IN THE MATTER OF	The Resource Management Act 1991
AND	
IN THE MATTER OF	Application by South Port New Zealand Limited to drill, blast, break and remove rock, and dredge soft sediment from Bluff Harbour; and to discharge and deposit soft sediment and rock in the coastal marine area.

REPORT AND DECISION OF INDEPENDENT HEARING COMMISSIONERS

Sharon McGarry and Dr Rob Lieffering

31 August 2022

Heard on the 12-13 April 2022,
In the Council Chambers of Environment Southland,
corner of North Road and Price Street, Invercargill.

It is the decision of the Southland Regional Council, pursuant to sections 104B, and subject to Part 2 of the Resource Management Act 1991, to **GRANT** resource consent application APP-20211362 by South Port New Zealand Limited to to drill, blast, break and remove rock, and dredge soft sediment from Bluff Harbour; and to discharge and deposit soft sediment and rock in the coastal marine area for a consent term of five years, subject to the conditions set out in Appendix 1 of this decision.

Representations and Appearances

Applicant:

Mr Michael Garbett, Counsel, Anderson Lloyd

Mr Nigel Gear, Chief Executive, South Port New Zealand Limited

Mr Frank O'Boyle, Infrastructure Manager, South Port New Zealand Limited

Mr James Stewart, Geologist, Geosolve Limited

Mr Gary Teear, Engineer and Managing Director, Offshore & Coastal Engineering Limited

Ms Bryony Miller, Marine and Freshwater Ecologist and Technical Director, e3Scientific Limited

Dr Mathew Pine, Principal Consultant, Styles Group Acoustics and Vibration Consultants

Dr Simon Childerhouse, Senior Marine Scientist, Cawthron Institute

Dr Brent Stephenson, Biologist and Director, Eco-Vista: Photography & Research Limited

Mr Jon Styles, Acoustic Consultant and Director, Styles Group Acoustics and Vibration Consultants

Mr Simon Beale, Planner and Terrestrial Ecologist, Beale Consultants Limited

Tabled statement of evidence

Mr Mike Moore, Principal, Mike Moore Landscape Architects

Submitters:

Matariki Forests Trading Limited and Avatimber Limited Partnership

- Represented by Mr Chris Rayes

Section 42A Reporting Officer:

Mr Hamish Peacock, Technical Director (RMA/Environmental Planning), Pattle Delamore Partners Limited

Section 42A Technical Reviewers:

- **Mr Derek Todd**, Principal Coastal and Hazards Scientist, Jacobs New Zealand
- **Mr Andrew Smith**, Technical Director (Engineering Geology), Pattle Delamore Partners Limited
- **Mr Steve White**, Principal Ecologist, Ecology New Zealand Limited

BACKGROUND AND PROCEDURAL MATTERS

1. This is the report and decision of independent Hearing Commissioners Ms Sharon McGarry (Chair) and Dr Rob Lieffering. We were delegated[1] the necessary functions and powers by the Environment Southland (**ES** or **the Council**) to hear and decide an application by South Port New Zealand Limited (**South Port** or **the Applicant**) pursuant to the Resource Management Act 1991 (**RMA** or **the Act**) for resource consents to to drill, blast, break and remove rock, and dredge soft sediment from Bluff Harbour; and to discharge and deposit soft sediment and rock in the coastal marine area (**the application**). The application is referenced by the Council as APP-20211362 and is referred to as project Kia Whakaū by South Port.

2. The application was lodged on 10 September 2021[2].

3. The Council requested further information under section 92 of the Act on 14 September 2021. The Applicant provided a draft response to the further information request on 5 November 2021.

4. A workshop with Council staff, its consultants, and the Applicant and its consultants was held on 15 November 2021 to discuss the section 92 request. Following this workshop, the Applicant provided its finalised section 92 response on 1 December 2021.

5. The application was publicly notified on 11 December 2021. A total of nine submissions were received. Seven submissions were in support and two were in opposition to the application, with four submitters indicating they wished to be heard.

6. Prior to the hearing, a report was produced pursuant to section 42A of the Act (**the s42A Report**) by the Council's Reporting Officer, Mr Hamish Peacock, a Technical Director with Pattle Delamore Partners Limited. The s42A Report provided an analysis of the matters requiring consideration and included technical reviews of the application by Mr Derek Todd (Appendix A - relating to coastal processes), Mr Steve White (Appendix B - relating to coastal ecology), and Mr Andrew Smith (Appendix C - relating to coastal/marine geology). The s42A Report highlighted a number of matters which these reviewers considered should be addressed by the Applicant and recommended that the application could be granted, subject to conditions.

7. The s42A Report and the Applicant's evidence were pre-circulated prior to the hearing in accordance with section 103B of the Act. This evidence was pre-read by us prior to the hearing and was 'taken as read' at the hearing.

8. Prior to the commencement of the hearing, we received letters from the Director of General of Conservation (dated 31 March 2022) and Forest & Bird (dated 31 March 2022)

[1] RMA section 34A
[2] An earlier application lodged in 2020 was returned as incomplete under section 88 of the RMA.

advising the withdrawal of their requests to be heard. Importantly, the submissions themselves remain live and we have considered them in making our decision.

9. We undertook a preliminary site visit on 11 April 2022 prior to the hearing. We undertook a further site visit of the Island Harbour and channel area following the adjournment of the hearing. We were escorted around the port area by Mr Jamie May, Business Development Manager for South Port and wish to thank South Port for providing this assistance. We record here that Mr May was not involved in the hearing.

10. The hearing commenced at 9:00 am on 12 April 2022 and evidence was heard over the course of two days. The hearing was adjourned at 3:00 pm on the second day to enable the Applicant to provide further information and a revised set of proposed consent conditions addressing matters raised during the hearing.

11. Following the hearing adjournment, the Applicant requested processing of the application be suspended under section 91A of the Act to allow time for the preparation of further information, as agreed at the hearing.

12. Further information and a revised set of proposed consent conditions were provided by the Applicant on 8 July 2022 and was circulated to the parties.

13. We issued Minute #1 on 18 July 2022 requesting further information and clarification on matters contained in the material provided by the Applicant on 8 July 2022.

14. We received responses from the Applicant to our Minute #1 on 27 July 2022 and issued Minute #2 on 29 July 2022 in which we requested further clarification on matters and asked the Council to comment on the Applicant's revised set of proposed conditions and set out the timeframe for the Applicant's written right of reply to be provided.

15. We received the Council's comments on condition on 5 August 2022 and the Applicant's written right of reply and its final set of proposed consent conditions on 10 August 2022.

16. We closed the hearing on 17 August 2022.

THE APPLICATION

17. A summary of the application, background to the application, and a description of the activity were provided in the s42A Report and should be read in conjunction with this decision. We adopt these[3] for the purposes of our decision.

18. In summary, the application seeks to undertake capital dredging of Bluff Harbour to enable vessels to operate more efficiently by increasing the maximum vessel draft, which will enable vessels to carry more cargo. The proposal will also lead to improved navigational safety to vessels visiting and leaving South Port. The proposal involves:

[3] As provided for in s113(3) of the Act.

- Dredging of soft sediment from the swinging basin and from Island Harbour berth basins 3 to 8 to a target depth of 10.7 metres (**m**) chart datum (**CD**)[4] in the basins and 9.45 m CD in the swinging basin;
- Rock breaking, drilling, blasting, and dredging (removal) of rock material from rock outcrops within the harbour entrance channel and its margins to achieve a target depth of 9.7 m CD; and
- Deposition of dredged soft sediments and fragmented rock at two disposal sites located in Foveaux Strait offshore of Tiwai Peninsula.

19. The application seeks a five-year term for the consents sought and a consent lapse date of 31 December 2031.

DESCRIPTION OF THE ENVIRONMENT

20. The application documentation and s42A Report accurately described the affected environment and we adopt these descriptions for the purposes of our decision.

21. Section 3.9 of the Regional Coastal Plan for Southland (**RCP**) sets out the coastal values of Bluff Harbour and Awarua Bay. It notes the harbour is well flushed and has high water quality, with few non-point source contaminants entering it. The RCP highlights the economic importance of the Island Harbour Wharf, the Tiwai Wharf, and the Town Wharf; and maintenance of the swinging basin area and channel at 9.2 m CD deep through dredging as required. It also notes the significant conservation value of Awarua Bay (including the unmodified large eel grass beds and maritime marsh adjoining the Waituna Wetlands Scientific Reserve and Tiwai Peninsula Conservation Land) and its importance to marine mammals, birds, flounder, and other marine species.

22. The RCP notes Bluff's heritage and archaeological values as the first permanent settlement in the South Island as a whaling base; and the significance of Ocean Beach as the home to Te Whera/Te Wera, a local Rangatira. The RCP also notes the natural character and landscape values, and recreation and amenity values.

23. A Cultural Impact Assessment (**CIA**) for the project was prepared by Te Ao Marama Incorporated and was appended to the application (as Appendix 16). The CIA sets out the cultural values, rights, and interests of Te Rūnanga o Awarua[5]; and the measures that can be implemented to mitigate effects on those values, rights, and interests.

THE HEARING – SUMMARY OF EVIDENCE

Applicant's Case

24. **Mr Michael Garbett**, Counsel with Anderson Lloyd, conducted the Applicant's case and provided legal submissions of behalf of South Port and called ten witnesses. Mr Garbett's submissions addressed the statutory assessment, application of the permitted baseline, written approval from Te Rūnanga o Awarua, the effects assessment, Part 2 of the Act, the assessment of alternatives, the need for the proposal, other relevant legislation, conditions

[4] The depths specified refer to depths below CD.
[5] Also sometimes referred to as Awarua Rūnanga.

of consent, little penguins, and consent lapse date and term. He concluded the project would avoid significant adverse environmental effects and enable improved efficiency and navigational safety; and that, in RMA terms, it was a meritorious proposal to approve. In response to questions, he acknowledged that under Policy 11 of the New Zealand Coastal Policy Statement 2010 (**NZCPS**) adverse effects would need to be avoided on threatened or at risk species and threatened or naturally rare indigenous ecosystems.

25. **Mr Nigel Gear**, Chief Executive of South Port, provided a written statement of evidence and attended the hearing to answer questions. Mr Gear's evidence outlined the background of the company, project Kia Whakaū, environmental benefits, economic benefits, health and safety benefits, the relationship with Te Rūnanga o Awarua, the importance of ports, and responses to matters contained in the s42A Report. He noted that South Port employs 103 full time staff and handles in excess of 3.5 million tonnes of cargo per annum across its wharves. He stated a well-resourced and appropriately designed port future-proofs and supports regional growth. He highlighted the environmental and economic benefits that would occur due to fewer ship movements (through enabling fully laden vessel movements), reduced transportation costs, opportunities for new industries, and significant health and safety benefits. He noted that cargo volumes had increased through increases in vessel numbers but that this was not very efficient and would level off due to berth restrictions without the project.

26. **Mr Frank O'Boyle**, Infrastructure Manager of South Port, provided a written statement of evidence and attended the hearing to answer questions. Mr O'Boyle noted that the current draft of the port is posted at 9.7 m CD and the proposed target draft would be 10.7 m CD. His Figure 2 showed the scope of the proposed dredging to remove soft sediments with a trailing suction hopper dredge (**TSHD**) in the swinging basin and berth pockets; and the channel area where rock will be drilled and blasted to remove high spots. He outlined previous capital and maintenance dredging operations, including the 1979-80 drill and blast campaign. He noted South Port's deemed coastal permit permitted maintenance of the channel to 10.24 m CD (0.54 m deeper than currently posted). He explained a specialist backhoe dredging barge fitted with spuds would be used to remove the soft sediment and existing fractured rock in the channel before the proposed drilling and blasting would occur. He outlined alternative locations for disposal of the soft sediment and rock. In response to questions, he confirmed that the maximum dredge volumes sought included material removed from the entire identified dredge area, including both the maintenance and capital dredging, and the volumes included an allowance for 'over-dredging'.

27. **Mr James Stewart**, a Geologist with Geosolve Limited, provided a written statement of evidence and attended the hearing to answer questions. Mr Stewart's evidence outlined the wider geological setting of Bluff Harbour, the geology and geotechnical conditions of Bluff Harbour, the slope stability of the proposed rock cuts, and geotechnical considerations and recommendations for drilling, blasting, and dredging operations within the entrance channel. He concluded that the relatively low heights of the proposed rock cuts resulting from the drilling, blasting and dredging operations were technically feasible from a geotechnical perspective. He considered no notable geotechnical issues were expected to arise provided the effects of vibration and noise from blasting operations were addressed.

28. **Mr Gary Teear,** Engineer and Managing Director with Offshore & Coastal Engineering Limited (**OCEL**), provided a written statement of evidence and attended the hearing to answer questions. Mr Teear had prepared three reports that were appended to the consent application – 'Bluff Harbour Entrance Drilling, Blasting and Dredging Methodology' dated November 2021 (Appendix 3); 'Bluff Harbour Entrance Blasting – Effects of Underwater Explosions, Shockwaves, Vibration & Noise' dated February 2021 (Appendix 4); and 'Bluff Harbour Dredging – Coastal Processes Assessment' dated November 2021 (Appendix 5). His evidence addressed blasting techniques, the effects of underwater explosions (noise, vibration and blast wave effects), and the effects on coastal process from dredging and the disposal of the dredge material. He used empirical equations to calculate peak pressure and impulse (as a measure of explosion severity) and noted the peak pressure sets the minimum distance to the permanent injury thresholds. He calculated the peak particle velocity (**PPV**) to assess the potential structural damage from vibrations. He concluded the calculated PPV value was well within the German Standard DIN 4150-3 1999 for dwellings. He stated all trial blasts would be monitored by seismographs placed adjacent to the nearest structure to the blast, which would enable site specific vibration parameters to be determined and to check the PPV was within the limits of DIN 4150-3. He noted effects could be mitigated by charge size, numbers of drill holes (charges), drill hole depths, and using delays. He stated the underwater shock wave for blasts could be monitored by placing a hydrophone at the boundary of the zone for permanent threshold shift (**PTS**) for the most sensitive species. He concluded the proposed dredging and disposal would have no noticeable effect on existing coastal processes provided the dredge material is uniformly disposed of over the disposal areas. He considered any adverse effect on beaches to the east of the harbour entrance would be countered by the beach nourishment effect.

29. **Ms Bryony Miller**, a Marine and Freshwater Ecologist and Technical Director with e3Scientific Limited, provided a written statement of evidence and attended the hearing to answer questions. Ms Miller had prepared two reports appended to the consent application entitled 'South Port Capital Dredging Assessment of Marine Environmental Effects' dated November 2021 (Appendix 6) and 'South Port Capital Dredging Adaptive Marine Management Plan' dated November 2021 (Appendix 7). Ms Miller's evidence addressed the marine environmental effects of the proposal and the adaptive management plan strategies. She noted that the effects on marine species (excluding marine mammals and seabirds) would primarily be avoided by ensuring the works did not occur during the peak seasons marine species utilise the harbour (i.e., the warmer summer months), avoiding works occurring during peak feeding times at dawn and dusk; and the implementation of mitigation strategies during blasting including use of Marine Fauna Observers (**MFO**), warning blasts, soft starts, and an acoustic harassment device (**AHD**). She considered a 'conservative' mortality zone of 85 m for the highest energy blast reduced the likelihood of adverse impacts. She concluded the likelihood of mobilised sediments and low-level contaminants being transported in the water column to high ecological value habitats within the inner Bluff Harbour, such as Awarua Bay and nearby seagrass habitats, at concentrations of ecological concern was 'small and less than minor', but also that these potential effects would be avoided by only dredging soft sediments on an ebb tide. Ms Miller stated soft sediment dredging would be further restricted to the months of April through July[6] to avoid seagrass flowering and seabird breeding seasons. She outlined real-

[6] Later changed to March to September.

time the adaptive management approach that was proposed to be used based on ecological receptor-based turbidity monitoring and associated tiered trigger levels with a series of management responses. She stated turbidity meters would be placed near sensitive habitats (i.e., near seagrass habitat and at the eastern edge of Motupōhue mātaitai) to verify that water quality remains within the expected range, by using turbidity as a proxy for light availability. In relation to adverse effects from the disposal of dredge sediment and rock, she concluded any water quality impacts would be 'less than minor' and there would be no statistically significant changes between pre- and post- dredge deposition infauna communities.

30. **Dr Mathew Pine**, a Principal Consultant with Styles Group Acoustics and Vibration Consultants, provided a written statement of evidence and attended the hearing to answer questions. Dr Pine's evidence assessed the potential underwater noise and the impact zones using overseas standards and technical guidance from international research. Dr Pine also prepared a report appended to the consent application entitled 'Physiological Effects on Marine Mammals and Fish – Confined Blasting and Rock Drilling Bluff Harbour Channel' dated 20 November 2020 (Appendix 11). Dr Pine predicted noise emissions from three blasting scenarios and determined the impact zones for injury (permanent threshold shifts (PTS)) and behavioural changes (temporary threshold shifts (**TTS**)) for four functional hearing groups of marine mammals[7], shown in Table 1 of his evidence. He predicted the lethal range applicable to fishes for the three scenarios, which result in a maximum range of 85 m. He predicted the impact zone for PTS and TTS from an operating rock breaker in Table of 2 of his evidence. He concluded rock drilling would not induce PTS or TTS effects in marine mammals and no mortality in fishes; blasting would pose risks of PTS up to 841 m away (for high- frequency cetaceans, including Hector's dolphin) and TTS effects up to 2,001 m away (for low frequency cetaceans, including humpback and Southern right whales); rock breaking would pose a risk of both PTS and TTS effects in marine mammals within a maximum range of 1,008 m; and there was a risk of fish mortality within 85 m of blasting and within 10 m of rock breaking.

31. **Dr Simon Childerhouse**, a Senior Marine Scientist with the Cawthron Institute, provided a written statement of evidence and attended the hearing to answer questions. Dr Childerhouse also prepared two documents appended to the consent application entitled 'South Port Bluff Harbour Capital Dredging Project Assessment of Environmental Effects – Marine Mammals' Report No. 3618 dated 24 November 2021 (Appendix 8) and 'South Port Bluff Harbour Capital Dredging Project – Marine Mammal Management Plan' Report No. 3619 dated 24 November 2021 (Appendix 9). His evidence described the known residency, migratory, and seasonal patterns of marine mammals in the Bluff Harbour area and wider Southland region; reviewed the available literature to describe the potential effects of the project; summarised the overall risk of potential effects; and recommended options for possible mitigation and monitoring. He considered the species most likely to be affected by the proposal were Hector's dolphin, Southern right whales, bottlenose dolphins, New Zealand fur seals, New Zealand sea lions, humpback whales, and killer whales. He noted there was no evidence indicating that any of these species have home ranges restricted to Bluff Harbour and little evidence that it is significant in terms of feeding, resting, or breeding

[7] Low-frequency, mid-frequency and high-frequency cetaceans (whales, dolphins and porpoises), and Otariid pinnipeds (eared seal and sea lion).

habitats relative to Foveaux Strait and other reasons. He concluded the overall adverse effects for the proposed dredging, drilling, blasting, rock breaking, and disposal operations on marine mammal species were less than minor with implementation of the recommended mitigation actions, except for habitat exclusion/displacement from underwater noise from blasting activities which had a residual risk assessed as minor. He considered the Marine Mammal Management Plan (**MMMP**) outlined best management practices, mitigation actions, and monitoring to ensure any residual risk to marine mammals was low or avoided.

32. **Dr Brent Stephenson**, a Biologist and Director with Eco-Vista: Photography & Research Limited, provided a written statement of evidence and attended the hearing to answer questions. Dr Stephenson also prepared a report appended to the consent application entitled 'Survey and Assessment of Avian Values: Bluff Harbour Capital Dredging Project' dated 26 November 2021 (Appendix 13). Dr Stephenson's evidence included a desktop assessment of the avian values of Bluff Harbour, the results of an observation survey conducted in February 2021, an assessment of species of importance, an assessment of the effects and risks to birds, and risk reduction and mitigation techniques for minimising impacts to birds. He compiled a list of 155 avian species, including 10 species which have a threat status that overlap with the proposed work area. His assessment focussed on these 10 species (five gulls/terns, four cormorants, and the little penguin) as 'priority species'. He noted potential adverse effects included disturbance to breeding, feeding or roosting of birds nearby; decreased food availability from sediment plumes or a reduction in available habitat; and injury or mortality from rock breaking or blasting if they were too close. He considered the areas affected were small parts of potential foraging areas and therefore deemed minor. He stated elevated noise (above and below water) may impact little penguin breeding and deter breeding in burrows close to the works but considered this unlikely given the current noise environment and operation of the road and port. He noted there were other safe alternative breeding sites nearby for little penguins and that the timing of the works would be outside the key breeding period of October to December when chicks were being raised. He noted any PTS in hearing from rock breaking or blasting would occur in birds in or under the water within 11 m for rock breaking and 107 m for blasting. He concluded the proposed risk reduction and mitigation strategies, including the timing of the works, use of a MFO, soft starts to blasting, and use of an AHD would lower the risk to bird to less than minor.

33. **Mr Jon Styles**, an Acoustic Consultant and Director with Styles Group Acoustics and Vibration Consultants, provided a written statement of evidence and attended the hearing to answer questions. Mr Styles also prepared a report appended to the consent application entitled 'Airbourne Noise Assessment – Capital Dredging Project Drilling, Blasting and Capital Dredging Works Bluff Harbour' dated 6 December 2021 (Appendix 12). Mr Style's evidence addressed the RCP and NZS 6803: 1999 Acoustics - Construction noise, predicted noise levels from the proposed activities, the basis for the proposed Project Noise Standards, effects from night-time backhoe dredging in the harbour channel, and matters raised in the s42A Report. He concluded noise levels from drilling activities and the TSHD dredging would comply with the relevant daytime noise limits; blasts events would comply with the NZS 6803 limits; and backhoe dredging would range from 45 decibels (dBA) L_{Aeq} to 50 dBA L_{Aeq} at the closest dwellings, depending on whether meteorological condition impede or assist propagation towards Bluff. He noted that the proposed Project Noise

Standards were consistent with timeframes and limits in NZS 6803, except for the night-time noise limit for the backhoe dredge operating in the harbour channel when meteorological conditions assist propagation where it is proposed to increase the limit to 50 dBA L_{eq}. He considered an adequate level of acoustic amenity would be achieved in the community and he expected no sleep disturbance or amenity issues would arise. He stated that the proposed conditions represented the best practicable option to manage and mitigate noise from the proposed activities.

34. **Mr Simon Beale,** a Planner and Terrestrial Ecologist for Beale Consultants Limited, prepared the application documents and provided a written statement of evidence. He attended the hearing to answer questions and prepared the proposed conditions of consent. Mr Beale's evidence addressed the background to the application, the proposal, the status of the application, the deemed coastal permit, term of consent, the coastal environment and effects of the proposal, stakeholder consultation, policy alignment, Part 2 of the RMA, submissions received, and the s42A Report. He noted the proposal would improve navigational safety and would increase efficiency by allowing vessels to be fully laden from Bluff. He concluded that, with the implementation of the proposed avoidance and mitigation measures, the overall adverse environmental effects would be minor or less than minor. He highlighted that South Port had consulted widely with affected parties, including Te Ao Marama, Te Rūnanga o Awarua, the Department of Conservation, Forest and Bird, the Bluff Community Board, local residents, marine farmers, and recreational boating organisations. He considered the proposal aligned with the NZCPS, the Southland Regional Policy Statement 2017 (**RPS**), the RCP, and Part 2 of the RMA.

35. **Mr Mike Moore**, a Principal with Mike Moore Landscape Architects, provided a written statement of evidence addressing natural character, landscape and visual effects but was excused from attending the hearing given we had no questions of him. Mr Moore also prepared a report appended to the consent application entitled 'Bluff Harbour Capital Dredging Project – Natural Character, Landscape and Visual Effects Assessment Report' dated 18 December 2020 (Appendix 10). His evidence concluded that the adverse effects of the proposed works on natural character would be low (minor) and on landscape and visual amenity effects would be very low (less than minor). He considered the proposed works were consistent with the statutory provisions relevant to natural character, landscape, and visual amenity effects.

Submitter

36. **Mr Chris Rayes** appeared at the hearing via Zoom on behalf of Matariki Forests Trading Limited and Avatimber Limited Partnership in support of application. He stated the proposal would remove the port's key constraint that prevented fully laden vessels directly servicing overseas markets. He noted the existing volatile freight market and the significant savings in freight costs from avoiding the need to top up loads at other ports. He also noted this would avoid current congestion issues at other ports; and delays and costs incurred when needing to top up loads. He highlighted the economic benefits to forest owners and other exporters and to the region.

Section 42A Report

37. The s42A Report set out a summary of the proposal, reasons for the proposal, further information requests, notification, submissions, statutory considerations, actual and potential effects, risk to the environment, a plan policy evaluation, adequacy of information, proposed conditions of consent, sections 105 and 107 of the RMA, bonds, Part 2 of the Act, and a recommendation to grant the application. It raised concerns in relation to the form of the written approval from Te Ao Marama, lack of baseline monitoring for setting turbidity trigger levels, uncertainty regarding the timeframe for recovery of the seabed and cumulative effects, the effectiveness of MFO[8] over the TTS and PTS zones, the need for a performance bond, the need for more rigour in the certification of management plans, alternative use of the hard rock, and the need for a more precautionary approach. The report noted the key risks related to timeframes to complete the capital dredging works, the risk of noise and vibration from blasting, ecological risks, and coastal process risks. It concluded that 'in the round' the proposal was consistent with the relevant objectives and policies of the plans, subject to avoiding adverse effects on yellow eyed penguin, Fiordland crested penguins and little penguins, and significant adverse effects on other habitats and ecosystems (NZCPS Policy 11). The report included recommended changes to the Applicant's proposed conditions to provide greater certainty and to set triggers, targets, or standards. It noted that the proposed adaptive management approach was inappropriate in the absence of more certain information.

38. Mr Peacock spoke to his s42A Report and discussed the key issues discussed in the hearing. He noted the existing coastal permit related to dredging and deposition activity; and noted there was very little monitoring required and no restriction on a maximum depth to a chart datum limit, only a volumetric limit. He considered imposition of a bond was appropriate in this case to incentivise good performance and completion of the project within the shortest possible timeframe. He remained concerned that ongoing maintenance dredging for up to 10 years before commencing capital dredging activities could result in adverse cumulative effects which had not been assessed. He considered there was less environmental risk if the proposed activities were completed within two years, more environmental risk if more than two years, and unacceptable environmental risk if not completed within five years. For this reason, he recommended a five-year lapse period. He remained concerned that there was insufficient information to support an adaptive management approach to water quality effects but considered there appeared to be a better path forward through better conditions to avoid adverse effects by imposing environmental bottom lines. He noted the proposed conditions require consultation with Te Rūnanga o Awarua and therefore made their written approval conditional.

39. **Mr Derek Todd**, a Principal Coastal and Hazards Scientist with Jacobs New Zealand, provided a technical review on the potential effects on coastal processes (dated 14 March 2022) on behalf of ES and appeared at the hearing via Zoom. Mr Todd's review confirmed the current and wave modelling undertaken was appropriate and he agreed key mitigation would be provided by only dredging sediment with a high silt content and discharging this material on an ebb tide. Overall, he agreed any adverse effects on coastal processes would be minor to negligible with the imposition of conditions and the Applicant complying with them. He recommended additional conditions to control disposal methodology to ensure

[8] Referred to in the s42A Report as Marine Mammal Observers (MMO) but this term was subsequently widened by the Applicant to be MFO.

dredge material is evenly distributed across the disposal sites and to check compliance. At the hearing, Mr Todd confirmed his remaining concerns could be addressed by amendments to the proposed conditions.

40. **Mr Andrew Smith** a Technical Director (Engineering Geology) with Pattle Delamore Partners Limited, provided a summary of the proposed works, programme of works technical review on the Applicant's geotechnical assessment report (dated March 2022) on behalf of ES and appeared at the hearing via Zoom. He highlighted that no site-specific data had been collected and would be collected during trial blasting. He noted uncertainties relating to rock strength could affect the assumptions made regarding the dredging techniques and the rock disposal area over the long-term. He noted the vibration and noise assessments were therefore conceptual and would need to be validated after blasting trials had been conducted. He noted no details had been provided on where seismographs and hydrophones would be positioned during trials. He considered the programme of works was likely to be optimistic given the likely use of diver charging and proposed timing restrictions. He noted no detail had been provided on how the blast area will be surveyed during works to ensure no shipping hazards were created in the channel after blasting. He also noted there had been no assessment of the stability of the material at the disposal site. At the hearing, Mr Smith confirmed that the identified gaps in the Applicant's assessment could be addressed through further revision of the proposed conditions.

41. **Mr Steve White**, a Principal Ecologist with Ecology New Zealand Limited, provided a technical review on the potential effects on coastal ecology (dated 22 March 2022) on behalf of ES and appeared at the hearing via Zoom. Mr White's review outlined the key components of coastal ecology within, and around, Bluff Harbour including bird habitat, seagrass beds, diverse benthic communities and fish, rocky reek habitat, sea birds, and marine mammals. He identified the little penguin as a species at risk of adverse effects as they breed in the harbour and transit the works area to forage. He outlined the key ecological effects including water turbidity effects, the distribution of contaminants, loss of benthic communities, disturbance, and displacement of marine species from underwater noise, temporary or permanent injury to marine species, loss of rocky reef habitat, smothering of benthic communities, and the introduction of unwanted marine organisms. Overall, he considered the monitoring programmes proposed were generally appropriate, but considered trigger levels for water clarity were required to avoid unacceptable impacts from any light reductions. He expressed concern regarding the ability of MFO to detect vulnerable sea birds such as the little penguin within the critical blast zone. He recommended specific surveys should be undertaken to locate and identify active little penguin nests, which would allow for the avoidance of impacts. He highlighted shortcomings in the biosecurity approach outlined by the Applicant and the need for further specific approaches. He recommended a number of changes to the proposed conditions to address uncertainty and provide clear, effects-based objectives and performance standards. He highlighted further clarity was needed in the MMMP with links to consent conditions.

42. At the hearing Mr White reiterated his concerns regarding cumulative effects, the adaptive management approach to monitoring water quality, effects on little penguin from displacement, the effectiveness of the use of MFO, and uncertainty related to the recolonisation of rocky reef habitat.

Applicant's Additional Information

43. Following the adjournment, the Applicant provided additional information (8 July 2022), covering a variety of matters raised during the hearing, including a set of revised proposed conditions.

44. We record here that the Applicant requested the additional time to provide further information, in particular collection of additional field data on water quality within Bluff Harbour – that is, the Applicant considered it needed additional time to fill an information gap. Any suggestion that the process (and associated time delays) that we prescribed after the formal part of the hearing have delayed the project (on the basis that it could have been started this year) are therefore solely of the Applicant's own making. Further, we note that the Applicant's own proposed conditions would have prevented it commencing the project this year, except for exercising its deemed coastal permit (which it could do anytime), because a baseline monitoring programme of at least 12 months (for seagrass health) would need to be completed before any works commence.

45. Dr Childerhouse prepared a Supplementary Statement which addressed a number of matters. He stated the coverage of the mitigation zones by MFO would not be 100% but would be maximised as much as possible. He recommended changes to a number of conditions, namely those relating to certification of the MMMP, use of acoustic harassment device before rock breaking or blasting, and mitigation for entanglement. Dr Childerhouse also provided additional evidence on the relative effectiveness of visual and acoustic observers and stated both have relative strengths and weaknesses and are generally complementary with higher detection rates achieved when both methods are used together. However, it was his opinion that visual observations using multiple MFO is the most effective way of reliably and robustly monitoring the mitigation zones. He stated that, while acoustic detection methods could also be used, the significant cost involved are not warranted in this case due to the low likelihood of marine mammals being in the area during operations, the already high probability of detecting mammals from visual observations, and the small expected marginal increase in detection rates that also using acoustic methods would bring.

46. Mr Beale prepared a Supplementary Statement of Evidence which addressed changes to the Applicant's proposed conditions, including discussion on the outcomes of conferencing that he and Mr Peacock undertook. In addition, Mr Beale provided a letter the Applicant had written to the Bluff Hill Motupōhue Environment Trust[9] outlining a $50,000 donation (to be provided over four years) which the Trust may use at its discretion, however the expectation being it would be used to assist with predator control, weed eradication, and planting to provide enhanced habitat for little penguins.

47. Ms Miller prepared a Supplementary Statement of Evidence which covered the proposed turbidity triggers, their rationale and how they were developed. She described work that was undertaken following the hearing which involved collection of continuous (every two minutes) turbidity data between 16 May and 3 June 2022 from two sites within Bluff

[9] Attachment 3 to Mr Beale's Supplementary Statement of Evidence (incorrectly headed 'Letter <u>from</u> Bluff Hill Motupōhue Environment Trust').

Harbour near existing seagrass beds ('Rabbit Island' and 'Tiwai Wharf') and one near the disposal site ('Disposal Site'). She described the three tiers that were proposed to be used to prevent adverse effects on seagrass beds, Tiers 1 and 2 being for South Port's internal use to provide early warning and to allow for adaptive dredge management, and Tier 3 providing a compliance limit. The proposed tiers being based on the 80th, 95th, and 99th percentile statistics of the datasets obtained at each site, however she considered the higher turbidity statistics from the Rabbit Island site[10] could be also be used at the Tiwai Wharf site and would still ensure the limits lie within the natural range of conditions experienced in Bluff Harbour. Ms Miller also stated that the first, and foremost, management strategy being employed by the Applicant to avoid adverse effects on seagrass is that all dredging[11] will occur within the seagrass' senescent period (i.e. outside the growing and flowering season) – she provided a reference to work done in Australia which found there to be a clear light dependent effect on seagrass morphometrics during growing seasons but no effect during senescent periods.

48. We sought further information/clarification from Ms Miller on her Supplementary Statement of Evidence in our Minute #2. In her further Supplementary Statement of Evidence (dated 27 July 2022) she reinforced her opinion that the turbidity levels encountered at the Rabbit Island site are well within the environmental tolerance levels of the seagrass beds at Tiwai Wharf and, as such, she considered the three Tiers calculated for Rabbit Island to be suitable to use at the Tiwai Wharf site. She also reminded us that the Tiwai Wharf site was not 'downstream' of the proposed dredging but that tidal currents will convey disturbed sediment up and down the harbour more or less unidirectionally and have no direct pathway across the harbour to where the nearest (Tiwai Wharf) seagrass beds are located. Ms Miller considered the recently collected turbidity data collected accounted for the range of weather characteristics likely to be experienced during the proposed dredging season(s) and that they could be relied on as applicable and appropriate for developing the proposed tiers.

Further Comments from the Council

49. Mr Peacock and Mr Beale conferenced following the adjournment regarding conditions of consent. Mr Peacock's comments were provided to us via Mr Beale's Supplementary Statement of Evidence.

50. The Council provided additional comments and suggested amendments to the Applicant's revised proposed conditions.

Applicant's Right of Reply

51. The Applicant provided a written right of reply and a final set of proposed conditions prepared by Mr Beale on 10 August 2022. The reply was very brief and reminded us of the

[10] The statistics for the Tiwai Wharf site (the 80th, 95th, and 99th percentiles being 6, 8, and 10 NTU, respectively) were lower than the Rabbit Island site (the 80th, 95th, and 99th percentiles being 7, 13, and 17 NTU, respectively).

[11] While not explicit in Ms Miller's statements in her evidence regarding timing of the works, the proposed conditions limit dredging of soft sediments within the berth and swinging basin areas, so we assume she intended her statements to also relate to just the soft sediment dredging.

short duration of the proposed dredging within 'the swinging basins'[12] and that it would not be ongoing over a prolonged period. Mr Garbett confirmed the quantitative trigger levels outlined by Ms Miller had been incorporated into the conditions prepared by Mr Beale. Mr Garbett repeated his assertion made in his opening legal submissions that the written approval of the (Awarua) Rūnunga was unconditional and therefore any effect on them is not to be taken into account in accordance with section 104(3)(a)(ii) of the RMA. In terms of conditions, Mr Garbett stated that the only substantive recommendation of Mr Peacock that the Applicant does not accept relates to the noise conditions as they relate to blasting – the Applicant considers that Condition 43 should not apply to blasting because such effects are specifically addressed by Condition 45 with an 'air over pressure limit' as recommended by Mr Styles.

52. Mr Garbett concluded by stating the project provides a range of benefits to the Applicant and provides resilience to South Port and the ability for cargo operators to better load vessels and reduce calls at New Zealand ports to top up vessels with cargo. He stated this contributes to the efficiency of the port and the transport network, providing a range of significant tangible and intangible benefits. Mr Garbett stated the Applicant had volunteered conditions to properly regulate and manage the effects of the proposed activity. He submitted that we should grant consent to the application, subject to these conditions.

ASSESSMENT

53. In assessing the application, we have considered the application documentation and assessment of environmental effects, the s42A Report and technical reviews, expert evidence, submissions received, and the evidence provided during and after the hearing adjournment. We have summarised this evidence above. We have considered all the relevant issues raised in making our determination.

Status of the Application

54. The starting point for our assessment of the application is to determine the status of the activities under the statutory planning provisions.

55. The resource consents sought and activity status were set out section 2.6 and 2.7 of the s42A Report.

56. There was agreement the activities are discretionary activities under RCP Rule 10.1.3 (dredging of the seabed), Rule 10.1.5 (drilling and blasting of the seabed), Rule 10.1.6 (disturbance of the seabed or foreshore) and Rule 10.2.5 (deposition of dredged material) of the RCP.

57. RCP Rule 7.2.2.1 – People and Aquatic Life Water standards provide for discharge to coastal waters as a restricted discretionary activity where the standards are met after reasonable mixing. The Applicant has confirmed that it cannot meet the visual clarity standard and will rely on an adaptive management monitoring approach. Therefore, discharges into

[12] We assume Mr Garbett meant the berths and swinging basin.

coastal water from the disturbance of the seabed, overflow discharges from the TSHD, and the deposition of dredge material at the disposal site are discretionary activities under Rule 10.2.4.

58. We consider it is appropriate to 'bundle' the activities and consider the application overall as a **discretionary activity** under section 104 of the Act.

Statutory Considerations

59. In terms of our responsibility for giving consideration to the application, we are required to have regard to the matters listed in sections 104, 104B, 105, and 107 of the Act.

60. Pursuant to s104(1), and subject to Part 2 of the Act, which contains the Act's purpose and principles, we must have regard to-

(a) Any actual and potential effects on the environment of allowing the activity;
(ab) Any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity;
(b) Any relevant provisions of a national environmental standard, other regulations, a national policy statement, a New Zealand coastal policy statement, a regional policy statement or a proposed regional policy statement, a plan or proposed plan; and
(c) Any other matters the consent authority considers relevant and reasonably necessary to determine the application.

61. Section 104(2) of the RMA states that when forming an opinion for the purposes of section 104(1)(a), we <u>may</u> disregard an adverse effect of the activity on the environment if a national environmental standard or the plan permits an activity with that effect. This is referred to as consideration of the 'permitted baseline'. We address this later in this decision.

62. Under section 104(3)(a)(ii) of the RMA, in considering the application, we must not have regard to any effects on any person who has given written approval to the application. We note the written approval provided by Te Ao Marama Incorporated on behalf of the Awarua Rūnunga (dated 5 September 2021). We accept this letter clearly states their written support is 'unconditional' based on the application received in October 2020 and we note that the scope of the application has not been amended since this time. While this written approval has not on a Council written approval form, as noted by Mr Peacock, we agree with Mr Garbett it meets the requirements of the Act in that it has been provided in writing. We also acknowledged the further letter provided by Te Ao Marama Incorporated (11 April 2022) stating that the Awarua Rūnanga at continuing to work with South Port to draft a Memorandum of Understanding outside of the consent process to provide a framework for their wider relationship. On this basis, we have disregarded the effects of the proposed activity on the Awarua Rūnanga as required by section 104(3)(a)(ii) of the RMA. Despite this, we record here that we have considered the contents of the CIA prepared by Te Ao Marama Incorporated on behalf of the Te Rūnanga o Awarua.

63. Section 104(6) of the RMA allows us to decline an application if we determine there is inadequate information to determine the application. We agree with Mr Peacock that there is adequate information to determine the application. Although we acknowledge the limited data available at the hearing for setting appropriate trigger levels for water quality to protect significant ecological values. We discuss this issue further below.

64. Section 104(7) of the RMA states that in making an assessment regarding the adequacy of the information, we must have regard to requests made by the Council for further information and the further information available.

65. Section 104B of the RMA provides that after considering an application for a discretionary activity, we may grant or refuse the application, and if we grant the application we can impose conditions under section 108.

66. In terms of section 105 of the RMA, when considering section 15 (discharge) matters, we must, in addition to section 104(1), have regard to-
    (a) The nature of the discharge and the sensitivity of the receiving environment to adverse effects; and
    (b) The applicant's reason for the proposed choice; and
    (c) Any possible alternative methods of discharge, including discharge to any other receiving environment.

67. In terms of s107(1) of the RMA, we are prevented from granting consent allowing any discharge into a receiving environment which would, after reasonable mixing, give rise to all or any of the following effects, unless one of the three exceptions specified in section 107(2) exist (i.e., exceptional circumstances, temporary discharges, and/or maintenance works) -
    (a) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material:
    (b) Any conspicuous change in the colour or visual clarity:
    (c) Any emission of objectionable odour:
    (d) The rendering of fresh water unsuitable for consumption by farm animals:
    (e) Any significant adverse effects on aquatic life.

68. We consider sections 104(1), 105, and 107 of the RMA below.

RMA SECTION 104(1)(a) - ACTUAL AND POTENTIAL EFFECTS ON THE ENVIRONMENT

The Existing Environment

69. In making our assessment, we are required to consider the actual and potential effects of the activities on the existing environment. The existing environment is that which exists at the time this determination is made and includes lawful existing activities, permitted activities and activities authorised by existing resource consents.

70. We acknowledge the context of the proposed activities within a working port area and modified coastal environment. We note there are a number of resource consents held for the operation of the port, structures, and facilities within as around the port area.

71. South Port was previously granted authority[13] in 1978 for the capital dredging programme to widen and deepen the entrance channel and remove material up to a depth of 10.24 m draft (or 9.2 m CD). The Council confirmed[14] this authority (granted before the enactment of the RMA) was a 'deemed coastal permit'[15] for maintenance dredging activities permitted under Rule 10.1.4 of the RCP, but it would not cover the proposed additional channel deepening works (i.e., the proposed capital dredging).

72. Mr Garbett clarified at the hearing that the removal of broken rock from the entrance channel, which was previously unable to be removed during the last capital dredging, and blasting works due to equipment limitations at that time, would be removed under the deemed coastal permit as maintenance dredging[16] to a depth of 9.2 m CD. He submitted that Rule 10.1.4 of the RCP would then apply to maintenance of the channel thereafter, as a permitted activity (subject to volume limits), to a depth of 9.2 m CD.

73. We accept the deemed coastal permit, which authorised the capital dredging programme undertaken in the 1980s, enables South Port to undertake maintenance dredging of the entrance channel to a depth of 9.2 m CD under Rule 10.1.4 of the RCP as a permitted activity. We note that while the Rule 10.1.4 does not set a maximum depth, section 3.9 of the RCP states that the '*…swing area is maintained at 9.2 metres deep by dredging as required*' (Chapter 3, pg. 23 and 24) supporting this previously authorised depth.

74. Rule 10.1.4 of the RCP does not authorise the discharge and disposal of dredge spoil (either from maintenance or capital dredging) in the coastal marine area. Rule 10.2.4 applies to the deposition of material on the seabed as a discretionary activity; and Rule 10.2.5 applies to the deposition of material on the seabed where quantities exceed 50,000 cubic metres (**m^3**).

75. Coastal Permit 201285 – V2 held by South Port to dredge, dump and deposit 'spoil' and discharge 'spoil water', as limited by the conditions of consent, forms part of the existing environment until its expiry on 2 December 2037. This consent authorises maintenance dredging from around the berth pockets and swinging basin area of up to 40,000 m^3 of dredge spoil on three occasions within specified periods over the term of the consent; and up to 20,000 m^3 of dredge spoil each year over the term of the consent (excluding the specified three occasions), with an annual average not exceeding 12,000 m^3. Importantly, this consent authorises the discharge and deposition of the spoil at a specified offshore disposal site south-west of Tiwai Point, subject to annual monitoring of sediment samples (from the dredge area, disposal area and a control site) and five yearly benthic biota monitoring at the disposal site.

76. Under the conditions of Coastal Permit 201285 – V2, South Port has one more opportunity to dredge and dispose of spoil material up to a maximum of 40,000 m^3 from the berth pockets and swinging basin area before the consent expires. We note that the record of

[13] Under the Bluff Harbour Improvement Act 1952 and the Southland Harbour Board Empowering Act 1968.
[14] Email from Environment Southland dated 11 May 2021 (See Appendix 20 of the Application).
[15] Pursuant to section 384(1)(c) of the RMA.
[16] In response to questions, Mr Garbett amended his legal submission at paragraph 14 replacing 'capital' dredging with 'maintenance' dredging during the hearing in line with the email from Environment Southland (dated 11 May 2021).

dredge spoil discharged and the areas from which the material was derived [17] (provided by South Port as requested by us at the hearing) shows that the Applicant fully utilised the previous two opportunities to dredge and dispose of the maximum allowable quantities of dredge spoil. We assume that the remaining opportunity will be utilised in the period up to January 2025.

77. Rule 10.1.2 of the RCP provides for capital dredging within the Bluff Port Zone as a controlled activity, subject to maximum volumes and areal extent. There is no relevant permitted baseline for capital dredging, drilling, blasting or the disposal of dredge material.

Actual and Potential Effects

78. The proposal will result in a number of actual and potential effects, both positive and adverse. We briefly discuss these in the following sections, including our findings.

Positive Effects

79. In terms of positive effects, we accept that the proposed capital dredging will improve safety for vessels navigating the harbour channel, by increasing the accessible width of the channel and an increase safety margin. We also accept that exiting vessels will be able to increase cargo load and enable more efficient use of the vessels utilising the port. We acknowledge the significant economic gains to a range of industries which rely on the efficient and safe operation of the port to meet market demands. We accept this will result in greater resilience of South Port and its ability to support the local economy. While we have no specific economic analysis to quantify the economic benefit from the proposal, we accept this would be significant.

Biosecurity Risks

80. We are satisfied that any biosecurity risks can be appropriately avoid, mitigated and remedied through the imposition of conditions requiring the preparation and implementation of a biofouling management plan. We note the copies of the two biofouling management plans for general operations and the TSHD (prepared by Heron Construction Company Limited (Appendix 14) and Dutch Dredging New Zealand Limited (Appendix 15)).

Noise

81. On the basis of the evidence of Mr Styles, we are satisfied that the noise levels from the proposed activities will be reasonable at all times taking into account the guideline noise limits in NZS 6803 and the duration of the activities. We have paid particular attention to the night-time operation of the backhoe dredge operating in the entrance channel (zones 2-4 in Figure 8 of the application Appendix 12) during times when meteorological conditions assist the propagation of noise towards Bluff. We note that during such weather conditions 23 dwellings along Marine Parade are predicted to receive noise levels between 46 dBA L_{Aeq} and 50 dBA L_{Aeq} for no more than 59% of the total number of nights that dredging may take

[17] As required in accordance with Condition 4 of Coastal Permit 201285 – V2.

place[18]. We have considered the actual and potential effects of a 5 dBA exceedance of the NZS 6803 night-time noise limits on these dwellings, the duration of these activities and potential for sleep disturbance. Overall, we accept the evidence of Mr Styles these night-time noise levels will only occur for a maximum of 23 nights during the project duration and are unlikely to result in sleep disturbance given the time of year and the ability to shut windows. We note Mr Styles considered compliance monitoring during night-time backhoe dredging was appropriate, although he acknowledged this would be difficult during high wind conditions.

Effects on Inner Harbour Benthic Fauna and Flora

82. The proposal will mobilise sediments into the water column, and these have the potential to result in adverse effects on sensitive inner harbour rock shore habitat and seagrass beds. The highest risks of these effects occurring relate to the dredging of soft sediments from the berth pockets and swinging basin area. The sediments within the channel area are coarser and therefore pose less environmental risk than dredging of the soft sediments.

83. We agree with Ms Miller that the risks associated with dredging the soft sediment relate to smothering effects, gill clogging, and reduced water clarity/light penetration, with the latter being important in respect of potential effects on seagrass beds. The Applicant is proposing a number of mitigation measures to ensure the potential adverse effects associated with the dredging of soft sediments are avoided or mitigated, including the use of a TSHD, undertaking the dredging during the senescent period for seagrass, and employing an adaptive management approach based on real time turbidity monitoring. We also note the soft sediment dredging will be undertaken over a relatively short period of time – Ms Miller stated seven days for the fine sediments and up to six weeks for all the dredging.

84. We find the Applicant's proposed mitigation measures will ensure that adverse effects on sensitive inner harbour habitats will be avoided or mitigated such that any effects that do occur will be less than minor and acceptable. We find the proposed turbidity monitoring and triggers/tiers to be appropriate and will provide the Applicant important information to make changes to the dredging (if necessary) to ensure adverse effects remain acceptable. In addition, we find that the Applicant's proposed monitoring, which includes seagrass health status monitoring before, during, and after the dredging, to be appropriate to validate the expected effects.

Effects on Marine Fauna

85. We recognise the importance of Bluff Harbour as part of a wider significant habitat for threatened and endangered bird and marine mammal species which require protection under the NZCPS Policy 11 and the avoidance of adverse effects on these species and their habitats. We have focused our assessment on the 10 priority species identified by Mr Stephenson (five gulls/terns, four cormorants and the little penguin) and the 14 marine mammal species identified by Dr Childerhouse that could potentially be present inside and around Bluff Harbour (including the New Zealand sea lion ('Nationally vulnerable), Hector's

[18] Based on Mr Styles' analysis of the meteorological conditions during 1 April to 30 September.

dolphin ('Nationally vulnerable'), bottlenose dolphin ('Nationally endangered'), Southern right whale (At risk – recovering), and killer whale/orca ('Nationally critical')).

86. We accept the evidence of Ms Miller, Mr Stephenson, and Dr Childerhouse that the adverse effects on marine species will primarily be mitigated by the timing of the works and avoiding the peak seasons marine species utilise the harbour (i.e., the warmer summer months) and peak feeding times at dawn and dusk; and the implementation of mitigation strategies during blasting, including use of MFO, warning blasts, soft starts, and AHD. We accept that implementing these mitigation measures will significantly reduce the risk of injury or mortality to marine fauna from rock breaking or blasting if they are too close.

87. We rely on the evidence of Dr Pine that the relationship between noise exposure and PTS/TTS effects in marine mammals is relatively well understood and that the criteria for defining these effects exist and are widely used. However, we note his evidence that the relationship between noise effects on fishes from blasting, drilling and rock breaking and the severity of many biologically significant effects, including PTS/TTS, is very data deficient. For this reason, he assessed mortality for fishes and concluded that rock drilling would not be expected to induce PTS or TTS beyond one metre.

88. We are cognisant that the effectiveness of the use of MFO is highly dependent on the vigilance of suitably trained people and their ability to cover the determined mitigation zones. We accept the evidence of Dr Childerhouse that visual observations using multiple MFO is the most effective way of reliably and robustly monitoring the mitigation zones. The results of the baseline acoustic monitoring undertaken gives us confidence in Dr Childerhouse's conclusion that there is a low likelihood of marine mammals being in the area during works given the timing restrictions. We consider the changes to conditions relating to certification of the MMMP and training of MFO are significant improvements.

89. At the adjournment of the hearing, we remained concerned about cumulative adverse effects on little penguin given the likely proximity of existing burrows to the works and the lack of any field data or survey information to confirm the number of birds or nests likely to be affected. We were unconvinced by the evidence of Mr Stephenson that elevated noise (above and below water) would not impact little penguin breeding and/or deter breeding in burrows close to the works given the current noise environment and his claim there are other safe alternative breeding sites nearby. We note the timing of the works could overlap part of the breeding/chick raising period and we had no evidence regarding the number of breeding pairs or burrows potentially affected or their proximity. We were equally unconvinced that indirect effects of decreased food availability from sediment plumes or a reduction in available habitat in the areas affected could be disregarded as only small parts of potential foraging areas and adverse effects deemed minor on this basis. This approach ignores the requirement to avoid adverse cumulative effects on little penguins from the proposal.

90. We were pleased that, following the adjournment, the Applicant reflected on the need to ensure any adverse cumulative effects on the little penguin are mitigated by volunteering a condition to provide $50,000 to the Bluff Hill Motupōhue Environment Trust to compensate for any adverse cumulative effects to the little penguin population in the Bluff area.

91. We find the Applicant's proposed mitigations measures will ensure that adverse effects on marine fauna in Bluff Harbour will be appropriately avoided or mitigated provided it complies with its proposed conditions.

RMA SECTION 104(1)(ab) – POSITIVE EFFECTS TO OFFSET OR COMPENSATE FOR ADVERSE EFFECTS

92. Section 104(1)(ab) of the RMA requires us to have regard to any measure proposed or agreed to by the Applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity. No specific measures were proposed by the Applicant in the application, however following the adjournment it advised us that it had offered $50,000 to the Bluff Hill Motupōhue Environment Trust to compensate for any potential residual adverse effects of the works on little penguin.

93. We have had regard to this environmental compensation in making our decision, however we note that no assessment has been provided on how the quantum of the compensation was arrived at. We note that the proposed compensation was considered late in the process and no work was undertaken to investigate whether offsetting could have been undertaken in preference to the monetary compensation the Applicant has settled on. From our experience, a no-net-loss (and preferably a net-gain) approach[19] is usually investigated in terms of dealing with residual adverse effects on biodiversity values and compensation is a last resort. Whilst we acknowledge there is no agreed or consistently applied approach for determining the type and quantum of compensation, there are compensation models available that could have been used. The $50,000 appears to us to be an arbitrary amount but, despite this, we consider the money will provide tangible benefits to the little penguin provided the money is used by the Bluff Hill Motupōhue Environment Trust for establishing nesting boxes, predator control, weed control, and/or planting to provide enhanced little penguin habitat.

RMA SECTION 104(1)(b) - RELEVANT PLANNING PROVISIONS

94. Analyses of the relevant provisions of the NZCPS, the RPS and the RCP were provided in the application, s42A Report, and the evidence of Mr Beale.

95. Mr Peacock concluded that, in the round, the proposal is generally consistent with the relevant objectives and policies of the NZCPS, RPS, and RCP, however he noted some tension between Objective 1 and Policy 3 of the NZCPS and he noted some inconsistencies between some other policies of the RCP.

96. Mr Beale considered the proposal to be consistent with the objectives and policies of the same planning documents. Both planners agreed that little weight should be given to the provisions of the RCP given it predates the NZCPS and was not drafted to give effect to this higher order statutory document.

[19] Using accepted biodiversity offset accounting models.

97. We agree and adopt Mr Peacock and Mr Beale's assessments for the purposes of our decision as provided for by section 113(3)(b) of the RMA and therefore do not consider it necessary to present a detailed analysis of the objectives and policies of the relevant planning provisions in our decision.

RMA SECTION 104(1)(c) - OTHER MATTERS

98. Mr Peacock considered the Marine Mammals Protection Act 1978 and the iwi management plan 'Te Tangi a Tauira – The Cry of the People' (Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008) to be relevant 'other matters' to consider under section 104(1)(c) of the RMA.

99. Mr Beale did not specifically address section 104(1)(c) in his evidence, however the application notes that Te Tangi a Tauira was such a matter relevant to this application.

100. We have had regard to the relevant provisions of Te Tangi a Tauira in making our decision. We consider that with the imposition of appropriate conditions the application is consistent with the outcomes sought.

101. We have had regard to the purpose of the Marine Mammals Protection Act 1978 and the inclusion of 'disturb'; and the Wildlife Act 1953. However, it is not a matter for us as to whether any other authorisations are maybe required under other legislation.

102. We also consider the CIA prepared by Te Ao Marama Incorporated on behalf of the Te Rūnanga o Awarua to be a relevant matter under section 104(1)(c) of the RMA. We have considered its contents in making our decision.

103. We acknowledge the letters of support for the application included with the application. We have had regard to South Port's commitment to implement its Communication Plan to inform affected and interested people informed.

RMA SECTIONS 105 and 107

104. We are satisfied the Applicant has considered alternative methods of discharge and discharge to alternative receiving environments as required by section 105 of the RMA. The Applicant has proffered a condition to require the use of a 'green valve' on the overflow from the TSHD in line with industry best practice to mitigate sediment plumes on the water surface. We accept that land-based disposal options are limited due to increased handling costs and lack of storage space available and an identified market for the dredge material.

105. The RCP classifies the coastal water in Bluff Harbour as 'People and Aquatic Life'. RCP Policy 7.2.3.1 directs us to minimise the size of the area where the relevant water classification standards are breached. RCP Policy 7.2.3.2 directs us to determine the zone of reasonable mixing on a case by case basis. The explanations to these policies caution that if a mixing zone is too large it may effectively negate the classification of an area and directs us to consider the nature of the discharge, the vertical and horizontal components of the size of the zone, and hydraulic conditions.

106. We directed questions to the Applicant's various experts in relation to determining a zone of reasonable mixing and protection of ecological values. We find little basis for the 200 m suggested and sought to test this in terms of the level of protection provided. However, given the proximity of the seagrass beds to the dredging activity and the conditions imposed relating to the timing and duration of dredging fine sediments, we accept this is reasonable and heard no evidence to the contrary.

107. We find that given the nature of the discharge it is unlikely to give rise to any of the effects in listed in s107(1)(c) to (g) outside a zone of reasonable mixing and we are therefore not prevented from granting the discharge on this basis.

RMA PART 2

108. For completeness, we record that reference to Part 2 would not add anything to the evaluative assessment we have undertaken under sections 104 of the RMA. We find that with the imposition of appropriate consent conditions the application is consistent with achieving the purpose and principles of the Act.

OVERALL CONCLUSION

109. On the basis of the evidence before us, we find that the adverse environmental effects of the application will be appropriately avoid, remedied, and mitigated with the imposition of appropriate consent conditions to such a degree that they are acceptable. This conclusion relies heavily on the Applicant successfully implementing its proposed mitigation measures and complying with the conditions it has volunteered.

110. We find the application will result in significant economic gains to the region, improved navigation safety and efficient operation of the port, and greater resilience in its ability to support the local economy in the future.

111. We conclude that the application should be granted on the basis that it is consistent with the promotion of sustainable management of natural and physical resource and will meet the purpose of the RMA.

CONDITIONS

112. The application included a suite of proposed conditions, and these have gone through several iterations as result of conferencing with Mr Peacock and in response to questions and comments from us during the process.

113. We note that there is now general agreement regarding the conditions between the parties, with the exception of whether a bond should be imposed or not. Mr Peacock is of the view that a bond is warranted in this case and the Applicant considers it is not.

114. Mr Peacock presented extensive discussion in his s42A Report on the purpose of bonds under the RMA and concluded that - '*In this circumstance, my evaluation of Mr White's, Mr*

Smith's and Mr Todd's technical audits and the nature of the works, found issues raised on matters of uncertainty and lack of performance of mitigating effects. In my opinion, this provides a platform for bonds at [sic] *an RMA tool to address these issues*.' He presented a table with the various risks (or effects) and what scope a bond could be developed, including some dollar values, being a 'strawman' guess of what quantum of money may be necessary. Mr Peacock considered a bond would incentivise the proposed programme being developed as planned, for remedial works, for relocation and support (pest control, signage and protection) for penguins, and to incentivise performance of the MMMP. We asked Mr Peacock various questions regarding his opinion that a bond was appropriate in this case, however we were not persuaded by his answers. We find that a bond is not necessary in this case.

115. We note there was agreement between the parties regarding the duration of the consents. We accept the term proposed is appropriate.

116. We have reviewed the final set of proposed conditions (those included with the written right of reply) and generally accept them. The conditions are included as Appendix 1, attached to this decision. We have, however, made a number of changes to them in respect of drafting style (including replacing 'will' with 'shall' throughout), clarification, and corrections. None of our amendments change the intent of the conditions, however we provide a brief summary of some of our more substantive changes in the following paragraphs.

117. We have amended Condition 4 to specify that dredging of the soft sediments from the berths and swinging basin area must be undertaken using a TSHD. While that is the intent there was no condition which specifically required this and it is a key mitigation measure for the proposal.

118. A number of the conditions have been amended so that they link back to either Condition 3 or Condition 4 as these two conditions create important spatial constraints on the activities authorised by the consent.

119. A number of the proposed conditions and Table 1 referred to works within 'Berths 5 & 6 basin and Berths 7 & 8' including a reference to Attachment 5. We have replaced all references to these berth numbers with reference to the red coloured area labelled 'Restrictive Dredging Area' on the plan included in Attachment 5. This provides a more certain descriptor of the higher risk areas (we also note it includes Berths 3 & 4 and these were not stated in the wording we have amended).

120. We have made Condition 18 more certain by specifying that spot monitoring of water quality during dredging is to be undertaken daily when dredging occurs. The previous wording was ambiguous as it did not specify how often such monitoring was necessary and was therefore unenforceable.

121. Condition 20 has been amended as the proposed wording was ambiguous and unenforceable in respect of showing that the seabed in the disposal area has 'reverted back to the equilibrium'. Our amended condition is based on the evidence of Mr Teear and

requires the repeat surveys to show that the dispersal of sediment deposited on the seabed in the disposal area has occurred as predicted in the modelling and there is no more than an average of a 1 metre increase in elevation above the baseline bathymetric survey across the disposal site.

122. Condition 26(a) has been amended as the proposed wording allowed for the MFOZs to be 'increased or decreased' based on the outcomes of the validation of underwater noise levels during the trial blast required by Condition 12. However, this wording conflicts with proposed Condition 12(c) which clearly states the MFOZs may be 'no greater' than those specified in Condition 26. Accordingly, the words 'increased or' in Condition 26(a) have been deleted.

123. We have amended Condition 28 to require evidence to be provided to the Council, if requested, that all the MFO have attended and successfully completed an appropriate training course. Likewise, we have amended Condition 39 to require evidence of the compensation payments being made to the Bluff Hill Motupōhue Environment Trust to be provided to the Council if requested.

124. We have specified the 'heavy metals' to be analysed in Condition 51 and Attachment 8 as total arsenic, total chromium, total cadmium, total copper, total nickel, total mercury, total zinc, and total lead. Further, we have clarified what 'sediment chemistry analysis' means in Condition 52 by specifying the same determinands as are proposed to be analysed in Condition 51, namely the heavy metals specified in the previous sentence as well as polycyclic aromatic hydrocarbons, total phosphorus, tributyltin, and sulphate. These are also specified in the respective part of Attachment 8.

125. Condition 42 has been amended (in two of the clauses) by replacing Tangata Whenua with Te Ao Marama Incorporated to provide more certainty.

126. We are satisfied that the conditions, both singularly and in total, are necessary and appropriate to avoid, remedy, or mitigate potential adverse effects identified by the application and the evidence.

DECISION

127. It is the decision of the Southland Regional Council, pursuant to section 104B of the Resource Management Act 1991, to **GRANT** resource consent application APP-20211362 by South Port New Zealand Limited to to drill, blast, break and remove rock, and dredge soft sediment from Bluff Harbour; and to discharge and deposit soft sediment and rock in the coastal marine area for a consent term of five years, subject to the conditions set out in **Appendix 1** of this decision.

Dated this 31st day of August 2022

Sharon McGarry
Independent Hearing Commissioner (Chair)

Dr Rob Lieffering
Independent Hearing Commissioner

Appendix 1 – Conditions