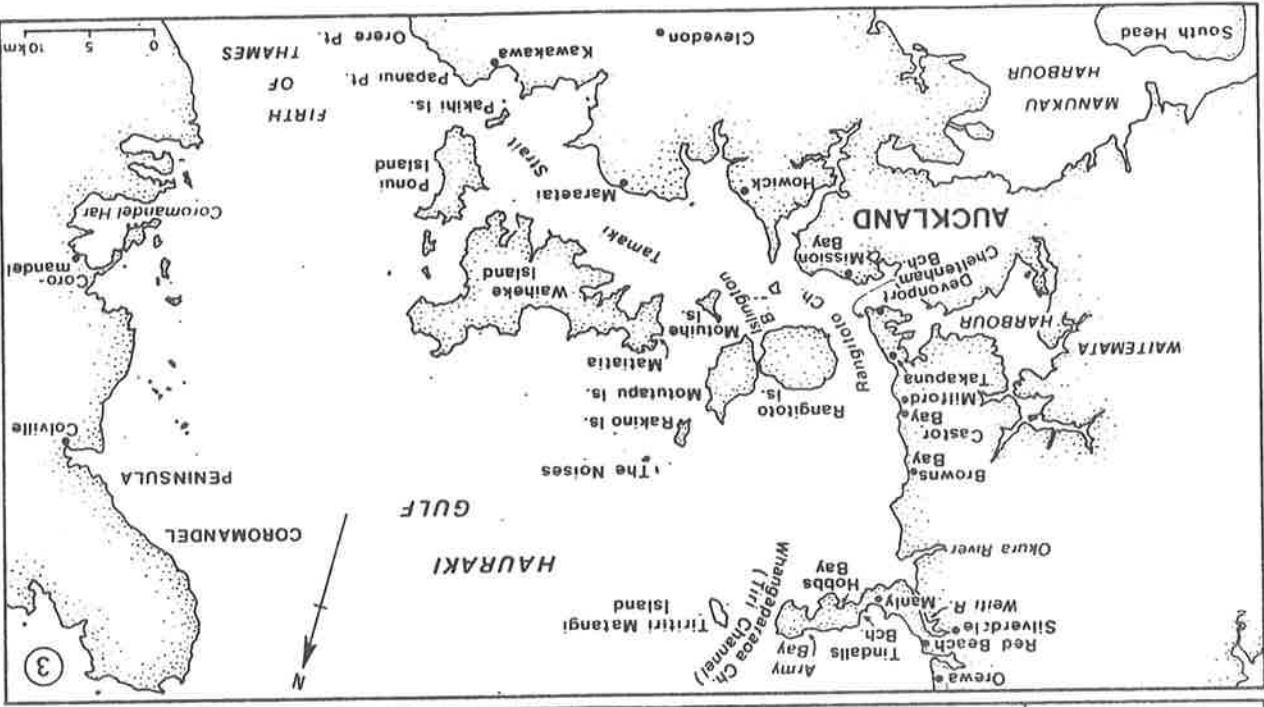
In the course of our enquiries we received much help and co-operation from individuals and organisations, especially librarians. Many responded to an invitation to comment on the first draft which was circulated. Almost all gave permission for unpublished reports to be cited. We are most grateful to all from whom we received assistance. Jane Kelly prepared the maps and the cover.

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Water and Soil Division,
Ministry of Works & Development,
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C/- Department of Physics,
The University of Auckland,
Auckland.



This area completed on overlap, Map 2





1. ADAMS, A.D. 1979: Recent foraminifera and sediments of Rangaunu Harbour and inner Rangaunu Bay, Northland. M.Sc. thesis University of Auckland. 185pp. + appendices.

Includes textural and compositional data for surficial sediments.

2. AGNEW, R. 1966: Storm tides in the Tasman Sea. N.Z. Journal of Geology and Geophysics 9 : 239-242.

Discusses tidal and meteorological factors contributing to higher than normal tides observed in the Kaipara and Manukau Harbours in July 1965.

3. AGNEW, R. 1973: Coastal disturbances affecting the North Island of New Zealand. Paper presented to the Conference on Coastal Engineering, Sydney. May 1973.

Discusses sea level changes related to tsunami, meteorological and other causes.

4. ALCOCK, E.A. 1966: A study of the pigmentation and photosynthesis in Ecklonia radiata. M.Sc. thesis, University of Auckland. 130pp.

Refers to light penetration in Goat Island Bay.

5. ALLEN, L.R. 1947: The geology of the Whangarei Heads area, North Auckland, New Zealand. M.Sc. thesis, University of New Zealand. 132pp.

Includes description and photographs of coastal features.

6. ALLEN, L.R. 1951: The geology of the Whangarei Heads, Northland. Transactions of the Royal Society of New Zealand 79 : 294-318.

Deals with the stratigraphic and structural geology of the area.

7. ANDERSON, P.W.; GRANGE, K.R. 1976: Bibliography of scientific studies of Manukau Harbour, Auckland. Miscellaneous Publications N.Z. Oceanographic Institute 74 : 16pp.

8. ANON, 1951: Seawater temperatures in New Zealand. N.Z. Fishing and Shooting Gazette 19 : 9.

Describes research by the Oceanographic Observatory and lists New Zealand surface water temperatures for 1950.

9. ANON, 1974: Commercial dredging of offshore deposits. Soil and Water 10(4) : 43-45.

Discusses some of the major aspects and implications of offshore seabed mining with particular reference to Northland's east coast.

10. ANON, 1974: A possible answer to the growing shortage of land based shingle. Soil and Water 11(2) : 4-6.

Discusses the possibility of mining sands and gravels for building aggregate from the inner shelf of Northland's east coast.

11. APPLIED GEOLOGY ASSOCIATES, 1980: Preliminary report on the foreshore and nearshore sand and shingle resources of the Auckland region. Report prepared for the Marine Division, Ministry of Transport. March 1980. 18pp.

A summary of existing information covering the geology, sediment source and transport, and history of the coastal sand and shingle systems in the Auckland area.

12. ASH, J.K. 1970: Geology of the Mount Camel area. M.Sc. thesis, University of Auckland. 186pp.

Contains petrographic data.

13. ATTWOOD, T.; TAUNER, G. 1923: Untitled report of beach inspections for mining potential. Report prepared for the Marine Department, Wellington. 4th July 1923. 31pp.

Describes inspection of beaches of east Auckland area (Goat Island Bay to Tamaki Strait) and western Coromandel Peninsula, (Stony Bay to Otoh Beach on the eastern Hauraki Gulf) and makes recommendations on sand and shingle extraction.

14. AUCKLAND HARBOUR BOARD, 1963: Manukau Harbour entrance, surveys of bar 1844-1961. Drawing A680/1 of 5 December 1963.

15. AUCKLAND HARBOUR BOARD, 1964: Planning study of channel conditions at the entrance to Manukau Harbour. Internal report, Auckland Harbour Board. 16pp.

Includes data on sedimentation and drift for 1961 and 1963 and climatic and wave data.

16. AUCKLAND HARBOUR BOARD, 1967-80: Bathymetry of North West Rangitoto spoil ground. Drawings -
 - H1/1 of January 1967. Scale 200ft=1".
 - H1/46/2 of December 1975. Scale 1:5000.
 - H1/46/3 of December 1977. Scale 1:5000.
 - H1/46/4 of January 1979. Scale 1:5000.
 - H1/46/5 of August 1979. Scale 1:5000.
 - H1/46/7 of August 1980. Scale 1:5000.

Seabed bathymetry in vicinity of spoil dumping ground in Hauraki Gulf.

17. AUCKLAND HARBOUR BOARD, 1967-80: Bathymetry of Rangitoto Channel. H1 series. Varying scales.

Numerous drawings at varying scales including pre- and post- dredging data.

18. AUCKLAND HARBOUR BOARD, 1969: Bathymetry of Islington Bay. Drawing H1/14 of August 1969. Scale 3 chains = 1".

19. AUCKLAND HARBOUR BOARD, 1970: Bathymetry Tiritiri Matangi - Rangitoto Beacon. Drawing H1/22 of 1970. Scale 1 : 18000.

Composite chart drawn from earlier surveys.

20. AUCKLAND HARBOUR BOARD, 1970: Bathymetry Motuihe Island Wharf. Drawing H1/24 of November 1970. Scale 40' = 1".

21. AUCKLAND HARBOUR BOARD, 1971: Bathymetry around Rangitoto Island Wharf. Drawing H1/25 of January 1971. Scale 400' = 1".

22. AUCKLAND HARBOUR BOARD, 1977: Cheltenham Beach - seabed profiles. Drawings H1/53 A,B & C of July 1977. Scale 1 : 1000 and 1 : 100.

23. AUCKLAND HARBOUR BOARD, 1979: Cheltenham Beach - Devonport. Monitoring changes in beach profiles. Drawing E.2052 of 28 February 1979. Sheets 1 and 2.

24. AUCKLAND HARBOUR BOARD, 1979: Matiatia Bay - boat mooring area. Drawing H1/65 of April 1979. Scale 1 : 1200.

Bathymetry of Matiatia Bay, Waiheke Island.

25. AUCKLAND HARBOUR BOARD, AUCKLAND REGIONAL AUTHORITY, 1978: Manukau Harbour Plan. Part 2 Supplementary papers. Report compiled by AHB and ARA study group with contributions by various authors.

Includes a paper reviewing changes in the shoals and channels of the entrance to the Manukau Harbour.

26. AUCKLAND REGIONAL AUTHORITY, 1976: Report on a coastal resource area, Kaipara South Peninsula. Planning Division, A.R.A. April 1976. 58pp. + appendices.

Contains general information on the character, uses and soil conservation of the sand dune areas.

27. AUCKLAND REGIONAL AUTHORITY, 1979: Investigation of water quality in the Pakiri Estuary. Unpublished report, file reference Cr/262. 8pp. + appendices.

Extensive study relating to algal blooms. Includes comparisons with the water quality of other estuaries.

28. AUCKLAND REGIONAL WATER BOARD, 1976: Baseline data on water quality in the Auckland water region obtained in 1975 and 1976. Report prepared for the A.R.W.B. by the Works Division, Auckland Regional Authority, Auckland. 84pp.

Includes listings of field measurements of various water quality parameters including: temperature, salinity, turbidity, DO, BOD, chloride, pH and coliforms for coastal areas in the Auckland Water Region.

29. AUCKLAND REGIONAL WATER BOARD, 1977: Baseline data on water quality in the Auckland water region obtained in 1976 and 1977. Volume II. Report prepared for the A.R.W.B. by the Works Division, Auckland Regional Authority, Auckland. 55pp.

As for A.R.W.B. 1976.

30. AUCKLAND REGIONAL WATER BOARD, 1979: Regional Water and Soil Resources Survey. Volume 1 - statement of water and soil resources for the Auckland water region. Auckland Regional Water Board Technical Publication No. 13. October 1979. 137pp.

Includes a two page listing of tidal gaugings undertaken in the Auckland area.

31. AUCKLAND REGIONAL WATER BOARD, 1980: Untitled tidal measurements in Wairau Creek inlet, Milford. Water Right Application CE/2349 by Takapuna City Council. August 1980. Various pagings.

Contains measurements of tidal height, ebb tide velocity and discharge made by Auckland Harbour Board at the entrance to the Milford Marina, Wairau Estuary, on 14 June 1980.

32. AUCKLAND REGIONAL WATER BOARD, (in prep.): Baseline data on water quality in the Auckland water region obtained in 1977 and 1978. Volume III. Report prepared for the A.R.W.B. by the Works Division, Auckland Regional Authority, Auckland.

As for A.R.W.B. 1976.

33. AUCKLAND REGIONAL WATER BOARD, 1978-1981: Unpublished data from beach surveys.

1. Pakiri - Mangawhai Heads, 8 profiles beach and offshore, surveyed in 1978-79. Reference marks surveyed and levelled.
2. Orewa, 3 profiles, surveyed in January 1979 and 1981.
3. Red Beach, 1 profile, surveyed in 1979 and 1981.
4. Browns Bay, 2 profiles, surveyed in 1979 and 1981.
5. Muriwai, 2 profiles, surveyed 1981.
6. Piha, 2 profiles, surveyed 1981.

34. AYLING, A.M. 1978: Okakari Point to Cape Rodney Marine Reserve - a biological survey. University of Auckland. 98pp.

Contains bathymetric measurements.

35. BACON, M.R. 1971: The ecology of the graspid crabs Plagusia Capensis, Leptograpsus variegatus, Cyclograpsus insularum and Cyclograpsus lavauxi in Northern New Zealand. M.Sc. thesis, University of Auckland. 89pp.

Includes some sediment size data.

36. BACON, M.R. 1973: The coastal ecology of a recreational resource area: Kawakawa Bay to Miranda. Planning Division, Auckland Regional Authority. 2nd edition 1975. 94pp.

Contains beach profiles and substrate types for 8 beaches.

37. BACON, M.R. 1974: Interim report on coastal resource area Cape Rodney to Mangawhai Heads. Planning Division, Auckland Regional Authority. 27pp.

A descriptive treatment of recreational and natural resources.

38. BALLANCE, P.F. 1977: The geology of Motuora Island, Hauraki Gulf. Tane 23 : 77-82.

Includes a description of shore platform development.

39. BALLANTINE, W.J.; GRACE, R.V.; DOAK, W.T. 1973: Mimiwhangata marine report. Report prepared for Turbott and Halstead on behalf of New Zealand Breweries Ltd. 98pp.

Mainly biological but contains some current measurements, and reference to the characteristics of the beaches and dunes.

40. BARDSLEY, E. 1977: The natural history of Kaipara Harbour: a bibliography. Miscellaneous Publications N.Z. Oceanographic Institute 79 : 54pp.

An annotated bibliography

41. BARKER, M.F. 1971: The ecology of barnacle larvae. M.Sc. thesis, University of Auckland. 144pp.

Includes float and drogue measurements of currents near Goat Island.

42. BARKER, M.F. 1975: The effect on the mercury levels of local marine organisms of proposed offshore dredging in northern New Zealand. Report prepared by Bioresearches Ltd. for Landsea Minerals Ltd. 12pp. + appendices.

Studies undertaken as preliminary work prior to the commercial extraction of seabed sands and gravels off the east coast of Northland.

43. BARKER, P.H.; KIBBLEWHITE, A.C. 1965: Physical oceanographic data from the "Tui" Cruise, 1962. N.Z. Journal of Science 8 : 604-634.

Seasonal salinity and temperature data - mainly deep water but includes north-east coastal waters.

44. BARNET, M.A.F. 1938: The cyclonic storms in northern New Zealand on the 2nd February and the 26th March 1936. D.S.I.R. Meteorological Office Note No.22 : 34pp. Government Printer, Wellington. New Zealand.

Describes the cyclones and includes data on the average monthly frequency of cyclones affecting the northern part of New Zealand.

45. BARTER, T.P. 1976: The Kaihu Group (Plio-Quaternary) of the Awhitu Peninsula, Southwest Auckland. Ph.D. thesis, University of Auckland. 299pp.

Gives an account of the physiography and structure of Awhitu Peninsula, and describes the mineralogy provenance, sedimentology, palaeontology and post-depositional alteration of the Plio-Quaternary (Kaihu Group) sediments on the peninsula.

46. BARTRUM, J.A. 1926: The western coast of the Firth of Thames. Transactions and Proceedings of the New Zealand Institute 57 : 245-253.

Brief description of terraces, beach ridges and beach deposits.

47. BASKETT, W.G. 1970: Geology of the Ahipara District. M.Sc. thesis University of Auckland. 138pp.

Includes petrographic data.

48. BATT, W.D.; FORTUNE, W. 1973: Geological reconnaissance evaluation of the silica sand potential of the Parengarenga 5B1 and 5B2B2 Blocks. Unpublished report A.H.I. Minerals Ltd.

49. BECA CARTER HOLLINGS AND FERNER LTD, 1968: Sewage treatment for Orewa County Town - float testing. Report prepared for Waitemata County Council. 6pp.

Contains trajectories of current floats off Orewa - Red Beach area.

50. BECA CARTER HOLLINGS AND FERNER LTD, 1969: Whangaparaoa float testing. Unpublished data (12 drawings).

Records of float trajectories in vicinity of Army Bay and Tindalls Bay.

51. BECA CARTER HOLLINGS AND FERNER LTD, 1974: Environmental impact report; waste water disposal for the Hibiscus Coast. Report prepared for the Waitemata County Council. 85pp. + appendices.

Reports estimates of dilutions to be expected from an outfall in the Tiri Channel with original tidal current data (floats and current meters) and dye dilution results. Wind rose and sea surface temperatures for Auckland are included.

52. BECA CARTER HOLLINGS AND FERNER LTD, 1975: Waste water disposal for the Hibiscus Coast. Report prepared for the Rodney County Council, submission to the Auckland Regional Authority. 30pp.

Includes bacterial sampling data for various beaches near the Whangaparaoa Peninsula.

53. BECA CARTER HOLLINGS AND FERNER LTD, 1975: Environmental impact assessment, Whangaparaoa Peninsula sewage treatment site. Report prepared for the Rodney County Council. 23pp. + appendices.

Contains results of nitrate and bacteriological analysis of coastal waters of the Whangaparaoa Peninsula and Waiwera Beach.

54. BECA CARTER HOLLINGS AND FERNER LTD, 1976: Omaha foreshore investigation. Report prepared for the Rodney County Council. 32pp. + appendices.

A study of foreshore erosion on Mangatawhiri Spit, Omaha Bay. Various solutions to the problem are suggested. Includes appendix by Professor Raudkivi giving estimate of onshore-offshore sediment transport.

55. BECA CARTER HOLLINGS AND FERNER LTD, 1977: Hibiscus Coast wastewater disposal scheme. Ultimate and staged construction proposals. Report prepared for the Rodney County Council. 39pp. + appendices.

Contains estimates of outfall dilutions and a report by Bioresarches Ltd giving tidal current data in the Tiri Channel and Weiti Estuary as well as nutrient and bacteriological analyses for the latter.

56. BECA CARTER HOLLINGS & FERNER LTD, 1978: Whangateau Harbour protection and Omaha Beach reconstruction loan applications. Collection of reports and papers submitted to the Secretary, Local Authority Loans Board, M.W.D. Auckland on behalf of Rodney County Council. November 1978. Various pagings.

Contains consultants' reports and much technical and background data relating to investigations of foreshore erosion and proposed protection measures on Omaha Beach and the shores of Whangateau Harbour.

57. BECA CARTER HOLLINGS AND FERNER LTD, 1978: Coastal protection recommendations in respect of Omaha Beach and Whangateau Harbour Report prepared for the Rodney County Council. 8pp.

58. BECA CARTER HOLLINGS AND FERNER LTD, 1978: Omaha storm analysis. Report prepared by P.B. Riley. 12 July 1978. 3pp. + appendices.

Describes factors (i.e. tide levels, wind, synoptic weather scenes) contributing to coastal erosion during the 14-23 June 1978 storm.

59. BECA CARTER HOLLINGS AND FERNER LTD, 1978: Takapuna City Council, Milford Marina. Appraisal of silt control schemes. Stage 1 Report. Report prepared for Takapuna City Council. June 1978. 35pp.

Describes sedimentation problems in a boat marina at the mouth of a tidal creek. Includes data on freshwater and sediment influx, rate of sediment deposition and outlines engineering solutions to the problem.

60. BECA CARTER HOLLINGS AND FERNER LTD, 1979: Omaha beach design and construction proposals. Report prepared for Rodney County Council. February 1979. 22pp. + appendices.

Includes report by Dames Moore and Associates, California (dated 10 January 1979).

61. BECA CARTER HOLLINGS AND FERNER LTD, 1979: Omaha Beach reconstruction. Monthly report #1. Report prepared for Rodney County Council. April 1979. 7pp. + appendices + photographs.

Job status report with details of initiation of sand monitoring program.

62. BECA CARTER HOLLINGS AND FERNER LTD, 1979: Omaha beach reconstruction. Monthly report #2. Report prepared for Rodney County Council. May 1979. 11pp. + appendices + photographs.

Job status report with notes on monitoring of sand movements at tip of Mangatawhiri Spit in vicinity of foreshore protection works.

63. BECA CARTER HOLLINGS AND FERNER LTD, 1979: Omaha beach reconstruction. Monthly report # 3. June 1979. Report prepared for Rodney County Council. June 1979. 8pp. + appendices + photographs.

Job status report with notes on monitoring of sand movements in vicinity of protection works.