UNDER THE	Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 ("the EEZ Act")
IN THE MATTER OF	A Decision-Making Committee appointed to consider a marine dumping consent application made by Coastal Resources Limited to dump up to 250,000 cubic metres per year of dredged material at a dump site east of Great Barrier Island.
AND	
IN THE MATTER OF	A submission on the application by the Director-General of Conservation

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STATEMENT OF EVIDENCE OF JOHN ANDREW RIDDELL

1 November 2018

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EVIDENCE SUMMARY

1. My name is John Andrew Riddell. I have been practising as a resource management planner on a part-time basis since 1989 and a full-time basis since 1993.
2. Most of my experience has been in relation to planning under the Resource Management Act. This is the first planning evidence I have prepared under the EEZ Act. In my statement I note many parallels between the Resource Management Act and the EEZ Act, and I consider that, with some adaption, my experience under the Resource Management Act is applicable to applications under the EEZ Act.
3. In this evidence I concentrate on assessing the draft consent conditions set out in the evidence of David Hay. Notwithstanding the Director-General of Conservation's submission seeking refusal of consent, I consider that with the amended conditions and further conditions I recommend in my evidence, consent could be granted.
4. In assessing the consent conditions I adopt the accepted requirements for consent conditions under the Resource Management Act: be for a sustainable management purpose, relate to the activity applied for, be reasonable, be clearly worded, be certain and be within the power of the consent holder to comply with.
5. In my opinion annual volume of dredged material to be dumped at the Northern Disposal Area cannot be justified when considered against the requirements of the EEZ Act relating to alternative, reuse, recycling and treatment. I conclude that consent should only be granted if the annual cumulative volume of dredged material dumped at the site is reduced to 100,000 cubic metres (on a five year rolling average).
6. Other amendments and additions to the Hay draft consent conditions that I recommend include
    - reducing the term of consent to 20 years.

- add further environmental bottom lines to Hay draft condition 5 covering sediment plumes, contaminant level in each barge load, and unwanted organisms. I also recommend a further condition setting out the action to be taken if any of the environmental bottom lines are breached.
- expanding on the Source Site sampling requirements (Hay draft conditions 6 and 7), including clarifying the process by which the EPA will accept the sampling results.
- revising Hay draft condition 8 on monitoring at the Northern Disposal Site, including alterations to the monitoring period, the addition of biosecurity and sediment plume monitoring, and more detail on the process by which the EPA will accept monitoring reports. I also identify several more Schedules to the consent that are required to record the methodology to be followed in undertaking this monitoring.
- revising Hay draft consent conditions 14 and 15 relating to marine mammal monitoring, including requiring a further Schedule to the consent setting out the methods, training requirements and other matters related to the marine mammal monitoring.
- Adding further consent conditions relating to requiring information from the consent holder and providing for the review of consent conditions.

INTRODUCTION

7. My name is John Andrew Riddell. I have been practising as a resource management planner on a part-time basis since 1989 and a full-time basis since 1993. Until November 1998 I was self-employed, although I did work for Nugent Consultants Limited on a part time basis from 1993 until 1996. Between November 1998 and June 2013 I was employed by the Department of Conservation. I am currently self-employed, operating under the company name CEP Services Matauwhi Limited. I hold the qualification of Bachelor of Resource and Environmental Planning with First Class Honours. I am a member of the New Zealand Planning Institute.

Experience

8. Much of my resource management work has involved proposals within the coastal environment, particularly in Northland. During this work, which includes plans, policy statements and resource consent applications[1], I have considered and prepared applications[2] involving dredging and dredged material disposal. I have also prepared evidence in relation to vessel biosecurity rules applying in the Regional Coastal Plan – Kermadec and Subantarctic Islands. I have developed a good understanding of coastal and marine issues, and of resource consent condition requirements.

9. All my experience to date has been under the Resource Management Act 1991, and the legislation that it replaced. This is the first application I have been involved in that is made under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012

[1] I have prepared reports on financial contributions that were part of the preparation of the Far North District Plan and the Waitakere City District Plan. I have provided evidence on, and/or provided planning advice for appeal negotiations and mediation on: the Auckland City District Plan - Isthmus section, Far North District Plan, Bay of Islands District Scheme (which included a coastal plan component), Whangarei District Plan, Kaipara District Plan, Kaikoura District Plan, Northland Regional Policy Statements (there have been two), Regional Water and Soil Plan for Northland, Regional Coastal Plan for Northland, the draft Gisborne Water and Soil Plan, the proposed Auckland Unitary Plan, the Bay of Plenty Coastal Environment Plan, proposed Thames-Coromandel District Plan, several proposed Changes to the Whangarei District Plan, and the proposed Regional Coastal Plan – Subantarctic and Kermadec Islands. I was one of co-authors of the *Sustainable Development Plan for Kororipo-Kerikeri Basin,* October 2005. This was a management plan prepared under the Reserves Act for the combined reserve land at Kororipo-Kerikeri Basin administered by the Department of Conservation and the Far North District Council.

[2] The applications I have prepared involving dredging were for small scale dredging.

(EEZ Act). I do note, however, many parallels between the consenting process under the EEZ Act and the Resource Management Act, including the principles behind the setting of consent conditions.

10. I have also developed knowledge of marine matters from 13 years of commercial fishing[3], including around Great Barrier Island, and from over 20 years of recreational boating.

11. The Department of Conservation has asked me to provide expert planning advice and evidence with respect to the marine dumping consent application made by Coastal Resources Limited to dump up to 250,000 cubic metres per year of dredged material at a dump site east of Great Barrier Island.

Code of Conduct

12. Although this is not a hearing before the Environment Court, I have read and agree to comply with the Code of Conduct for Expert Witnesses produced by the Environment Court (2014). My qualifications as an expert are set out above. Other than those matters identified within my evidence as being from other experts, I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

Evidence and information relied on

13. In reaching the opinions I express in this statement I have relied on the evidence prepared for the Department of Conservation of

- Peter Longdill
- Clinton Duffy.

14. I have read the 'Marine Consent to Dump Application and Supporting Impact Assessment' dated May 2018. This was prepared for Coastal Resources Limited by OsborneHay. I have not read appendices 4 or 5 to this document.

[3]I hold the marine qualifications of Skipper of a Coastal Fishing Boat, Second Class Diesel Trawler Engineer, and Inshore Fishing Skipper.

15. I have read the evidence for the applicant:

- David Hay
- Simon Male.

16. I attended a meeting between the Department of Conservation and the applicant on 18 October 2018 where the application and potential consent conditions were discussed.

17. I have read the following reports to the Decision Making Authority

- Advice from the Environmental Protection Authority Workability of Conditions of Consent as Imposed on EEZ900012, October 2018;
- Advice from the Ministry of Primary Industries dated 24 July 2018 and 6 August 2018 on biosecurity matters

Approach taken in evidence

18. This evidence primarily addresses suitable consent conditions to apply to this marine dumping application. Implicit in my discussion on consent conditions is that the recommended consent conditions are necessary if the application is to achieve the purpose of the EEZ Act.

19. The base document for my discussion is the consent conditions proposed by Coastal Resources Limited in the evidence of David Hay.[4]

20. I first discuss similarities and differences between the EEZ Act and the Resource Management Act, some tensions over integrated management, and then set out what I out my understanding of the requirements for successful consent conditions.

21. This is followed by an examination of the proposed consent conditions, including my recommended amendments and additions.

22. This is a discretionary activity application and consent can be refused for it. Although the Director-General of Conservation sought that

[4]David Hay includes draft conditions of consent in his Attachment 1, pages 40 to 55 of his evidence. I discuss these at length later in my evidence. I refer to this set of draft conditions as "Hay draft conditions". The assessment of environmental effects for the application, at pages 42 to 47, also included draft consent conditions. I use "AEE draft conditions" to refer to those draft conditions.

the application be declined, I record here that with appropriate consent conditions, as discussed in this evidence, consent could be granted for the application where the consented volume of dredged material dumped at the Northern Disposal Area is reduced to 100,000 cubic metres per year.

EEZ ACT AND RESOURCE MANAGEMENT ACT

23. Most of my work has involved policy statements, plans and applications under the Resource Management Act. In this section I set out my understanding of important differences between the Resource Management Act and EEZ Act.

24. Both the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 and the Resource Management Act 1991 promote sustainable management of natural resources in the ocean.

Sustainable management

25. The Resource Management Act extends out to the seaward boundary of the territorial sea[5] for the purpose:

> to promote the sustainable management of natural and physical resources. Section 5(1) of the Resource Management Act

26. The purpose given for the EEZ Act includes a reference to sustainable management and sets out the extent of ocean that is covered by this Act:

> Section 10, EEZ Act.
>
> (1) The purpose of this Act is—
>
> (a) to promote the sustainable management of the natural and physical resources of the exclusive economic zone and the continental shelf; and
>
> (b) in relation to the exclusive economic zone, the continental shelf, and the waters above the continental shelf beyond the outer limits of the exclusive economic zone, to protect the environment from pollution by regulating or prohibiting the discharge of harmful substances

[5]The extent of the territorial sea is formally defined in section 3 of the Territorial Sea, Contiguous Zone, and Exclusive Economic Zone Act 1977. Essentially it is the ocean within 12 nautical miles of the low-water mark of the coast.

and the dumping or incineration of waste or other matter.

(2) In this Act, **sustainable management** means managing the use, development, and protection of natural resources in a way, or at a rate, that enables people to provide for their economic well-being while—

(a) sustaining the potential of natural resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) safeguarding the life-supporting capacity of the environment; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

(3) In order to achieve the purpose, decision-makers must —

(a) take into account decision-making criteria specified in relation to particular decisions; and

(b) apply the information principles[6] to the development of regulations under section 27, 29A, 29B, or 29E and the consideration of applications for marine consent.

27. The notable differences between the definition of 'sustainable management' in this Act and the equivalent in the Resource Management Act are:

- sustainable management under the Resource Management Act applies to physical resources as well as natural resources[7];
- the EEZ Act definition does not concern itself with enabling communities to provide for their well-being;
- the EEZ Act definition is not concerned with providing for people's social and cultural well-being or for their health and safety;
- information principles apply when applications for marine consents are considered under the EEZ Act;

[6]The information principles are given in section 61 of the EEZ Act.

[7]The definition of 'natural resources' differs under each of these two Acts. The EEZ definition is **natural resources**,—

(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.

- the Resource Management Act seeks to safeguard the life-supporting capacity of “air, water, soil, and ecosystems”[8]; the EEZ Act refers to the life-supporting capacity of the environment. However, the wide-ranging definition of 'environment' in the EEZ Act would cover air, water, soil and ecosystems.

Definition of 'environment'

28. The EEZ Act's definition of 'environment' is

> **environment** means the natural environment, including ecosystems and their constituent parts and all natural resources, of—
>
> (a) New Zealand:
>
> (b) the exclusive economic zone:
>
> (c) the continental shelf:
>
> (d) the waters beyond the exclusive economic zone and above and beyond the continental shelf.

29. This is quite different to the definition of 'environment' under the Resource Management Act. Under that definition 'environment' includes amenity values, social, economic, and cultural conditions, and includes a reference to all physical resources. The Resource Management Act definition also states that “people and communities” are part of “ecosystems and their constituent parts”.

30. The differences in the definition of 'environment' flow from the differences in the definition of 'sustainable management.

31. These differences complicate integrated management of activities, such as this proposal, where dredging managed under the Resource Management Act results in the dumping of the dredged material being managed under the EEZ Act.

Consenting system

32. The consenting system under the EEZ Act has direct parallels with the consenting system under the Resource Management Act.

[8]Section 5(2)(b) of the Resource Management Act.

33. There are three types of activity: permitted activities, discretionary activities and prohibited activities.[9]

34. There are three types of discretionary activity marine consents: marine consent, marine dumping consent, and marine discharge consent.

35. This application is for a discretionary activity being marine dumping consent.

Restrictions on granting consent

36. Consent must be refused for a marine dumping consent if the marine consent authority considers that the waste (in this case dredged material) may be reused, recycled or treated without more than minor effects on human health or the environment and without imposing unreasonable costs on the applicant; or, more generally, the marine consent authority considers that the dumping of the waste is not the best approach to its disposal in the circumstances.[10]

37. Another restriction on dumping is that the dumping of radioactive, toxic or hazardous waste is prohibited.[11]

Decision making considerations

38. Section 59 of the EEZ Act sets out the matters that the marine consent authority must take into account. These matters help identify the need for, and nature of, any consent conditions.

39. The following are the considerations from section 59 of the EEZ Act that are relevant to a marine dumping consent:

> Section 59(1) This section and sections 60 and 61 apply when a marine consent authority is considering an application for a marine consent and submissions on the application.
>
> (2) If the application relates to a section 20 activity (other than an activity referred to in section 20(2)(ba)), a marine consent authority must take into account—
>
> (a) any effects on the environment or existing interests of allowing the activity, including—

[9]Sections 35, 36 and 37 of the EEZ Act.
[10]See section 62(1A) of the EEZ Act. The need for the applicant to consider the effects of the dumping on human health, and to describe any practicable opportunities to reuse, recycle, or treat the waste are specific additional impact assessment requirements set out in section 39(2)(b) of the EEZ Act.
[11]Sections 20E and 20F of the EEZ Act.

(i) cumulative effects; and
(ii) effects that may occur in New Zealand or in the waters above or beyond the continental shelf beyond the outer limits of the exclusive economic zone; and

(b) the effects on the environment or existing interests of other activities undertaken in the area covered by the application or in its vicinity, including—
(i) the effects of activities that are not regulated under this Act; and
(ii) effects that may occur in New Zealand or in the waters above or beyond the continental shelf beyond the outer limits of the exclusive economic zone; and

(c) *[not considered for marine dumping consent]*

(d) the importance of protecting the biological diversity and integrity of marine species, ecosystems, and processes; and

(e) the importance of protecting rare and vulnerable ecosystems and the habitats of threatened species; and

(f) *[not considered for marine dumping consent]*

(g) *[not considered for marine dumping consent]*

(h) the nature and effect of other marine management regimes; and

(i) *[not considered for marine dumping consent]*

(j) the extent to which imposing conditions under section 63 might avoid, remedy, or mitigate the adverse effects of the activity; and

(k) relevant regulations (other than EEZ policy statements); and

(l) any other applicable law (other than EEZ policy statements); and

(m) any other matter the marine consent authority considers relevant and reasonably necessary to determine the application.

(2A) *[only applies to marine discharge consent]*

(2B) If the application is for a marine dumping consent or relates to an activity referred to in section 20(2)(ba), the EPA must take into account—

(a) the matters described in subsection (2), except paragraphs (c), (f), (g), and (i); and

(b) the effects on human health of the dumping of waste or other matter, or the abandonment of the pipeline, if consent is granted; and

(c) any alternative methods of disposal of the waste, other matter, or pipeline that could be used; and

(d) whether there are practical opportunities to reuse, recycle, or treat the waste, other matter, or pipeline.

(3) The marine consent authority must have regard to—

(aa) EEZ policy statements; and

(a) any submissions made and evidence given in relation to the application; and
(b) any advice, reports, or information sought under this Part and received in relation to the application; and
(c) any advice received from the Māori Advisory Committee.

(4) *[not relevant to this application]*

(5) Despite subsection (3), the marine consent authority must not have regard to—
(a) trade competition or the effects of trade competition; or
(b) the effects on climate change of discharging greenhouse gases into the air; or
(c) any effects on a person's existing interest if the person has given written approval to the proposed activity.

(6) Subsection (5)(c) does not apply if the person has given written approval but the person withdraws the approval by giving written notice to the marine consent authority—
(a) before the date of the hearing, if there is one; or
(b) if there is no hearing, before the marine consent authority decides the application.

40. This is a more prescriptive approach to consideration of applications than is given in the Resource Management Act, although the matters of consideration, themselves, would not, if modified to reflect the different area covered, be out of place under that Act.

41. An adaptive management approach cannot be considered for any marine dumping consent application.[12]

42. When considering an application for a marine consent, the marine consent authority must apply the information principles set out in section 61 of the EEZ Act. This includes, in summary, obtaining advice and reports, basing decisions on the best information available, taking into account of information uncertainty or inadequacy, and erring on the side of caution and environmental protection where the information available is uncertain or inadequate.

Consent conditions

43. Section 63 of the EEZ Act provides for a marine consent authority to grant any conditions it considers appropriate to deal with adverse effects of the activity on the environment or on existing interests.

[12]Sections 61(4) and 64(1AA) of the Act.

44. Section 63 goes on to explicitly provide for consent conditions relating to bonds, public liability insurance, monitoring and auditing records.

45. Further details about monitoring conditions are given in section 66 of the EEZ Act, including providing that a monitoring condition can require the consent holder to

- make and record measurements,
- take and supply samples,
- carry out analyses, surveys, investigations and the like,
- undertake monitoring procedures in a specified manner, and
- provide specified information within a specified time.

46. The Environmental Protection Authority is empowered to review the duration of a marine consent and/or the conditions of consent in the circumstances specified in section 76 of the EEZ Act.

47. These circumstances provide for reviews at times specified in the consent, where regulations are introduced that prescribe different standards to those in the consent, where adverse effects arise that were either not anticipated or are of a scale or intensity that was not anticipated when the consent was granted, because inaccurate information was provided by the applicant that is likely to have influenced the consent decision, or where new information becomes available that show more appropriate conditions are necessary.

48. Two restrictions on the granting of conditions are stated:

> Section 63(3) However, the marine consent authority must not impose a condition on a consent if the condition would be inconsistent with this Act or any regulations.
>
> (4) To avoid doubt, the marine consent authority may not impose a condition to deal with an effect if the condition would conflict a measure required in relation to the activity by another marine management regime or the Health and Safety at Work Act 2015.

49. Limitations and requirements for consent conditions have been well developed in resource management law, and, in my opinion, re applicable

to consents under the EEZ Act. They are summarised in the *Newbury* principles[13]:

- Be for a resource management purpose, not an ulterior one;
- Fairly and reasonably relate to the activity authorised by the consent; and
- Not be so unreasonable that a reasonable planning authority could have approved it.

50. As consent conditions are enforceable they must also be clearly worded, certain, and be within the responsibilities and powers of the consent holder, not a third party.[14]

51. Where a consent condition sets out a requirement for a management plan to be approved later, care must be taken to ensure that this is not reserving substantive decision-making to later.

52. This consideration has been discussed by the Environment Court; for example in Mount Field Limited v The Queenstown Lakes District Council [2012] NZEnvC 263, the Court said:

> [77] As the Court said in *Royal Forest and Bird Protection Soc v Gisborne DC (W26/2009)*
>
> > A condition must be certain. It can leave the certifying of detail to a delegate using that person's skill and experience, but cannot delegate the making of substantive decisions.
>
> The condition proposed by the applicant was uncertain and effectively delegated substantive decision-making to the Council through an approval process on matters that should have been decided in the first instance. The consent conditions failed to set out clear *outcomes* for biodiversity within which the Biodiversity Management Plan as a *process* condition, dealing with how the outcomes would be met, would operate and could be certified by a Council officer.

Integrated management

53. This application is for the dumping of dredged material where the dredging operation itself occurs in the coastal marine area in accordance

[13] *Newbury* principles were summarised and confirmed as applicable to New Zealand by the Court of Appeal in Housing NZ v Waitakere City Council [2001] NZRMA 202 (CA)
[14] The requirements for consent condition I have set out are essentially the same as the workability of conditions requirements set out in paragraph 6 of the EPA report *Workability of Conditions of Consent as Imposed on EEZ900012.*

with the dredging provisions in the relevant coastal plan prepared under the Resource Management Act.

54. The EEZ Act sets out restrictions with respect to the dumping of dredged material that could, potentially, also be addressed in a coastal permit for dredging. The extent to which this is likely to occur depends on the type of consent required for dredging, any standards that apply if the dredging is a permitted activity, the matters of control if the dredging is a controlled activity, and the matters of discretion if it is restricted discretionary activity.

55. "Cross-over" matters from the EEZ Act include:

- consideration of practical opportunities to reuse, recycle or treat the dredged material,
- the volume of dredged material;
- alternative methods or locations of disposal that could be used;
- the characteristics of sediment dredged;
- any containments (including radioactive waste and toxic or hazardous waste) in the dredged material;
- biosecurity considerations;
- actual and potential effects on human health; and
- the protection of habitats and species that cross the coastal marine area – EEZ boundary;

56. In theory these cross-over matters could be addressed in a coastal permit for dredging, assuming that (i) the type of consent required allows these matters to be considered, (ii) the differences in between the Resource Management Act and the EEZ Act in terms of considerations such as 'sustainable management' and 'environment' are not, in practice, significant, and (iii) that the Environmental Protection Authority has the opportunity to participate in the Resource Management Act consent process as a submitter if necessary.

Auckland dredging rules

57. I have reviewed the dredging rules in the Auckland Unitary Plan[15], as this is, in my opinion, the most likely region from where dredged material will come from for dumping at the applied for site.

58. The Unitary Plan variously provides for dredging (either capital or maintenance) as permitted, controlled, restricted discretionary, discretionary or non-complying; depending on the location of the dredging within the region, and on any identified ecological, natural character, landscape and historic heritage values present.

59. The permitted activity dredging is to a limit of 5,000 m^3. There are no permitted activity standards requiring the dredged material to be free of contaminants, no consideration of where the dredged material will be disposed of, no consideration as to whether the dredged material can be treated in some way, or any control on the characteristics of the sediment in the dredged material.

60. Maintenance dredging is provided for as a controlled activity at the port in Auckland and in the Rangitoto Channel. The matters of control for this controlled activity dredging are:

- effects on water quality;
- effects on harbour traffic, navigation and safety; and
- duration and monitoring.

61. Any controlled activity dredging consent could not be act as a vehicle to address the 'cross-over' matters described above, given this limited range of matters of control.

62. Capital dredging is, at a minimum, provided for as a restricted discretionary activity; as is some maintenance dredging. The matters of discretion, while more extensive than the matters of control, do not, in my opinion, cover all of the 'cross-over' matters listed above.

63. I consider that it is necessary for a marine dumping consent for this dredged material dumping at the applied for Northern Disposal Area, if

[15]The version of the Auckland Unitary Plan that was reviewed was up to date on 26 October 2018.

granted, to include consent conditions that would apply to the dredging operation giving rise to the dredged material. Coastal plan rules[16] can not be relied on to address the 'cross-over' matters. These conditions would need to be very carefully worded as they are not seeking to control dredging as such, but to control the quality of dredged material which is to be dumped.

CONSENT CONDITIONS

64. I now turn to the consideration of suitable consent conditions that should apply if consent is granted.

65. I use the recommended consent conditions in the Attachment to the statement of evidence by Mr Hay as the base document for my analysis.[17]

Volume of dredged material to be dumped

66. Although the annual volume of dredged material that can be dumped at the disposal site is identified in the draft statement of the scope or purpose of the consent[18], I consider that the maximum allowable annual volume of dredged material that can be dumped at the disposal site should be stated as a consent condition. This provides certainty and clarity over what volume of dumping is allowed.

67. I also have concerns about the volume applied for, and the inflexibility of a fixed annual maximum volume.

68. Tables 2 and 3 and sections 3.7 and 3.10 in the assessment of environmental effects[19] relate to the justification for an annual dredged material disposal volume of 250,000 cubic metres.

69. Section 59 of the EEZ Act sets out matters that the marine consent authority must take into account when considering an application. Directly relevant to the volume of dredged material to be dumped are:

> Section 59(2B) If the application is for a marine dumping consent ... the EPA must take into account—
>
> (a) *not relevant; and*

[16] I am referring here to a regional coastal plan prepared under the Resource Management Act.
[17] At pages 40 to 55 of his statement of evidence. I refer to these draft conditions as “Hay draft conditions” to distinguish them from the draft conditions proposed in the application AEE.
[18] See paragraph 146 of Mr Hay's statement of evidence.
[19] *Marine Consent to Dump Application and Supporting Impact Assessment*, dated May 2018, prepared by osbornehay.

(b) not relevant; and

(c) any alternative methods of disposal of the waste, other matter, or pipeline that could be used; and

(d) whether there are practical opportunities to reuse, recycle, or treat the waste, other matter or pipeline.

70. In my opinion, this assessment would need to be made on a site by site basis, as the alternative methods to dumping at sea will differ, depending on the nature of the area being dredged and its surroundings.

71. Section 3.10 of the assessment of environmental effects sets out site specific examples demonstrating that there are no realistic alternative methods of disposal, or practicable opportunities for reuse, recycling or treating the dredged material from those particular sites. However this cannot be generalised to a contention that in all cases of dredging there are no realistic alternatives to dumping at sea.

72. For example, in April 2017 Auckland Council granted a resource consent to the Mahurangi River Restoration Trust which includes up to 111,300 cubic metres of capital dredging and 15,000 cubic metres annually of maintenance dredging where all of the capital dredged material was to be disposed of to land.[20]

73. Table 3 in the assessment of environmental effects[21] sets out the projected dredged material dumping for the next ten years.

74. This shows a total of 1,210,000 cubic metres of dredged material from capital dredging and 1,295,000 cubic metres of dredged material from maintenance dredging.

75. However 1,000,000 cubic metres of the capital dredged material and 500,000 cubic metres of maintenance dredged material is shown as coming from sites that are yet to be identified.

76. The balance of the dredged material accounted for in Table 3 is identified as coming from specific sites. For these sites, and for the maintenance dredging in particular, it is reasonable to assume that the alternative disposal methods assessment has already been made in a

[20]Coastal permits CST60049730 and CST60049763, land use consent LUC60010771, discharge permit DIS600675546, and stream works consent LUS60049795; decisions dated 5 April 2017.
[21]At page 15 of *Marine Consent to Dump Application and Supporting Impact Assessment*, dated May 2018, prepared by osbornehay. This table is repeated in the evidence of Simon Male.

rigorous fashion. Indeed several of these sites are discussed in section 3.10 of the assessment of environmental effects.

77. However where the capital and maintenance dredging sites are only identified in table 3 as “Other Capital” and “Other Maintenance” there is simply not enough information for alternative methods of disposal or practical opportunities for reuse, etc., to be taken into account.[22]

78. Providing for the volume applied for, but requiring proof that there are no alternative disposal options where the dredged material is sourced from a site other than those specifically identified in table 3 after any marine dumping consent is granted would, in my opinion, be *ultra vires* as it would be reserving a substantive decision-making power to those administering the consent.

79. It follows that, if a marine dumping consent is granted, the consented annual volume should be based only on the volumes given in table 3 for capital and maintenance dredging at specifically identified sites.

80. This is a 10 year dredged material volume of 210,000 cubic metres from capital dredging and 795,000 cubic metres from maintenance dredging; a ten year total of 1,005,000 cubic metres.

81. I also note that the applicant has, to date, been operating under a marine dumping consent which allows up to 50,000 cubic metres of dredged material to be dumped per annum. However the average annual volume dumped since 2013 is about two thirds of the consented maximum.[23]

82. In my opinion the maximum annual volume under any marine dumping consent for this Northern Disposal Area should be 100,000 cubic metres.

83. A review of the annual volumes dumped under the current consent shows that there is considerable variability. I consider that this variability

[22]Nor can any reliance be placed on the coastal permit process for dredging under the Resource Management Act to ensure that this consideration occurs. As I have explained earlier in this statement, consent requirements for dredging can be permitted, controlled or restricted discretionary activities, with no, or limited, ability for the consent authority to consider the volume dredged or whether disposal at the Northern Disposal Area is the best disposal option.
[23]See table 2, page 12 of *Marine Consent to Dump Application and Supporting Impact Assessment*

could be provided for by basing the 100,000 cubic metres per annum volume on a rolling average over, say a 5 year period.

84. Based on the discussion above I suggest the following consent condition inserted before Hay draft condition 1:

> 1A No more than 100,000 cubic metres of dredged material shall be dumped at the Northern Disposal Area per annum, based on a five year rolling average.

Definition 'ISQC'

85. The draft conditions in the attachment 1 to David Hay's evidence commence with definitions, including'

> **ISQG** means the Interim Sediment Quality Guidelines in the Australian and New Zealand Guidelines for Fresh and marine Water Quality (2000) or any subsequent variation thereof, and references to **L-value** or **H-value** mean, respectively, the low or high values referred to in those Guidelines.

86. In my opinion this definition does not met the “certainty” test expected of consent conditions because it includes the phrase “or any subsequent variation thereof”. This phrase should be deleted from the definition.

87. I recognise that there is the need to ensure that standards referred to in consent conditions need to be kept up to date. I consider that the best practice way of doing this is to explicitly provide for consent conditions to be revised where documents referenced in the consent conditions, including in definitions, are revised or replaced. I recommend such a review condition later in this statement.

Hay draft condition 1

88. This is a condition common to most consents tying the information in the application to the consent.

89. It is best practice, in my opinion, to include a schedule of the application and supporting documents to provide certainty about the information relied on in granting the consent. Such a schedule of application documents should be added to Hay draft condition 1.

90. Consent conditions need to be certain in their wording, given their regulatory effect.

91. The Hay draft consent condition refers to the activities being undertaken "in general accordance" with the application and supporting information.

92. In my opinion the requirement for "general" accordance with the application and supporting material is not wording that is certain in its effect.

93. I consider that the word "general" should be deleted from Hay draft consent condition 1.

Term of consent

94. The nominated term of consent in Hay draft condition 2 is a 35 year term.

95. The term for the current consent is 20 years.

96. This application is for a significant increase in volume of dredged material being dumped, compared to the actual level of dumping under the existing consent.

97. A marine dumping consent cannot be managed as an adaptive management consent.[24] There are uncertainties about volumes and effects, which goes to the applicability of the information principles.

98. In such an environment it is not, in my opinion, appropriate for any marine dumping consent to be granted for a 35 year term. I note that under section 73(1A) of the EEZ Act that 35 years is an absolute maximum duration, while 5 years is the "fall back" duration. This provides an indication that 35 years is not the expectation for dumping consents, especially when it is compared with section 73(1) where other marine consents have a duration of 35 years unless the consent specifies a lesser period.

99. I consider that a 20 year term (i.e. the same as the current consent) would be appropriate.

Environmental bottom lines

100. Hay draft condition 5 sets out environmental bottom lines with respect to the exercise of the proposed consent.

[24] Section 64 EEZ Act.

101. This type of condition is essential to include if the effects on the environment from the dumping of dredged material are to be adequately avoided, remedied or mitigated.

102. The need to state environmental bottom lines, as this Hay draft consent condition does, is even more important given the dredged material will be obtained from many different locations, with differing sediment characteristics.

103. Peter Longdill identifies a further sediment standard that should apply as an environmental bottom line[25]: that suspended sediment concentrations are not substantially increased; nominating an increase of 0.2 mg/l relative to background reference concentrations as being an appropriate compliance level for the proposal.

104. It is possible to insert such a standard in Hay draft condition 5 in a way that is certain as to its effect.

105. Peter Longdill also suggests an amendment to 5b) to ensure the sediment size class reference is consistent for the duration of the consent.[26]

106. Each of the bottom lines in parts a) to c) of the Hay draft consent condition are defined in terms of monitoring results. This appears to be appropriate for the standards in b) and c).

107. However the standard in a) sets contamination levels in dredged material after dumping and mixing with other dredged material that has been dumped. It is setting a cumulative effects standard.

108. In my opinion, such an approach is problematic, given the prohibition on the dumping of toxic or hazardous substances,[27] and given that effects of each barge load should be considered in addition to the cumulative effects of multiple barge loads of dredged material being dumped. In my opinion, this can be corrected by adding a standard applying to each barge load of dredged material, in addition to the Hay draft condition on cumulative effects of contaminants. [28]

[25]See the discussion at paragraphs 24 to 46 of his evidence.
[26]Paragraph 48 of the his evidence.
[27]Section 20F of EEZ Act.
[28]Which is clause a) of Hay draft condition 5.

109. The EEZ Act prohibits the dumping of radioactive waste and of toxic or hazardous substances, I do not consider it necessary, notwithstanding my comments in the preceding paragraph, to explicitly include these prohibitions in Hay draft condition 5.

110. The identification of any radioactive waste or toxic or hazardous substances in the sediment proposed to be dredged will be (or should be) part of the sediment characterisation required under Hay draft condition 6.

111. With the amendments discussed above, Hay draft condition 5 would be rewritten as:[29]

> 5. The activities authorised by this consent shall not result in:
>
> aa) Exceedence of any ISQG-L values for any of the metals or compounds specified in Schedule 2 in any barge load of dredged material being dumped at the NDA.
>
> ab) The suspended sediment concentrations at any depth in the water column (from the surface to the seabed) at the NDA boundary increasing by more than 0.2 mg/l relative to background reference concentrations.
>
> a) Exceedence of any ISQG-L values for any of the metals or compounds specified in Schedule 2 of any of the Sampling Sites specified in Schedule 1.
>
> b) Any standard (e.g. Udden-Wentworth) sediment size class at any of the Sampling Sites specified in Schedule 1 changing by more than 50% by volume between consecutive monitoring events.
>
> c) A change, at any of the Sampling Sites on the NDA boundary, in:
>
> i Overall abundance of macrofauna by more than 50% of the long-term average; or
>
> ii Overall abundance in the number of taxa of macrofauna by more than 50% of the long-term average.
>
> Where the long-term average is compiled from all prior monitoring results obtained under this consent and the former deemed Marine Dumping Consent EEZ900012 at each of the relevant Sampling Sites.
>
> d) The disposal mound traversing the NDA site boundary.

[29] In this statement I use the convention of underlining the additional wording, and striking through the deleted wording.

e) Any live unwanted organisms at the NDA.

Hay draft conditions 6 and 7

112. These consent conditions apply to the dredging site(s) within the coastal marine area.[30] They require the sediment and biosecurity characteristics of the dredged material to be identified before loading onto the barges and dumped at the Northern Disposal Area.

113. The sampling is also a means of monitoring the dredged material to ensure that it does not contain radioactive materials, is not toxic or hazardous waste, and complies with the environmental bottom lines set out in Hay draft condition 5.

114. In my opinion, these conditions are for a valid sustainable management purpose and fairly relate to the application, notwithstanding that the required sampling occurs in the coastal marine area, not the exclusive economic zone.

115. The Hay draft consent conditions are much simplified, compared to the awkward approach in the current consent where the proposed sampling methodology for the particular dredging site needs to be approved, on a case by case basis, before the sampling can commence, and the characterisation of the sediment occur.[31]

116. Instead the Hay draft conditions rely on schedules to the marine dumping consent that set out the methodology to be followed.

117. This is an alternative approach to the common approach of requiring a monitoring management plan to be be prepared following the grant of consent; and for that monitoring management plan to be certified by the consent authority.

118. In my opinion the use of schedules to the consent setting out the methodology to be followed is an acceptable approach. It would, in my opinion, be useful to state the purpose of the sampling at the dredging site in order to confirm the consent condition is within the powers of the Environmental Protection Authority to impose.

[30]The dredging sites are described as 'Source Sites' in the application and in Hay draft consent conditions.

[31]Condition 1 of the deemed marine dumping consent requires a Sampling Plan to be approved; condition 3 requires a Disposal Site Monitoring and Management Plan to be prepared and approved prior to dumping commencing.

119. Another deficiency with the Hay draft conditions 6 and 7 is that there is no quality control mechanism for the sediment characterisation reporting. In the deemed consent the sediment characterisation from the sampling must be submitted to the consent authority for approval before dredging begins. I consider that this approval process should continue.

120. A final concern is that the sediment characterisation does not include any assessment for radioactivity. However, this would be better addressed, in my opinion, with amendments to Schedules 2 and 3 that I discuss later.

121. I suggest the following amendments to Hay draft conditions 6 and 7 and a further consent condition as follows:

> 6. In order to determine the sediment size classes and contaminant concentrations in the dredged material, t~~T~~he Consent Holder shall provide to the EPA sediment characterisation of each Source Site, undertaken in accordance with Schedule 3, prior to the disposal of dredged material from that Site. Any Sampling Results previously approved by the EPA in relation to a Source Site under deemed Marine Dumping Consent EEZ900012 shall be deemed to satisfy this condition until 3 years have passed since that approval.
>
> 7. In order to assess the biosecurity risk of the dredged material, t~~T~~he Consent Holder shall provide to the EPA and MPI biosecurity characterisation of each Source Site, undertaken in accordance with Schedule 4, prior to the disposal of dredged material from that Site. Any Sampling Results previously approved by the EPA in relation to a Source Site under deemed Marine Dumping Consent EEZ900012 shall be deemed to satisfy this condition until 3 years have passed since that approval.
>
> 7A. No dumping of dredged material from a source site shall occur until the EPA has accepted in writing that the sediment and biosecurity characterisation for that Source Site is accurate and complete in accordance with conditions 6 and 7.

Hay draft condition 8 – monitoring at the disposal site

122. Hay draft condition 8 is a lengthy condition setting out the monitoring requirements for the disposal site.

123. I break my review of this condition into timing of monitoring, monitoring disposal mound footprint, contaminant analysis, sediment grain

size analysis, benthic faunal monitoring, biosecurity monitoring, and sediment plume monitoring.

124. Hay draft condition 8 is structured so that the monitoring requirements are set out in broad terms in the condition, and the methodology to undertake the specific type of monitoring is in schedules to the consent.

125. As I have stated previously, this is to be contrasted with the alternative approach common in consent conditions where the purpose of the monitoring is set out in the consent condition, and a monitoring plan is required to be developed setting out the methodology for the monitoring is required to be prepared after the consent is granted. The monitoring plan, in these cases, typically requires the certification of the consent authority.[32]

126. The important factor, whichever of the two approaches is used, is that the methodology is set out to a level that is certain enough to ensure that monitoring is undertaken in a consistent manner.

127. Later in my evidence I recommend further schedules be added setting out the methodologies to be followed for monitoring at the Northern Disposal Area. These schedules would need to be provided before a final decision is made on the application as the schedules are part of the consent itself, not a separate document.

128. *Monitoring intervals* Hay draft condition 8 sets out a monitoring interval commencing with the first spring (September, October, November) after a cumulative total of 125,000 cubic metres of dredged material has been dumped at the disposal site, repeated each spring after the next 125,000 cubic metres of dredged material is dumped at the disposal site.

129. The monitoring interval proposed in the application AEE was to undertake monitoring each time a cumulative total between 100,000 and 150,000 cubic metres of dredged material was dumped. Benthic fauna monitoring was at a different interval to the rest of the monitoring – it was to be annually in Spring (September, October, November).

[32]The legal issue of avoiding making this a substantive decision is discussed at paragraph 52, above.

130. Monitoring under the deemed marine dumping consent (which will continue until the new consent is issued and implemented) is after every 50,000 cubic metres of dredged material is dumped at the disposal site.[33] This provides, in effect, the baseline monitoring for the proposed new consent.

131. If, under the Hay draft consent conditions, the 125,000 cubic metre threshold for monitoring was reached in December the monitoring would not occur until the following Spring. Given the application is for the disposal of 250,000 cubic metres of dredged material per annum, it is conceivable that well over 125,000 more cubic metres of dredged material could be dumped at the disposal site in that time.

132. In my opinion[34] the period between monitoring events should revert to that proposed in the application AEE:

- for bathymetric changes, core sampling monitoring, contaminant analysis, sediment grain analysis, and biosecurity monitoring the monitoring interval should be after every 80,000 cubic metres plus or minus 10,000 cubic metres of dredged material is dumped at the disposal site[35];
- for benthic fauna monitoring, annually every Spring (September, October, November).

133. *Bathymetric monitoring* Hay draft condition 8a) requires only core sample monitoring to determine the disposal mound footprint.

134. The deemed marine dumping consent requires both core sample monitoring and bathymetric soundings to determine the footprint and shape of the disposal mound.

135. The monitoring conditions proposed in the application AEE also proposed both core sample monitoring and bathymetric soundings.

136. The advice I have received from Peter Longdill[36] is that regular bathymetric soundings should be undertaken, given the potential for

[33]Deemed marine dumping consent, condition 6(d)(iii). Note that this monitoring interval also applies to the benthic fauna monitoring.
[34]Supported by advice to me from Peter Longdill and Clinton Duffy.
[35]This reduction in the cumulative volume dumped before monitoring is required is to align with the total annual dumping volume being reduced to 100,000 cubic metres.
[36]Pers comm and paragraph 50 of his evidence.

seabed elevation changes exceeding 3 metres vertical elevation in the case of a 35 year consent at volumes of up to 250,000 cubic meters per year.

137. There is an issue about the precision to which any bathymetric survey should be conducted, with the deemed coastal dumping consent and the consent conditions proposed in the application AEE both stating that the bathymetric survey should be to an accuracy described as LINZ MB-2. Peter Longdill has addressed this item within his evidence, and he has recommended for the inclusion of bathymetric monitoring considering the potential change in seabed elevation resulting from the proposal.[37]

138. The sampling methodology to be followed is not stated in the Hay draft consent condition. There is no Schedule to the Hay draft consent condition setting out the methodology.

139. This is to be contrasted with the sampling required at the Source Site, where the sampling methodology is set out in Schedules 3 and 4. It is also to be contrasted with the deemed marine dumping permit which requires an approved Disposal Site Management and Monitoring Plan which would include the methodology for this sampling.[38]

140. In my opinion, a further Schedule should be required setting out the methodology for the bathymetric and core sample monitoring; and the Hay draft consent condition amended to require that methodology to be followed.

141. *Note on monitoring axes* The Hay draft monitoring conditions refer to monitoring axes being aligned "onshore (W) offshore (E) and along shore (sic) (N,S). Reference is also made to an additional axis being added midway between the W/E and N/S axes.[39]

142. Advice note 1 to Hay draft condition 8 correctly notes that these directions are a simplification.

[37]Paragraph 50 of his evidence.
[38]See deemed marine dumping permit condition 3.
[39]Hay draft condition 8a) ii and iii. See also the discussion at paragraphs 19 to 23 of Peter Longdill's evidence.

143. In fact, the use of the N/S and E/W create a degree of uncertainty that is overcome by the monitoring sites being accurately identified in the Schedule 1 to the consent conditions.

144. I consider that best practice would be, in Hay draft condition 8, to consistently refer to the monitoring sites as identified in Schedule 1.

145. This would need 4 further monitoring sites to be added at 100 metre intervals along each of the radial lines between the centre Sampling Site and each of the North 500, East 500, South 500 and West 500 monitoring sites.

146. I also note that Schedule 1 does not identify any control Sampling Sites. These will also need to be added.

147. *Contaminant analysis* Hay draft condition 8b) covers contaminant analysis of sediments. It is unclear from this consent condition which contaminants are being monitored for.

148. I do note however that Hay draft condition 5a) does link the disposal site monitoring to the particular metals and compounds listed in Schedule 2 of the Hay draft conditions. In my opinion, this reference to Schedule 2 should be repeated in Hay draft condition 8b).

149. There is the same lack of a Schedule to the Hay draft conditions setting out the methodology for this contaminant analysis as I have discussed previously in relation to core sample monitoring.

150. Finally, the Hay draft condition drops any explicit requirement for a control site. Schedule 1 does not list any control sites.

151. A control site is a requirement with the deemed marine dumping consent monitoring of contaminants.

152. The continued use of a control site is, in my opinion[40], desirable to provide continuity of monitoring results from the deemed consent to any new consent.

153. *Sediment grain size analysis* Hay draft condition 8c) covers monitoring of sediment grain sizes.

[40]The retention of a control site is supported by Peter Longdill, see paragraph 49 of his evidence.

154. This consent condition lacks the same provisions as I have already discussed in relation to Hay draft condition 8b): lack of a Schedule setting out the monitoring methodology, and no control site requirement.

155. *Benthic fauna monitoring* Hay draft condition 8d) is on benthic fauna monitoring.

156. Once again the draft condition lacks any requirement for control sites, and there is no Schedule recording the methodology to be followed.

157. Clinton Duffy addresses this further in his evidence, including some detail on the benthic fauna monitoring methods that he considers should be used.[41]

158. *Biosecurity monitoring* The monitoring at the disposal site does not include biosecurity monitoring.

159. Reliance is placed on the biosecurity characterisation at the source site and the "clean hull" requirement to ensure that no biosecurity risk arises at the disposal site, and that, therefore, no biosecurity monitoring is required at the disposal site.

160. Notwithstanding this, there should, in my opinion, be biosecurity monitoring for the presence or absence, and abundance, of non-indigenous species at the Northern Disposal Area, to confirm the efficacy of the biosecurity characterisation and clean hull measures.

161. *Sediment plume monitoring* The reasons for sediment plume monitoring is discussed in the evidence of Peter Longdill.[42]

162. Based on that advice, I consider that condition 8 should be expanded to provide for sediment plume monitoring on a 5 yearly basis.

163. *Revised consent condition 8*

164. Condition 8 revised to address the matters discussed above could look like:

> 8. The Consent Holder shall undertake ~~the following~~ monitoring <u>at the Northern Disposal Area at the following intervals</u>

[41] See paragraphs 24 to 28 and 32 to 35 of his evidence.
[42] At paragraphs 24 to 46 of his evidence.

- for monitoring listed in a), b), c) and e) when a cumulative total of 80,000 ± 10,000 cubic metres of dredged material has been dumped at the Northern Disposal Area following the date the consent is given effect to, and at every 80,000 ± 10,000 cubic metres thereafter;
- for monitoring listed in d) annually in September, October or November;
- for monitoring listed in f) within the first year after the consent is given effect to, and every five years after than; with the monitoring to occur concurrently and immediately after the dumping of at least 500 cubic metres of dredged material.

~~in the first spring (September, October or November) after the cumulative total disposal of 125,000 cubic metres of dredged material under this consent, and in each spring after every cumulative total disposal of a further 125,000 cubic metres of dredged material under this consent:~~

a) Bathymetric survey and ~~C~~core sample monitoring to determine the disposal mound foot print and shape undertaken in accordance with Schedule 5. The bathymetric survey [survey accuracy and precision to be determined] shall cover all of the Northern Disposal Area and include multi beam acoustic backscatter and/or side scan sonar to provide an additional measure of accumulated floor sediments. The core sample monitoring shall comprise a~~A~~ single core sample ~~from each site described below will be~~ collected from each Sampling Site identified in Schedule 1 for core sample monitoring, photographed and measured, including the depth of any disposal material visible in the sample.

   ~~i Samples will be collected at 100m intervals along axes from the NDA Centre.~~

   ~~ii Axes will be aligned in onshore (W) offshore (E) and along shore (N, S) directions.~~

   ~~iii Beyond 500m from the NDA Centre an additional axis will be added midway between the axes described above (i.e. NE, SE, SW and NW directions).~~

   ~~iv Once no disposal sediment is observed along an axis, core sample monitoring will be conducted at intervals of 500m from the NDA Centre, at sites listed in Schedule 1.~~

b) Contaminant analysis of sediments from at least the 17 identified Sampling Sites and 1 control site listed in Schedule 1 Such analysis will be in accordance with Schedule 6 and will:

i Be undertaken on the top five centimetres of sediment in each core using accepted standardised methods and compared to the ISQG-L values.

ii Be conducted by a suitably accredited laboratory.

iii Be undertaken for at least the metals and compounds listed in Schedule 2.

c) Sediment grain size analysis from at least the 17 identified Sampling Sites and 1 control site listed in Schedule 1, using accepted standardised methods to establish proportion by volume, in accordance with Schedule 7.

d) Benthic faunal monitoring from at least the 8 identified Sampling Sites and 2 control sites listed in Schedule 1. The monitoring shall be in accordance with Schedule 8 ~~NDA boundary monitoring sites~~, using from each of those sites.

(i) a minimum of three replicates consisting of at least two 100mm diameter cores, ~~and~~

(ii) high resolution imaging of the sea floor habitats and box core/grab sampling, and

(iii) ~~a photographic~~ and video ~~record of the seabed macrofauna~~ baited underwater video and/or short-duration beam trawls.

f) Biosecurity monitoring for non-indigenous species, including unwanted marine organisms, in accordance with Schedule 9.

f) Suspended sediment plume monitoring in the water column (i.e. multiple layers from the surface to the seabed) shall be undertaken at up-current and multiple down-current Sampling Sites. This monitoring shall be undertaken in accordance with Schedule 10.

165. This proposed consent condition requires the following amendments and additions to the Schedules:

- Schedule 1 – add 16 further sample sites located at 100 metre intervals along each of the radial lines between the centre sampling spot and each of the North 500, East 500, South 500 and West 500 monitoring sites, to be used for 8a).

- Schedule 1 – add control sites to be used for the monitoring listed in 8b), c) and d).
- Schedule 1 – add a further column identifying which sample and control sites are to be used for the monitoring listed in 8a), b), c) and d).
- New schedules – add the following new schedules:
  - -- Schedule 5 – setting out the methodology to undertake the bathymetric and core sample monitoring of the disposal mound footprint and shape described in 8a);
  - -- Schedule 6 – setting out the methodology to be used for the contaminant analysis of sediments described in 8b);
  - -- Schedule 7 – setting out the methodology for sediment grain size analysis described in 8c);
  - -- Schedule 8 – setting out the methodology for marine fauna monitoring described in 8d);
  - -- Schedule 9 – setting out the methodology for biosecurity monitoring described in 8e); and
  - -- Schedule 10 – setting out the methodology for the suspended sediment plume monitoring described out in 8f).

166. The new schedules would need to be drafted by the applicant and commented on by the submitters before any final decision is made on the marine dumping consent because the schedules are part of the consent.

167. The advice notes to Hay draft condition 8 would no longer be needed.

Hay draft condition 9

168. Hay draft condition 9 sets out the requirement for monitoring results to be provided to the Environmental Protection Authority.

169. The significant difference to this draft consent condition and the equivalent in the deemed marine dumping consent is that there is a restriction on the volume of dredged material that can be dumped from when the monitoring is undertaken until when the monitoring report is accepted by the Environmental Protection Authority.[43]

[43]Deemed marine dumping consent, condition 7.

170. It is not clear in the deemed marine dumping consent what is meant by the monitoring report being accepted. However I consider that this is a mechanism to ensure that the monitoring report is prepared to an appropriate standard, in terms of reporting and interpreting the monitoring results. If the need for the Environmental Protection Authority to accept the monitoring report is added to this Hay draft condition (and in my opinion it should) then the test for acceptance should also be included in a revised consent condition.

171. A revised condition 9 would be:

> 9. The Consent Holder shall provide all monitoring results in a written scientific report to the EPA and to members of the NDA Liaison Group set up under condition 25 within four months of the completion of monitoring field work required under condition 8. Results for monitoring under Conditions 8(b), (c), ~~and~~ (d) and (e) shall include statistical analysis and/or a comparison of the results to relevant ISQG- L. Dumping of dredged material in the Northern Disposal Area shall be limited to no more than a cumulative total of 50,000 cubic metres from the time the monitoring fieldwork is completed until the EPA has accepted in writing that the submitted monitoring report is complete and accurate in accordance with condition 8.

Hay draft condition 10.

172. This Hay draft condition has a minor ambiguity that could be corrected by adding the word "mechanical"[44] as follows:

> 10. The Consent Holder shall only dispose of dredged marine sediment which has been dredged by mechanical excavation only (excluding suction dredging).

Marine mammals – Hay draft conditions 14 and 15

173. The two Hay draft consent conditions relating to marine mammals are essentially a repeat of consent condition 17 of the deemed marine dumping consent.

174. I consider that while a condition relating to avoiding, remedying or mitigating adverse effects on marine mammals is appropriate, the Hay draft consent conditions have two deficiencies.

175. First, while Hay draft condition 14 expands on the way that visual and acoustic detection of marine mammals is to be undertaken, it lacks the

[44]See paragraph 18 0f Peter Longdill's evidence.

methodological detail that would be provided if the detailed marine mammal monitoring was set out in a schedule to any consent.

176. For example, the Hay draft consent condition refers to visual and acoustic detection being undertaken by "an appropriately trained" crew member, and confirmation that crew members have had the "required training". It is uncertain what level or type of training is required to be an appropriately trained crew member, or who decides what level of training is appropriate or required. In the absence of any more detail in, say, a schedule setting out the mammal mammal monitoring methodology, this lack of detail makes the condition uncertain.

177. A similar comment can be made about the visual and acoustic detection methods that should be used, especially given that dumping will often be occurring at night.

178. Second, the consent conditions are silent on what happens if marine mammals are detected during the detection period.

179. Revised Hay draft conditions 14 and 15 that address these concerns would be[45]:

> 14. Visual and acoustic detection for marine mammals is to be undertaken ~~(by an appropriately trained crew member)~~ for at least 30 minutes immediately prior to any disposal activity, in accordance with Schedule 11. A written record of the period in which the detection was undertaken, marine mammals detected, method of detection, personnel undertaking detection, confirmation that the personnel has the required training, and general weather conditions, along with any acoustic recordings shall be kept ~~prepared and along with any acoustic recordings undertaken shall be made available to the EPA upon request~~. Marine mammal data will be summarised in the monthly Form of Acknowledgement ~~monitoring report~~ required under Condition 19.
>
> 15. No dumping activity ~~may only~~ shall occur unless ~~provided~~ there is no detection of marine mammals within the NDA in the preceding 30 minutes. ~~during the detection period required under Condition 14~~.

[45]The deletion of the provision about records being made available to the EPA upon request is replaced by a generally applying condition requiring information to be supplied to the EPA upon request.

180. A Schedule 11 setting out the methodology for marine mammal monitoring, including training and equipment requirements, will need to be added if these amendments to the conditions are accepted.[46]

181. Given the Department of Conservation's responsibilities under the Marine Mammals Protection Act 1978, I consider that Hay draft condition 22 should, where there has been a detection of marine mammals in the NDA[47], require the Consent Holder to send a copy of that months Form of Acknowledgement to the Department of Conservation:

> 22. The Form of Acknowledgement, referred to in Conditions 19, 20 and 21, must be provided to the EPA by the 15th day of the following month. Where there has been a detection of marine mammals present in the NDA in the month being reported on, a copy of the Form of Acknowledgement must be provided to the Department of Conservation by the 15th day of the following month.

Hay draft condition 17

182. This draft condition sets out a requirement for the Consent Holder to liaise with the New Zealand Defence Force.

183. It is one of the consent conditions that was identified in the report *Workability of Conditions of Consent as Imposed on EEZ900012* as being out of the scope of the EEZ Act.

184. I agree with the applicant that the consent condition is in scope, as it is addressing potential effects on the existing interests of the New Zealand Defence Force arising from the existence of the submarine exercise area.

Hay draft condition 24

185. This condition addresses requirements for vessels to address two separate actual and potential adverse effects: effects on sea birds of vessel lighting, and biosecurity effects.

186. In my opinion, understanding the intent of the lighting restriction would be of considerable assistance in operationalising the “minimised as far as practicable” requirement in the consent condition.

[46]Noting that as the schedule is part of the consent it will need to be completed before any consent could be granted.
[47]Condition 19 requires the Consent Holder to make a monthly report on its dumping activity, including at clause e) “Any detections of marine mammals present in the NDA”.

187. I am also concerned that Hay draft condition 24 on clean hulls is uncertain because it, correctly, references the Craft Risk Management Standard (which is certain) then incorrect adds uncertainty as to what standard will apply in the future with the words "or any subsequent variation thereof".

188. An appropriate place to address variations or amendments to documents referenced in the consent conditions would be in a consent review condition.

189. With these amendments, and a minor change for clarity, condition 24 would be:

> 24: For all vessels, including barges, associated with the ~~disposal~~ dumping of dredged material at the NDA:
>
> (i) In order to avoid adverse effects on sea birds, ~~L~~ lighting is to be inward and downward facing and minimised as far as practicable while still complying with any relevant regulations; and
>
> (ii) The 'Clean Hull' for 'long-stay vessels' requirement specified in the Craft Risk Management Standard: Biofouling on Vessels Arriving to New Zealand (MPI, 15 May 2014)~~, or any subsequent variation thereof~~ is to be followed.

Hay draft condition 25

190. This draft consent condition sets up a liaison group.

191. Setting up a liaison group is, in my experience, quite common for more significant consents for activities occurring in public areas.

192. In this case, however, the restricted membership of the liaison group is unusual. Typically a liaison group would include iwi, community and relevant public bodies, such as, in this case the Department of Conservation.

193. It would, in my opinion, be appropriate to expand the membership of the Liaison Group to at least include iwi and relevant public bodies such as the Department of Conservation.

AEE draft conditions 6 and 7

194. The draft consent conditions set out in the Applicant's assessment of environmental effects ('AEE") included a condition setting out required

actions where there was a likely change in the sediment and biosecurity characteristics at a source (dredging) site, and requiring notification to the EPA where any of seven listed events occurred.

195. These events are essentially a repeat of deemed marine dumping consent conditions 9 and 11.

196. The draft consent conditions set out in the attachment to David Hay's evidence omits both of the AEE draft consent conditions 6 and 7.

197. *AEE draft condition 6* An important means of avoiding adverse effects at the disposal site is by ensuring the dredged material is free of certain contaminants, or, at least, that contaminants that are present in the dredged material are below stipulated concentrations.

198. The purpose of the sediment and biosecurity characterisation at the source (dredging) sites[48] is to confirm that contaminant levels in the dredged material are within the limits set in the consent conditions.

199. Unforeseen, indirect and infrequent events can result in material changes to the sediment and biosecurity characteristics at any dredging site. Peter Longdill, at paragraph 51 of his evidence, gives examples of such events he has experienced in the past.

200. AEE draft condition 6 sets out what is to happen where the consent holder becomes aware that the sediment and biosecurity characterisation for a particular site may no longer be accurate. Given the importance of the sediment and biosecurity characterisation to avoiding adverse effects at the dumping site, I consider that this condition should be reinstated and inserted before Hay draft consent condition 8[49]:

> 7B If the Consent Holder becomes aware of any event which would indicate a likely change in the characteristics of the sediments collected for disposal from a Source Site (such as, without limitation, a pollution event, operational activities, or arrival of a vessel compromised with an exotic organism) that could increase levels of contamination or biosecurity risk, the Consent Holder must:

[48] Required by Hay draft consent conditions 6 and 7

[49] See also paragraph 121 of the statement where I set out revised Hay draft conditions on sediment and biosecurity characterisation and add a further condition numbered 7A.

a) Suspend loading operations from that Source Site immediately upon the Consent Holder becoming aware of such an event.

b) Notify the EPA of the event by the close of the Business Day following the Consent Holder becoming aware of such an event.

c) For that Source Site, undertake the process set out in conditions 6 and 7, in order to determine the detailed description and characterisation of the waste to be collected for disposal.

d) Not resume loading operations from that Source Site, until the EPA provides written acceptance of the Sampling Results, as per Condition 7A.

201. *AEE draft condition 7* This condition sets out seven circumstances or events, the occurrence of which would require the Consent Holder to notify the EPA.

202. In my opinion, AEE draft condition 7 is largely replaced by Hay draft condition 5. as the analysis in the following table demonstrates. Some of the circumstances or events are defined using imprecise language that should not be included in a consent condition.

Comparison between clauses of AEE draft condition 7 and Hay draft condition 5 [summaries of clauses stated in table]		
AEE draft condition 7	Hay draft condition 5 as modified at paragraph 111 of this evidence	Comment
(a) more than minor adverse effect occurs	no equivalent	the standard is uncertain as the level of effect that is minor is not defined
(b) contaminants at disposal site exceed ISQG-L	covered by 5aa) for individual barge loads and 5a) for cumulative effects at dumping site	
(c) sediment class size changes by more than 50%	covered by 5b)	
(d) significant difference occurs in biotic communities at any disposal sampling site	covered by 5c), 'significant difference' becomes 'more than 50% change if the long-term average'; 'long-term average' defined	“significant' not defined in AEE draft condition, so it is an uncertain standard

Comparison between clauses of AEE draft condition 7 and Hay draft condition 5 [summaries of clauses stated in table]		
AEE draft condition 7	Hay draft condition 5 as modified at paragraph 111 of this evidence	Comment
(e) sediment plume drifts beyond boundary of disposal area	covered by 5ab), sediment plume concentration standard set at 0.2 mg/l	AEE draft standard would apply to any sediment plume, regardless of how dilute it is
(f) risk of spread of an exotic organism is identified	covered by 5e) for unwanted organisms	Consent Holder has to comply with clean hull standard, biosecurity characterisation undertaken for each source site and monitoring at the Northern Disposal Area; these reduce the biosecurity risk in any event
(g) dumped dredged material moving toward site dumping site boundary	covered by 5d)	Hay draft condition 5 standard applies where the disposal mound traverses the dumping site boundary, not where it is moving towards the site boundary as in the AEE draft condition

203. I am satisfied that there is no need, therefore, to reinstate AEE draft condition 7.

204. However I am concerned about the lack of any consent condition setting out what the Consent Holder must do if any of the environmental bottom lines in Hay draft condition 5 are breached.

205. In my opinion a further condition should be inserted after Hay draft condition 5 as follows:

> 5A If the Consent Holder becomes aware of any breach of condition 5, the Consent Holder must:
>
> a) Suspend dumping operations immediately;
>
> b) Notify the EPA of the event by the close of the Business Day following the Consent Holder becoming aware of such an event. Where a breach of 5e) occurs MPI shall be notified at the same time.
>
> c) If the breach is only to 5aa), for the relevant source site,

i. undertake the process set out in conditions 6 and 7, in order to determine the detailed description and characterisation of the waste to be collected for disposal; and

ii not resume loading operations from that Source Site, until the EPA provides written acceptance of the Sampling Results, as per Condition 7A.

d) For all other breaches of condition 5, the Consent Holder shall undertake the process for monitoring of the NDS as set out in conditions 8 and 9.

e) For the avoidance of doubt, dumping may not recommence unless written acceptance is provided by the EPA under condition 7A or 9, as the case may be.

New condition on providing information

206. It is, in my experience, common for a consent requiring the level of recording and reporting on information that these Hay draft conditions require to include a general condition providing for the consent authority to request information at any time.

207. An example of this requirement is given in Hay draft condition 14 which requires a written record and acoustic recordings to "be made available to the EPA upon request". This appears to be the only instance in the Hay draft consent conditions where the EPA is explicitly able to request information. outside of fixed reporting times set out in, for example, Hay draft condition 8.

208. In the absence of a generally applying consent condition on requests for information, section 66(e) and (f) of the EEZ Act arguably restricts the times that information can be requested to the particular times specified in the consent conditions.

209. In my opinion, a generally applying information request consent condition should be included to provide certainty about the use of this mechanism.

210. A suitable condition would be

> 24A The EPA may make a written request for information related to the exercise of this consent any time. The Consent Holder shall provide the requested information as soon as reasonably practicable, and in any case, no later than 20 working days after the request is received, unless

the request stipulates a longer period within which to provide the requested information.

211. I have already identified, at paragraph 179, the consequential change that would be required to Hay draft condition 14.

New condition on review of consent conditions

212. Section 76 of the EEZ Act sets out the circumstances under which consent conditions and duration can be reviewed.

213. There are specific instances given in clauses (1)(b) to (e) where a review can occur whether the possibility of such a review is identified in the consent or not. In summary, these are:

- to ensure consent conditions are consistent with any regulations that take effect that prescribe standards relevant to the consented activity.
- to deal with adverse effects the either were not anticipated when the consent was granted, or are of a scale or intensity that was not anticipated at that time.
- where the information provided by the applicant contained inaccuracies that materially influenced the decision to grant consent, and it is necessary to apply more appropriate conditions.
- where information becomes available that was not available when the consent was granted, and it is necessary to apply more appropriate conditions.

214. The effect of clause (1)(a) of section 76 of the EEZ Act is that an explicit consent review condition is required to review consent conditions for any reason other than those summarised above.

215. Earlier in this statement I have identified that a review of consent conditions process would be necessary to update references to the standards for contaminant levels (ISQG standards) and for marine biosecurity (Craft Risk Management Standard – Biofoulling 2014).

216. I also consider that amending or updating any of the schedules to the consent would require a review of consent condition process.

217. I suggest the following consent condition to ensure that it is possible to update document references and schedules during the life of the consent

> 24B The conditions of this consent, including the definitions and schedules, may be reviewed by the EPA by serving notice to the Consent Holder. Such notice may be served annually during the month of June. A review may be initiated for any one or more of the following purposes:
>
> (a) To update or replace the reference to any document or standard identified in consent;
>
> (b) To amend any of the Schedules to the consent.

Schedules

218. The schedules are part of the marine dumping consent. The schedules set out methods and other details necessary for the implementation of the consent.

219. The alternative to the use of schedules to a consent is to require, by consent condition, management plans to be prepared and approved by the consent authority after the consent is granted.

220. A significant issue with the approval of management plans is to ensure that this does not result in a substantial decision making power being delegated until after the consent is granted. This is briefly discussed at paragraph 52 of this evidence.

221. Coastal Resources Limited has operated under management plans under the deemed coastal permit. It is now proposing the use of schedules to the consent instead of management plans.

222. I have proposed several measures to ensure that the schedules approach would be efficient, effective and certain.

223. A process-related condition is necessary to ensure there is a mechanism to allow the revision of schedules after a consent is granted. This is the review of consent conditions provision discussed above at paragraphs 212 to 217.

224. I have identified further sites and information that needs to be added to Schedule 1 for certainty and completeness.

225. I have identified several more schedules setting out the monitoring methodologies to be used in the monitoring at the Northern Disposal Area. In my opinion, these Schedules would need to be finalised before consent is granted for any marine dumping consent for this proposal.

226. Not discussed so far in this statement are some amendments to Schedule 2 that are recommended by Peter Longdill[50] or that are, in my opinion, necessary to demonstrate that section 20E of the EEZ Act is being complied with.

227. The recommended amendments to the Schedule 2 are the addition of the following further parameters to be tested:

- the presence of radioactive waste[51]
- polynuclear aromatic hydrocarbons.[52]

and the addition of a statement in Schedule 2 that the listed parameters are mandatory contaminants for analysis.

228. Schedule 3 would also need amending to include the methodologies for the analysis for these three further parameters. A consequential amendments may be required to the heading for Schedule 2. and to Schedule 3.

229. As I have stated earlier in my evidence, with the amendments and additions to consent conditions I have recommended I consider that consent could be granted for the application.

Andrew Riddell
1 November 2018

[50]See paragraphs 52 and 53 of his evidence.
[51]To demonstrate compliance with section 20E of the EEZ Act.
[52]This and preceding parameters are recommended at paragraph 48 of Peter Longdill's evidence.