

Submission

Draft for Consultation: Exclusive Economic Zone and Continental Shelf (Environmental Effects—Discharge and Dumping) Regulations 2014

19 March 2014

Glenn Wigley
Director, Environmental Systems
Ministry for the Environment
PO Box 10362
Wellington 6143

Dear Glenn,

Please find attached the McGuinness Institute's submission on the proposed regulations regarding the *Draft for Consultation: Exclusive Economic Zone and Continental Shelf (Environmental Effects—Discharge and Dumping) Regulations 2014*.

Kind Regards,



Wendy McGuinness
Chief Executive

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About the McGuinness Institute

The McGuinness Institute, formerly the Sustainable Future Institute, was founded in 2004. The Institute is a non-partisan, not for profit research organisation, working towards a sustainable future. It aims to contribute to public dialogue on strategic issues through evidence based research and policy analysis.

Experience

In preparing this submission we draw on a number of recent reports, submissions and discussions:

Reports:

Project 2058 is the Institute's flagship project. It includes a research programme that aims to explore New Zealand's long-term future with a view to putting forward a National Sustainable Development Strategy (NSDS) for New Zealand. As part of *Project 2058* we operate a sub-project called *Project One Ocean* where we focus on the importance of ocean management. Per capita, New Zealand has the largest area of continental shelf in the world and it is important that we think about policy and values that drive our management of this vast resource.

The most recent component of the *One Ocean* project was a think piece and working paper on the New Zealand King Salmon Board of Inquiry hearing; *Think Piece 16: New Zealand King Salmon – was it a good decision for New Zealand?* and *Working Paper 2013/01: Notes on the New Zealand King Salmon Decision*.

Another piece of work that relies on risk management under the Environmental Protection Agency (EPA), in this case with regard to land, is the Genetic Modification project. In this report we closely monitor developments in genetic modification and related policy both in New Zealand and internationally. Our 2013 report, *An Overview of Genetic Modification in New Zealand: the first forty years 1973 – 2013*, provides a comprehensive overview of policy development through four key eras: (1) the journey towards the 2001 Royal Commission on Genetic Modification; (2) the Royal Commission and its findings; (3) the response to the Royal Commission, and (4) the era of institutional change from 2008 – 2013.

Submissions:

- February 2014: *Draft for Consultation: Exclusive Economic Zone and Continental Shelf (Environmental Effects—Non-Notified Activities) Regulations 2013*
- September 2013: *Activity classification under the EEZ Act: A discussion document on the regulation of exploratory drilling, discharges of harmful substances and dumping of waste in the Exclusive Economic Zone and Continental Shelf*
- June 2012: *Regulations proposed under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Bill*
- February 2012: *Exclusive Economic Zone and Continental Shelf (Environmental Effects) Bill – Written responses to questions from the committee*
- February 2012: *Exclusive Economic Zone and Continental Shelf (Environmental Effects) Bill (oral submission)*
- January 2012: *Exclusive Economic Zone and Continental Shelf (Environmental Effects) Bill (written submission)*

McGuinness Institute Submission:

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MfE Workshops and Meetings attended:

- 3 March 2014: EEZ Draft Regulations Workshop
- 27 January 2014: Workshop on proposed EEZ Regulations
- 14 May 2013: EEZ Regulations Workshop

The Institute's key interest in this submission is in terms of risk management, assessment of economic and environmental effects, the precautionary approach and long-term strategic thinking for the benefit of New Zealanders. The Institute sees the effective use, management and protection of New Zealand's resources as critically important if current New Zealanders wish to deliver future generations a sustainable future.

1. Introduction

In September last year the McGuinness Institute made a submission to the Ministry for the Environment (MfE) based on the *Activity classifications under the EEZ Act: A discussion document on the regulation of exploratory drilling, discharges of harmful substances and dumping of waste in the Exclusive Economic Zone and continental shelf*. We continue to support the points we raised in this earlier submission.

We appreciate this further opportunity to comment on the draft for consultation – *Draft for Consultation: Exclusive Economic Zone and Continental Shelf (Environmental Effects—Discharge and Dumping) Regulations 2014* (draft regulations). Below we outline a number of additional discussion points, recommendations and a request for an across-department work programme on the consistent assessment of 'economic benefits for NZ Inc.' for your consideration.

2. Issues

A. Evidence-based public policy

Regulations should be clear and well defined, with substantial evidence to back up claims made and to cover possible variances to normal proceedings. In the draft regulations, the scientific basis for levels of environmental effects caused by the discharge and dumping of certain sea floor mining sediment discharges (iron sands, phosphorite nodules and seafloor massive sulphates [SMS]) have been assessed by NIWA from scales of 1t to 1,000,000t¹. The environmental effects of these sediments have been recently assessed and therefore provide a timely scientific basis to inform regulations for the environmentally suitable levels of discharge, at the locations they are permitted to be discharged. However assessment of the scale of other harmful substance discharges covered by Regulation 4 (a)-(d) if the sediments are any other than iron sands, phosphorite nodules and SMS and (e) if the tailings are any other than iron sands, phosphorite nodules and SMS have not been assessed to the same degree in New Zealand waters, other than the existing International MARPOL convention and existing Maritime NZ regulations relating to harmful substances. In order to ensure a

¹ National Institute of Water & Atmospheric Research Ltd (NIWA) "Environmental risk assessment of discharges of sediment during prospecting and exploration for seabed minerals" January 2014
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standard level of reporting on which the regulations are based, similar risk assessments to those carried out by NIWA (for iron sands, phosphorite nodules and SMS) should be conducted to inform on all harmful substances listed in Regulation 4.

High quality regulations should have clear traceable links back to the evidence which informed them. In this case, there was a lack of clarity as to what reports/protocols were being relied upon, when they were prepared and by who. Certain details of the regulations covered by Parts 2-4 were inconsistent in terms of background reporting and comparable levels of regulation between the various substances covered and in some cases lacked clarity and consistency. For example:

- **Part 2: Regulations 6 to 12** are clear and well supported by the NIWA report² that relates to prospecting and exploration activities. However the current title *'Part 2 Provisions relating to discharge of sediments and tailings: Permitted discharges of sediments'* should also include confirmation that the section relates to prospecting and exploration only. It should read *'Part 2 Provisions relating to discharge of sediments and tailings: Permitted discharges of sediments during prospecting and exploration activities'* – the underline refers to additional text.
- **Part 3: Regulations 9 and 13(1)** specify discharges of sediments or tailings other than those classified in Regulations 6 to 8, and harmful substances described in Regulations 4(a) and (b) are classified as discretionary activities. For consistency, Regulation 13(2) should be classified as a discretionary activity in the same manner as the harmful substances covered by Regulation 13(1).
- **Part 4: Regulations 17 and 18** cover discharges relating to ecotoxic substances. Evidence similar to the quantity and environmental impact of sediments and tailings to inform Regulations 6 to 9 (above) should be sought for *Regulations 17 and 18, operational chemicals and harmful substances*. This would ensure the consistency of informed reporting that underlies the basis of which chemicals and what quantities will have detrimental effects on the marine environment. Regulations 17 and 18 currently do not specify these limits other than referring back to the *Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001*³, which is not as thorough and timely as a NIWA specified Report. When developing regulations analysts should make it very clear what evidence is being relied upon, and where there is a lack of evidence, indicate that in the invitation to comment – where the information gaps lie.

B. Discussion on the wording of 'ships' and 'structures'

Our understanding of the draft regulations is that they are closely aligned with Maritime New Zealand legislation, regulations and conventions who are the institutions that regulate discharge of harmful substances undertaken by ships. This separation of mandates between Maritime New Zealand and the MfE EEZ acts should be clarified under Regulation 5, which currently inaccurately

² Ibid

³ See <http://www.legislation.govt.nz/regulation/public/2001/0112/latest/DLM33399.html>

refers to ‘ships’ in subsections (iii) and (iv), whereas in later regulations the draft regulations refer to ‘structures’ and ‘installations’. Clarification of these terms and their application in EEZ regulations and Maritime New Zealand regulations is highly desirable.

C. ‘Interpretation’ in the regulations

The draft regulations include multiple terms specific to this area of marine policy and marine prospecting and mining activities. The Institute considers clarification of these terms would be helpful to those reading the regulations in order to minimise any possible misunderstandings or misconceptions of the terms in use. See specific recommendations 4 to 9 below.

D. Clarification of limits to dumping of structures and vessels in *Part 6 Provisions relating to Dumping*

The current classification of structures and vessels in Regulations 24 and 25 does not include limits to the size (diameter), weight or nature of the structures or vessels permitted to be dumped. A maximum should be specified in the regulations for each of the three characteristics, or an additional clause should be included, requiring approval for size or weight, from the EPA before dumping is permitted. The Institute understands that MfE considers that there are ‘...not likely to be any very large structures that could be dumped at this stage.’⁴ As such, including a restriction on large structures would not impede on imminent prospecting or exploration activities, but would act as a safeguard in the event a large structure or vessel is considered for dumping in the future. A similar specification should inform the permitted and prohibited locations for the dumping of structures and vessels, either in the EEZ regulations or sought from the EPA.

3. Summary of Specific Recommendations on the Draft Regulations

1. The regulation should include a *trial period* with a *review date* when the effectiveness of the regulation will be assessed. Key success indicators should be developed before the regulation becomes law, so that these can be reviewed as part of the review.
2. For clarity, that the title below be extended as per the additional text underlined below: *Part 2 Provisions relating to discharge of sediments and tailings: Permitted discharges of sediments during prospecting and exploration activities*.
3. For consistency, Regulation 13(2) should be classified as a discretionary activity in the same manner as the harmful substances covered by Regulation 13(1).
4. The MfE should ensure consistent scientific reporting is conducted for safe levels of all harmful substances and ecotoxic substances, which the MfE receives notification for discharging or dumping in New Zealand waters.
5. A specification of maximum volume, weight and nature for structures and vessels permitted to be dumped should be included in the regulations.
6. Interpretation of ‘garbage (a)’ should refer to structure not ship (this was acknowledged in the meeting).

⁴ MfE letter to the Institute received from Joshua O’Rourke “Questions and answers.” 10 March 2014.
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7. An amendment should be made to regulation 5 to specify the separation of mandates between Maritime New Zealand and the MfE EEZ regulations relating to discharges of harmful substances from ‘ships’, ‘structures’ and ‘installations’.
8. That the interpretation should include clarification of the following terms, with reference to the relevant legislation where appropriate: ‘environmental effects’, ‘dredged material’ (along the lines of your answer to question 8⁵), ‘equipment’, ‘installations’, ‘ships’, ‘structures’, ‘sediments’, ‘tailings’, ‘food waste’ and ‘fish waste’ should also be provided in a glossary for the regulations.
9. That the interpretation include ‘ecotoxic’ and refer specifically to the regulation which contains the definition – see your answer to question 4⁶ – the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.
10. Clarity as to whether fish waste in regulation 24 (a) includes fish waste from farmed fish – e.g. the King Salmon situation in the Marlborough Sounds.
11. That the interpretation states that ‘harmful substance’ includes hazardous substances. This ensures this distinction is apparent to those both operating under and policing these regulations.
12. The MfE should be required to *report annually* to the Minister and the public annually on the application of this regulation, outlining the type, quantity and location of material discharged or dumped. We consider the EPA (as discussed in Part 7) is the operating arm and MfE is the policy arm and therefore the policeman and should be responsible for reporting on the effectiveness of public policy.

4. **Major Recommendations on Ocean Management**

1. The development of an *overarching strategy for oceans* that encompasses all legislation, treaties and conventions identified to date (see Table 2) and expected in the future. Further we consider ‘oceans’ to include all saltwater and the seabed underneath it – which means the Territorial Sea, the Contiguous Zone and the Continental Shelf should be included in an ocean strategy (see Table 1). Our reasoning is that the ocean is one large ecosystem and what happens in one aspect of the ocean will have effects in other areas - fish stock, marine mammals and pollution travel outside linear zones often typified in maps of the ocean floor.
2. Known areas of *special ecosystems* in the oceans should be designated national park status for a period of time (for example, ten-twenty years) until more research is undertaken. Special ecosystems will need to be defined (for example, rare marine ecosystems, pristine and unexploited examples of common marine ecosystems and areas of significant cultural value [mana moana]). Determining and defining what these areas are will require a commitment to obtain useful independent research based on the shared values of New Zealanders.
3. The *overarching strategy for oceans* should include a *scientific research strategy*, focusing on the necessary scientific research and reporting that is likely to be necessary in order to make short, medium and long-term decisions for the future management of our oceans.
4. That every opportunity to undertake *mapping and research* is taken both in partnership and independent of industry, to ensure that checks and balances exist. New Zealand must cultivate an independent scientific community independent of industry.

⁵ Ibid

⁶ Ibid

5. Request for a Consistent Assessment of ‘Economic Value for NZ Inc.’ across Government

An overall concern for the Institute is a lack of an overarching approach to managing economic effects, whether it is (i) allowing industry to be given a license/a right to use water public waterways and marine areas (e.g. NZ King Salmon’s application⁷), (ii) allowing industry to undertake exploration drilling (as in the Institute’s submission on 4 February 2014) or (iii) procure⁸ (buy) public good assets using the public funds of New Zealand citizens (e.g. the Tokelau/Bangladesh example below).

Such an economic assessment framework should enable government to achieve a consistent approach to different investment opportunities with ongoing comparison and analysis of the resulting decisions. We are particularly interested in how investments address ongoing jobs for New Zealanders. Specifically, in terms of active participants in the workforce and how we enable our industries to compete sustainably when it is necessary we assess the economic benefits for New Zealand Inc.

For example, the government decision to support the salmon farming industry has focused on local employment opportunities as economic benefits. Whereas another recent decision to outsource the building of a ferry for the Tokelau territory to a Bangladesh firm, rather than a local shipbuilder, has been based on ‘best value for money’ – arguably eroding New Zealand jobs. As executive director of New Zealand Marine, Peter Busfield, stated ‘[T]he government procuring a vessel from New Zealand for the sum of NZ\$14 million would generate an additional NZ\$9 million in GDP and sustain the equivalent of 127 employees for one year.’⁹ Our understanding is that these 127 jobs were not taken into consideration.

Further, in the case of exploration drilling, we were unable to find how the economic benefits to New Zealand Inc. have been assessed – what is the evidence supporting that economic effects exist and how do these balance out when compared with the environmental and social effects. We appreciate these issues are difficult, but sound democratic values indicate that we must find better ways of assessing effects (including economic, environmental, social and cultural effects) across all of government, balancing these effects and then reporting our processes and decision-making in a transparent and meaningful manner. This will become increasingly important as resources are finite in resource hungry world.

We advocate that there needs to be an across-department work programme that considers how best to assess economic effects for New Zealand Inc. across a range of investment purposes. Consistent

⁷ McGuinness Institute (May 2013). *Working Paper 2013/01: Notes on the New Zealand King Salmon Decision*. Retrieved February 3, 2014 from:

http://www.mcguinnessinstitute.org/Site/Publications/Working_Papers.aspx

⁸ Ministry of Business, Innovation and Employment (MBIE) (n.d.). *Government Procurement*. Retrieved February 3, 2014 from: <http://www.business.govt.nz/procurement>

⁹ See Lynch, L. (14 January, 2014). Ferry deal angers kiwi boat builders. *New Zealand Herald*. Retrieved February 3, 2014 from: http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11185569

assessment of the impact of discharges and dumping in New Zealand waters or providing water rights (in the case of NZ King Salmon free water rights for 35 years) are investment proposals equal to investing in infrastructure or public services – all require an assessment of the risks, costs and benefits of the proposal. What we are arguing is that every significant investment proposal should be assessed through the same lens. We would welcome the opportunity to be part of any future discussions on this issue.

6. Conclusion

The Institute believes that there are a number of key principles that should drive the drafting of good regulation:

- Evidence (including economic evidence that proves that it is in the public's interests);
- The application of the precautionary approach both to risks, costs and benefits (i.e. when information is lacking there is an onus to be conservative);
- Public engagement (in order to obtain all data, explore all options, understand all potential unintended consequences and gain public trust), and
- Foresight (not only looking broadly at an issue but looking forward to identify emerging issues and consider long-term impacts on future generations of New Zealanders).

For the above reasons we support supplementary scientific reports to better inform this regulation in its current form and benchmark performance.

Thank you again for inviting public comment on this important draft regulation.

Question from Wendy McGuinness.

- 1. Regulation 4: A clarification of the sentence "...unless the context otherwise require ..." in Part 1.4 and whether this can be changed to become an additional point (f) with clearer expression on what might fall under the specified context – as in what context?**

The phrase "...unless the context otherwise require ..." is a generic phrase used in drafting and can be found in the interpretation section of many Acts or Regulations, e.g. the EEZ Act & the RMA. It is intended to allow for a term to be interpreted appropriately where its strict definition in the interpretation section might render the reading absurd [example?]. It does not 'expand' the list of what is considered to be a harmful substance.

- 2. Regulation 4: Use of the term 'harmful substances' verses 'hazardous substances' – can we have a definition of both so we can understand what the gap is between the two. We will also look at the 2001 regulations, but would also be keen to know more about the logic underlying this definition.**

Harmful substances is the 'umbrella term' that covers the range of items within its definition. Hazardous substances are a subpart of this refers to the ecotoxic substances under 4(a). The harmful substance definition is a pivotal part of the current MTA regime and the transfer envisaged that this would be brought across into the EEZ Act. One addition however has been to include sediments and/or tailings. It is preferable to use "harmful substances" as the umbrella term as using "hazardous substances" would lead to confusion with the Hazardous Substances regulations, and "harmful substances" is intended to capture more substances than these regulations.

- 3. Regulation 4: More information about what the research reports which informed Part 1.4 (a) (b) and (c). What were the key reports and their date of publication?**

Points 4(b) and 4(c) are prescribed through the MARPOL convention (Consolidated Version, 2013). No single report was commissioned to inform 4(a). It was established by Maritime NZ based on its own expertise and drawing on a range of information sources.

- 4. Regulations 4, 17 and 18: A definition of 'ecotoxic' and 'ecotoxic substances' in Part 1.4 and references on the research papers used to inform these definitions. Also how do these terms relate to hazardous substances and harmful substances?**

See the *Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001* in relation to ecotoxicity.

- 5. Regulation 16: It would be great to receive a copy of the Oil Records Book to be included in the Forms section.**

A copy of this is attached in the email.

6. Regulation 20: Definition of ‘installation or its equipment’ – how does that differentiate with the term structure?

In Regulation 20 the phrase ‘installation’ should read ‘offshore installation’ – a term defined in the Amendment Act. We are considering defining it in the regulation by reference to the definition provided in the Amendment Act. The term ‘equipment’ just adds clarity about what would in practice be the issue resulting in an accidental discharge.

7. Regulation 24: A definition of what is considered a ‘structure’ applicable in Part 6.24 (d). Can that be defined better to fit with the intent? From our discussion it appears MfE consider the size of the structure would have an impact as to whether this regulation is applicable but from our understanding the wording could be used to include a very large structure – so perhaps it should have a word in from parts of ‘a structure weighing less than xxx’.

At this stage we consider the nature and size of the ‘structure’ is limited by the restriction to the exploration phase. Because exploration occurs from mobile vessels or structures these will not be dumped. What is possible, although probably uncommon, is mooring arrays, anchors and wellheads. Our understanding is there is not likely to be any very large structures that could be dumped at this stage.

8. Regulation 25: what is meant by ‘dredged material’ (would it be better to use dredged sediment and tailings), would you include a definition of ‘tailings’ and ‘vessels’ in Part 6.25 (b), and if the term ‘vessels’ includes a maximum size restriction.

Annex 1 of the Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter, 1972 and the subsequent 1996 Protocol prescribe certain wastes that can be considered for marine dumping and it is best for New Zealand to reflect the wording of the terms from this Protocol.

In guidance issued by the International Maritime Organisation the term ‘dredged material’ is defined as: ‘sediments which are excavated under water, which consist of alluvial deposits, ie, boulder, sand and mud, and which may contain toxic chemicals from land-based sources.’

We will consider whether it is necessary to define tailings once all submissions have been analysed.

The policy behind the draft regulations is the EPA is best placed to determine whether a vessel should be dumped in established dumping grounds, rather than

setting a size limit up front in regulations. They will be able to consider, on a case-by-case basis whether the size of the vessel will result in unacceptable effects to the environment or existing interests. If you have evidence or rationale for why this approach may be insufficient please submit it.

- 9. *Regulations on discharge verses regulations on dumping: We note that maximum limits are provided for discharge in tonnes but not dumping – could we not create limits for dumping as well? Couldn't this be done easily for the latter and make the regulation more consistent?***

Discharges require a tonnage limit because they are proposed to be permitted up to a certain threshold over which the effects would be more than minor, and this was informed by a NIWA report. The policy behind the draft regulations is that, because of our London Protocol obligations, all dumping will require a marine consent so will be subject to EPA approval, meaning that up-front tonnage prescriptions are not needed.

Table 1: EEZ and Continental Shelf km² per Capita for Countries with an EEZ of more than 1,000,000 km²*

Prepared by the McGuinness Institute (see sources below)

Rank by size of EEZ + Continental Shelf	Country (ordered by size of EEZ + continental shelf from largest to smallest)	Total (EEZ + Continental Shelf km ²) (a = b+c)	EEZ Seabed (km ²) (b)	Continental Shelf (km ²) (c)	Population (as at 2012) (d)	EEZ Seabed and Continental Shelf km ² Per Capita (e = c÷d)	Rank (per capita) (f)
1	United States	13,544,526	11,351,000	2,193,526	313,914,040	0.043	22
2	France	11,424,422	11,035,000	389,422	65,696,689	0.174	15
3	Russia	11,384,516	7,566,673	3,817,843	143,533,000	0.079	18
4	Australia	10,699,356	8,505,348	2,194,008	22,683,600	0.472	11
5	Canada	8,243,872	5,599,077	2,644,795	34,880,491	0.236	13
6	Indonesia	8,198,413	6,159,032	2,039,381	246,864,191	0.033	24
7	United Kingdom	7,528,477	6,805,586	722,891	63,227,526	0.119	17
8	New Zealand**	5,977,610	5,700,000	277,610	4,433,100	1.348	7
9	Japan	4,934,364	4,479,388	454,976	127,561,489	0.039	23
10	China	4,711,006	3,879,666	831,340	1,350,695,000	0.003	30
11	Brazil	4,435,518	3,660,955	774,563	198,656,019	0.022	28
12	Chile	3,934,936	3,681,989	252,947	17,464,814	0.225	14
13	Mexico	3,596,695	3,177,593	419,102	120,847,477	0.030	26
14	Kiribati	3,449,333	3,441,810	7,523	100,786	34.224	2
15	Denmark	3,046,895	2,551,238	495,657	5,590,478	0.545	10
16	Federated States of Micronesia	3,015,822	2,996,419	19,403	103,395	29.168	3
17	Norway	2,819,198	2,385,178	434,020	5,018,869	0.562	9
18	India	2,708,139	2,305,143	402,996	1,236,686,732	0.002	31
19	Papua New Guinea	2,593,544	2,402,288	191,256	7,167,010	0.362	12
20	Argentina	2,015,409	1,159,063	856,346	41,086,927	0.049	21

21	Marshall Islands	2,008,941	1,990,530	18,411	52,555	38.225	1
22	Philippines	1,863,701	1,590,780	272,921	96,706,764	0.019	29
23	Portugal	1,819,498	1,727,408	92,090	10,526,703	0.173	16
24	South Africa	1,691,875	1,535,538	156,337	51,189,307	0.033	25
25	Solomon Islands	1,625,759	1,589,477	36,282	549,598	2.958	5
26	Seychelles	1,375,622	1,336,559	39,063	87,785	15.670	4
27	Fiji	1,330,683	1,282,978	47,705	874,742	1.521	6
28	Madagascar	1,326,764	1,225,259	101,505	22,293,914	0.060	20
29	Mauritius	1,314,058	1,284,997	29,061	1,291,456	1.018	8
30	Ecuador	1,118,265	1,077,231	41,034	15,492,264	0.072	19
31	Spain	1,117,153	1,039,233	77,920	46,217,961	0.024	27

Note:

* Of the 197 countries that have an EEZ, this table only shows the countries that have an EEZ of over 1,000,000 km². We believe this provides sufficient context for understanding New Zealand's EEZ in comparison to other countries.

** For comparability with other countries on the table, figures for New Zealand are inclusive of all territories within the realm of New Zealand.

Table 1 Footnotes

1. Exclusive Economic Zone (2014). Wikipedia. Retrieved 29 January, 2014 from: http://en.wikipedia.org/wiki/Exclusive_economic_zone
2. McGuinness Institute (2011). *Report 12 – 2058 strategy workbook: Exploring visions, foresight, strategies and their execution*. Retrieved 29 January, 2014 from: http://www.mcguinnessinstitute.org/Site/Publications/Project_Reports.aspx
3. World Bank (2012). *Population (total)*. Retrieved 29 January, 2014 from: <http://data.worldbank.org/indicator/SP.POP.TOTL>

Table 2: Maritime Governance Instruments: Current status and the proposed Exclusive Economic Zone and Continental Shelf (Environmental Effects) Bill

Note: OECD (2007) Recommendation to New Zealand: ‘finalise and implement ocean policy and pursue the further expansions of marine reserves.’¹

Legislation, Treaties and Conventions / Domain	New Zealand Land Territory	New Zealand Ocean Territory ²				International Territorial Waters ^{3,4}
	Inland Waters	Territorial Sea	Continental Shelf of New Zealand ⁵			
Maritime Zones ⁶	Area 1: Inland Waters ⁷	Area 2: Territorial Sea ⁸	Area 3: Contiguous Zone ⁹	Area 4: Exclusive Economic Zone ¹⁰	Area 5: Non-Exclusive Economic Zone ¹¹	Area 6: High Seas ¹²
	Landward of the Baseline	Baseline-12 nautical miles	12-24 nautical miles	12-200 nautical miles	12-350 nautical miles	Beyond the Continental Shelf
i. UN Convention on the Law of the Sea (UNCLOS)¹³				<u>Article 87</u> All nations have the freedoms of navigation and over flight and of the laying of submarine cables and pipelines, and other internationally lawful uses.	<u>Article 77</u> The coastal state exercises the right of exploration and to exploit the natural resources of its continental shelf	<u>Article 118</u> Cooperation of states in the conservation and management of living resources <u>Article 119 and 120</u> Conservation of the living resources (including Marine Mammals) of the high seas
ii. Fisheries Act 1983 New Zealand Fisheries Waters¹⁴	Fishing Mgt	Fishing Mgt	Fishing Mgt	Fishing Mgt		
iii. Resource Management Act 1991 Coastal marine area¹⁵	Resource Mgt	Resource Mgt				

iv.	Marine Reserves Act 1971 <i>Potential reserve area</i> ¹⁶	Resource Mgt	Resource Mgt		
v.	Maritime Transport Act 1994 <i>New Zealand Waters</i> ¹⁷	Shipping Mgt	Shipping Mgt		
vi.	New Zealand Nuclear Free Zone, Disarmament, and Arms Control Act 1987 <i>Nuclear Free Zone</i> ¹⁸	Nuclear Free Mgt	Nuclear Free Mgt		
vii.	Proposed Exclusive Economic Zone and Continental Shelf (Environmental Effects) Bill		(as per Area 4)	Natural Resources Defined: ¹⁹ includes seabed, subsoil, water, air, minerals, and energy, and all forms of organisms (whether native to New Zealand or introduced)	Natural Resources Defined: means the mineral and other non-living resources of the seabed and subsoil and sedentary species ²⁰
a.	Description of domain				
b.	Key concerns within the current Bill			<p>Note:</p> <p>1. Section 13 Cautious approach: should be replaced by precautionary approach.</p> <p>2. Section 25 and 68 Consent decisions: should describe the content of decisions in particular on what evidence and on what criteria the decision has been made. Further it must stipulate time frames, milestones and controls that are applicable.</p> <p>3. Section 125 Penalties: should be significantly increased. The Bill currently provides for a maximum penalty of \$300,000 per person or \$600,000 other than a natural person.</p>	

c. Key issues not addressed within the current Bill

1. Ocean policy to be integrated into the Bill
2. Sustainable development approach to be integrated into the Bill
3. Carbon Capture to be integrated into the Bill
4. Marine farming to be integrated into the Bill
Marine Reserves Bill to be aligned and progressed with this bill

Table 2 Footnotes

1. Organisation for Economic Cooperation and Development (OECD) (2007). *Environmental Performance Reviews: New Zealand*, Chapter 1: Conclusions and Recommendations, 3. International Co-operation, p. 10. Retrieved January 25, 2012 from http://www.oecd.org/document/10/0,2340,en_2649_34307_37915274_1_1_1_1,00.html
2. To enable this domain to be able to be defined clearly, the Institute has created the term *New Zealand Ocean Territory* to refer to all waters from the baseline to an external territorial boundary. In particular we note that *NZ Fisheries Waters* and *New Zealand Waters* have very different meanings – see other footnotes below.
3. United Nations Convention on the Law of the Sea (UNCLOS) (1982). General Obligation, Article 192: ‘States have the obligation to protect and preserve the marine environment.’
4. United Nations Convention on the Law of the Sea (UNCLOS) (1982). Part XII, *Protection and Preservation of the Marine Environment*, Section 1. General Provisions, Article 192, General obligation. Retrieved January 25, 2012 from http://www.un.org/depts/los/convention_agreements/convention_overview_convention.htm
5. Definition of *continental shelf*, in the *Continental Shelf Act 1964*, means the seabed and subsoil of those submarine areas that extend beyond the territorial limits of New Zealand, throughout the natural prolongation of the land territory of New Zealand, to the seaward-side boundaries. The *Explanatory Note* to the Bill states: *The continental shelf is the seabed and subsoil of New Zealand’s submerged landmass from the territorial limits of New Zealand and in some places extending beyond the EEZ. New Zealand has exclusive sovereign rights for the purpose of exploring the continental shelf and managing, conserving, and exploiting its natural resources. These resources are limited to those found on or under the seabed.* This seems to imply the EEZ is different from the continental shelf, but our research would indicate that generally they are treated internationally as the EEZ and is simply part of the continental shelf. The Bill would benefit from making this clear and in line with international practice. In the UNCLOS Article 76, the continental shelf of a coastal State comprises the submerged prolongation of the land territory of the coastal State - the seabed and subsoil of the submarine areas that extend beyond its territorial sea to the outer edge of the continental margin, or to a distance of 200 nautical miles where the outer edge of the continental margin does not extend up to that distance. The continental margin consists of the seabed and subsoil of the shelf, the slope and the rise. It does not include the deep ocean floor with its oceanic ridges or the subsoil thereof. See <http://www.linzi.govt.nz/hydro/nautical-info/maritime-boundaries/definitions>
6. See <http://www.linzi.govt.nz/hydro/nautical-info/maritime-boundaries/definitions>
7. Definition of *internal waters*, in the *Territorial Sea, Contiguous Zone, and Exclusive Economic Zone Act 1977*, includes any areas of the sea that are on the landward side of the baseline of the territorial sea of New Zealand. See also endnote 5.
8. Definition of *territorial sea*, in the *RMA Act 1991*, means the territorial sea of New Zealand as defined by section 3 of the *Territorial Sea, Contiguous Zone, and Exclusive Economic Zone Act 1977*. Section 3 states the territorial sea of New Zealand comprises those areas of the sea having, as their inner limits, the baseline described in sections 5 and 6 and 6A and, as their outer limits, a line measured seaward from that baseline, every point of which line is distant 12 nautical miles from the nearest point of the baseline.
9. Definition of *Contiguous Zone, Territorial Sea, Contiguous Zone, and Exclusive Economic Zone Act 1977*, comprises those areas of the sea having, as their inner limits, the marker, and, as their outer limits, a line measured seaward from the marker, every point of which line is distant 12 nautical miles from the nearest point of the marker.
10. Definition of the *exclusive economic zone of New Zealand*, included in the *Territorial Sea, Contiguous Zone, and Exclusive Economic Zone Act 1977*, comprises those areas of the sea, seabed, and subsoil that are beyond and adjacent to the territorial sea of New Zealand, having as their outer limits a line measured seaward from the baseline described in sections 5 and 6 and 6A, every point of which line is distant 200 nautical miles from the nearest point of the baseline.
11. This would benefit from a legal definition, currently the law infers it means the part of the continental shelf that is not the EEZ.
12. Definition of *high seas* in the *UN Convention on the High Seas 1958*, states the term “high seas” means all parts of the sea that are not included in the territorial sea or in the internal waters of a State. See http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_1_1958_high_seas.pdf
13. On 19 July 1996, New Zealand ratified the United Nations Convention on the Law of the Sea (UNCLOS). Under UNCLOS there are a number of maritime zones defined generally by their distance from the land, but more precisely, as their distance from the Territorial Sea Baseline (TSB). See <http://www.linzi.govt.nz/hydro/nautical-info/maritime-boundaries/definitions>
14. Definition of *New Zealand fisheries waters*, in the *Fisheries Act 1983*, means—(a) all waters in the exclusive economic zone of New Zealand: (b) all waters of the territorial sea of New Zealand: (c) all internal waters of New Zealand: (d) all other fresh or estuarine waters where fish indigenous to or acclimatised in New Zealand are found.
15. Definition of *coastal marine area*, under the *Resource Management Act 1991*, means the foreshore, seabed, and coastal water, and the air space above the water—(a) of which the seaward boundary is the outer limits of the territorial sea: (b) of which the landward boundary is the line of mean high water springs, except that where that line crosses a river, the landward boundary at that point shall be whichever is the lesser of— (i) 1 kilometre upstream from the mouth of the river; or (ii) the point upstream that is calculated by multiplying the width of the river mouth by 5.
16. Definition of *area*, covered under the *Marine Reserves Act 1971*, means any part of — (a) The seabed vertically below an area of the surface of — (i) The territorial sea of New Zealand; or (ii) The internal waters of New Zealand as defined by section 4 of the *Territorial Sea and*

- Exclusive Economic Zone Act 1977; or (b) The foreshore of the coast of New Zealand; — and includes any water at any material time upon or vertically above it.
17. Definition of *New Zealand waters*, under the *Maritime Transport Act 1994*, means— (a) the territorial sea of New Zealand; and (b) the internal waters of New Zealand; and (c) all rivers and other inland waters of New Zealand.
 18. Definition of *Nuclear Free Zone*, under the *New Zealand Nuclear Free Zone, Disarmament, and Arms Control Act 1987* comprises: (a) all of the land, territory, and inland waters within the territorial limits of New Zealand; and (b) the internal waters of New Zealand; and (c) the territorial sea of New Zealand; and (d) the airspace above the areas specified in paragraphs (a) to (c).
 19. Definition of *natural resources*, in the proposed Bill, means: (a) in relation to the exclusive economic zone, includes seabed, subsoil, water, air, minerals, and energy, and all forms of organisms (whether native to New Zealand or introduced); and (b) in relation to the continental shelf, means the mineral and other non-living resources of the seabed and subsoil and sedentary species.
 20. UNCLOS Article 77 defines *sedentary species* as organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil.)

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