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REVIEW OF:

RESOURCE CONSENT APPLICATIONS DUMPING OF SHIPWRECK & CONTAMINANT DISCHARGES

Review Report for the Ministry for the Environment

June 2014

ANDREW . STEWART

REPORT INFORMATION AND QUALITY CONTROL

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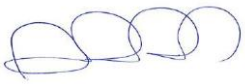
Approved for Release:	Aaron Andrew Managing Director	

Document File Name:	Rena RC review (final) - revised

Version History:	Final	30 June 2014

CEMARS ISO 14064-1:2006 certified organisation

SITE SAFE MEMBER

TELARC REGISTERED Telarc Q-Base Code

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EXECUTIVE SUMMARY

An application has been made by the Astrolabe Community Trust (the Trust) to leave the remains of the MV Rena on Astrolabe Reef. The coastal permit has two components (or activity based) parts. The principal activity is the dumping (or abandonment) of the wreck on the reef, applied for under Section 15A of the RMA. The secondary activity being sought is authority to discharge contaminants to coastal waters from the wreck, applied for under Section 15B of the RMA.

Andrew.Stewart Limited (ASL) was commissioned by the Ministry for the Environment (the Ministry) to review the resource consent application. The review is intended to assist Ministry staff with advice to the Crown on whether a submission should be made on the application and the content of any such submission. In preparing the review, ASL drew on advice from a number of technical experts commissioned by the Crown.

The application proposes Partial Wreck Removal – which is little more than what has already been undertaken. Full Wreck Removal is considered as an alternative, but the applicant's AEE discounts that option. The Crown's expert reviewer found the assessment of alternatives in the AEE to be brief, although supported by a more comprehensive technical report. A criticism is that only one method of Full Wreck Removal was evaluated. The Crown's expert also considers that the applicant has downplayed several notable risks, including movement of the wreck and debris field during future storm events, and contamination arising from the copper clove cargo, and the loss of Tributyltin (TBT) paint material from the wreck's hull.

The application to the Bay of Plenty Regional Council seeks consent for "dumping" a "ship" under section 15A of the Resource Management Act (RMA). In addition, consent is sought under section 15B to allow future discharges of contaminants associated with any remaining oil on board, as well as from the cargo that has not been recovered and remains either within the wreck or in the surrounding debris field.

Our review questions the use of sections 15A and 15B, based on legislative definitions of "ship" and "dumping". We also raise a question related to prohibited activities, which may affect how the application is treated with respect to significant contaminants such as discharges from copper clove. We conclude that the intention of the Regional Coastal Environment Plan (RCEP) is that hazardous (ecotoxic) substances have no place within the coastal marine area. We consider that this creates a procedural issue as the Trust has applied to leave some ecotoxic substances on the seabed and to allow future discharges from them.

The concept of reasonable mixing is central to the Trust's application. We consider that the AEE and its supporting documents do not provide sufficiently clear information about what constitutes a zone of reasonable mixing (for water) for any of the known contaminants. We also note that the zone of mixing required for discharges from a mass release of copper clove would be extensive, and question whether a mixing zone that would need to extend for such a considerable distance could be considered "reasonable".

We consider that the application should be subject to assessment under section 107 RMA. That section introduces the test of "exceptional circumstances" which must be met if the discharge will have effects beyond a zone of reasonable mixing. A central question would therefore be how the mixing zone is determined, and whether it is "reasonable". If significant effects would extend beyond a point considered reasonable, it then becomes a matter of whether the fact of the Rena's sinking, and the difficulty of removing the sources of potentially serious contamination, create circumstances that are exceptional and therefore justify consent being granted.

The AEE does not contain a clear summary of the different topic based assessments that have been commissioned, and in particular those relating to the contaminant discharges for which consent is also being sought. This makes it difficult to clearly understand the topic based effects assessments and the associated conclusions. An understanding of effects is also made more difficult by the AEE and some of the individual technical reports using different terms to assess effects, and not clearly linking proposed mitigation measures to the assessment findings.

The Crown's expert advisors have several major areas of disagreement with the AEE effects assessments. Those areas relate to antifoulant paint discharges; management of the remaining cargo (such as copper clove and plastic beads); and the risks to recreational divers.

In some cases, the expert reviews identify crucial data gaps and a lack of sufficiently detailed or scientifically robust risk assessment. The overriding concerns are environmental effects such as water or seabed sediment contamination, risk to endangered birds, and dangers to human visitors to the reef.

The applicant proposes a Monitoring Plan, but we consider its purpose is too broadly stated to provide meaningful results. The Monitoring Plan includes contingencies to respond to areas of environmental concern, but these are generally vague. Despite its deficiencies, the proposed Monitoring Plan could be rectified through a robust set of consent conditions. We would expect conditions to more effectively prescribe the Monitoring Plan's expected contents, as well as processes for oversight and formal approval by the Council.

The applicant proposes various consent conditions, but they appear to reserve an unusually high degree of discretion to the consent holder. With regard to the monitoring programme, the conditions appear to reserve ultimate discretion entirely to the consent holder, with no requirement to consider whether other parties may be affected. We consider that discretions regarding the significance of monitoring trends and changes or reviews to the plan should rest with the Council, or possibly with an independent scientific peer review panel appointed by the Council. The roles, membership, appointment process and administration of such a panel would ideally be set out in the consent conditions.

The application's section 104 assessment of the applicable plans has been done in a collective effects based manner. All of the policies in the different plans have been assessed together rather than on a more typical individual policy statement or plan basis. This makes it harder to review the overall assessment in the context of each policy statement or plan and establish where possible inconsistencies may exist.

The New Zealand Coastal Policy Statement (NZCPS) is relevant to the proposal. However, Policy 3 (Precautionary Approach) of the NZCPS appears to have been overlooked by the applicant, despite the AEE acknowledging that there are various uncertainties related to the extent and nature of the discharges from the cargo (some of which is not accounted for) and from the debris field. NZCPS policies 13 (Natural Character), 15 (Natural Features and Landscapes), and 23 (Discharges of Contaminants) are also very relevant, but we consider they have been assessed in a limited way.

The NZCPS has the potential to affect the outcome of the application, given the existence of relevant policies [13(1)(a), 15(a), and 23(d)] which could weigh heavily within the typical 'broad judgement' applied in consent decision making. These specific NZCPS policies are especially relevant in this location, as the Regional Coastal Environment Plan lists the Astrolabe Reef (Ōtāiti) as having outstanding values. We therefore consider that the weight of those policies within the context of a Part 2 assessment may make it more difficult for the Court to grant consent.

We consider that the applicant's assessment under Part 2 of the RMA is lacking in some other respects. In particular, there is a lack of analysis in relation to the section 6 matters of national importance. The AEE does not address the imperatives of that section which are to "recognise and provide for", "preservation", "protection", and "maintenance and enhancement" in relation to various relevant aspects.

Our review concludes by noting that:

1. The application and its supporting documents are reasonably thorough in terms of the scope of issues addressed; but
2. Some potentially negative effects have either been ignored or downplayed; and
3. Some relevant policy guidance has either been ignored or downplayed.

As a result, we recommend matters that should be covered by a Crown submission on the resource consent application.

Important Note:

The Crown reviews prepared as background to our report were completed before public notification of the Proposed Bay of Plenty Regional Coastal Environment Plan (RCEP). The RCEP was publicly notified on 24 June 2014. Due to timing, our own review has also been made in the absence of analysing the proposed RCEP provisions. The nature of the proposed RCEP is likely to be a factor which influences any submissions made by the Crown, or the nature of the Crown's views expressed in any subsequent process.

1 INTRODUCTION

1.1 Report Basis & Contents

This report has been prepared for the Ministry for the Environment (the Ministry) on resource consent applications under the Resource Management Act (RMA) by the Astrolabe Community Trust (the Trust) to abandon or dump the MV Rena on Astrolabe Reef in the Bay of Plenty. It is intended to assist Ministry staff with advice to the Crown on whether a submission should be made on the application and the content of any such submission.

The report contains the following:

- A brief overview of the application, its scope and proposed term, along with the alternatives to dumping of the wreck that were considered by the Trust (Section 2);
- A review of the RMA provisions that have been used by the Trust to support the application and related regional plan rule triggers (Section 3);
- An assessment of effects of the consents being sought and proposed mitigation measures (Section 4);
- An assessment of the consistency of the proposal with national and regional policy statements and plans (Section 5); and
- An assessment of the proposal under Part 2 of the RMA (Section 6);
- Conclusions and recommendations.

1.2 Supporting Technical Review Reports

The report has been prepared with the assistance of advice from a number of technical experts commissioned by the Crown. The following experts have provided advice either in the form of a report and/or email:

- Blue Planet Marine (BPM) - marine mammals
- Department of Conservation (DOC) – avifauna, benthic sediments, fisheries and ecological, RMA
- Environmental Protection Agency (EPA) - anti-fouling contaminant discharges
- Heritage NZ - heritage
- Isthmus Group Ltd (Isthmus) – natural character
- London Offshore Consultants Ltd (LOC) – boat navigation and recreational diver safety
- Ministry of Health (MoH)– public health
- Ministry of Primary Industry (MPI) – food safety
- NIWA – acoustics, coastal processes, contaminant dispersal and ecotoxicity
- Social and Environmental Ltd (SEL) - social impacts
- Grant Young – Māori customary interests

The key findings of the technical expert reports are identified within this report.

LOC were also commissioned by the Crown to review the dumping application and the alternatives to it that have been assessed by the Trust and its advisors. The LOC report on Proposed Removal Techniques has been referred to in preparing this report.

Appendix 2 contains a list of all the reports that have informed this review.

2 THE PROPOSAL

2.1 The Application

The application prepared by Beca Ltd. is in three volumes. It is well set out and referenced.

Volume 1 contains the completed Bay of Plenty Regional Council (the Council) coastal permit application form, along with the Assessment of Environmental Effects (AEE) required under Section 88 of the Resource Management Act (RMA) and some appendices.

The AEE describes the dumping proposal, cites the relevant provisions of the Act that are considered to trigger the need for the application, and it assesses the effects of the activities for which consent is being sought. The coastal permit application has two components (or activity based) parts. The principal activity is the dumping (or abandonment) of the wreck on the reef, applied for under Section 15A of the RMA. The secondary activity being sought is authority to discharge contaminants to coastal waters from the wreck, applied for under Section 15B of the RMA.

The application proposes a consent term of ten (10) years for both activities.

The wreck dumping proposal is based around a Partial Wreck Removal (PWR) approach. The AEE indicates that most of the PWR work has already been undertaken. The application also proposes:

- A Restoration and Mitigation Package (involving a $2.2 million fund for iwi and community-based capital and operational projects in the Bay of Plenty).
- A Monitoring Plan.
- A Wreck Access Plan.
- A Shoreline Debris Management Plan.

Consent conditions are suggested in the application, including conditions which relate to the restoration and mitigation package and the three plans referred to above.

Volume 1 of the AEE contains a statutory planning assessment of the consents being sought. This assessment covers the applicable provisions in the RMA, along with those in relevant national and regional policy statements and plans. Both of the consents are assessed as falling into the discretionary activity category. Volume 1 also contains a summary of the two alternatives to the dumping and PWR proposal. The alternatives are Full Wreck Removal (FWR) and a Base Alternative (BA). Full Wreck Removal is self-explanatory. The Base Alternative involves doing the minimum required to satisfy current Maritime NZ notices.

Volume 2 contains seventeen (17) technical reports that assess the range of effects expected from the proposal. The technical reports cover the effects on the natural environment, Māori cultural values, human health and safety, economic and social impacts. The key findings of all the technical reports have been included in the Volume 1 report.

Volume 3 contains background reports on the grounding and works undertaken since then. It also contains detailed reports on the alternative approaches to wreck removal, and their associated effects.

2.2 Activity Scope

Sections 2.1-2.5 of the AEE explain the wreck dumping and contaminant discharge proposals in a relatively clear and concise manner. The AEE refers to the key technical reports, which are also generally easy to follow. Section 4.4 provides some additional information on the proposal to remove part of the wreck before dumping (the PWR).

The AEE identifies four PWR works that have or are to be undertaken, being partial reduction of the bow section, location and recovery of a remaining container of plastic beads, partial removal and onshore disposal of the accommodation block, and further clearance of the debris field and removal of cargo from the aft section. The AEE indicates that the bow reduction and partial removal of the accommodation block have been completed, but the single container recovery and wider cargo recovery and debris field works have not.

In our view, the AEE does not make it entirely clear if all of the PWR works have been undertaken and when the final dumping or abandonment of the wreck will occur. This matter is relevant when considering the 10 year term sought for the consent and the conditions that should be attached to the consents, should they granted.

2.3 Consent Term

Section 2.6 explains the 10 year the basis of the consent term being sought, noting the minimum default 5 year and maximum 35 year provisions in the RMA. It also notes the close relationship between the two activities for which consent is sought, i.e. wreck abandonment and contaminant discharges.

The report initially argues that the minimum 5 year term would be appropriate on the basis that it is the *"timeframe beyond which no discharges requiring consent under that section* [s15B] *are considered likely to occur, given the length of time since initial grounding"* (p 12). However it then goes on to propose a 10 year term based on feedback from consultation.

The claim that there will be no discharges after 5 years is not referenced to the relevant technical expert reports from Bioresearches (entitled Fisheries & Ecological Assessment and Sediment Quality Report), the Cawthron Institute (Water Quality & Ecotoxicity Assessment) or Safinah (Antifouling Assessment). The proposed 10 year term is also not referenced to any consultation outcome or the views of any relevant organisation. We are not aware of the expert reports having more specific findings on the 10 year term. However, even if they do, we consider that the AEE should have assessed this matter in much greater detail, given the nature of the consents being sought.

We do not consider that the proposed consent term has been sufficiently assessed in the AEE. We consider that the term is too short, especially in light of some of the Crown reviewer findings, particularly the effects of the contaminant discharges, and the effects of the wreck/debris field on the reef's natural character and recreational diving.

2.4 Consideration of Alternatives

The assessment of alternatives in the AEE is reasonably brief, although supported by the more comprehensive report from TMC Marine Consultants Ltd (TMC).

The LOC report on Proposed Removal Techniques is a comprehensive one of over 70 pages. It notes that the AEE and accompanying specialist TMC report appear to only assess one FWR method and considers that the evaluation of alternatives is limited.

The LOC report also notes that the effects of storm events worse than Cyclone Lusi are not effectively accounted for in the AEE, and that the AEE therefore tends to downplay the risk of the wreck and debris field moving. The LOC report also considers that the AEE and associated technical report downplay the greatest contaminant risks, that is, the missing copper clove cargo, and the loss of Tributyltin (TBT) paint material from the wreck's hull.

Base Alternative Option

The LOC report contains no significant criticisms of the Base Alternative as an alternative outlined in the AEE. However it questions the AEE finding that the naturalness of the reef will be re-established in the longer term, given that Cyclone Lusi led to further wreck breakup and movement of the debris field. It also notes that the longer term re-establishment of the reef is not quantified in any manner under the FWR and PWR options.

Full Wreck Removal Option

The LOC report assessment of the FWR option in the AEE and associated TMC report contains the following criticisms:

- The TMC report is based on only chain cutting using a moored spread, and other alternatives exist, such as jack up rigs and dynamically positioned craft;
- The TMC report makes a number assumptions about time to complete and estimates this to be 5- 10 years, which is questioned, whereas the AEE states that there is no certainty about time.
- The contention that FWR could have potentially significant water quality effects through mass release of copper clove and TBT from the wreck/cargo is overstated and ignores the fact that such effects could also occur through storm related wreck breakup under PWR.
- The view that noise from the FWR is likely to scare off marine mammals is not backed by evidence and is inconsistent with the past (3 year) recovery/retrieval experience, which has involved noisy activities, during which seals have still been noted around the reef;
- The view that FWR heightens the risk of floatable cargoes being released compared to storms under the PWR is not supported with evidence;
- The view that FWR heightens risks to divers as opposed to PWR, assumes no significant storm events and limited management of the site over a 10 year consent term, rather than the whole remaining life of the wreck. It also downplays the likelihood of it breaking up into smaller pieces.

We have not reviewed the TMC report and the other expert reports (e.g. on ecology, sediment and water quality) that also assess the alternatives, and which LOC have concerns with. Based on the LOC report findings we consider this matter warrants some further investigation. This work would be directed at determining whether the AEE and supporting reports satisfy the requirements in Section 105 and 138A of the RMA and Clause 1 of the Fourth Schedule. If not then we consider the submission should cover this matter.

3 RESOURCE CONSENT TRIGGERS

3.1 Background

The Trust has made its application under sections 15A and 15B of the Resource Management Act (RMA). It has done so to gain consent for the related activities of leaving the remains of the Rena in situ, and allowing for future discharges of harmful substances or contaminants from the wreck.

Section 15A requires that consent be obtained for "dumping" a "ship". Section 15B allows *"discharges of harmful substances or contaminants"* from a ship if it is: permitted or controlled; or after reasonable mixing if it does not give rise to listed effects. The term "harmful substance" is defined with reference to regulations, whereas the term "contaminant" is defined (in general terms) in Section 2 RMA.

We consider that the use of sections 15A and 15B may be in error, as the remains of the MV Rena may not be a "ship". We also consider that the act of leaving the Rena wreckage in situ may not meet the definition of "dumping".

Our reasons for considering that the Rena may not be a ship are set out below, followed by a discussion related to dumping. We also refer to a prohibited activities question, the concept of reasonable mixing, and the likely need for assessment of discharges to be completed under s107 of the Act.

3.2 Is the Rena a "Ship"?

Section 2 of the RMA defines "ship" by reference to s2(1) of the Maritime Transport Act 1994 (MTA). That Act defines ship as: "every description of boat or craft used in navigation, whether or not it has any means of propulsion".

The MTA (s98) also separately defines two other types of vessel which we consider have greater applicability to the remains of the Rena. Those definitions are:

- (s98) Wreck; and
- (s247) Hazardous ship.

"Wreck" is defined by s98 of the MTA as:

> *(a) any ship or aircraft which is abandoned, stranded, or in distress at sea or in any river or lake or other inland water, or any equipment or cargo or other articles belonging to or separated from any such ship or aircraft or belonging to or separated from any ship or aircraft which is lost at sea or in any river or lake or other inland water; and*
>
> *(b) shipping containers and property lost overboard or similarly separated from a ship, other than cargo lost in the course of its unloading or discharge from the ship while the ship is in a port.*

By this definition, the Rena is a wreck, as is its cargo – including both within the debris field and beyond.

"Hazardous ship" is defined by s247 of the MTA as:

> *means a ship that is in the internal waters of New Zealand or in New Zealand continental waters, or on the high seas and, as a result of a shipping casualty or acts related to such a casualty, is discharging, or is likely to discharge, a harmful substance into the internal waters of New Zealand or New Zealand continental waters or the seabed below them.*

The Rena was declared a "hazardous ship" on 6 October 2011 by the Director of Maritime New Zealand, via a notice issued under section 248 of the MTA. Given the existence of that declaration, our opinion is that considering the Rena as a "ship" under section 2 of the MTA may be incorrect. A consequential conclusion is that use of the MTA s2(1) definition of ship for RMA purposes would also be inappropriate to the circumstances. We consider it is reasonably clear (but not certain) that, under the terms of the MTA, the Rena is both a "wreck" and a "hazardous ship" because:

- It is not "used in navigation";
- It has been "abandoned or stranded"; and
- It has been involved in a "shipping casualty" and "is discharging or is likely to discharge a harmful substance".

We consider that the definition of "ship" is time and function based, such that the Rena probably ceased to be a ship once it sank – and certainly once it had broken up. Our view on this matter is of a preliminary nature and we recommend that it should be explored by Crown Law. Questions that we consider it would be useful for Crown Law to answer include:

- To be defined as a "ship", must the craft be "used in navigation", and does that imply a current ability;
- Is "used in navigation" the same as operated ("operate" is defined by section 2 of the MTA as being to "sail"), and does that imply that a ship must be sailed or afloat to meet the definition of ship;
- Does the existence of the separate definitions of "wreck" and "hazardous ship" imply that the Rena is no longer a "ship"; and
- Do any or all of these matters in combination lead to the conclusion that the Rena is not a "ship" for the purposes of the RMA?

3.3 Does the Proposal Involve "Dumping of a Ship"?

Section 15A RMA establishes control over the deliberate dumping (sinking) or abandonment of a ship; requiring resource consent to first be obtained. "Dumping", as defined by section 2 RMA, is "deliberate disposal or abandonment". If a ship is deliberately disposed of or abandoned, section 12 of the Act does not apply (see s12(6)).

If the Rena is a ship, then the relevant question is whether or not section 15A authorises dumping via a resource consent. The Trust claims in section 3.4.1 (paragraph 4) that *"the purpose of s15A is clearly intended to address shipping casualties"*. We disagree, and can see nothing in this section of the Act which implies that it applies to shipping casualties. To the contrary, "dumping" requires a "deliberate" action and we think it applies to intended future actions (authorised by first obtaining a consent), rather than a retrospective authorisation of an unintentional event. The Trust makes it clear in section 2.1 of the application that it *"does not seek retrospective consent for the grounding and its aftermath"*.

If the Trust's case is that the Rena is already on the seabed and they seek to abandon it there, we return to our conclusions about the definition of ship. Section 15A (under which dumping can be authorised) only applies to ships. We consider that the remains of the Rena are not a ship, and therefore s15A does not apply.

In summary, we doubt that what the Trust is applying for meets the definition of "dumping", and therefore s15A (which only deals with dumping) is not relevant. Relatedly, we consider that assessment of dumping under s15A would not be relevant, if the remains of the Rena cannot be defined as a ship.

3.4 Are Some of the Contaminant Discharges a Prohibited Activity?

The AEE notes a rule in the Coastal Discharges chapter of the Regional Coastal Environment Plan (RCEP) [Rule 9.2.4(b)] that it considers makes the contaminant discharges from the wreck and debris field a discretionary activity. We have some concerns that the applicant intends this rule to cover all of the proposed contaminant discharges, as we consider some discharges may be a prohibited activity for which no consent is possible.

The Coastal Discharges chapter of the RCEP notes (at page 51) that: *"where the substance being discharged falls within the definition of a hazardous substance,* ***refer to Chapter 17****."* [emphasis added].

In the Hazardous Substances chapter (Chapter 17), Rule 17.2.4 specifies that: *"The dumping, or incineration of hazardous substances in the coastal marine area is a prohibited activity."*

The prohibition overrides the general application of s15B which, as noted earlier, allows rules to be made that prohibit a discharge [s15B(4)]. In any event, we do not consider that s15B is applicable, as in our opinion, the wreck is probably not a ship.

The RCEP notes that a hazardous substance includes one that has the characteristic of *"Eco-toxicity, with or without bioaccumulation"*. Copper and some of the other wrecked cargo is acknowledged by the applications supporting assessments as being ecotoxic. For that reason, we consider that the dumping of those substances could be a prohibited activity. As a consequence, no consent can be applied for in relation to dumping of those contaminants.

Because the rule uses the word "dumping", it means "deliberate disposal" under the definition of the Act. We have considered whether or not dumping and discharge have different meanings and, because of that, whether or not Rule 17.2.4 is applicable. We note that the Act's definition of discharge includes "deposit" which seems the same in effect as to "dump", although we acknowledge that the existence of the two words and meanings introduces an element of doubt to our finding. However, on balance, we consider that the prohibition on "dumping" of hazardous substances can also be read as a prohibition on related "discharges" (deposit). We note that the Trust has not applied for "dumping" of contaminants, and has only applied to "discharge" them.

We think it is clear that the accidental deposition of ecotoxic substances within the coastal marine area (i.e. via the stranding and sinking of the Rena) does not constitute deliberate dumping. However, in our opinion, ongoing discharges

of and from those substances could be in contravention of the rule. We conclude that the intention of the RCEP is that hazardous (ecotoxic) substances have no place within the coastal marine area. We consider that this creates a procedural issue as the Trust has applied to leave some ecotoxic substances on the seabed and to allow future discharges from them.

Even if Rule 17.2.4 has not been breached, we think there is still a potential enforcement issue under s314(1)(ii) which, regardless of any rule or resource consent, allows the Court to require a person to cease doing something that *"is or is likely to be noxious, dangerous, offensive, or objectionable to such an extent that it has or is likely to have an adverse effect on the environment."*

3.5 Section 15 B (Contaminant Discharge) Considerations

We preface this discussion by noting our opinion that the most likely intent of s15B of the RMA is to control contaminant discharges from ships that are afloat. As noted earlier, the MTA separately defines "wreck" and "hazardous ship". The ongoing discharges from the Rena are, by definition and declaration, from a hazardous ship (which is also a wreck). Assuming that either a hazardous ship or a wreck is not the "ship" contemplated by the RMA, then s15B does not apply to its discharges. The remainder of our discussion addresses the discharges as if they were from a ship.

Section 15B establishes control over discharges from ships and, in the absence of regional rules, permits a discharge [s15B(1)(b)] if (after reasonable mixing) it does not give rise to all or any one of a list of effects[1] . However as noted earlier there are relevant regional rules. The application states that the discharges fall under rule 9.2.4(b), as a discretionary activity. The rule is: *"Except as expressly provided for or prohibited by other rules to this plan, any discharge is a discretionary activity."*

Section 15B(4) notes that:

> *"No person may discharge a harmful substance or contaminant in reliance upon subsection (1)(b) or (c) or subsection (2)(b) if a regulation made under this Act, a rule, or a resource consent applies to that discharge; and regulations or rules may be made prohibiting a discharge which would otherwise be permitted in accordance with subsection (1)(b) or (c) or subsection (2)(b)."*

If the Rena is a ship, then section 15B of the Act applies to discharges from it (if there are no relevant regional rules). However, as noted above, there is a relevant regional rule, and s15B(4) makes it clear that the regional rule overrides the reasonable mixing regime of s15B(1)(b).

"Discharge" does not require the applicant to actively put those contaminants into the environment. "Discharge", as defined by the RMA, includes to "emit, deposit, and allow to escape". We conclude that if left within the wreckage or on the sea floor, and those substances subsequently leach into the seabed sediments or coastal water, it is the equivalent of "allow to escape" and is therefore a discharge.

Although ecotoxic substances may be prohibited by Rule 17.2.4, Section 15B would (in the absence of any other regional rule) still continue to apply to non-ecotoxic substances. However, as noted above, Rule 9.2.4(b) overrides the use of s15B. The application presents conflicting information about s15B and Rule 9.2.4(b). On the one hand, it seeks consent for discharges under s15B, while on the other hand section 7 of the AEE (page 56) states that consent is required under rule 9.2.4(b). The two provisions are mutually exclusive, and the application is in error on this point.

3.6 Section 12 and 15 Matters

We are of the view that s15A and s15B may not be applicable to the proposal due to the definition of "ship" and the existence of RCEP Rule 9.2.4(b), which brings s12 and s15 of the RMA into play.

Section 12 and s15 are foundation clauses that establish the need to obtain consent for uses (section 12) and discharges (section 15) within the coastal marine area. They require consent to be obtained under those sections unless expressly allowed by a regional rule. As the RCEP does not expressly allow the dumping or abandonment of a wreck, consent is

[1] (i) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials:

(ii) any conspicuous change of colour or visual clarity: (iii) any emission of objectionable odour: (iv) any significant adverse effects on aquatic life

therefore required under s12. And, as the RECP does not expressly allow discharges (in fact it requires consent to be obtained with respect to rule 9.2.4(b)), consents are therefore required under s15.

In 3.4.1 and 3.4.2 of the AEE, the Trust has concluded that applications do not need to be made pursuant to sections 12 and 15 RMA. We take the opposite view, which is driven by our earlier conclusion regarding the definition of ship, and by the fact that RCEP Rule 9.2.4(b) overrides the use of s15B in its entirety.

3.7 Consideration of the Application under sections 104, 105 and 107

When making a decision on an application under s12 (leaving the wreck in situ), the application must be considered under s104. However, when making a decision on an application that requires consent under s15 (ongoing discharges from the wreck), the application must also be considered under sections 105 and 107 of the Act.

Section 105 requires certain matters to be addressed where the application is for something that would otherwise contravene sections 15 or 15B. For section 105, those matters are:

(a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and

(b) the applicant's reasons for the proposed choice; and

(c) any possible alternative methods of discharge …

Section 107 applies to activities that would otherwise contravene s15 or s15A. Section 107 states that consent shall not be granted if certain effects remain after "reasonable mixing". Among other things, there must not be *"any significant adverse effects on aquatic life."* However, if such effects do remain after reasonable mixing, s107(2) allows consent to be granted if one of three tests are met – being:

(a) that exceptional circumstances justify the granting of the permit; or

(b) that the discharge is of a temporary nature; or

(c) that the discharge is associated with necessary maintenance work.

We note that the AEE briefly addresses s107 by stating that there would be no adverse effects beyond a zone of reasonable mixing (7.2.2, page 60). The AEE further claims that even if there were such effects, they would be temporary in nature and the grounding of the Rena has created exceptional circumstances (7.2.2, page 61). The AEE authors are therefore claiming to meet two of the three applicable tests.

3.8 Reasonable Mixing

The RMA does not define "reasonable mixing". Section 9.1 (page 47) of the RECP refers to reasonable mixing by noting that:

> *The Act recognises that contaminants, discharged into the coastal marine area are often in a concentrated state and are unlikely to meet the water quality standards set in section 107(1) of the Act or others set in this plan at their point of discharge. Accordingly provision has been made in the Act for the reasonable mixing of contaminants with sea water before they must comply with the specified water quality standards.* ***The size of each reasonable mixing area will be set on a case-by-case basis as appropriate to the particular type of discharge concerned.*** [emphasis added]

The concept of reasonable mixing is central to the application. The Trust's case with regard to reasonable mixing is set out in various places within the AEE, including 3.4.2 and 7.2.2. In the AEE's executive summary, it sums up the case by saying:

> *Because of the dynamic environment of the Reef and the state of the wreck being as benign as is practicable, water quality is unlikely to be adversely affected by any discharge of contaminants from the wreck. Even in the event of a discharge of contaminants, after reasonable mixing any effect on water quality is likely to be less than minor.*

At 7.2.2, the AEE notes that:

> *Any effects should be localised at the point of release and the quantities of contaminants of concern will mean that no significant ecological or water quality effects will occur outside of a reasonable mixing zone. The Water Quality Assessment notes that discharges from the wreck will occur at such low levels and over a long time period so that no conspicuous change in water clarity, colour, pH, temperature or significant adverse effects on*

aquatic life are anticipated. The exception may be the occasional fugitive emission, such as a pocket of oil or other debris that may be trapped. Any such discharge should be small, of short duration and be rapidly dispersed so that effects are localised at the point of release and do not cause significant adverse effects.

There is a possible inconsistency between these two statements in that the executive summary says the effects would be "less than minor", whereas 7.2.2 of the AEE says there will be "no significant" effects. The two things are different, although this may simply be a case of misused language.

Despite the statements about less than minor (or not significant) effects, we consider that the AEE and its supporting documents do not provide sufficiently clear information about what constitutes a zone of reasonable mixing (for water) for any of the known contaminants. The Cawthron Institute water quality and ecotoxicity technical report which is appended to the AEE does provide some information in relation to seabed sediment quality. The report notes that, with respect to discharge from a mass release of copper clove, an area of approximately 48ha would fall within "ISQG -High"[2]. We understand the report is saying that 48ha of seabed sediment could be made very toxic, with the primary effect being on algae and seaweed. The report similarly notes that an area of 200ha would fall within "ISQG-Low"[3].

As reported in the AEE (6.2.4, page 37), the size of the reef habitat above the -60 metre contour is approximately 48ha. Given that the ISQG-High zone could be the same size as the reef (48ha), the impact of a mass release of copper clove could therefore have high and unacceptable adverse effects on ecological communities (including soft sediment dwelling species such as worms and crustacea) and, in particular, marine vegetation. Marine vegetation has intrinsic value, habitat value, and value as a food source for various species of marine life. The AEE and its supporting reports do not address the risk that a mass release of copper clove would pose to those communities.

If the highly affected seabed sediment area was 48ha, it would be equivalent to a circle with a radius of approximately 390m. For the less affected area (ISQG-Low) of 200ha, we calculate an equivalent circle radius would be approximately 800m. If effects on seabed sediment can be used as a proxy for effects on water quality, a zone of reasonable mixing might therefore need to fall somewhere between 390 and 800m from the wreck site. However, we assume it would probably need to be much closer to 800m than 390m, given that the 390m boundary marks the beginning of highly affected sediment.

We question whether a mixing zone that would need to extend for such a considerable distance could be considered "reasonable".

3.9 Preliminary Findings

In summary, our preliminary findings related to consent triggers and associated RMA and RCEP matters are:

- The remains of the Rena may not be a "ship" for the purposes of s15A and s15B of the Resource Management Act.
- Allowing contaminants to be emitted, deposited, or allowed to escape meets the definition of a discharge, and therefore covers any contaminant associated with the wreck.
- The dumping (and by inference, discharge) of any hazardous substance could be a prohibited activity under Rule 17.2.4.
- Copper clove in particular, is an ecotoxic substance and therefore the discharge of contaminants from it could be a prohibited activity, even though it has not been deliberately dumped.
- The discharge of other (non-hazardous) contaminants is a discretionary activity under Rule 9.2.4(b).
- Because the discharge of both hazardous and non-hazardous substances is subject to regional rules, section 15B is not a relevant consideration – due to the operation of s15B(4).
- If s15A and s15B are not relevant, then consent should be sought pursuant to section 12 and 15 of the Act.
- With regard to discharges, s107 of the Act forms part of the consideration, and requires that "exceptional circumstances" must exist before consent can be granted for effects that will occur beyond a zone of reasonable mixing.

[2] *I*nterim Sediment Quality Guidelines - *ANZECC 2000 Australian and New Zealand Guidelines for Fresh and Marine Water Quality*

[3] We understand that ISQG-High is a level based on studies that reported harmful effects in half of all cases. Levels above that ISQG-High are likely to be very toxic. ISQG-Low is the lowest concentration of a metal that produces harmful effects in 10% of studies.

- With regard to discharges from a mass release of copper clove, a zone of reasonable mixing would need to be large, potentially covering all or a major part of the Astrolabe Reef.

The applicant's position is that the triggers for consent are sections 15A and 15B, and that sections 12 and 15 do not apply. The applicant also maintains that it is s104 which guides the assessment. Our review has reached a very different conclusion with regard to the consent triggers. The question therefore arises, how do our findings about consent triggers affect the process of considering the application?

With regard to s12 versus s15A, we do not think our conclusions have a major effect. Both sections (which relate to placing or leaving the wreck on the seabed) still lead to an assessment under s104 of the Act, and the same suite of issues would still be open to consideration. The only real difference is that s12 provides a descriptive list of matters that need to be considered – focussing on physical damage to the seabed and its associated effects on plants and animals.

With regard to s15 versus s15B, the effect of our conclusions is potentially greater. If s15B is the consent trigger, then the discharge aspects of the application need only be considered under s104 and s105. However, if s15 is the trigger, then s107 also comes into play. That section of the Act introduces the test of "exceptional circumstances" which must be met if the discharge will have effects beyond a zone of reasonable mixing. Our review suggests that there will be such effects (because the necessary mixing zone would be unreasonably large), and therefore that the exceptional circumstances test becomes relevant. A central question would therefore be how the mixing zone is determined.

If significant effects would extend beyond a point considered reasonable, it then becomes a matter of whether the fact of the Rena's sinking, and the difficulty of removing the sources of potentially serious contamination, create circumstances that are exceptional and therefore justify consent being granted. From various references made in the application, it is clear that this is a position that would be advocated by the applicant.

Our finding with regard to the prohibition on dumping of hazardous substances leads to related and potentially serious conclusions. If leaving substances such as copper clove in place is equivalent to the "dumping" referred to by the regional rule or, alternatively, if subsequent discharges of dissolved copper would contravene the rule, then the Trust is unable to apply for consent for that aspect. If our conclusions on this point are correct, then a significant part of the application is invalid, and cannot be considered by the Regional Council or the Court. Any arguments around the size of a reasonable mixing zone would also be irrelevant.

4 EFFECTS OF THE PROPOSAL

4.1 Applicant's Assessment

4.1.1 AEE Overall Finding

The Section 6 environmental effects assessment summary is based around the technical reports commissioned by the Trust. It contains an overall summary (Section 6.6), which has four findings. These are:

1. *"The main potential adverse effects …..relate to cultural and social matters";*
2. *"There are potentially positive effects in regards to tourism, recreational dive opportunities, enhanced reef habitat, and heritage protection"*
3. *"Effects on other values including ecology and fisheries, ecotoxicity, human health, navigation, marine mammals, avifauna, etc are no more than minor"*
4. *"These effects are considered to be able to be mitigated through the proposed conditions of consent that provide for monitoring the environment and appropriate contingency actions and a restoration and mitigation package"*

We have been unable to find an overall effects finding in the AEE, as could be reasonably expected for a proposal and report of this nature.

In terms of cultural and social effects we note that the Section 8.6 Restoration & Mitigation Package summary (p76) is slightly different. It states that *"the presence of the wreck on the reef is likely to have adverse social and cultural effects for those with close connections to the reef and a restoration and mitigation package is proposed in acknowledgement of those effects"*. Although the extent or scale of the adverse social and cultural effects is not identified in the summary, the body of the AEE indicates they and other adverse effects are assessed as being no more than minor.

4.1.2 Structure of Individual Reports

Section 6.1.3 notes that the environmental effects assessment is structured into four areas – natural, social, cultural and economic. The first two are in turn broken down into topics largely based on the technical reports. Table 1 summarises the Section 6 findings on the effects of the proposal, following the Section 6 breakdown. The table is also a useful way of checking that all of the effects have been assessed and where the different assessments sit in the effects continuum.

The AEE does not contain a clear summary of the different topic based assessments that have been commissioned, and in particular those relating to the contaminant discharges for which consent is also being sought. This makes it difficult for people reviewing the report to clearly understand the topic based effects assessments and the associated conclusions. An understanding of effects is also made more difficult by the AEE and some of the individual technical reports using different terms to assess effects. Also in some areas the proposed mitigation measures are not clearly linked to the assessment findings.

Although as outlined above we have some concerns about the presentation and clarity of the Section 6 effects assessment we are satisfied with its overall coverage. All of the relevant effects have been assessed and in our view there are no significant gaps in terms of coverage. However, we do note that there are gaps in terms of the quality and degree of assessment, and these gaps are highlighted in the following sections of our review.

4.1.3 Effects Methodology & Descriptors

The AEE generally uses typical RMA terms for assessing effects, i.e. whether they are "adverse" (negative) or "positive" in nature and whether they are "actual" or "potential". The report also generally categorises the adverse effects according to whether they are of a "de minimus", "less than minor", "minor", or "more than minor" nature in accordance with recognised practice. As noted in some of the Crown commissioned review reports, understanding of the assessment findings would have been easier if these key terms had been explained or at least referenced to a table that provided much better context and some technical thresholds, especially in topic areas like ecology and water quality where there are recognised ANZEEC and other guidelines. As it stands, our impression is that the different descriptors have been used by the AEE authors without any standardised reference points.

Also as outlined above and shown in Table 1, effects have sometimes been assessed as "low", "modest", "significant" and "varying". The use of these terms also makes the comparative and overall findings difficult to follow. Having said this we have been able to interpolate meanings from the different terms and understand the overall findings and conclusions, even though based on the Crown review reports, we question some of those findings.

4.1.4 Section 104 Considerations

The applications fall for consideration as discretionary activities. Under Section 104(1) the Council is simply required to *"have regard to any actual and potential effects"* of the proposal. Although the AEE uses the words *"no more than minor"* effects, this gateway test only applies to activities that fall into the non-complying activity category under Section 104D. The body of case law on discretionary activity applications indicates that under Section 104(1), consent authorities are more directed to consider whether adverse effects (and methods of avoiding, remedying or mitigating them) are acceptable, rather than no more minor. That consideration must of course also take place within a framework established by relevant objectives and policies and subject to a broad overall judgement under Part 2 of the RMA. Our subsequent effects assessment of the proposal has been prepared on this basis, i.e. whether the effects and responses are acceptable or not, within the context of the planning policy framework.

4.2 Individual Effects Assessments

4.2.1 Effects on the Natural Environment

This part of the AEE has eight assessment subsections as recorded in Table 1. The summary finding on page 44 is that the effects on the natural environment will be no more than minor.

The individual effects findings are clearly set out, except in respect of the following matters:

Section 6.2.1 – Water Quality has six subsections that assess the effects of six different contaminants on water quality. The following findings are recorded:

- Plastic beads, antifoulant paint, ferrosilicon, residual fuel/oil and TCCA (disinfectant) canisters – all "negligible", and
- Potassium nitrate – "less than minor" for water quality and "no more than minor" for nutrient enrichment.

Although this section does not have an overall finding, it is considered in terms of the above to be "no more than minor".

Section 6.2.2 – Coastal Processes, does not have an overall finding. However it refers to the MSL report and a "very slight" effect on local wave crest and "subtle" influences on local wave height. From our reading of the AEE and MSL report we understand that the authors have assessed the effects as being "minor".

The Section 6.2.3 – Natural Character finding that the effects are "low" is not related to the "no more than minor" categorisation used elsewhere in the report, and in this sense it is not entirely clear. By comparison the Section 6.2.5 – Marine Mammals, finding that the effects are "low (no more than minor)" is clear.

Section 6.2.8 – Ecotoxicity, has three subsections, being copper scrap, antifouling paint and mitigation measures, all of which refer to the specialist report from Bioresearches, which covers the effects of the contaminant discharges on seabed sediment. The first two subsections do not contain a clear summary of findings on the effects of the contaminants mentioned. In Section 6.2.8.3 – Mitigation Measures the report simply states *"although ecotoxicity effects of the proposal are not considered significant the following mitigation measures are proposed….."*. We understand that the AEE and associated Bioresearches report are claiming that these effects are of a "minor" nature.

4.2.2 Effects on the Social Environment

Section 6.3.3.3 – Human Health, does not have a clear effects finding. It simply states *"there do not appear to be any adverse toxicological health effects from contaminants…."* (p 48). We understand that the AEE and Beca Social Impact Assessment report are saying that the effects are "less than minor".

Section 6.3.4 – Heritage, does not have an effects finding. It simply states *"overall it is considered that the wreck as historic heritage could warrant formal recognition (e.g. through the Historic Places Act or Regional Coastal Environment Plan"* (p50). However Section 6.3.5 – Summary of Social Effects, states that *"the proposal will have some positive social effects in regards to historic heritage preservation…."* (p50).

We understand that the AEE and expert heritage report authors consider the dumping to have some positive effects on the heritage values of the reef. This finding is not supported by advice to the Crown provided by Heritage NZ.

4.2.3 Effects on the Cultural Environment

Section 6.4.1 – Cultural Values and Effects on Mauri, does not have a clearly stated finding. Section 6.4.2 – Mitigation Measures, simply outlines some past and proposed mitigation measures. Neither section is clearly linked to the key finding in Section 6.4.3 – Summary of Cultural Effects that *"the proposal will have no more than minor potential adverse cultural effects relating to the physical environment, but that spiritual effects vary depending on the particular individual."* (p 53).

Table 1: Applicant's Environmental Effects Assessment

Effect	*AEE Finding*	*Mitigation*
Natural Environment (Overall)	**No more than minor adverse** (p44)	
Water Quality (*Cawthron*)	Not clearly stated	Yes
Coastal Processes (*Met Oceans*)	Not clearly stated	No
Natural Character (*Beca*)	Low adverse (p 36)	No
Ecology & Fisheries (*Bioresearches*)	Positive (p39)	No
Marine Mammals (*Cawthron*)	Low (no more than minor) adverse (p39)	Yes
Avifauna (*Kessels*)	De minimus adverse (p40)	No
Acoustics (*Marshall Day*)	Negligible adverse (p42)	No
Ecotoxicity (*Cawthron*)	Not significant	Yes
Social Environment (Overall)	**No more than minor adverse & some positive (p50)**	
Experiential values (*SIA*)	Minor adverse (p45)	No
Community cohesion (*SIA*)	Neutral to positive (p45)	No
Social Infrastructure (*SIA*)	Minor positive (p46)	
Recreation (*Greenaway*)	No more than minor adverse (p47)	Yes
Recreational Diver Safety (*Wasik*)	No more than minor adverse (p47)	Yes
Navigation safety (*Drake*)	Negligible adverse (p48)	No
Human health (*EML*)	Not clearly stated (p48)	Yes
Heritage (*Dodd*)	Not clearly stated (p50)	No
Cultural Environment (Overall)	**Not clearly stated (p53)**	
Cultural Values and Effects on Mauri (*Kahotea* & Rolleston)	No more than minor adverse and varying (p53)	Yes
Economic Environment (Overall)	**Minor positive (p54)**	
Tourism (Not referenced)	Minor positive (p54)	Not clear
Commercial fishing (Not referenced)	Modest benefits (p54)	Not clear
Efficient Use of Resources (not Referenced)	Not clearly stated (p54)	Not clear

4.3 Crown Peer Reviews

The authors of the Crown peer reviews and the scope of their work was briefly outlined in Section 1.2 of our review. The key findings of the Crown peer reviews are summarised in the Table 2 below.

The key findings of peer review reports been categorised as follows:

- Major or Potentially Significant Disagreements;
- Minor Differences of Opinion; and
- Assessment Limitations.

4.3.1 Major or Potentially Significant Disagreements

Four areas of disagreement with the AEE effects assessments have been identified in the Crown peer review reports. They are follows:

- The methodology for assessing the likelihood of antifoulant paint discharges from the wreck hull, the extent and nature of the effects on the reef ecology and water quality and monitoring of them (EPA, LOC, & DOC);
- The management of the remaining cargo, especially the copper clove, along with the debris field, and the effects of related discharges and monitoring (NIWA, LOC, & DOC);
- The management of the remaining plastic bead material, the risk to seabirds of swallowing the beads, and monitoring of the effects, especially on seabirds (DOC & LOC); and
- The risks to recreational divers from the wreck and management of this activity in the future (LOC & DOC).

Antifoulant Paint & Other Contaminant Discharges

The EPA peer review of the Safinah report finds that it contains a number of crucial data gaps and is not sufficiently detailed or scientifically robust to assess the risks and effects of antifoulant discharges from the boat hull. The information gaps and assessment shortcomings are considered to relate to the history of the hull coating regime, lack of an antifoulant toxins hazard assessment, the pathway for toxin release, existing colonisation and whether AFP substances other than the four identified (copper, zinc, diuron and TBT) were analysed.

The EPA report notes that whilst much of the Safinah rationale appears sound, the absence of data and sufficient analysis means that the findings cannot be supported or opposed.

DOC concerns are similar to those raised by EPA and relate to the unclear/uncertain effects on sediment/water quality and marine communities (which ones are not clear). The DOC review of the Bioresearches benthic sediment quality report considers it to be inadequate because it lacks robust analysis and interpretation of toxicant data. Data from some of the recorded sites is considered to be missing, spatial variances not sufficiently evaluated, and the relationship to ISQG guidelines and biological significant toxicant levels is not clearly set out. Particular concerns are expressed with the findings in respect of copper and TBT.

DOC consider that the AEE and supporting reports do not clearly demonstrate that copper and TBT are the only contaminants of concern. Like the EPA, DOC note that the Trust has not provided a definitive painting history of the vessel that sufficiently identifies the relevant active ingredients and that not all potential antifouling active ingredients/contaminants have been analysed.

The NIWA peer review report also raises some concerns that are the same or similar to those mentioned by the EPA and DOC. However some concerns are broader ranging, including provision of a complete list of the ship's cargo and not just that considered to be potentially ecotoxic, and also more information on the state of the cargo which has been recovered. Also NIWA is not satisfied that the reportedly large quantity of organic material (milk powder, milk fat and food) in the wreck does not pose a toxic threat if released in bulk. The LOC peer review concerns with this matter were outlined in Section 2.4 of our review.

Plastic Bead Release

The DOC peer review of the Kessels & Associates Ltd report supports the proposal to remove the remaining container with plastic beads from the wreck debris. DOC has concerns with the proposal to "recover if possible" the one known missing container from the wider debris field.

DOC's concern is that if the beads are released to the water they will be a serious hazard to a number of at risk or endangered seabirds. The review report notes that past container removal/retrieval efforts have experienced problems and the future clean up measures are considered to warrant much greater scrutiny and monitoring, through more robust Wreck Removal and Monitoring Plans and associated consent conditions. DOC considers that monitoring the effects of plastic beads on the seabird population should involve more than the Department being asked to check dead birds as suggested. We consider that this matter warrants more detailed attention, again through the plans and consent conditions, even though effective monitoring of such effects on seabirds may be difficult to devise.

Recreational Diving Risks

The LOC report considers that the AEE and supporting technical reports underestimate the potential for further wreck break up, dangers from debris (wire coils) and potential risk to recreational divers. It also raises concerns with the draft Wreck Access Plan and its implementation. One of the DOC reports also raises similar concerns.

Table 2: Crown Review of Effects Assessment

Effect	*AEE & Expert Report Findings*	*Proposed Mitigation*
Natural Environment		
Water Quality & Ecotoxicity (*NIWA*)	Disagreement with some of the methodology and analysis.	Detailed comments on Monitoring Plan and conditions.
Coastal Processes (*NIWA*)	Agreement.	No comments provided.
Natural Character (*Isthmus*)	Partially in agreement. Insufficient information/analysis of debris field. Insufficient regard to widespread effects and wider public perceptions.	Supports R&M fund but concerns about nature/scope of qualifying projects.
Benthic Sediments (*DOC*)	Disagreement with some of the methodology and analysis.	No comments provided.
Ecology & Fisheries (*DOC*)	Not in agreement as report has information/analytical gaps and some effects not assessed.	Few comments provided.
Marine Mammals (*BPM*)	Largely in agreement.	Suggests Monitoring Plan be slightly extended & use of sonar clarified.
Avifauna (*DOC*)	Largely in agreement. Risks of plastic beads to seabirds underestimated.	Monitoring plan measures for plastic bead risks to seabirds are inadequate.
Acoustics (*NIWA*)	Agreement.	Queries possible use of sonar in future wreck monitoring.
Ecotoxicity (*EPA*)	Likely disagreement as insufficient data and inadequate scientific analysis to support largely theoretical rationales.	No comments provided.
Social		
Social Impact (*SEL*)	Agreement with approach and most findings. Some findings have gaps/limitations.	Few comments provided.
Diver Recreation (*LOC*)	Largely in agreement, except potential for further wreck break up, dangers from debris (wire coils) and risk to divers.	Concerns with applicant's ability to implement measures.
Navigation safety (*LOC*)	Largely in agreement. Risks to small craft possibly greater than assessed.	Generally supports proposed measures.
Human health (*MPI*)	Largely in agreement.	Concerns with monitoring scope, timing & review of Monitoring Plan.
Heritage (*Heritage NZ*)	General disagreement.	No comments.
Cultural		
Māori customary (*Young*)	Insufficient information.	Few comments provided.

4.3.2 Other Differences of Opinion

Effects on Natural Character

The scope of the Crown's review (by Isthmus) of the AEE did not include its own independent assessment of natural character. Within the limits imposed by that scope, the Isthmus review considers that the AEE report should have been broader and included public perceptual aspects, in addition to the site and area specific assessments undertaken of recreational divers and fishers and the Motiti Island Māori community. This concern is linked to a view that the AEE and associated natural character assessment do not sufficiently illustrate the location of the MV Rena on the reef and the extent of the debris field. Although the Crown review report does not outline on what basis this wider public perception assessment would be carried out we expect that some form of survey or possibly more targeted consultation would be required. We note that Section 5 – Consultation contains several references to public perceptual concerns with abandonment of the wreck and related matters.

The Isthmus review agrees with the AEE report that the natural character of the Astrolabe Reef remains as outstanding, but notes a concern about the limitations of the assessment that has been carried out. The Isthmus review notes that:

The small area of the reef where the remains of the MV Rena are located is a focus of the Assessment. The natural character effects of the grounding have been experienced and are likely to continue to be experienced across a much wider area that should also be assessed in relation to potential future effects. [and]*… widespread historical physical effects and wider public perception cannot be de-coupled from an assessment of the natural character effects of the proposal …*

The Crown review concludes by noting that more information should have been provided by the applicant, including an analysis of relevant tests under the policy framework, particularly in relation to Policies 13 and 15 of the NZCPS and their relationship with Section 6(a) of the RMA. Given that the reef is accorded outstanding natural character status by the RCEP, we consider that these matters may warrant a submission.

Effects on Heritage Values

The Crown's review (by Heritage NZ) generally disagrees with the Subsurface Ltd report, that the wreck site has high historical and social heritage values and it should be considered for formal recognition under the Historic Places Act and the Regional Coastal Environment Plan. Heritage NZ considers that the applicant's assessment confuses the significance of the ship running aground with the significance of the wreck itself.

Heritage NZ consider that the historic and social heritage values of the wreck site are not of a high and enduring nature. We generally agree with this view, although this is more of planning policy than effects matter. In our view, abandonment of the wreck will not have unacceptably adverse effects on the heritage values of the reef.

4.3.3 Assessment Limitations

We are of the view that, on the basis of current information, the differences of opinion between the applicant's experts and peer reviewers regarding natural character and heritage value are unlikely to be significant from a Section 104 assessment perspective. Although the peer reviewers have identified some differences of opinion we consider that they are effectively saying that the effects are of acceptable nature (for a discretionary activity). However, as noted above, the Crown has not had the benefit of a full independent assessment of natural character. If one were to be carried out, its findings might well influence the Crown's perspective on that matter.

Some of the other Crown reviewers have identified limitations in the base investigations and/or assessment findings. Most are of a relatively minor nature and do not in our view impact on the reviewers overall findings. They are briefly detailed below:

- Coastal processes – no field calibration of CGWAVE model used and no description of the boundary conditions. Also some of the wave crest, wave height and transect plots/findings are not clear or explained as well as they could be (NIWA report).
- Fisheries and ecological effects – lack of bathymetric map, and map of different habitats, little discussion on reef communities and expected time for encrusting community recolonisation, a 'light' fisheries assessment, including data on species and some effects (DOC report).
- Avifauna – limited available data and maps on shore birds and black petrel not on list of affected shorebirds (DOC report).

- Marine mammals – data is based on available DOC records for the area and no site specific survey was carried out (BPM report).
- Social impacts – effects assessment methodology not entirely clear, especially with respect to terminology, timing and scale, some population data gaps including analysis, documentation and sources, analysis of potential social effects has some gaps, including what experiential values relate to (SEL report).

4.4 Proposed Mitigation Measures

As noted earlier, the applicant's proposed mitigation measures include a Restoration and Mitigation Package, a Monitoring Plan, a Wreck Access Plan, and a Shoreline Debris Management Plan.

4.4.1 Restoration & Mitigation Package

The $2.2 million Restoration and Mitigation Package (R&E Package) for iwi and community based projects appears to be intended to mitigate the effects of the proposal on "cultural and social values" (page 72) and be targeted at "specific communities who are affected" (page 72). The nature of the effects and, to a lesser extent, the specific communities affected are not entirely clear. In a related regard the applicant's suggested conditions are very general and would need considerable refinement by the Council to be of an enforceable nature. The conditions as they stand do not adequately cover administration of the fund by the applicant / consent holder and their monitoring / review by the Council.

None of the Crown peer reviewers have identified any concerns with the principals behind or expected extent of the R&E package.

4.4.2 Monitoring Plan

The basis of the Monitoring Plan is outlined in several different sections of the AEE. The most comprehensive explanation is provided in Section 9.2. The purpose of the plan as stated is to *"assess the effects of the proposal on the physical environment, cultural values and the condition of the wreck"* (p77). A draft Monitoring Plan prepared by Beca is provided in Appendix B of the AEE.

We consider that the purpose of the Monitoring Plan is too broadly stated in the AEE. We envisage the monitoring being directed at particular (physical and cultural environment) effects that the AEE has identified as having the potential to be more than minor or not acceptable. Ideally, monitoring should be directed at confirming the particular AEE assessment findings that highlight these actual or potential effects, rather than the dumping proposal as a whole, as the AEE suggests. If monitoring of the physical environment and cultural environment is not targeted, then in our view it is unlikely to serve its intended purpose and provide meaningful results.

We note that the suggested Monitoring Plan conditions in Section 9.2 identify, in relation to the natural environment, monitoring of "reef sediments, invertebrates and fish". This same section of the AEE does not specify what form of cultural environment monitoring is proposed, other than it will be established with reference to a Kaitiakitanga Reference Group.

The draft Monitoring Plan has sections on cultural monitoring and physical environment monitoring. The DOC, BPM, MoH, NIWA and other Crown reviews raise a number of concerns primarily with the proposed physical environment monitoring. The principal concerns, which are most fully in the explained in the DOC reviews, are summarised below.

4.4.3 Physical Environment Monitoring

DOC note that the Monitoring Plan focuses almost exclusively on monitoring contamination of sediments, and selected shellfish and fish species, the latter solely in relation to potential human health impacts from consumption of contaminated shellfish or fish tissue. DOC correctly notes that the purpose of the Monitoring Plan is defined as being "to identify adverse effects to marine life and to the public", monitor the "state of the reef environment" and "achieve understanding of potential environmental effects on marine life", which are all much broader objectives. DOC notes that the Monitoring Plan does not propose monitoring of water quality, or marine species health, behaviour, distribution or abundance.

DOC has concerns with the seabed sampling methodology in the draft Monitoring Plan, considering that it is not clear how the sample sizes were selected, and whether the sample design (including levels of replication) will be sufficient to detect the effects that could be anticipated. The Department notes that that the draft Monitoring Plan is stated as being derived from the investigation sampling programme. However some differences are noted. For example, the investigation sampling programme includes sampling off the reef at a range of distances from the Rena, whereas the draft Monitoring Plan only includes sampling at 100 metres from the Rena.

DOC notes that only eight sites at one distance from the Rena will be sampled, which is considered insufficient for detecting any spatial patterns or trends in contamination levels. At some sites there is no or little replication of samples (e.g. one or two samples) which will reduce the power to detect trends in levels of contamination at the site level. The possibility that samples will be pooled for analysis will also reduce the level of replication. The Monitoring Plan also provides no detail around what particular biocides or metals would be monitored.

DOC notes that the draft Monitoring Plan specifies that contingencies will be put in place, but these are fairly vague. For example, it is unclear what trigger levels would require action if a concerning level of a contaminant is found (in other words, at what level would results become concerning). The plan also states that additional species *"may warrant analysis"* and that harvested species will be monitored under certain situations (for example *"if deemed necessary"*). DOC consider it is unclear who would make the decision about what additional monitoring is carried out and how.

In terms of the fish species sampling, DOC considers it is not clear why particular species were selected for inclusion in the sampling programme. Ideally, fish from a range of trophic levels should be sampled, to assess aspects such as accumulation through the food chain. DOC also suggests that harvested species such as snapper should be included in the monitoring programme because of their customary, recreational and commercial importance, and their high trophic level.

DOC notes that no monitoring of marine mammals is proposed. Some concerns are expressed about this and it is considered important if sonar is to be used during the remaining PWR operations.

The EPA, DOC and MoH reviews note that monitoring is proposed every 6 months for 2 years then annually with *"review of the scope and frequency of monitoring by the consent holder"* every two years. The proposal to undertake additional monitoring after a *"major storm event",* is supported, although the key term (major storm event) does not appear to be defined, nor the party/process of determination. The draft plan also suggests that the 2 years should be from the granting of the consent *"or at such earlier intervals as the consent holder may determine".* It also suggests a 3 month period for reporting of monitoring results. The crown's reviewers express concerns about these matters, which we share.

The Crown review reports generally indicate that the deficiencies in the draft Monitoring Plan can be rectified through a robust set of consent conditions. We agree, and would expect conditions to more effectively prescribe the Monitoring Plan's expected contents, as well as processes for oversight and formal approval by the Council. We agree that improvements can be made and would expect the Council to have Monitoring Plan template conditions that it can adapt to the specific circumstances of the application.

We are of the view that consent conditions can be set that much more clearly define the purposes/scope of the monitoring, the outcomes/actions that are triggered as a consequence of particular results, and the Council review procedures. We anticipate that a final Council approved Monitoring Plan would be much more detailed and cover matters such as the kinds of samples to be taken, locations and frequency of sampling, the number of replicates, the media of samples (water, sediment, organisms), who carries out the monitoring, and the reporting process.

4.4.4 Cultural Environment Monitoring

DOC considers the purpose and scope of the *"cultural monitoring"*, to be adequate and supports the proposal to develop a specific monitoring approach. The approach would include species to be monitored, identification of cultural values, methods of monitoring, and reporting involving iwi, hapu, or whanau. DOC notes that the draft Monitoring Plan appears to have a focus on kaimoana, whereas iwi, hapu, and whanau interests are expected to be much wider than simply the effects of contaminants on edible species.

4.4.5 Wreck Access Plan

The Wreck Access Plan (WAP) is based on the Recreational Dive Safety and Navigation Safety Assessment reports. It is expected to have three main components, being an internet based information service, a published and freely available code of practice and survey monitoring of the state of the wreck, all carried out by the Trust. A draft WAP plan is in Appendix C of the AEE.

The LOC peer review report raises concerns with some of the proposals in the draft Plan and its implementation as noted earlier.

4.4.6 Shoreline Debris Management Plan

The AEE records that very little debris has been released from the wreck even during significant weather events and that removal of the accommodation block down to D deck has minimised the risk of flotsam from the main source (page

26). The LOC and other Crown review reports question this finding, especially following the most recent Cyclone Lusi event.

The Shoreline Debris Management Plan (SDMP) appears to have its origins in the community consultation process, rather than the technical reports, although it is mentioned in the AEE summary of the specialist Recreational Assessment. The plan is seen as minimising the potential adverse effects on recreation and tourism through any perceptions of litter (page 47). A draft SDMP is in Appendix D to the AEE.

None of the Crown reviewers have identified any significant concerns with the SDMP as a mitigation measure or the draft plan as it stands.

4.5 Suggested Consent Conditions

The DOC, EPA, LOC, MoH, NIWA and other Crown reviews that disagree with the AEE and/or technical reports, or have significant concerns with the parts of them, also identify a number of related concerns with the suggested consent conditions. Most relate to the physical environment monitoring and the associated Monitoring Plan.

4.5.1 Monitoring Plan

The Monitoring Plan conditions of concern are set out in most detail in the DOC report on RMA matters. They are summarised below:

<u>High Level of Consent Holder Discretion</u>

The AEE proposes that the consent holder should have a relatively high level of discretion to determine thresholds for responses, and the form of the response should the monitoring show unanticipated environmental effects. Examples include:

- Condition M.5 which provides for the *"scope and frequency of monitoring to be reviewed by the consent holder every 2 years during the term of the consent"*;
- Condition M.6 which provides for *"A review by the consent holder of these conditions ….will be undertaken at two yearly intervals or at such earlier intervals as the consent holder may determine …".*

The suggested conditions go beyond what could be reasonably expected and what is envisaged under the review provisions in Section 127 (application by consent holder) or section 128 (review by consent authority) of the RMA.

It is accepted planning practice for consent conditions to specify the criteria for initiating such reviews, for example on the anniversary of the consent or if no change is detected in specified parameters, or after a specified number of monitoring studies. Accepted practice is for reviews to be at the discretion of the consent authority and not the consent holder.

Under Section 127 the consent authority also generally retains the discretion whether any third party may be adversely affected by the change or cancellation of a consent condition. Although the proposed conditions include reporting to the Council in support of any review of the monitoring programme, proposed conditions M.5 and M.6 appear to reserve ultimate discretion entirely to the consent holder, with no requirement to consider whether other parties may be affected.

This high level of discretion reserved to the consent holder is also found in the draft Monitoring Plan, and in particular the trigger and response provisions set out in Section 7 – Contingencies. The draft plan addresses the situation *"should monitoring over consecutive sampling periods show an upward trend in contaminant levels at any sample site."* Two flow diagrams are also provided showing the decision making steps. The term "upward trend" is open to interpretation by the Trust and its advisors (who may not be the same as at present). It is more normal for effects thresholds or triggers for responses to be specified in the conditions, along with the responses required.

Following on from this point, the flow diagram at Figure B7 (Sediment Monitoring Contingency Measures) sets out actions in response to increased contaminant levels over two consecutive sample periods. With respect to ecotoxicity testing, the only identified response to a significant ecotoxicity result from monitored reef species appears to be relocation of at risk threatened species. Several issues arise here from this one example.

As the DOC report notes there are no specified criteria to determine what a *"significant"* ecotoxicity effect is. In the absence of any criteria or methodology in the conditions to determine "significant", that important decision would appear to be entirely at the discretion of the Trust. Also the decision on whether the source of contamination can be *"easily"* removed or *"easily"* contained (Figure B7) seems to be left to the Trust, with no provision for Council oversight or review of the decision. Qualifiers such as *"easily"* (as used in Figure B7) introduce another level of uncertainty into the decision

making process and would make it very difficult for the Council to successfully enforce any non-compliance with such a condition.

We consider that the discretions regarding the significance of monitoring trends and changes or reviews to the plan should rest with the Council, or possibly with an independent scientific peer review panel appointed by the Council. The roles, membership, appointment process and administration of such a panel would ideally be set out in the consent conditions.

No Requirement for Expert Scientific Monitoring Reporting & Decision Making

The suggested consent conditions establish a high level of scientific rigour for the base sampling programme as set out in Appendix A – Rena Scientific Sampling Protocol (Version 1), attached to the draft Monitoring Plan. However this same level of rigour is not apparent in the preparation and decision making with respect to future monitoring reports produced following the sampling programme.

There is no condition which specifies the qualifications and experience of the person(s) who produce the monitoring report that goes to the Council. This is an important aspect because the report is required to include scientific judgements, including evaluation of any changes or trends in monitoring data and *"recommendations on any further work that may be required to evaluate the reef environment or state of the wreck*" (conditions M3 subsections 3 and 4).

The Council and wider public need to have confidence in the independence and scientific integrity of monitoring reports, particularly those that contain recommendations about further work. There also appears to be no defined process for the consideration of recommendations contained in the monitoring report and no requirement for the Trust to implement the recommendations.

Public Reporting

The monitoring report is to be provided to the Council within 3 months of the monitoring being undertaken (Condition M.3), but there is no specified timeframe for when the report is to be provided to other agencies and organisations (Condition M.4). There is no explicit requirement for the report to be made public.

It is becoming reasonably common RMA practice, where activities have a high level of public interest, for monitoring reports to be made public. Often this is by way of a dedicated page on the consent authority website. The Council could well decide to do this, and we do not think this matter needs to be covered in a submission.

DOC is not on the list of agencies in Condition M.4, which is a little surprising. The Department should be listed because of its statutory responsibilities for marine mammals and threatened species. We suggest that this matter should be covered in a submission.

Partial Wreck Recovery

We outlined in Section 2.2 some concerns about the exact nature and timing of the PWR. Although we recognise that there are practical difficulties in prescribing the activity in detail we consider that there should be some relevant conditions imposed.

The EPA review raises concerns about efforts to recover the copper clove if at all possible and its timing relative to any consent being granted or expiring (after say 10 years as proposed or longer). The EPA and DOC have similar concerns/queries in relation to the plastic beads and we agree that these matters should be clarified, because of the ecological risks involved. The LOC report also considers that the Trust's commitments to recover wire coils from the debris field and reduce the entanglement danger to recreational divers should be subject to conditions. Conditions also need to be considered in respect of the proposals to *"remove where practicable"* the aluminium ingots, organic material, TCCA and other products mentioned in the AEE (see AEE Executive Summary page iii).

Shoreline Debris Management Plan, Wreck Access Plan & Restoration & Mitigation Package

The AEE's suggested conditions on these matters are very general and as outlined earlier would need considerable refinement by the Council to be of an enforceable nature. The conditions as they stand do not adequately cover administration of the package (fund) by the applicant/consent holder and its monitoring/review by the Council.

4.6 Preliminary Findings

In summary, our preliminary findings regarding effects are:

- The assessments in the AEE are not as clear as could be expected, especially those relating to contaminant discharges;
- Different descriptors of the level of effects add to the lack of clarity;
- Some proposed mitigation measures are not clearly linked to the assessment findings;
- Crown experts are critical of proposed risk management related to -
  - Antifoulant paint discharges.
  - The remaining cargo, especially the copper clove and plastic beads.
  - Recreational divers.
- The principals and expected extent of the Restoration and Mitigation package appear generally acceptable;
- Contingency actions linked to the draft Monitoring Plan are considered vague;
- Deficiencies in the draft Monitoring Plan can be rectified through more robust consent conditions, including conditions related to content, oversight and approval;
- The focus of the draft Monitoring Plan on kaimoana ignores the wider perspective that iwi, hapu, and whanau interests would have;
- The Shoreline Debris Management Pan appears generally acceptable;
- Consent conditions suggested by the applicant retain an unusual level of discretion to the consent holder, and go beyond could reasonably be expected under s127 or s128 of the RMA; and
- Persons monitoring and reporting effects will need to be suitably qualified.

5 POLICY STATEMENT & PLAN ASSESSMENT

5.1 Section 104 Considerations

Section 7.1 of the AEE sets out the policy framework surrounding the application. All of the relevant RMA provisions are cited, as are the key provisions in the underlying planning instruments, notably the NZ Coastal Policy Statement (NZCPS), the Bay of Plenty Regional Policy Statement (RPS) and the Bay of Plenty Regional Coastal Environment Plan (RCEP). The AEE also refers to the Motiti Island Hapu Management Plan as a relevant other matter under Section 104(1)(c).

The AEE's section 104 assessment of the applicable plans has been prepared on a collective effects basis. All of the policies in the different plans have been assessed together rather than under a more typical individual policy statement or plan basis. This makes it harder to review the overall assessment in the context of each policy statement or plan and establish where possible inconsistencies may exist. The AEE sections also only contain comments on the relevant policy statement or plan provisions, rather than making a definitive assessment of whether the proposal has 'due regard' to them, in line with the section 104 requirements and associated case law.

The AEE has identified the relevant policies in an Appendix to the report (Appendix F), which is in line with Environment Court evidence preparation practice. This enables a more focussed assessment and makes reading easier. However it has resulted in some selective assessment and in a few areas policies appear to have been overlooked.

5.2 NZ Coastal Policy Statement

The NZCPS is referred to in all of the Section 7 effects based policy assessments, which cover water quality; natural character, natural features, and landscape; ecology, marine mammals, and avifauna; social; recreation; heritage; health and safety; Māori culture, and economics. In this regard the AEE assessment reasonably comprehensive and reasonably robust.

The AEE assessment refers to five (1-4 & 6) of the seven objectives and eleven (2, 4, 6, 11, 13-15, 17, 21 & 23) of the twenty nine policies in the NZCPS. Although the AEE does not explain why some of the objectives and policies have not been referred to, as indicated above we consider the assessment approach to be reasonably well set out and explained. However, as outlined below, we have concerns about two matters that have been overlooked.

Policies Not Assessed

Policy 1 - Extent and Characteristics of the Coastal Environment, is of a scene setting nature and in our view is directed mainly at the Council preparation of policy statements and plans. However it does serve as a reference point for all resource consent application reports and in this regard we would have expected it to have at least been mentioned in the AEE.

Policy 3 – Precautionary Approach, is much more relevant to the proposal, especially the contaminant discharge component, and we are surprised that it has been overlooked. The AEE acknowledges that the extent and nature of discharges from the cargo (some of which is not accounted for) and debris field are uncertain, and in some respects unknown. The DOC, EPA, LOC and NIWA reviews indicate that some of these discharges are little understood by the Trust and its advisors and that they are *"potentially significantly adverse"*. On this basis we consider that the NZCPS assessment is deficient and this matter should be addressed in a submission.

The DOC initial RMA review of the proposal covers the above matter in some detail, including possible linkages to Policy 1 (mentioned above) and Policy 13 (on preservation of natural character mentioned later). We generally agree with the points made in the DOC review.

Policies 5, 7, 8-10, 12, 16, 18-20, 22 and 24-29 cover matters that are not applicable to the proposal and we agree with the AEE approach of not assessing them.

Limited Policy Assessment

Policy 13 – Preservation of Natural Character, Policy 14 – Restoration of Natural Character and Policy 15 – Natural Features and Natural Landscapes, are assessed in the AEE, albeit in a fairly limited manner and more with reference to the related RPS and RCEP policies.

We have concerns, based on the findings of the Crown's review (by Isthmus), that part 1 of Policy 13 has not been given due regard in terms of removing material from the debris field and managing the further breakup of the wreck and

scattering of debris, so that the outstanding natural character of the reef is preserved and protected from inappropriate development and use. The proposed (limited) 10 year term of the consent is an important factor here.

We also have concerns that Policy 14 has not been given due regard. The view on page 62 that *"the proposal **promotes restoration** through allowing the natural regeneration to continue and enhancing habitat for indigenous species"* (emphasis added) is not shared. We are not aware of any particular natural character restoration measures being promoted in the Restoration & Mitigation Package, other than making funds available for such measures, if requested by the affected community.

Policy 23 – Discharge of Contaminants is briefly assessed in Section 7.2 – Water Quality and Section 7.3 – Ecology, Marine Mammals & Avifauna. Only clause (1) of Policy 23 NZCPS is applicable, and it simply requires that all parties have regard to certain things, with sub-clauses (d) (e) and (f) related to effects after reasonable mixing. Given the 'no more than minor effects' findings of the AEE and its technical reports, it is no unexpected that the AEE's policy assessment of these matters is also positive. However, some of the Crown review findings on these same matters are quite different to findings reported in the AEE. For that reason, we consider that inconsistency with these NZCPS policies could be raised in a submission.

In section 6.1 of our review, we provide further comment about the role of these policies in an assessment under section 5 of the RMA.

Objectives Not Assessed

Objective 5 relates to climate change and is of very limited relevance.

Objective 7 regarding international obligations is of more relevance, especially as Section 7.11 – Other Matters, assesses the proposal against the Nairobi International Convention on the Removal of Wrecks (2007), because it is considered a relevant other matter under section 104(1) of the RMA. As such the AEE's assessment of the NZCPS should have covered Objective 7. We have not read the Nairobi convention in any depth and assessed whether it, and more importantly Objective 7, are met. However, we do note that the convention only comes into force in April 2015, and New Zealand is not yet a signatory, so there is no direct statutory relevance.

5.3 Regional Policy Statement

The Council has in place an operative RPS, along with a proposed RPS and a variation (No.1). All are referred to in the Section 7 effects based policy assessments. Most weight is placed on the operative RPS, as is to be expected.

Operative RPS

The AEE assessment appears to refer to all of the relevant objectives and policies in the operative RPS. The assessment is very brief and generally in the description part of the introductory table of each topic. More detailed assessments are provided in the ensuing comments parts of the Heritage and Health and Safety.

The lack of any explicit analysis of the several objectives and policies on Water Quality, and Ecology, Marine Mammals, and Avifauna is of concern. These sections simply contain two short sentences in the table. Although some of the ensuing comments could possibly be seen as policy analysis, their general nature (spread across four instruments) means that a thorough and integrated analysis is lacking.

Proposed RPS

The proposed RPS provisions are assessed in the sections on Natural Character, Natural Features, and Landscapes; Ecology, Marine Mammals, and Avifauna; Recreation; Heritage; and Māori Culture, where we agree they are applicable. We have not identified any particular assessment gaps. However as with the Operative RPS the analysis is hard to see and the brief findings are as expected in light of the 'no more than minor effects' assessments.

Variation No.1 – Coastal Policy

Variation 1 of the RCEP appears (at least in table from) to be only assessed in relation to Ecology, Marine Mammals, and Avifauna. However, these aspects are mentioned in the comments part of Natural Character, Natural Features, and Landscapes. The proposed classification of the Astrolabe Reef as an Outstanding Natural Character Area is explained, as is the state of the outstanding appeals/consent order. We have not investigated the current status of the appeal/consent order but if there are any underlying policy inconsistencies, this is a matter that could be included in the Crown's submission.

5.4 Regional Coastal Environment Plan

The AEE assessment refers to a number of objectives and policies in the operative RCEP. Like the RPS the assessment is brief and not strong on analysis as distinct from description and comments. We have not found any particular policy assessment gaps that could be the subject of a submission, except to the extent that there is no clear link made between these policies, the NZCPS, and part 2 of the RMA.

The RCEP provisions are consistent with the NZCPS. In particular, we note RCEP Policy 9.2.3(b) which states that *"discharges **must not** have significant adverse effects on aquatic life …"*. This is consistent with NZCPS Policy 23(d) on Discharge of Contaminants which is to *"**avoid** significant adverse effects on ecosystems and habitats after reasonable mixing."* [emphasis added in both cases].

The Crown reviews prepared as background to our report were completed before public notification of the Proposed Bay of Plenty Regional Coastal Environment Plan (RCEP). The RCEP was publicly notified on 24 June 2014. Due to timing, our own review has also been made in the absence of analysing the proposed RCEP provisions. The nature of the proposed RCEP is likely to be a factor which influences any submissions made by the Crown, or the nature of the Crown's views expressed in any subsequent process.

6 RMA ASSESSMENT

The applicant has provided an overall statutory assessment in Chapter 7 of the application. The main approach of the chapter is to discuss Part 2 matters within an issues framework. That is, the issue headings of water quality, natural character, ecology, social, recreation, heritage, health and safety, Māori culture, and economics are used to frame the Part 2 assessment.

The approach has merit in demonstrating the links between Part 2 of the Act and the objectives and policies of other documents. However, it is not the clearest way of forming or expressing an assessment relevant to Part 2. In particular, the assessment does not set out integrated conclusions about each of the Part 2 matters. We comment further about this issue in the sections below.

6.1 Section 5 – Purpose

A typical approach to an assessment under section 5 of the RMA is to first complete assessments under sections 6, 7 and 8. Once that is done, an informed overall judgement about sustainable management can be made. The AEE includes commentary on section 5 RMA (7.1.2 of the AEE), and its inferred conclusion is that the Act's sustainable management purpose will be met. The reasoning that we infer from references to s5 in the AEE issues framework includes:

- The social impacts will either be minor or positive, thereby providing for social well-being [s5(2)];
- There is a low risk from hazardous substances or materials on the seabed, thereby providing for health and safety of reef users [s5(2)];
- There will be positive benefits associated with tourism, fishing and removal of the exclusion zone, thereby providing for economic well-being [s5(2)];
- There are cultural effects on Māori, but these have been taken into account in the proposed mitigation measures, thereby providing for cultural well-being [s5(2)];
- There will be no significant effects on the life supporting capacity of air, water, soil and ecosystems [s5(2)(b)]; and
- Any potential adverse effects that cannot be avoided will be mitigated [s5(2)(c)].

The AEE section 5 assessment makes no obvious reference to s5(2)(a) – sustaining the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations. It is likely that the AEE authors thought that being consistent with s5(2)(a) was implicit in the judgement expressed on other parts of section 5.

Although not clearly expressed (especially given the significance of the proposal) we consider this to be a typical overall broad judgement. However, as noted elsewhere in our review, we differ in our conclusions around risks and effects, and would therefore differ in the outcomes of an overall broad judgement. In addition, we consider that the overall broad judgement approach, while correct, may require more significant weight to be placed on specific NZCPS policies. The question of NZCPS weight is discussed in the following paragraphs.

The Supreme Court's King Salmon decision has highlighted NZCPS policies that use directive words such as "avoid". In the context of that case, which related to a plan change, those policies were considered to provide a strong direction – meaning that they are not merely relevant considerations in an overall broad judgement. Being a plan change, the planning document and decision were required to "give effect to" the NZCPS. However, we note that the situation for a resource consent application is different, because s104 only requires that decisions "have regard to" the NZCPS.

The recent KPF Investments judgement of the Environment Court[4], which *was* for a resource consent, acknowledged the approach taken by the Supreme Court and noted [para 215] that for a resource consent *"the directive 'must have regard to' is not to be elevated to mean 'must give effect to', …"*. However, the Court also noted that in applying a broad overall judgement *"the weight to be given to relevant considerations must be carefully allocated by reference to both the strong directions in sections 6 to 8 and to any particularisation of those in statutory instruments from national policy statements down to district plans"*. We take this to mean that matters covered by relevant NZCPS policies can and should be given added and specific weight – especially where they intersect with matters covered by Part 2 of the Act. This is a point we also note in 6.2 below.

[4] KPF Investments Limited, Environment Court Decision [2014] NZEnvC 152, issued 2 July 2014

Having regard to these recent decisions from the Courts, we think that three relevant NZCPS policies would weigh strongly against granting consent – although they would not be the only factors in an overall judgement. Those policies are:

- Policy 13(1)(a) on Preservation of Natural Character – Avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character.
- Policy 15(a) on Natural Features and Natural Landscapes – Avoid adverse effects of activities on outstanding natural features and outstanding natural landscapes in the coastal environment.
- Policy 23(d) on Discharge of Contaminants – Avoid significant adverse effects on ecosystems and habitats after reasonable mixing.

As such, a consideration of these NZCPS policies would be integral to and significant within the broad judgement contemplated by Part 2 of the Act. The application does not provide an analysis of the NZCPS policies in relation to a Part 2 assessment, although it does list them in Appendix F – Statutory Provisions. It also notes them as relevant in several of the assessment tables set out in Chapter 7.

With regard to outstanding natural character, features and landscapes, we note that the Astrolabe Reef is listed in the third schedule of the RCEP as an Area of Significant Conservation Value (ASCV). The RCEP (section 5.1) states that *"known off-shore sub-tidal landscapes of significance to recreational divers are identified in the Third Schedule – Areas of Significant Conservation Value."* We therefore conclude that NZCPS policies 13(1)(a) and 15(a) are directly relevant to the Astrolabe Reef.

If the Rena had grounded in some other location that was not listed by the RCEP as a location with outstanding values, then a more general overall judgement approach might apply. However, given the relevance of these specific NZCPS policies in this particular location, we consider that they are 'particularised' and that their consequent weight within a Part 2 assessment may make it more difficult for the Court to grant consent.

6.2 Section 6 – Matters of National Importance

The applicant has correctly identified that all of section 6 is potentially relevant to considering the application. In making its assessment the applicant has identified the following relationships between the issues framework and specific clauses of section 6. Our review identifies where we consider there are gaps, and these are highlighted in the table below.

Section 6 Clauses		
Issue	**Identified by applicant**	**Gaps identified by our review**
Water quality	6(a) natural character 6(c) vegetation and habitat	6(e) culture and traditions 6(g) customary rights
Natural character	6(a) natural character 6(b) outstanding landscape	6(e) culture and traditions
Ecology	6(a) natural character 6(c) vegetation and habitat	6(e) culture and traditions 6(g) customary rights
Recreation	6(d) public access	
Heritage	6(f) historic heritage	
Māori culture	6(e) culture and traditions 6(g) customary rights	6(a) natural character 6(b) outstanding landscape 6(c) vegetation and habitat

Our main criticisms of the applicant's assessment under section 6 are:

- Ignoring the risk of future significant discharges (mass release of copper clove) affecting water quality, which in turn may impact adversely on natural character [s6(a)], especially through possible damage to algae and seaweed [s6(c)];

- A lack of acknowledgement that the presence of the wreck would impact on natural character (including outstanding landscape) values held by tāngata whenua [s6(e)];
- Failure to correctly note the ecological risks posed by a mass release of copper clove, and the impact that may have on indigenous vegetation [s6(c)]. If these effects occur, then there may be consequential impacts on the relationship of Māori to the water and associated kaimoana, including on the harvesting of resources provided by the reef [s6(e) and s6(g)];
- Misrepresentation of public access issues, by raising the spectre of delayed public access to the reef if full removal was undertaken; and
- Failure to clearly couch the assessment in terms that reflect the need to "recognise and provide for" the various matters, including "preservation", "protection", and "maintenance and enhancement".

Our criticism is not simply about the style of the assessment. We think that in splitting the assessment between the different issue areas, the applicant fails to achieve the level of integration that is required in a section 6 assessment. In particular, the lack of analysis in relation to "recognise and provide for", "preservation", "protection", and "maintenance and enhancement" avoids addressing the imperatives of this section of the RMA.

Importantly, we also note that NZCPS policies 13(1)(a), 15(a) and 23(d) can be said to 'particularise' the assessment of s6(a), s6(b) and s6(c) – to the extent that they may provide added weight against the granting of consent.

6.3 Section 7 – Other Matters

Section 7 RMA requires that decision making "has particular regard to" the matters listed by the section. We think that this has occurred, to the extent that the AEE sets out an assessment of effects, and there are various technical reports that support the application.

6.4 Section 8 – Treaty of Waitangi

Section 8 RMA requires that the principles of the Treaty of Waitangi are taken into account. We think that this has occurred, to the extent that the applicant has consulted with tāngata whenua, prepared a cultural assessment, and incorporated specific Māori related aspects into the proposed restoration and mitigation package.

7 CONCLUSION AND RECOMMENDATIONS

7.1 Overall Conclusions

We have reviewed the application, and also drawn on the advice of Crown experts. Our conclusions are based on our professional understanding of:

- Good practice in the preparation of consent applications;
- Interpretation of relevant policy instruments; and
- Implementation of the Resource Management Act.

Our overall conclusions are that:

1. The application and its supporting documents are reasonably thorough in terms of the scope of issues addressed; but
2. Some potentially negative effects have either been ignored or downplayed; and
3. Some relevant policy guidance has either been ignored or downplayed.

In addition, subject to review of the following points by Crown Law, we have some potentially significant concerns about procedural issues being:

1. The use of s15A and s15B instead of s12 and s15 as the foundation for requiring consent;
2. The potential inability to seek consent for dumping/discharge of hazardous substances, as dumping is a prohibited activity under the RCEP; and
3. The need for a decision to be made under s107 as well as s104, thereby requiring the test of "exceptional circumstances" to be met before consent can be granted to some potential discharges.

7.2 Recommendations

Subject to advice from Crown Law regarding the matters referred to in section 3 of our report (resource consent triggers), we recommend that the Crown consider preparing submissions related to the following matters:

1. Seeking clarity about the timing of completion for Partial Wreck Removal. This matter is relevant to the proposed 10 year term sought for the consent.
2. Questioning the applicant's claim that there would be no discharges after 5 years.
3. Questioning the applicant's preference for Partial Wreck Removal, given the finding of Crown experts that risks associated with Full Wreck Removal may be overstated.
4. Raising the procedural issues related to the use of section 15A and 15 of the RMA, reflecting our concerns that these sections may not be applicable – based on the RMA and Maritime Transport Act definitions of "ship".
5. Raising the procedural issue of whether applying for the discharge of some substances may not be possible, due to the existence of a regional rule which prohibits dumping of hazardous substances.
6. Raising the procedural issue of whether section 107 RMA should be part of considering the application, and the related issue of whether the application meets the s107 test of "exceptional circumstances".
7. Noting that the applicant's assessment may not encompass a sufficiently wide assessment of effects on natural character.
8. Noting that the applicant's assessment may not sufficiently acknowledge all of the values held by tāngata whenua with respect to the reef.
9. Questioning the applicant's methodology for assessing the likelihood of antifoulant paint discharges from the hull.
10. Questioning the assessment of risks related to management of the remaining cargo, especially the copper clove, and plastic beads.
11. Questioning the assumed risks to recreational divers and the future management of this activity.

12. Questioning the applicant's assumptions that appropriate zones of reasonable mixing can be established for all contaminant discharges.
13. Seeking, in consent conditions and associated management plans, greater recognition of the statutory role of the Department of Conservation – especially with regard to the Department's responsibilities for marine mammals.
14. Seeking, in consent conditions and associated management plans, greater specificity related to targeted monitoring methods, and reporting.
15. Seeking, in consent conditions and associated management plans, better monitoring and management of adverse effects on seabirds (principally from ingestion of plastic beads).
16. Seeking, in consent conditions and associated management plans, an improved seabed sampling methodology.
17. Seeking, in consent conditions and associated management plans, the adoption of a precautionary approach as set out by Policy 3 of the NZ Coastal Policy Statement.

APPENDIX 1 – EXAMPLE RISK ASSESSMENT

Some of the technical and consenting considerations related to contaminants associated with the wreck are closely linked to the assessment of qualitative risk. As an example of summarising risk questions, we have adapted an analysis framework set out by the International Tanker Owners Pollution Federation[5]. Under that framework, two key questions are:

- What is the likelihood of contaminants or harmful substances be released into the marine environment?

And if so:

- What will be the likely consequences of such a release?

A related question is: would the risks/costs of removal of the contaminants be proportionate to the risks/costs of leaving the contaminants in place?

To address such questions, there are international criteria [6]capable of being adapted to provide guidance. The criteria (adapted by us) are:

- The quantity and characteristics of the substances remaining in the wreck and the likelihood that any would be released;
- The vulnerability of areas likely to be affected by any such release either in terms economic, environmental or cultural impact;
- The feasibility of the removal operation, and the likelihood of success taking into account the risks of the removal; and
- The cost of the operations, especially in relationship to the likely pollution damage (and costs thereof) which would have resulted from the release of the remaining substances from the wreck.

Questions and criteria such as these could be used to guide the ultimate decision making process. An appreciation of these matters could also be used to guide the Crown in considering whether or not to lodge a submission and, if it does, what the submission should address.

The following example refers to the cargo of copper clove assumed to still be contained in Hold 6 of the wreck. Please note that this example is only for the purpose of demonstrating how the assessment framework might work.

Questions	**Conclusions**
Will contaminants or harmful substances be released into the marine environment?	A small quantity of copper clove has already been released. There is a risk that during breakup of the wreck – related to either storm events or wreck removal activities, the remainder could be released.
What will be the likely consequences of such a release?	Copper clove can release soluble copper into the water column, but it principle likely effect is to contaminate marine sediments. Contaminated sediments would be highly toxic for algae and seaweed.
Criteria	**Conclusions**
Would the risks/costs of removal of the contaminants be proportionate to the risks/costs of leaving the contaminants in place?	If there was a mass release of copper clove, there could be a significant area of marine sediment contaminated. It would be costly / impossible to remove. If the copper clove currently contained within the wreck was to be removed, it would require a targeted salvage operation that would be costly, and could be dangerous for the divers involved in the work.

[5] *Weighing up the risks and costs,* Maritime Risk International (July/August 2009), Hugh Parker - International Tanker Owners Pollution Federation

[6] *Claims Manual*, International Oil Pollution Fund, 2008

The quantity and characteristics of the substances remaining in the wreck and the likelihood that any would be released	A significant (in terms of potential effects) quantity of copper clove remains in the wreck. It could be released if the wreck breaks up during storm events.
The vulnerability of areas likely to be affected by any such release either in terms economic, environmental or cultural impact	Astrolabe Reef is identified by the RCEP as an area of outstanding natural character. It is home to seal, fish and plant communities, and also has cultural values for tāngata whenua. The reef is relatively small compared to the potential effects that might arise from a mass release of copper clove that would affect water quality (initially) and seabed sediments (in the longer term).
The feasibility of the removal operation, and the likelihood of success taking into account the risks of the removal operation itself	Etc.
The cost of the operations, especially in relationship to the likely pollution damage (and costs thereof) which would have resulted from the release of the remaining substances from the wreck	Etc.

APPENDIX 2 – LIST OF RELEVANT REPORTS

Topic	AEE Technical Report	Related Crown Review
Water Quality and Ecotoxicity	Cawthron Institute	Department of Conservation NIWA
Coastal Processes	MetOcean Solutions Ltd	NIWA
Natural Character	Beca Ltd	Isthmus
Ecology and Fisheries	Bioresearches Ltd	Department of Conservation
Antifouling Paint	Safinah Ltd	EPA
Marine Mammals	Cawthron Institute	Blue Planet Marine
Acoustics	Marshall Day Acoustics	NIWA
Avifauna	Kessels Associates	Department of Conservation
Social Impact	Beca Ltd	Social and Environmental Limited
Recreation	R&R Consulting (NZ Ltd)	
Navigation Safety	Nigel Drake	LOC
Recreational Dive Safety	Oceanz Diving Ltd	LOC
Human Health	Environmental Medicine Ltd	Ministry of Health
Cultural Impact	Kahotea and Rolleston	Grant Young
Heritage	Subsurface Ltd.	Heritage New Zealand
RMA generalc	Beca ltd.	Department of Conservation

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