

The New Zealand Marine Sector

**An Overview from
MSEAA**

Dan Forsman August 2008

The Blue Planet & New Zealand



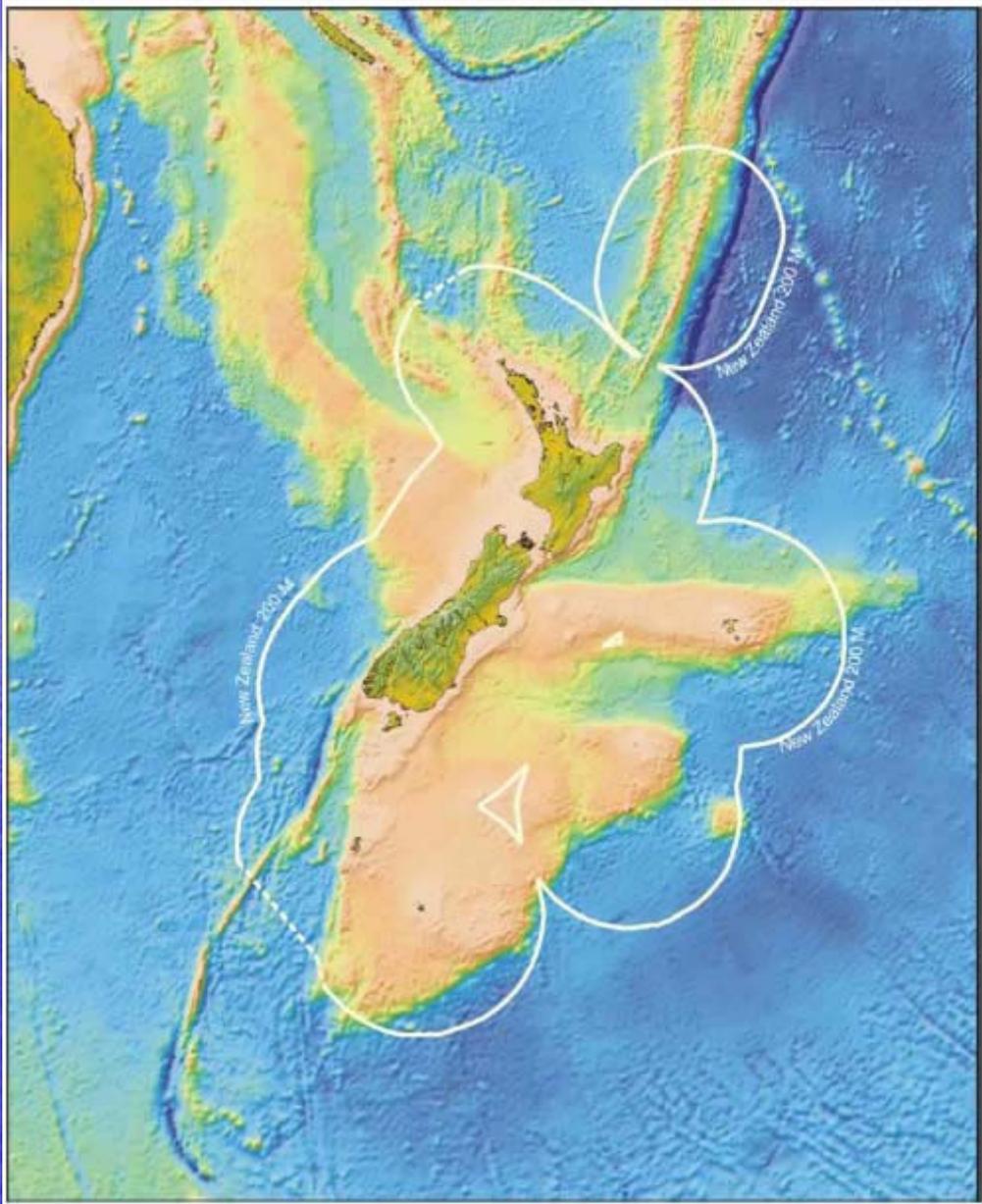
- **The Earth appears blue from space**
- **Seawater covers more than 70 percent of the earth's surface area.**
- **All the oceans interconnect to form a single global body of water**
- **The Pacific Ocean is twice as large as the next biggest ocean – the Atlantic.**
- **The Pacific Ocean alone covers 30.5% of the Earth's total surface area.**
- **A hemispheric view centred on the Pacific Ocean graphically conveys the huge expanse of the world's largest ocean.**
- **In the Pacific land is clearly incidental to water.**

New Zealand

- **Such incidental land includes New Zealand which is clearly a sea nation**
- **It is an isolated, small nation of islands in the South Pacific**
- **It is located in an area of the world where few people live**
- **It has a relatively recent human history**
- **It is influenced in many ways by the environment of large oceans**

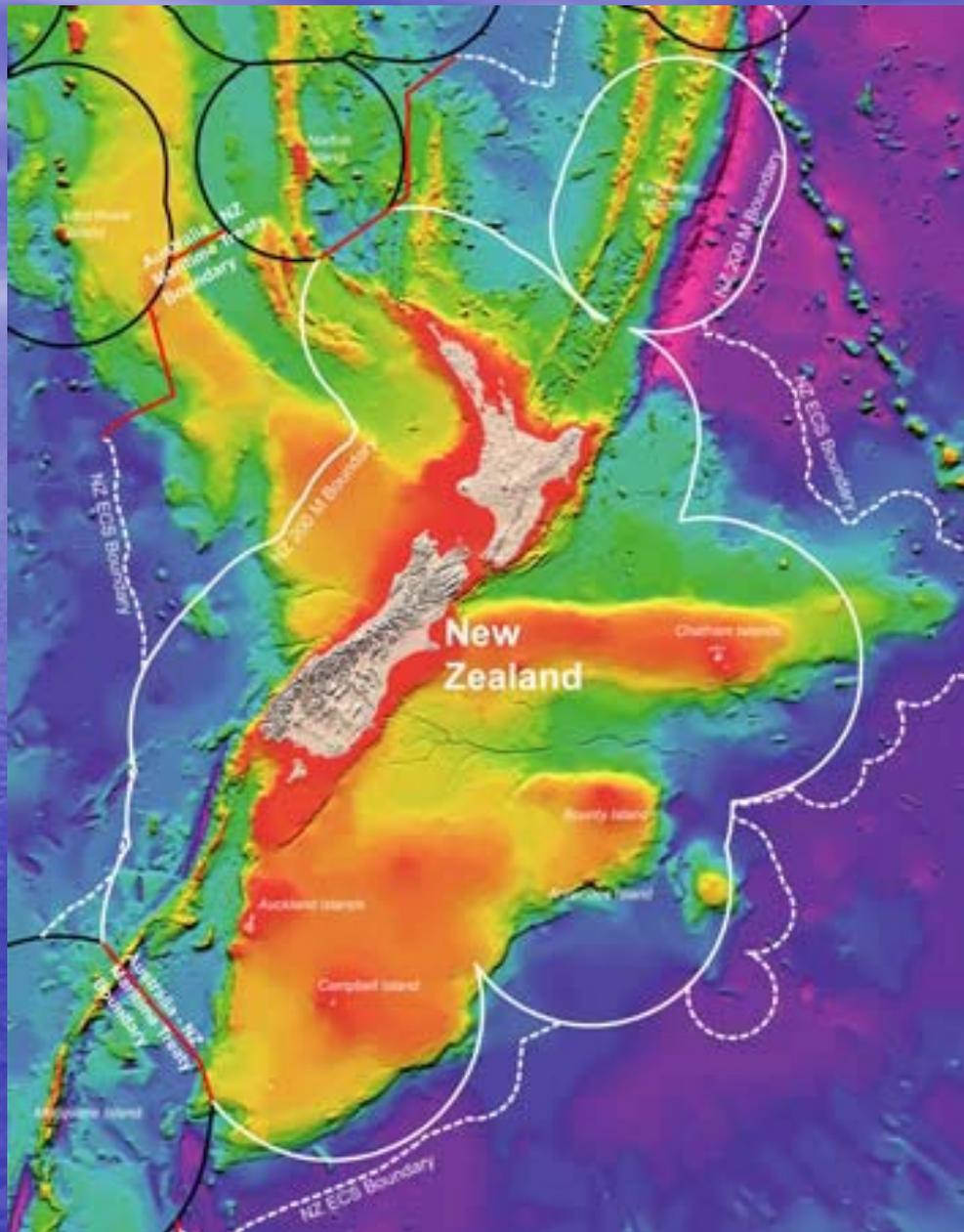
New Zealand

- **New Zealand has the world's fourth largest exclusive economic zone and territorial sea, at just over 4,000,000 sq kms of ocean which is about 15 times the size of our land mass.**
- **New Zealand has over 15,000 kms of coastline - the eighth longest in the world and is one of the few nation states with a 100% maritime border.**



New Zealand

- *New Zealand presently has a claim with the United Nations Commission on the Limits of the Continental Shelf for an additional 1.7 million square kilometres which will bring around 6,000,000 sq kms (about 1% of the planets surface) under New Zealand jurisdiction when approved.*



- **The marine environment is linked to New Zealand's society and economy.**
- **Almost 95% of New Zealand's territory is under the sea.**
- **The ocean is important to all New Zealanders – socially, culturally, spiritually and economically.**
- **Almost all of our imports and exports pass through the marine environment.**
- **The majority of oil and gas reserves are located offshore and New Zealand has a significant fishing industry.**

Yet

- **There is limited understanding of how much the marine environment contributes to New Zealand's economy.**

- **The Governments “Oceans Policy” identified New Zealand as an island nation and the health of our ocean, our land and our people are inextricably linked.**
- **www.mfe.govt.nz/issues/oceans/**

- **For Maori, the sea has particular significance.**
- **A very long heritage of seafaring, voyaging, migration and maritime activity stemming from the original Maori voyages of exploration has been essential to the progress of New Zealand.**
- **The sea has provided food, mana, spirituality, transport and commerce to Maori.**
- **There are obligations to Maori under the Treaty of Waitangi.**

- **New Zealand's coastline is long and diverse from a sub-tropical to a sub-Antarctic environment.**
- **Includes beaches, rocky coastline, harbours, urban foreshore, river mouths, off shore islands, reefs, mangrove estuaries, sounds and fiords**
- **There are also a huge variety of lakes, rivers and other fresh water environments.**
- **Our largest population centres are on the coast and the majority of our population enjoy access to nearby coastal and aquatic environments.**
- **No part of New Zealand is more than 130 km from the coast.**

- **If we here are able to highlight the ocean, marine and aquatic environment we can *focus* attention on the importance of the marine sector for New Zealand.**
- **The Ministry for the Environment considers that the oceans offer great potential for innovation and investment in a range of different activities as the EEZ and continental shelf offer significant untapped space and resources for future developments.**

180 Degrees: Gaining the Opportunity

Moving from the land

- **There is a tyranny of distance in relation to the rest of the world.**
- **A response to our isolation has been a strong focus on developing the land**
- **This is understandable given historical progress with colonists farming, mining and otherwise utilising the land and immigrants and investors supporting that land based trend.**
- **A much lesser focus on marine activities**
- **The fundamental understanding of New Zealand as a nation by most people has been limited to the “land” within its coastline.**

- **There is another perspective of New Zealand that needs to be more widely understood**

~ The "sea" ~

- **By turning 180 degrees we view a much different vista – one that stretches to a seamless curved horizon.**
- **New Zealand is one of a limited number of nation states with a 100% coastal border which provides access to the fourth largest marine economic zone on the planet - over twice the area of the Mediterranean Sea.**
- **Most nations do not enjoy a marine zone as large as New Zealand's or any zone at all if they are landlocked.**

- **Unlike many countries our unique narrow geography places almost all of us close to the sea.**
- **This proximity allows convenient access and the efficient movement of personnel and other resources quickly to (and along) the coast without involving long distances.**
- **However many do not fully appreciate the significant potential that the sea offers in many diverse areas and activities.**

- **The utilisation of our marine environment can only occur with the education and training of identified skills in order to both safely and productively interrelate with that environment**
- **This is a key role of MSEAA and its professional members**
- **Marine, maritime and aquatic based skills are required for a New Zealand society and economy that has acknowledged the 180-degree shift and identified the opportunities available from the marine environment.**
- **There are a wide variety of existing activities and future opportunities that relate to the marine environment which need to be promoted by MSEAA and its members in a 'whole of sector' approach.**

Those activities include:

Active & Adventure-based Marine Tourism

- The aquatic and marine tourism sector is one of the fastest growing segments of active tourism.
- Significant boat trips/charters and travel activity including fishing, snorkelling and diving support coastal retail and servicing.
- Marine eco-tourism includes marine mammal (whales, dolphins) and rare organisms (black coral).
- New Zealand has a diversity of marine environments and expanding marine reserves.
- Significant numbers of inbound tourists and local visitors participate in marine activities.
- There is a diversity of clubs involved in boating, diving and other aquatic activities.
- Marine tourism is dispersed across almost all coastal regions with iconic sites including Tutukaka and Kaikoura.
- The wreck-sinking programme attracts a growing world market for wreck dive tourism.

Rainbow Warrior – Tui – Waikato – Taioma – Wellington - Canterbury



Aquaculture Industry

- **Utilisation of significant resources to establish and manage the sea farms and other aquatic structures in this potentially fast growing industry.**
- **Aquaculture is the world's fastest growing primary industry.**
- **Although constrained in recent years this sector has a multi-billion dollar potential.**
- **Recent initiatives such as the "Our Blue Horizon" strategy and the New Zealand Aquaculture strategy serve to more rapidly roll out progress for this sector which aims to produce \$1 billion by year 2025.**
- **The sector is also of specific significance in provincial and regional development.**

- **www.aquaculture.org.nz**

Biotechnology & Marine Research

- **Research and economic utilisation of marine organisms.**
- **Sub-surface marine science studies and commercial extraction and harvesting operations.**
- **Valuable opportunities exist such as with green-lipped mussels, sponges, seaweeds and pharmaceutical products.**
- **Marine science faculties in universities and research institutes such as NIWA and Cawthron are researching (and have patented in some cases) compounds.**
- **There is applied research crossover into industry such as fisheries and aquaculture.**

Commercial & Professional Diving

- **An ongoing requirement for skilled construction divers to construct and maintain many water based edifices and activities including: dams, pipelines, outlets, cables, piles, wharves, oilrigs and salvage activities.**
- **The services have an ongoing requirement for trained dive staff in: the Navy (and the other defence services), Customs, Fisheries and Police.**
- **Dive instructors and Divemasters are required for recreational and marine activities including training, retail, servicing, dive travel trips and charters.**
- **The specific dive skill set is an essential component for almost all parts of the marine and aquatic environment eg marine science, aquaculture.**
- **www.academyofdiving.ac.nz**

Creative Industries

- **The successful New Zealand film industry has an ongoing requirement for marine personnel. For example, all water based film scenes require standby divers for staff safety, maintaining underwater props, supporting stunts and assisting with underwater filming.**
- **The, award winning, Natural History NZ organisation based in Dunedin is a world-class natural environment film company with a significant marine and aquatic component. Marine skilled staff are critical to their operations.**
- **New Zealand marine support companies operate both here and overseas.**

Cultural Development

- Many Maori are involved in marine education.
- Their exposure to the marine environment in a cultural context has developed their awareness of tikanga for the coastline and the sea, river and lakes and relating it to specific iwi and hapu kawa.
- Maori students have also explored spiritual values about land and sea, kai moana, tapu and historical knowledge of specific rohe in regard to water, coastline and the sea.
- Modern ocean going voyages utilising Maori and Polynesian celestial navigation.
- This knowledge will factor into marine and fisheries management as iwi assume management of this resource following Treaty of Waitangi settlements.

Ecology & Environmental Protection

- **There are many tertiary based marine research activities in New Zealand, waterways projects undertaken by DOC and local authorities, invasive weed control and identification and containment of invasive harmful marine flora and fauna.**
- **The number of marine reserves under the Marine Reserves Act 1971 is growing.**
- **There is interest in marine archaeology.**
- **Aquarists and other staff are retained by zoos and aquariums**

Education and Training

- **Many schools are providing marine studies options.**
- **Some High Schools have marine and aquaculture academies.**
- **Marine studies are available in many tertiary education institutions – private providers, polytechnics, wananga, universities.**
- **A number of Industry Training Organisations (ITO) offer national qualifications and industry training in marine activities.**
- **Foreign fee-paying students come to New Zealand for professional marine sector education and training.**

- **www.sito.co.nz**

Fisheries

- **The fishing sector is huge, diverse and employs a vast range of skills and technologies.**
- **Over the last 30 years the sector has grown from being predominantly a domestic supplier to a major export industry where over 90% of all fish landed is exported.**
- **Maori control or influence over 30% of commercial fisheries.**
- **It is a significant employer in all facets from harvesting to processing to sale with an estimated total of 26,000 FTE in the total seafood industry.**
- **It is a vital export sector for New Zealand. In 2007 total export value was \$1.253 billion.**

- **www.seafood.co.nz**

Government Services including Defence

- **Various crown agencies are involved in marine and maritime activities.**
- **These include: Biosecurity New Zealand, Department of Conservation, Ministry of Defence (Navy, Army), Ministry of Fisheries, Maritime New Zealand, NIWA, New Zealand Customs Service and the Police.**

Manufacturing and Marine Construction

- **There is ongoing activity in the planning, surveying, construction, upgrading, modification, repair and maintenance of varied marine infrastructure and equipment.**
- **This may include harbour works, bridges, canals, cables and pipelines, oil and gas infrastructure, energy projects, aquaculture farms, ship building and repair and a variety of activities for the wider marine services and boating industry.**

Maritime Sporting & Leisure Activities

- **Water based activities such as yachting and powerboat regattas require management and organisation.**
- **In particular, international yachting activity has a requirement for staff in both a safety and a security role.**
- **Skilled staff are required in boat marinas for management and maintenance.**
- **The population's closeness to the water allows many citizens to participate in marine and aquatic activities.**
- **There is specific growth in the super-yacht sector.**
- **New Zealand has one of the highest rates of pleasure boat ownership per capita.**

Natural Resources

- **The development and utilisation of marine natural resources is of significant future benefit to New Zealand.**
- **Extraction of minerals from coastal, off-shore and deeper underwater environments has potential.**
- **Extracting frozen methane hydrates are one future opportunity.**
- **Wave and tidal power generation is being proposed with the first turbine already planned for Cook Strait and further projects being considered in locations such as the Kaipara harbour.**
- **Research and investigations are underway for ocean based wind power farms both fixed to the seafloor and floating.**
- **The further development of the offshore oil and gas sector will have huge benefits when exploration and extraction in deep water proceeds.**



Tui Area Oil Fields Development

Oil Tanker
Transporting
Oil to Markets

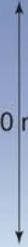
FPSO Production
and Storage Vessel

Coastline 50km



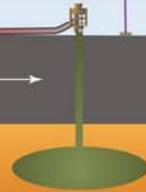
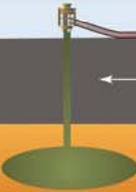
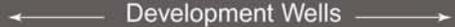
Anchors

120 metres



Subsea Completions

Development Wells



Pateke and Amokura Reservoirs

Tui Reservoir

Ocean Transport and Shipping

- **International and coastal shipping is of major importance to New Zealand and as a maritime nation the supply of skilled and qualified crew suited to our needs is important.**
- **“Green” policies and move to reduce the carbon levels will be positive for all shipping as it is seen as an efficient form of transport.**
- **The Governments recent “Sea Change” strategy is aimed at reducing overall greenhouse gas emissions by doubling coastal shipping’s current share of inter-regional freight.**
- **www.transport.govt.nz/seachange/**

Recreational Activities

- **Many citizens including an aging but generally fitter population will be utilising a wider range of marine and aquatic recreational activities resulting in a greater use of coastal and marine recreational sites and resources.**
- **In addition significant numbers of tourists also participate in marine related activities.**

Maritime and Seafood Educators Association of Aotearoa

- **The MSEAA was established in the early 1990's as an organisation to coordinate and represent both public and private training providers in the development of education and training for the seafood and maritime industries.**
- **The mission statement of MSEAA is "To enhance cooperation and promote quality in the provision of education and training for the maritime and seafood industries".**
- **With the development of unit standards and national qualifications in seafood and maritime and the maintenance of standards in statutory qualifications and certifications, MSEAA has provided a national network for liaison and communication between Industry Training Organisations, education and training providers, statutory agencies, government organisations and client companies and businesses.**
- **MSEAA is governed by an annually elected executive, including direct representation from key stakeholders. The executive holds regular meetings to discuss, develop and review matters of interest in seafood and maritime training and distributes information to membership.**

The MSEA A Position Paper - Summary

- A document to outline the varied nature and importance of the marine sector
 - Designed to educate the public
 - Designed to inform stakeholders, decision-makers and politicians
 - Aims to educate each part of the marine sector – so we can speak as a whole and in unison
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- The paper will reside on the MSEA A website
 - We encourage it to be accessed and widely distributed.
 - We need to inform all about this potential.
 - We also ask for feedback on the worth of the paper, providing additional comments or information and correcting errors
 - Feedback to dforsman@xtra.co.nz

About the Author

- **Dan Forsman is on the MSEAA executive. He is a senior executive with Academy of Diving Trust which is a national Tertiary Education Organisation.**
- **Dan has a Bachelor of Arts degree (Victoria), Diploma in Business Studies (Massey), Certificate in Adult Teaching (Massey) and the National Certificate in Adult Education and Training (level 4).**
- **Dan is the President of the Dive Training Council, is a director of New Zealand Organisation for Quality and is a member of the Association for Tertiary Education Management. He is also a full member of the Institute of Directors.**
- **Dan is a founding executive of Academy of Diving Trust (1999) and works in their national office.**