MARLBOROUGH DISTRICT COUNCIL

RESOURCE MANAGEMENT ACT 1991

Decision of Marlborough District Council

RESOURCE CONSENT:	U180102
APPLICANT:	Allan Roy Tester and Stephen Eric Cross
LOCATION:	Deep Bight, Te Whanganui/Port Underwood

THIS IS THE DECISION ON THE APPLICATION FOR RESOURCE CONSENT:

To extend an existing 7.29 hectare surface longline marine farm (Site 8419) located north of Deep Bight, Te Whanganui/Port Underwood, by 1.265 hectares.

DECISION: **Granted**

RESOURCE CONSENT(S) ISSUED:

Coastal Permit

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Pursuant to sections 104 and 104D, and having regard to Part 2 matters, the Marlborough District Council **grants** the application to extend an existing marine farm (Site 8419) by 1.265 hectares, subject to the conditions set out in Appendix 1 of this decision.

Background and Procedural Matters

1. This is the report and decision of Hearings Commissioners Ms Sharon McGarry and Councillor Cynthia Brooks. We were appointed by the Marlborough District Council (**MDC**) and delegated powers and functions under section 34A(1) of the Resource Management Act 1991 (**RMA**) to hear and decide an application by Mr Allan Roy Tester and Mr Stephen Eric Cross (**Applicant**) to extend an existing marine farm in Deep Bight, Te Whanganui/Port Underwood, by 1.54 hectares (**ha**).

2. The application was lodged with the MDC on 17 February 2018.

3. The application was publicly notified on 19 March 2018. Five submissions were received. Three submissions were in support of the application, one was neutral and one was in opposition and indicated they wished to be heard

4. The hearing commenced at 9:00 am on Tuesday 26 March 2019 and was adjourned at 3.45 pm the same day.

5. We undertook a site visit on Monday 25 March 2019. We were taken out to the application site by boat by Mr Alex Moore (Maritime Officer, MDC).

6. Prior to the hearing, a report was produced pursuant to section 42A of the RMA by the MDC's Reporting Officer, Mr Peter Johnson (Senior Resource Management Officer, MDC). This s42A Report provided an analysis of the matters requiring consideration and made no recommendation as to whether the application should be granted or refused. Appended to the s42A Report were recommended conditions, in the event the consent was granted.

7. Appended to the s42A Report were copies of the following documents:
    a) The application documentation, including:
        i) Location and layout plans (Attachment B); and
        ii) '*Ecological report for a proposed extension to marine farm 8419, Te Whanganui//Port Underwood*'. Research, survey and monitoring report number 878 by Davidson Environmental Limited dated February 2019 (Attachment B);
    b) Further information from Dr Neil Hartstein dated 14 September 2018 (Appendix B);
    c) An aerial photograph of the application site (Appendix C)
    d) The Commissioner's Decision U100430 for resource consent by S E Cross and A R Tester to extend marine farm Site 8419 dated 12 November 2013 (Appendix D);
    e) The MDC's Decision U170288 for resource consent by Talley's Group Limited to extend and reconfigure marine Sites 8417 and 8418 marine farm Site 8640 dated 19 October 2017 (Appendix E);
    f) The zoning map for the application site (Appendix F);
    g) A copy of the submissions (Appendix G); and
    h) The Reporting Officer's evidence, including:
        i) Written comment from the Harbour Master (Appendix H);

ii) Written comment from Dr Steve Ulrich, Coastal Scientist, MDC (Appendix I);

iii) Key points from the NZIER report on the economic contribution of marine farming in the Marlborough region (Appendix J); and

iv) Recommended conditions (Appendix K).

8. The s42A Report and the Applicant's evidence were pre-circulated to the parties prior to the hearing. This evidence was pre-read prior to the hearing and was taken as read at the hearing.

9. The hearing was adjourned to enable the Applicant to provide further assessment of the carrying capacity of Te Whanganui/Port Underwood in response to the submitter and a revised proposed layout of the marine farm and proposed conditions. Receipt of this further information was confirmed in our Minute #1 (dated 18 April 2019) and we directed further comment from the Reporting Officer and the submitter within a set timeframe.

10. In response to a Memorandum of Counsel for the Applicant (dated 7 May 2019) we issued Minute #2 (dated 8 May 2019) clarifying the MDC's technical review of the carrying capacity assessment, timeframes for the provision of comment and the opportunity for the Applicant to provide rebuttal evidence with a written right of reply.

11. We issued Minute #3 (dated 13 May 2019) in response to a Memorandum of Counsel for Applicant (dated 10 May 2019) requesting an extension to the timeframe for provision of the rebuttal evidence and reconvening of the hearing. We granted the extension sought and indicated we would consider the need to reconvene the hearing after receiving the rebuttal evidence.

12. We also received a Memorandum for the Port Underwood Association (dated 10 May 2019) requesting the opportunity to make representations if it was determined that the hearing will be reconvened.

13. On receipt of the Applicant's rebuttal evidence, we considered the Applicant's request to reconvene the hearing. On the basis of the further assessment and further comments, we determined that there was no need to ask the parties any further questions of clarification. We therefore issued Minute #4 (dated 27 May 2019) confirming receipt of the rebuttal evidence and directing the provision of the Applicant's written right of reply and proposed conditions.

14. The Applicant provided a written right of reply and a final version of proposed conditions on 4 June 2019.

15. We formally closed the hearing on 7 June 2019.

Application

16. The application seeks to extend and existing 7.29 ha marine farm (Site 8419) by 1.54 ha to a total marine farm area of 8.83 ha. The proposed extension comprises four additional conventional longlines and the extension of an existing longline, with backbone lengths varying from 148 m to 193 m. The species to be cultivated includes green shell mussels (*Perna canaliculus*), scallops (*Pecten novaezelandise*), blue shell mussels (*Mytilus galloprovincialis*), dredge oysters (*Ostra chilensis*), giant kelp (*Macrocystis pyrifera*), kelp (*Ecklonia radiata*), red algae (*Gracilaria spp*.) and coarse agar weed *(Pterocladia lucida*).

17. The application involves the undertaking of marine farming activity, construction and maintenance of marine farming structures, the taking and discharge of coastal water and bio-degradable organic waste matter associated with the harvest and disturbance of the seabed by anchoring devices.

18. The application was formally amended at the hearing to remove pacific oysters (*Crassostrea gigas)*. The proposed layout was amended following the hearing to reduce the length of the four additional longlines to 148 m, which would avoid any surface structures in the triangular shape of the southern end of the extension area. We have assessed the Applicant's revised layout of the four additional longlines up to 148 m in length.

19. A description of the activity and a description of the site and location were provided in the s42A Report. For the purpose of our assessment, we adopt these descriptions in accordance with section 113(3) of the RMA.

20. We note the s42A Report stated the application site is located within the 'Coastal Marine Zone 2' (**CMZ2**), as defined by Map 64, Volume 3 of the Marlborough Sounds Resource Management Plan (**MSRMP**), and the land behind is split into 'Rural 1' and 'Conservation' zones. The s42A Report noted there were no ecologically significant marine sites identified in the immediate area; and the nearest area of 'Outstanding Landscape Value' is 800 m to the west, northeast of Hakahaka Bay.

Notification and Submissions

21. The application was publicly notified on 19 March 2018. Five submissions were received. Three were in support, one was neutral and one was in opposition to the application.

22. The submissions in support stated the area is appropriate for marine farming, marine farming contributes to the local and wider economy, and mussel farming is a sustainable and efficient form of protein production.

23. The neutral submission from Mr Clive Barker stated there is no positive research into the carrying capacity of filter feeding shellfish in the Sounds and that this needs to be defined.

24. The submission in opposition from the Port Underwood Association Incorporated ('the Association') stated there is a limit to the total amount of area that should be occupied by marine farming in Te Whanganui/Port Underwood due to cumulative effects on marine habitat, visual aspects, recreational use, other commercial users, navigation, rural and natural character, and domination of a natural area by industrial structures. It noted the proposed extension would protrude further seaward than the neighbouring farms and would be closer to the 'Coastal Marine Zone 1' (**CMZ1**) boundary.

Summary of Evidence

Applicant's Case

25. **Mr Nigel McFadden**, Counsel, conducted the Applicant's case by presenting legal submissions and calling six witnesses. His submissions outlined the proposal, the site, previous extensions at the site, the status of the activity, section 104D and section 104 requirements, actual and potential effects, the statutory documents and submissions. He submitted the application passed both gateway tests of section 104D(1) and should be granted, subject to conditions. In response to questions, he confirmed (via his witnesses) that the closest point of the application site to the CMZ1 boundary was 119.4 m; and that Site 8640 (Talley's Group Limited) is 123.4 m from the CMZ1 boundary.

26. **Mr Allan Tester**, a marine farmer and 50 percent owner of Site 8419, represented the Applicant and provided a written statement of evidence. Mr Tester outlined his marine farming and boating experience, and his involvement in the aquaculture industry since 1982. He noted the proposed extension would assist in maintaining and improving economies of scale for their group of farms. He considered marine farming is part of Te Whanganui/Port Underwood and that it is a 'working environment'. He outlined the positive effects of the expansion in terms of employment and export earnings. He concluded that the evidence showed the effects of the application would be no more than minor and that their business would be strengthened. In response to questions, he considered there would be no noticeable decrease in growth rates on the inshore mussel lines given the flow of water and the orientation of the lines.

27. **Captain David Walker**, an experienced sea captain and tutor, provided a written statement of evidence addressing navigational matters. He stated it was the responsibility of a navigator to 'be safe' and outlined the relevant maritime rules and regulations. He noted Te Whanganui/Port Underwood was much less popular as a recreational destination than the Marlborough Sounds due to the road condition and limited boat launching facilities. He highlighted there were no recommended anchorages charted in the bay due to exposure to winds and lack of facilities. He noted weather conditions were changeable and that the area was open to southerly winds. He considered poor visibility from sea fog or heavy rain is not an issue, given the limited amount of recreational use in the area. He considered the extension would not pose any difficulty for a commercial small boat operator and that there was only anecdotal evidence of one collision between a recreational vessel and a marine farm. He noted the MDC's navigational bylaw requires vessels to reduce speed to 5 knots within 200 m of a structure and the shoreline. He noted the existing requirements for navigational lighting appeared to be effective. He concluded any adverse effects on navigational safely would be minor (to the extent on being non-existent).

28. Captain Walker provided further written comment on the origins of the maritime bylaw requiring a 5 knot speed limit on vessels within 200 m of the shoreline or structures. When questioned on the navigational safety between the two farms through the proposed zig zag, he also provided a written comment describing the effective distance between the application site and the neighbouring Talley's farm to the south, citing that effectively there would be a 120 m wide channel, which would be lit as approved by the Harbour Master. He added that with the use of screw anchors the distance could be reduced to 100 m marked by orange buoys at 17 m intervals.

29. **Dr Neil Hartstein**, a senior oceanographer with Aquadynamic Solutions, provided a written statement of evidence addressing potential plankton depletion and water column/hydrodynamic impacts of the extension and participated in the hearing via phone. Dr Hartstein outlined the use of numerical modelling to assess pelagic effects/carrying capacity and the 'Pelagic Effects Criterion' from the Aquaculture Stewardship Council (ASC). He concluded that based on the number of lines, distance between lines, current speed and direction at the site, and peer review publications examining the hydrodynamic implications of mussel farms, the proposed extension would have very limited if any observable impact on the hydrodynamic regime with the Western Arm of Te Whanganui/Port Underwood. He considered any loss of phytoplankton would be localised around the farm and that there was sufficient space between farms to mitigate cumulative impacts. He noted there would be a reduction in phytoplankton within the farm and that in summer periods he expected this would impact farm production. However, he considered the results of the two methods used to assess the effect on phytoplankton indicated the proposed extension was well within carrying capacity of Te Whanganui/Port Underwood.

30. Appended to his evidence was a copy of the letter (dated 9 August 2017) from Mr Ben Knight, marine biophysical scientist with Cawthron, to Mr Urlich and Appendix 1 to the letter ('Cawthron method'); and the spreadsheets attached to the letter showing the calculation of the Clearance Time to Retention Time (**CT/RT**) ratio.

31. Dr Hartstein provided a further written statement (dated 4 April 2019) reviewing the carrying capacity calculations undertaken by Mr Roush for the Association and calculating the CT/RT ratio for the Western Arm using the ASC Bivalve Standard and the method described by KCSRA and the method described in the Cawthron letter.

32. Dr Hartstein provided a further statement of rebuttal evidence (dated 23 May 2019) responding to the review of the carrying capacity calculations by Dr Hilke Giles on behalf of the MDC. He concluded his calculations were valid and were based on real in-situ data and modelled data that matches the physical environment. He noted that even using the most conservative approach, the CT/RT ratio is above one and therefore there would not be considered to be an adverse effect on the carrying capacity of Te Whanganui/Port Underwood. He considered there was therefore no need to undertake additional field work based on the ASC Bivalve Standards.

33. **Mr Rob Davidson**, a marine biologist with Davidson Environmental Limited, provided a written statement of evidence outlining the biological investigations of the extension area. He described the benthic surveys undertaken and noted no significant biological sites were identified or observed. He noted low abundance levels of tubeworms and considered it was unlikely to be regarded as ecologically or scientifically important. He outlined the impact and threats to the marine environment from anthropogenic effects and noted the top three threats were from bottom trawling, dredging for shellfish and invasive species. He noted aquaculture was ranked 19th equal out of 65 threats. He stated that the impacts of marine farming have been well studied in New Zealand (see Keeley *et al.,* 2009) and were generally detected within less than 15 m of the site. He concluded there were no benthic biological reasons the application should not be approved and considered monitoring was not required.

34. In response to questions, Mr Davidson provided two hand written diagrams showing the distance between the CMZ1 boundary and the closet boundary of the existing and proposed marine farm sites; and the distance from the western shore at the narrowest point of the Western Arm to the proposed boundary.

35. **Mr Rory Langbridge**, a landscape architect, provided a written statement of evidence assessing landscape, natural character and amenity effects. He noted the efforts made by the MDC in the identification of outstanding natural landscapes and areas, and coastal natural character values. He considered the landscape context with Te Whanganui/Port Underwood has natural character and amenity values at the 'moderate to low' end of the high overall assessment attributed to the Sounds generally. He noted the location had 'working' characteristics evident in the coastal waters and the terrestrial backdrop that provided a context and potential capacity to absorb additional infrastructure without any noticeable impact on the overall qualities of the landscape. He concluded that within the context of the receiving environment the effect of the proposed extension on landscape, natural character and visual amenity would be less than minor and any cumulative impact would be less than minor. Appended to his evidence were Annexure A - Visibility of Marine Farm Structures, Annexure B - Definition of Terms, and a Graphic Attachment (dated 8 March 2019)

36. **Mrs Jackie McNae**, a planner and resource management consultant with Staig & Smith Limited, provided a written statement of evidence addressing the planning framework, status of the activity, AEE, consideration of the relevant objectives and policies, section 104D and Part 2 of the RMA. She highlighted the application site is located in an '*extensively modified working environment with a ribbon of up to 10 existing marine farms*' and that the backdrop is '*steep hillside planted in mature exotic forestry'*. She noted the assessment of effects undertaken concluded all the effects identified would be no more than minor. She considered any cumulative effect of an additional 1.54 ha would not breach any 'tipping point'. She assessed the relevant objectives and policies of the New Zealand Coastal Policy Statement (**NZCPS**), Regional Policy Statement (**RPS**), MSRMP and the proposed Marlborough Environment Plan (**MEP**), and concluded the application was not contrary to the nature of the provisions and was 'broadly consistent'. She noted it was not possible for a marine farm to enhance certain values such as amenity values, but that any adverse effects were shown to be no more than minor. She concluded both gateway tests of section 104D were passed and that the grant of consent for the extension represents a sustainable management of the coastal environment and the physical resources.

Submitter

37. **Port Underwood Association ('the Association')** was represented at the hearing by Mr Ken Roush and Mr David Whyte. Mr Roush read a written submission on behalf of the Association and a document calculating the carrying capacity of Western Arm. He noted the Association has 117 members, including residents, bach owners, forestry owners, commercial fishers and marine farm owners. He stated the members consider there is a limit to the total amount of area that should be occupied by marine farming in Te Whanganui/Port Underwood due to cumulative effects on marine habitat, visual aspects, recreational use, other commercial users, navigation, rural and natural character, and the domination of a natural area by industrial structures. He noted that a survey of members showed 80 percent of respondents (representing 65 percent of the members) considered there should be no more marine farming space in Te Whanganui/Port Underwood. He stated members strongly oppose extension of existing marine farms into open waters and had provided a clear mandate to oppose applications seeking to increase the distance of the farm from the shoreline. He considered the application did not provide sufficient information to prove the impact on primary productivity would be no more than minor and that cumulative effects have not been addressed. He submitted the amenity values of the area would not be maintained or enhanced and that adverse effects on public open space, recreational values and coastal values cannot be mitigated or remedied. He noted the proposal would have knock on effects on the infrastructure and roading safety. Concerns were also raised in relation to the detrimental effects of sedimentation and the changes in water flow and wave action caused by the marine farms reducing dispersal of the sediment away from the inshore habitats.

38. Mr Roush presented his carrying capacity calculations for Western Arm based on Dr Hartstein's calculations for the whole of Te Whanganui/Port Underwood. He noted he is not a marine expert, but that he has a degree in engineering and is familiar with mathematical modelling. He confirmed he had relied on the inputs for mussels and mussel farming from Dr Hartstein's data inputs.

39. On 9 May 2019, Mr Roush provided a written submission on further matters on behalf of the Association addressing the further evidence of Dr Hartstein, the assessment by Dr Giles, the revised site layout and the further comments of the Reporting Officer. He concluded there was insufficient information to conclude there was no environmental impact from increasing the amount of mussel farming area in Western Arm.

Section 42A Report

40. **Mr Peter Johnson**, a Senior Resource Management Officer with MDC**,** tabled his s42A Report and addressed the matters raised during the hearing. He noted that his conclusions in relation to inconsistency with some of the relevant objectives and policies would be addressed by avoiding the 'zig zag' shape of the access between sites. He said this would mitigate effects on amenity and recreational use, and was consistent with the other gaps between sites where there was line of sight between the sites. He said that, subject to addressing the irregular shape of the access and maintaining public access to the foreshore and open water, the application could be granted subject to conditions.

41. Mr Johnson provided further comments (dated 2 May 2019) on the assessment of the carrying capacity undertaken by Mr Roush and the further calculation of Dr Hartstein. He provided a technical review of the carrying capacity assessment by Dr Hilke Giles, a coastal and systems scientist with Pisces Consulting. He concluded the spatial extent of marine farming warranted further scientific field work on the carrying capacity of Te Whanganui/Port Underwood, but that it would be unreasonable to require the Applicant to undertake such a study or to required on-site chlorophyll-a concentration monitoring in the absence of an overarching monitoring strategy for the area. He considered the revised layout showed unnecessarily long warp lines and did not promote efficient use of space. He recommended the anchor ropes be repositioned northeast and reduced to 22 m and the boundary aligned with the boundary of the existing site. He recommended the consent be granted subject to his recommendation to remove the triangular shape area and the revised conditions.

Applicant's Right of Reply

42. Mr McFadden provided a written right of reply on behalf of the Applicant and a final set of proposed conditions on 4 June 2019. Mr McFadden noted there was no evidence the Te Whanganui//Port Underwood Road was unable to cater for an additional six truck movements (in and out) per year. He noted the evidence of Captain Walker that the shape of the southern boundary would not create difficulties for navigation, but that the Applicant has suggested a condition requiring no surface structures in the triangular shape. He noted the planning evidence of Mrs McNae, the ecological evidence of Mr Davidson and the landscape evidence of Mr Langbridge was unchallenged, and that the submitter had not provided any expert evidence. He emphasised the evidence of Mr Roush in relation to carrying capacity was that of a lay person and that the rebuttal evidence of Dr Hartstein shows the application would not adversely affect the carrying capacity of Te Whanganui/Port Underwood. He noted the technical review by Dr Giles for the MDC did not include any statement of her qualifications and experience, record compliance with the Environment Court Code of Practice, nor was it attested or signed. He highlighted the evidence of Mr Johnson that overall the effects on the environment would be no more than minor, and the application was not contrary to any of the relevant objectives and policies. He concluded that the Applicant's evidence was overwhelming that the consent should be granted, subject to conditions.

Assessment

43. In assessing the application, we have considered the application documentation and AEE, the s42A Report and appended information, the submissions, pre-circulated evidence, and all evidence provided during and after the hearing adjournment. We have summarised this evidence above. We record we have considered all the issues raised in making our determination.

44. The Association sought the application be deferred until the proposed MEP is finalised. However, we acknowledge we are obliged to hear and decide the application within the timeframes prescribed by the RMA and without undue delay. We do not consider it is reasonable, nor is it provided for in the RMA, to defer the application until the proposed MEP is made operative. We consider the RMA anticipates situations where there are both operative and proposed plans in place and consideration of these under sections 104 and 104D.

45. Our assessment sets out the relevant sections of the RMA for our consideration of the application below.

Activity Status

46. There was agreement that the application should be considered as a **non-complying activity** under Rule 35.4 of the MSRMP. We agree.

Sections 104, 104B and 104D

47. We are required to have regard to the matters listed in section 104 of the RMA.

48. In terms of section 104(1), and subject to Part 2 of the RMA, which contains the RMA'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.

49. Section 104B states that after consideration of an application for a non-complying activity, we may grant or refuse the application. If we grant the application, we may impose conditions under section 108.

50. In making our assessment under section 104D(1) of the RMA, we can only grant consent for a non-complying activity if <u>either</u> or both of the following 'gateway tests' is passed:

    (a) The adverse effects of the activity on the environment will be minor; <u>or</u>

    (b) The application is for an activity that will not be contrary to the objectives and policies of–

        (iii) both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity.

51. We note there is conflicting case law as to whether the section 104D threshold test should be undertaken before or after the substantive tests in section 104(1). We consider it is necessary to identify and consider section 104(1) matters before we are able to determine whether the application passes one or both of the section 104D gateway tests.

52. If we determine there is no restriction of the grant of consent under section 104D (i.e. at least one gateway test is passed), we must weigh the relevant 104(1) matters, and subject to Part 2, either grant or refuse the application.

53. We consider the principal issues of contention and each of these statutory considerations below.

Principal Issues of Contention

54. The s42A Report assessed the effects of the application on maritime safety, ecological values, public access and recreation, natural character, landscape values and amenity values.

55. The Association raised concern that the application would increase traffic volumes between Waikawa Bay and Te Whanganui/Port Underwood, and conflict between heavy vehicles and light passenger vehicles. Mr Roush expanded on these concerns submitting the Applicant had failed to address the transportation policies of the proposed MEP. He noted information from Marlborough Roads indicated vehicles on the Te Whanganui/Port Underwood road are increasing by 10 percent each year. He said the informal restrictions on the number of logging trucks acknowledged there is a problem with the current condition of the road and use by heavy vehicles. He requested that any increase in use is measured and assessed in a cumulative manner, as to the risk posed to other road users.

56. The evidence indicates the extension will result in approximately six additional truck movements per year (three truck movements in and three out). We accept this is a very small increase. We acknowledge this contributes to cumulative effects on road users. However, in the context of the existing environment and the other traffic producing activities such as forestry and marine farming, we accept any adverse cumulative effects of the application on existing users of the road will be less than minor. We consider the transportation policies of the proposed MEP are likely to be subject to change throughout the planning process and therefore have given these little weight in making our assessment.

57. The Association pointed out the importance of accurate species names for farmed species and the need to ensure no unwanted species at introduced. We note the species named have been checked and corrected by the Reporting Officer.

58. On the basis of a review by the Harbour Master, the s42A Report concluded any adverse effect on navigational safety would be less than minor with provision of appropriate lighting and marking pursuant to the Maritime Transport Act 1994, and appropriate design, construction and maintenance of structures.

59. On the basis of the expert evidence of Captain Walker and the review of the application by the Harbour Master, we accept any adverse effects of the application on navigational safety are likely to be no more than minor with the imposition of conditions relating to navigational lighting and design standards. The revised layout will enable clearer access to the inshore area and clarity as to access points when lit at night.

60. Mr Roush highlighted the impact on fish eggs and plankton from mussel ingestion and the effect on the food chain and mature fish. He noted the evidence of lower abundance of marine life at the silt and clay consented areas and questioned whether this was because of the effect of the high density of marine farms. He noted literature by the Ministry of Primary Industries (**MPI**) that states further research is needed in to the effects of mussel farming on wild fish population and the cumulative effect of large areas of multiple marine farms. He noted the evidence of Mr Davidson describes natural processes, but offers no data as to the actual effects.

61. There is no evidence to indicate that the concerns raised by the Association in relation to observed declines in fish abundance and diversity over recent years are directly related to marine farming activities in Te Whanganui/Port Underwood. The evidence of Mr Davidson acknowledged this decline has occurred throughout the Sounds and considered it is primarily related to changes in fisheries regulations (e.g. fish minimum size) and fishing pressure. Mr Davidson acknowledged smothering and disturbance of benthic habitats that are important to fish can adversely affect fish abundance, but noted the proposed extension avoids such biologically important benthic habitats. He also considered the impact on zooplankton and fish eggs. He concluded that any impact of mussel farming on larvae and eggs was likely to be much smaller than the removal of adult fish given marine invertebrates and fish produce massive numbers of offspring to counter high predation.

62. We accept the evidence of Mr Davidson and the review by Dr Urlich, and noted there is no expert evidence contesting these conclusions. Overall, we accept the evidence that the proposed extension will have a less than minor effect on fish abundance and diversity.

63. We acknowledge wider ecological effects are linked to effects on primary productivity and therefore focus our assessment on potential effects on phytoplankton and the carrying capacity of Te Whanganui/Port Underwood.

64. On the basis of the evidence presented, we consider the principal issues of contention relate to the following matters:

    a) Water column effects - primary productivity carrying capacity;

    b) The zig zag shape of access between sites;

    c) Landscape and amenity effects; and

    d) Cumulative effects.

65. These issues are addressed separately below.

Water column effects - primary productivity carrying capacity

66. The submission from Mr Barker stated that there was a complete lack of research into the carrying capacity of filter feeding shellfish in the Sounds. He said the Davidson report dismisses the matter as not a problem. He requested a review of the many nutrient-phytoplankton-zooplankton models that have been developed to predict the carrying capacity of bivalves and that a study be undertaken for the Marlborough Sounds.

67. The submission from the Association stated the incremental expansion of marine farming is affecting the overall marine ecology and that members have noted diminishing productivity with the area over a number of years in both quantity and number of species. It stated a significant amount of information is not known about the effects of mussel farming concentrated over large areas.

68. Mr Roush, for the Association, submitted that the carrying capacity presented by the Applicant is not based on the affected area of Western Arm and that his calculation based on Western Arm showed a strong adverse effect from the application and the existing marine farms. He noted that the decline in the number and variety of fish in Te Whanganui/Port Underwood corresponded with the rise in the amount of space being marine farmed. He acknowledged other factors such as climate, commercial and recreational fishing, and sedimentation, but noted the effect from all causes was additive and that all causes need to be addressed. He said it was time for meaningful research into the effect of the marine farms on productivity and action where required.

69. Mr Roush noted the importance of the inshore area to the overall ecology of the coastal marine environment and submitted the extent and thickness of the band of mussel farms present in Te Whanganui/Port Underwood (as seen on the map of consented marine farms) must be having an effect on the marine environment. He said the thick band of marine farms expanding further offshore creates a barrier which effectively 'ring barks' the inner coast and cuts off the nutrient exchange. He noted the nutrient delivery from Cook Strait struggles with low water flow and predominant winds blowing towards Cook Strait.

70. Mr Roush referred to Figure 1 of the Hadfield (2014) study into phytoplankton depletion in the Eastern Arm of Te Whanganui/Port Underwood. He noted the depletion rates of up to 30 percent near the farms and 10 percent up to a kilometre away from three farms (representing 32 percent of the total area of marine farms in the Eastern Arm) show the effects of the farms were strong inshore. He emphasised this was concerning given the thick band of marine farms along the shore in the Western Arm. He highlighted that this study only addressed one area of the Eastern Arm and not the cumulative effect of all the consented marine farms.

71. Mr Roush highlighted the comments of Dr Urlich and noted the calculations by Dr Hartstein did not address his concerns about Western Arm. He considered Dr Hartstein had incorrectly chosen the area parameter of Te Whanganui/Port Underwood instead of Western Arm and had not followed the ASC method for defining the area of influence. He noted the conclusions reached by Dr Urlich are for Te Whanganui/Port Underwood as a whole. He said the Association does not agree this conclusion addresses the carrying capacity of Western Arm.

72. Mr Roush noted that mussel farmers are concerned about the carrying capacity, as evidenced in submissions to other applications. He referred to the MDC decision on U120642 for an extension to a marine farm in Eastern Arm, where the Committee noted evidence of depletion effects on other farms and risks of overstocking the water column.

73. To address his question, whether the amount of mussels being farmed in Western Arm exceeds the carrying capacity of the area in which the mussels are located, Mr Roush undertook his own calculations using both methods used by Dr Hartstein, but using a different zone of influence. On the basis of the study by Hadfield (2014), he assumed the zone of influence shown in Eastern Arm would be similar for the Western Arm. He inferred a mean current speed of 0.01 metres per second (**m/s**) to calculate a radius of influence of 900 m and a high tide water volume. He used this, and Dr Hartstein's inputs for the number of mussels and volume of water filtered, to calculate a CT/RT ratio for the Western Arm of 0.63 using the KCSRA method and 0.835 using the Cawthron method. He considered this showed mussel farming was having a significant impact on the productive and ecological carrying capacity of Western Arm.

74. In his further submissions, Mr Roush noted that the differences in calculations related to water volumes; and that the water volumes and area used by Dr Hartstein were too large for the Western Arm and are therefore based on twice the amount of nutrients than in reality can reach the mussels. He agreed with Dr Giles that more information was needed to fully assess the effects of mussel farming on the environment in Western Arm. He noted agreement with the further comments of Mr Johnson, but considered his view of mechanisms for further studies was very narrow and that further marine farming should be prohibited before further studies are undertaken.

75. Dr Hartstein's evidence for the Applicant outlined that suspension feeding of bivalve (mussels) was driven by concentration, composition and rate of supply of phytoplankton to the organism. He said phytoplankton dynamics in temporate environments was driven by seasonal changes in temperature and light, and production increases with thermal stratification in the water column. He noted phytoplankton growth had been shown to be limited by the supply of nitrogen in the Marlborough region in the summer months, and that production relies on inorganic nitrogen uptake. He noted bivalves excrete dissolved nitrogen (such as ammonium) into the water column which can lead to localised enrichment and indirectly stimulate phytoplankton growth. He said this recycling of organic nitrogen can neutralise phytoplankton depletion, but that harvesting the mussels results in a net removal of nitrogen in the mussel biomass. He noted the lowering of phytoplankton productivity in the winter, when light is limited and thermal stratification breaks down, and the higher standing stock of inorganic nitrogen observed.

76. Dr Hartstein outlined that at least three regional numerical models had been constructed to stimulate the nutrient exchange and the hydrodynamics of the wider Marlborough Sounds as a whole, but noted that none of these examined the Western Arm of Te Whanganui/Port Underwood in any detail. He noted the small study by Hadfield (2014) for mussel farms along the Eastern Arm showed there was a maximum depletion of phytoplankton of 30 percent within the farms. He highlighted that Te Whanganui/Port Underwood was included in a 2012 study as part of a regional model, but that the focus had been on Pelorous Sound and Port Gore. He noted that while at a coarse scale, the model suggested flow within Te Whanganui/Port Underwood is low and that generally the water circulated around the sides of the bay.

77. Dr Hartstein noted that in addition to numerical models, the assessment of pelagic effects/carrying capacity can be conducted using the Pelagic Effects Criterion from the ASC. He outlined the criterion assessed the rate mussels consume phytoplankton based on the number of mussels per line, line depth, line spacing and area being farmed. He noted the method compared Clearance Time (**CT**) versus Retention Time (**RT**) of an embayment; and that embayments were seemed sustainable if the RT is faster (water exchange faster) than the rate the mussels can consume the phytoplankton in the water. He noted a ratio above one was considered 'ideal' and below one is deemed to be below the carrying capacity of the embayment. He acknowledged there is very little *in-situ* data available for Te Whanganui/Port Underwood and noted studies indicated a relatively low energy environment, with little tidal flow and current dominated by wind forcing. He noted the water would generally flow parallel to proposed longlines which reduced the impact from a hydrodynamic perspective.

78. Dr Hartstein calculated the CT/RT ratio for Te Whanganui/Port Underwood to be approximately 1.2 using the KCSRA method and 2.5 using the Cawthron method, which he noted were both over the 1.0 threshold of the ASC Pelagic Effects Criterion. He therefore concluded the proposed extension would not exceed the carrying capacity of Te Whanganui/Port Underwood.

79. Dr Hartstein noted that available numerical modelling and anecdotal evidence suggested the average current flow near Deep Bight is less than 5 centimetres per second (**cm/s**). Given this, he expected any impact on flow would be 'at most modest' given the size of the extension and orientation of the current flow to the longlines. He noted studies indicated short term localised reductions of phytoplankton of up to 60 percent, but that this is limited to within the consented area.

80. In response to questions, Dr Hartstein said there was little uncertainty that the carrying capacity would be exceeded, as the volume of water flow is greater than what is filtered by the mussels. In addition, he noted a CT/RT ratio of 1.2 indicated there is still room to move before any carrying capacity is reached. He noted the large difference in assumptions used by both methods, particularly in regard to mussel stocking density and the volume of water each mussel processes per hour. He considered the KCSRA method to be the most conservative and noted it showed the extension is well within the carrying capacity of Te Whanganui/Port Underwood.

81. In his second statement of evidence, Dr Hartstein calculated the CT/RT ratio for the Western Arm using the KCSRA and Cawthron methods. He noted he had used a more realistic calculation of volume for the Western Arm using 900 ha (one third of the Te Whanganui//Port Underwood water body). His analysis showed the CT/RT ratio for Western Arm was 1.14 using the KCSRA method and 2.22 using the Cawthron method. However, he emphasised, he remained of the view that Te Whanganui/Port Underwood should be considered as a single water mass due to the water circulation patterns and therefore considered the whole of Port calculations to be more appropriate for assessing the carrying capacity.

82. Dr Hartstein considered Mr Roush had 'cherry picked' the information and had only presented the calculations using the KCSRA method, which he considered this was more conservative. He noted that Mr Roush had used a smaller zone of influence (which missed part of the Western Arm) and had failed to recognise the connectivity of the two arms of Te Whanganui/Port Underwood. He considered Mr Roush had made a significant mistake by assuming the mean tidal level as his maximum average water level, and therefore had underestimated the volume of water and the volume of exchange, and overestimated the impact of mussel filtration.

83. In his rebuttal evidence, Dr Hartstein made comments on the further statement of evidence of Mr Roush and the review and assessment of Dr Giles. He agreed that current speed was a critical parameter in estimating the zone of influence. He noted the current speeds used by Mr Roush (0.01 m/s) and Dr Giles (0.02 m/s) were based on modelled currents and not actual current speeds measured in the Eastern Arm in the Hadfield (2014) study. He also noted Figure 1 of Hadfield (2014) showed depth averaged current speeds in Te Whanganui/Port Underwood ranged from 0.02 to 0.05 m/s, but that Dr Giles had ignored the in-situ data in Hadfield (2014) and the range and had picked the lowest value instead of a mean/middle value. He considered the 0.01 m/s mean current speed used by Mr Roush was not supported by the evidence. He noted Dr Giles' Figure 1 had altered a figure provided in Hadfield (2014) from 'depth averaged current speed' to 'mean current speed' and that this ignored the acknowledged variation of current speed over different depths; and would underestimate flow in upper water column where much of the phytoplankton biomass is found. He noted that assuming low current speeds, assumes little connectivity between the arms and results in a much larger predicted impact. He calculated that using a mean/middle current speed from the range of 0.035 m/s, the radius of the zone of influence would be 3,150 m. He noted that physical evidence showed there was considerable interaction between the Western and the Eastern Arms of Te Whanganui/Port Underwood during a 25-hour period, which contradicts the assumptions made by Mr Roush and Dr Giles.

84. Dr Hadfield provided detail on how he obtained water depth information from the Davidson Report No. 849 (2017) and two studies referenced in that report. He noted these showed water depths can exceed 14 m, even at the head of Western Arm. He agreed there was a lack of bathymetric data for Te Whanganui/Port Underwood. He outlined the sensitivity of the volume of water calculation to water depth (a change of 8.3 percent per metre of depth) in comparison to the sensitivity of the zone of influence to mean current speed (a doubling in the size of the zone of influence from a doubling of the current speed), and considered representative mean current speed was more important to calculating a representative volume of water (amount of water in the zone of influence. He considered calculation of the zone of influence was the most important step in calculating the CT/RT ratio, but also acknowledged the importance of the number of mussels per hectare.

85. Dr Hadfield noted that the points of contention related to the quality and representativeness of the inputs, rather than the method of assessment. He considered it was not valid to treat the Western Arm independently unless the zone of influence calculations supported this. He noted the zone of influence supported only two of Dr Giles options for assessment - Option 2 (Western and Eastern Arms) and Option 3 (the whole of Te Whanganui/Port Underwood). He noted Dr Giles acknowledged connecting the two arms requires current speeds between 0.028 and 0.035 m/s, and that these are within the depth averaged modelled current speeds presented in Hadfield (2014) and are much lower than in-situ measure speeds at 5 m depth in the Eastern Arm (i.e. 0.07 m/s).

86. Mr McFadden highlighted the evidence of Dr Hartstein and the conclusion that the proposed expansion was within the carrying capacity of Te Whanganui/Port Underwood using two methods of assessment. He noted there was no expert evidence from the submitter and that Mr Roush is not an expert in this field.

87. The s42A Report included a review of the application by Dr Steve Urlich, Coastal Scientist with MDC, before any assessments by Dr Hartstein. Mr Urlich noted the Hadfield (2014) study modelled localised depletion of plankton was 30 percent for the existing farms and 5 percent throughout most of the Eastern Arm. He considered the extension would add significantly to the number of mussels in the Western Arm and would affect the growth rate of mussels and possibly wider biogeochemical processes. He considered it was not possible to conclude the effects on productivity are minor without presenting data or calculations to show the carrying capacity has not been reached in Western Arm or Te Whanganui/Port Underwood as a whole. He noted that the data needed to inform any such assessment is held be the industry.

88. On the basis of this review, the MDC requested further information and the Applicant provided the assessment by Dr Hartstein using the ASC Bivalve Standard using both the KCSRA and Cawthron inputs. Dr Urlich reviewed this assessment and concluded *'…the extension is unlikely to lead to the primary production of Te Whanganui/Port Underwood being controlled by mussels.'* (pg. 243, s42A Report).

89. On the basis of the Applicant's ecological report and the review of the application by Dr Urlich the s42A Report concluded there were no effects on biological values which would preclude the extension and that there was unlikely any adverse effect on the primary productivity of Te Whanganui/Port Underwood.

90. The further technical review of the carrying capacity calculations undertaken by Mr Roush for the Western Arm and the further assessments by Dr Hartstein was carried out for the MDC by Dr Giles, as Dr Urlich was no longer employed by the MDC.

91. Dr Giles noted current speed was a critical parameter and had assumed 0.02 m/s (on the basis of Hadfield 2014 range of current mean speeds 0.01 to 0.05 m/s). She noted Mr Roush's approach to determining the zone of influence was a modification of one of four ways provided in the ASC Bivalve Standard. She noted Mr Roush used a mean current speed of 0.01 m/s to calculate a radius of 900 m and had applied this radius to all marine farms in Western Arm to create the area shown on his Figure 2. She noted the ASC approach considered water column effects for a single farm and assumed the radius formed a circle around each farm. She considered use of the ASC approach by Mr Roush for multiple marine farms was a valid interpretation. She noted Mr Roush had used mean water depths of 10.66 m and 9.54 m respectively, and that this was plausible based on Hadfield (2014).

92. Dr Giles considered the whole of Te Whanganui/Port Underwood to be the appropriate zone of influence because this was a more obvious and natural geographic boundary than Mr Roush's Figure 2, and that a radius of 1,800 m for the zone of influence (based on a mean current speed of 0.02 m/s) was more realistic than Mr Roush's radius of 900 m (based on a mean current speed of 0.01 m/s).

93. Dr Giles agreed 'in principle' with Mr Roush's general conclusions that it was likely mussel farming is having an adverse effect on the ecosystem. However, she disagreed Mr Roush's calculations showed there is a high likelihood of 'strong' adverse effects from the existing mussel farms in the area.

94. Dr Giles noted Dr Hartstein had incorrectly stated that clearance value less than 1.0 (CT/RT <1.0) represents to the threshold between 'ideal' and 'below carrying capacity'. She noted the ASC describes CT values greater than 1.0 (CT/Rt >1.0) as an 'expectation that the carrying capacity will not be exceeded' and no further assessments are required, and values less than one (CT/RT <1) 'may be able to control the ecosystem and an additional assessment is required linking clearance time to primary production (PPT)'.

95. Dr Giles undertook her own calculations using the ASC approach and four different scenarios (two for Western Arm and two for Te Whanganui/Port Underwood using two different mussel infiltration rates for each). She presented her CT calculations and those of Dr Hartstein and Mr Roush in Table 2 (pg. 15) of her review report. In three of her four calculations the CT/RT ratio was greater than 1.0. One calculation for Western Arm at the higher mussel infiltration rate was greater than the 1.0 threshold.

96. Dr Giles noted that the ASC Bivalve Standard stated that if the area of all the marine farms within a water body (as defined in Appendix I) was less than 10 percent, no calculation of CT or additional assessment was required. She provided Table 2 (pg.17) showing the mussel farm coverage for Western Arm and noted only Mr Roush's zone of influence (shown in his Figure 2) resulted in a percentage greater than 10 percent.

97. Dr Giles noted that assessing the carrying capacity of a water body is inherently complex and uncertain, and that cumulative effects of multiple farms are very difficult to determine. She concluded that on the scale of Te Whanganui/Port Underwood it can be expected that the carrying capacity was not exceeded by the combined existing mussel farms and the proposed extension. She considered the calculations for Western Arm show that the CT/RT ratio straddles the threshold value of 1.0, but that it was not helpful to determine whether it was slightly below or above the threshold given the natural variability in inputs.

98. On the basis of the calculations of Dr Hartstein and Mr Roush, Dr Giles considered the cumulative effects of marine farming in Western Arm had reached a level where effects should be considered. She noted that additional scientific work was required to provide a robust estimate of where on the scale of *"…'effects are noticeable but of no ecological concern' (arguably indicated by a clearance ratio of CT/RT > 1) and effects that 'at a level where they should be prohibited' ".* She noted that the ASC method stated a CT/RT less than 1.0 indicated mussel farming may be able to control the ecosystem and that additional assessment should be required.

99. In reply, Mr McFadden emphasised the rebuttal evidence of Dr Hartstein and the conclusions reached using the two suggested methodologies for determining carrying capacity. He submitted further research was not required given the ability to trigger section 128 of the RMA at any time during the duration of consent to ensure any adverse effects on ecological values are addressed. On the basis of the evidence of Dr Hartstein, he considered there was no uncertainty which would warrant the adoption of the precautionary principle. He referred to the Environment Court decision in *Contact Energy Ltd v Waikato Regional Council* and the need to base our findings on evidence of probative value and not perceptions of risk which are not shown to be well founded.

Findings

100. We note there is no dispute between the parties as to the ASC Bivalve Standard approaches taken to assess the water column effects.

101. We acknowledge Mr Roush is not an expert in marine science. However, we find his submissions are supported by relevant MPI literature and research. We consider his calculations show the methods used are sensitive to inputs such as water depth, mean current speed and mussel filtration rates, which are naturally variable. This is clearly demonstrated by the use of a mean current speed of 0.01 m/s by Mr Roush to calculate a radius of 900 m for the zone of influence and use of 0.02 m/s by Dr Giles, which doubles the zone of influence to 1800 m. Similarly, use of a mussel filtration rate of 100 litres per mussel per day (Cawthron) doubles the CT calculated using the KCSRA rate of 200 litres per mussel per day. This means the mussels require twice as long to filter the same amount of water because they filtered only half as much water in a given time. Such differences are significant. We accept that the differences in the calculations relate to assumptions and parameters used.

102. We accept the evidence of Dr Hartstein that the assessments of Mr Roush and Dr Giles are based on assumed low mean current speeds that are below or at the lowest value of the range stated in Hadfield (2014) and are not supported by the indicative in-situ data for the Eastern Arm. We accept this is likely to underestimate the CT and has a significant impact on the zone of influence. We accept the water depths used by Dr Hartstein are representative based on the Davidson Report No. 849. We accept the evidence of Dr Hartstein that calculation of the zone of influence is the most important step in calculating CT/RT ratio, but note that other parameters such as mussel numbers per hectare and mussel filtration rates are also important.

103. Overall, we consider the assessments of Dr Hartstein to be appropriate and valid, and in accordance with the ASC Bivalve Standard. We agree with Drs Hartstein and Giles that the appropriate zone of influence for any assessment of the cumulative effect on carrying capacity is the whole of Te Whanganui/Port Underwood. However, this is not to say that the more localised effect on Western Arm or the inshore environment is not a relevant consideration.

104. On the basis of the evidence, we find that the proposed extension is likely to be within the carrying capacity of the whole of Te Whanganui/Port Underwood and that any cumulative adverse effects on ecological production have not reached a point where they are likely to be of concern. However, we accept the evidence indicates that the existing extent of marine farms in combination with this extension may be close to the CT threshold for Western Arm, where further assessments should be required to determine whether effects on the water column (particularly on inshore habitats that are effectively surround by a ribbon of marine farms) are at a level where ecological effects need to be avoided or mitigated.

105. However, we note that use of the ASC Bivalve Standard states that the trigger level for assessment of cumulative effects based on the percentage of mussel farm coverage is 10 percent. On the basis of the evidence present, we note this threshold has not been met for either Western Arm or the whole of Te Whanganui/Port Underwood, although it appears the consented area for Western Arm may be close to this trigger level. We note this because we consider the MDC's request for the assessment by Dr Hartstein was consistent with a precautionary approach.

106. We rely on the further calculations of Dr Hartstein and his evidence that the water flows in the two arms are connected to conclude that any adverse effect of the extension on the productive carrying capacity is likely to be minor. We note Dr Giles agreed the appropriate zone of influence is Port Gore and that the physical data suggests the arms are connected.

107. We do not accept that a CT less than the threshold level of 1.0 (CT/RT<1) indicates there are 'strong' or significant adverse effects on the ecological productivity Western Bay. It indicates marine farming in Western Arm may be approaching levels where mussels may control phytoplankton concentrations and that further work should be required. We agree with Dr Giles that in this situation numerical modelling supported by robust water quality survey would be required to provide more robust information.

108. Given the location, extent and scale of the existing marine farms in Western Arm and the results of the Hadfield (2014) study, we consider an assessment of the cumulative effect of the existing marine farms on the productive carrying capacity of Western Arm based on field measurements may be warranted. However, we agree with Mr Johnson that it would be unreasonable to require the Applicant to undertake such an overarching study given the assessments undertaken. We accept this is a matter for the MDC to consider in relation to monitoring the effects of marine farming in Te Whanganui/Port Underwood. We also accept monitoring chlorophyll-a concentrations within and outside sites, as an indicator of phytoplankton depletion would need to be a requirement for all marine farm sites to provide robust and meaningful information.

109. We acknowledge the concerns of Mr McFadden that Dr Giles did not provide details of her qualifications and experience, or provide attested or sign evidence. However, we note a link to her qualification and experience was provided in her review.

Shape of the southern boundary creating a zig zag access between sites

110. The Association submitted that the zig zag shape of the clear space between Site 8419 and Site 8420 will '*create confusion, blind and possibly unsafe entry or exit from CMZ1 to the foreshore around Deep Bight Bay'* and that the effect will be more than minor on amenities and visual aspects of the area.

111. Mr Roush commented on the revised layout and considered the method proposed by the Applicant to avoid impeding the accessway was not the best way of achieving this. He provided revised Appendix A and Appendix B, which effectively removes the triangular shape of the southern boundary so it aligns with the southern boundary of the existing site. He considered this was simple and is in keeping with the layout design and physical construction of the existing farm and adds certainty to the position of the farming structures. He said the Applicant's revised layout is unnecessarily complicated and requires changes to the conditions. He noted contractors and workers extending structures may not be aware of consent requirements and compliance checks may not pick up incorrect structure placement. He raised concern that the prohibition of surface structures may be changed later and lead to uncertainty as to whether the site could expand further. Overall, the Association agreed with the recommendation of Mr Johnson that the length of the warps be reduced and the southern boundary aligned with the existing boundary of the existing site.

112. Mr McFadden noted that this view is not shared by the Harbour Master or Captain Walker, as experts in their field, or by Mr Johnson. He submitted if it was the case, the holder of Site 8420 would have submitted. In response to questions, he re-iterated the MSRMP assessment criteria. He acknowledged navigational safety is only one aspect, but submitted it was important to look at the level of public use to consider the effect on public space, and recreational and amenity values.

113. Mr Tester noted the proposed additional four longlines would range in length from 159-193 m, to allow for the best use of space. He considered that, as a regular user of Te Whanganui/Port Underwood, there would be no safety issues with the shape of the proposed access between sites. He said other parts of Te Whanganui/Port Underwood are more likely to be used for recreation.

114. The s42A Report acknowledged the extension could potentially affect recreational boating and fishing, and considered the protrusion seaward and the irregular shape of the access between sites. It concluded any effect would be minor given alternative accesses maintained between marine farm sites. However, Mr Johnson noted concern regarding inconsistency with objectives and policies requiring the maintenance and enhancement of public open space and recreational qualities, and the maintenance and enhancement of public access to the foreshore due to the shape of the access between sites.

115. Mr Johnson reviewed the revised layout and the amendments made to avoid surface structures in the triangular shaped area of the proposed extension on the southern site boundary. He noted the proposed warp ropes were unnecessarily long and have a warp ratio of 5:1 (5 m of warp length to 1 m depth), which is not in accordance with the warp ratio of 2:1 stated in the Applicant's revised Appendix B. He considered this aspect of the proposal did not represent an efficient use of space. He recommended the proposed southern anchors be repositioned to the northeast and reduced to 22 m in length, and the proposed southern boundary aligned with the existing site boundary. He considered this would address the inefficient use of space and kept the anchor ropes from the water surface.

116. In reply, Mr McFadden submitted Mr Johnson had reported on a number of marine farms with extremely long warp ropes which had been consented. He said Mr Johnson had not expressed concern in those cases, despite the warp ratio being 10:1. He submitted that if we were concerned, we could consider imposing a maximum warp ration of 3.5:1 (i.e. maximum 44 m warps).

Findings

117. We accept the evidence of the Harbour Master and Captain Walker that any effect on navigational safety is likely to be minor. However, we consider the shape of the access also relates to maintenance of public access to the foreshore, maintenance of open space and maintenance of recreational use.

118. We find the proposed zig zag shape of the access between Sites 8419 and 8420 should be avoided to reduce adverse effects on recreational users and to maintain the existing level of access to the shoreline from the open water. We consider the amendments made by the Applicant, to avoid surface structures in the triangular area of the proposed extension, addresses issues related to maintaining a clear line of sight from the open water to the shoreline. However, it does not avoid subsurface ropes which may be close to the water surface or maintain the general pattern of gaps between sites or existing level of public access. In looking at the overall spatial extent and pattern of marine farms surrounding the tongue, we consider it is important to, at least, maintain the existing level of access to the foreshore.

119. We consider use of the triangular area of the proposed extension to enable long warp ropes is not an efficient use of space and is not justified on the basis of any physical constraints.

120. We agree with Mr Roush that it is not desirable to have irregular shape boundaries and varying longline lengths from a compliance point of view, unless there is a valid reason to do so. We do not accept the triangular shape of the extension represents an efficient use of shape or use of public space.

121. Overall, we agree with Mr Johnson that the proposed southern anchors should be repositioned to the northeast and the warps reduced to 22 m in length, in accordance with the structure design and configuration used on the existing site. We agree that the proposed southern boundary should be aligned with the existing site boundary and the additional longlines reduced to 137 m in length, with 22 m warp length.

Landscape and amenity effects

122. Mr Roush, for the Association, submitted the size and location of the extension would have negative effects on the amenity values of this area of Te Whanganui/Port Underwood, as perceived by many people. He noted it was closer to the CMZ1 boundary than Site 8420 and did not align with the other sites. He said the additional lines combine with the other sites and give a sense of one large block of mussel lines. He considered the large unnatural commercial intrusion impacts on the natural highly indented coastline and creates straight edged barriers which are at odds with the character of the Port. He noted the Association believes this application and other extensions have reached a point where the commercialisation over-dominates the naturalness of the area to the detriment of the local community.

123. Mr Roush considered Mr Langbridge had overstated the ‘working character’ of the landscape and noted that, apart from during harvest time, the area was one of green natural growth. He noted it was the marine farms that had created man-made intrusions and that the concerns regarding adverse effects on amenity had been raised by the community for years. He said that the separation gaps between farms were ‘minimal’ in relation to the total amount of farms in this area, and that the extent along the coast and depth from the shoreline had a more than minor impact on amenities and visual aspects.

124. In response to questions, Mr Roush agreed that recreational use of the area was not high, but he considered marine farms alienate people. He noted there was no survey data to know the level of recreational use before the marine farms were in the area.

125. Mr Langbridge described the context of the application site and assessed the visibility of the extension. He referred to the zoning of Te Whanganui/Port Underwood in the MSRMP, the 'Marlborough Landscape Study' (2009) and 'The Natural Character of the Marlborough Coast Report' (2014) which were commissioned to inform the proposed MEP. He confirmed these documents did not identify any marine or terrestrial environments near the subject site as holding high or very high natural character values. He noted the whole of the Sounds had been identified as a 'High Amenity Landscape', but no outstanding natural features or landscapes (**ONFL**) had been identified near the application site.

126. Mr Langbridge considered the amenity values of the local environment to be a 'working landscape' due to the dominance of marine farming and forestry. He described the terrestrial natural character values as 'moderate' due to the working character, the visual presence and patterns of human activities and the extent of existing development. Overall, he concluded the natural character values of the marine and terrestrial components were 'moderate to low' and that the extension would not reduce this further.

127. In terms of visual effects, Mr Langbridge noted the site was flanked by other marine farms and lines up with the seaward extent of other sites. He noted the terrestrial backdrop was production pine forest that would need harvesting within the next 5-10 years. He considered the views were of a 'strongly working' environment. He noted the visibility of the site had 'moderate to low prominence' due to its isolation, the ribbon of existing farms and distance from dwellings. He said the extension was minimal in terms of extent and that no new impacts are introduced into the landscape. He concluded that, due to the presence and expanse of the existing marine farms visible in this location and the visual sensitivity the landscape had to the change of an existing effect from the proposed extension, the impact would barely register when viewed from existing dwellings.

128. Mr Langbridge considered that marine farming had a significant visual presence within Te Whanganui/Port Underwood and contributed to the characterisation of a 'working environment'. He stated that while the presence of these marine farms did not justify the proposed expansion, it mitigated or reduced/disguised the perceived impact. He concluded any adverse effects on landscape, natural character and visual amenity would be less than minor.

129. The s42A Report noted that the overall natural character of the Te Whanganui/Port Underwood coastal marine area (**CMA**) is 'moderate-high', but that within this there are sub-areas which had been modified to be 'moderate to low'. It noted the application site was within one of those areas modified by forestry and marine farming. It concluded that the extension would detract to some extent from the experiential values of the area, but that within the context of the site this would not be significant. In response to questions, Mr Johnson stated the effects were likely to be less than minor.

130. The s42A Report noted the extension would occupy open space and would therefore have some adverse effect on landscape/seascape values. However, it concluded that within the context of the site this would not be significant. Again, in response to questions, Mr Johnson considered the effects were likely to be less than minor.

131. The s42A Report outlined the definition of amenity values and values within the context of the application site. It stated that the existing ribbon of marine farms (including Site 8419) had a significant bearing on the overall amenity values and that the application would further erode the public open water space and associated freedom of movement that contributed to people's appreciation of the pleasantness, aesthetic coherence, and cultural and recreational attributes of the area. However, in response to questions, Mr Johnson considered the scale of this 'further erosion' would be no more than minor in the context of the Western Arm of Te Whanganui/Port Underwood.

Findings

132. We note the application site is not in an area identified as an ONFL or in an area identified as holding high or very high natural character values.

133. On the basis of the evidence of Mr Langbridge and Mr Johnson, we find that the adverse effects of this application on natural character, landscape and visual amenity are likely to be no more than minor given context of the application site, the extent and pattern of existing marine farms, the low prominence of the application site and the distance from dwellings.

134. We note that we are required to consider the effects of the application on the existing receiving environment, which includes the existing consented marine farms and permitted activities such as commercial forestry. In this regard, we agree with Mr Roush that the assessments of Mr Langbridge rely heavily of the context of the stated 'working character' or 'working landscape' of the eastern side of the Western Arm. This causes us to have particular regard to the cumulative effects of this application.

135. The evidence shows that marine farming has, over time and in combination with commercial forestry, contributed to ongoing reductions in the natural character, landscape values and visual amenity of the area. However, the question for us is whether this application has reached a point where the cumulative effect of this application will be more than minor.

136. To address this, we have carefully considered the size, extent, shape, seaward alignment and pattern of the existing marine farms within the context of the Western Arm. Overall, we find that, with the removal of the triangular shaped area from the extension, the existing visual separation of the sites will be maintained and the two sites will not appear to be one large contiguous site from the open water. We accept the extension aligns with Site 8419 and the most seaward extent of Site 8420, and align with the overall seaward extent of existing marine farms. We accept the evidence of Mr Langbridge that the extension will be difficult to detect once the consented structures on Site 8419 are installed.

137. On the basis of the evidence of Mr Langbridge and Mr Johnson, we find that the cumulative effect of the application on natural character, landscape values and amenity will less than minor.

Cumulative effects

138. The Association raised concern that the continuing encroachment and infilling of the gaps between the existing farms would result in a virtually contiguous ring of the shoreline. It noted that once this has been exhausted, it would be followed by extensions seaward closer to the CMZ1 boundary. It highlighted there was no inherent statement in the MSRMP that marine farms should occupy all of CMZ2.

139. The Association noted the extension was considerably closer to the CMZ1 boundary than Site 8420 to the south and will not align with other farms. It stated that the ever-increasing bulk of the combined marine farms will be more than minor on the amenities and visual aspects.

140. Mr Roush noted that the 'minor' extensions to existing marine farms had resulted in a doubling of the area of marine farms in Western Arm. He said that these extensions had been established without proper study into the cumulative effects on the ecological environment. He submitted that if the cumulative effects of the existing marine farms were already at an adverse level, therefore any additional impact must be more than minor and not acceptable. He considered it was illogical to only assess the effects of each extension and not the whole activity.

141. Mr Roush noted that Mrs McNae acknowledged that there would be a 'tipping point' in terms of the productive carrying capacity and that any incremental change beyond this would have an unsustainable adverse cumulative effect. He said the members of the Association considered this point has been reached in terms of amenity values, open space and natural character.

142. Captain Walker noted the proposed extension would protrude further seaward than Site 8420, but not as far as Site 8640. He noted the application would result in a 'step' in an otherwise continuous straight line formed by the seaward extremity of the marine farms along the coast, which could arguably confuse a mariner trying to decipher the lights. However, he noted this 'step' already exists and was in effect moved south by this application. He considered the lighting on the extension would be obvious in the unlikely event a recreational vessel was navigating at night.

143. Mrs McNae stated Te Whanganui/Port Underwood CMA is approximately 2705 ha, comprising 971 ha of CMZ1 and 1734 ha CMZ2. She noted 206 ha of the 1734 ha CMZ2 area is currently consented for marine farming, with 61 ha of consented sites along the western flank of the tongue. She calculated the 1.54 ha expansion represented a 2.5 percent increase in the marine farms located along the western flank of the tongue and a 0.74 percent increase in the overall marine farm occupation in Te Whanganui//Port Underwood. She stated marine farms currently occupy 11.88 percent of the CMZ2 area and that the application would increase this to 11.96 percent.

144. Mrs McNae acknowledged that small incremental expansions would at some point reach a 'tipping point', but that in terms of carrying capacity and other effects assessed this had not been breached. She noted that there was limited potential for further allocation of public water space, as the ribbon of existing and consented farms occupied most of the space left within the CMZ2. She considered a limit would be reached in terms of the seaward pattern of protrusion to ensure public access to the shore is available and the navigation environment remains acceptable. She considered there is also a tipping point for cumulative effects on natural character.

145. On the basis of the expert assessments, Mrs McNae concluded that overall any adverse environmental effects and cumulative effects would be no more than minor. In response to questions, Mrs McNae considered the 'blue ribbon line' on the aerial photograph titled 'Ribbon Line - consented areas' showed there was little opportunity for expansion seaward in providing for safe navigation and a predictable pattern of development. She agreed that the access gaps between sites related to recreational use and amenity values, as well as matters of navigational safety. She considered removal of surface structures from the triangular area on the southern boundary would enable line of sight from the sea to the shore.

146. The s42A Report stated that the Western Arm of Te Whanganui/Port Underwood contained about 61 ha of marine farming space. It calculated 1.54 ha represents a 2.5 percent increase to the existing marine farming space in the Western Arm. The report concluded the extension would have noticeable cumulative effects on natural character and landscape/seascape values, but that within the context of the site these would be less than minor.

Findings

147. On the basis of the evidence, we accept that the ongoing extensions of existing marine farms is having a cumulative effect on open public space, navigational safety, natural character and landscape, visual amenity, recreational use and ecological productivity. It is clear there is a 'tipping point' where a relatively small extension may result in adverse effects that are more than minor. We have assessed cumulative effects on natural character, landscape values, visual amenity and primary production above.

148. We accept that the aerial extent and percentage increase of this application is small, but acknowledge a large proportion of the CMZ2 space between 50 m from MLWS and 200 m from MLWS is already occupied by marine farms.

149. We agree with the Association that any significant increase in the seaward extent or reduction in the separation gaps between sites would have more than minor adverse effects on open public space, natural character, recreational use, and public access to and along the CMA. In this regard, we accept the proposed extension does not protrude further seaward than a line drawn between Site 8640 and the most seaward point of Site 8420. We consider existing public access would be reduced if the existing access between sites was changed to create an irregular shape and recreational users were required to avoid subsurface structures. We consider any reduction in the gaps between marine farms or reduction in existing access points from the open water to the foreshore should be avoided.

150. We accept the evidence of Mrs McNae that there is very little, if any, scope for further expansions in Western Arm given the alignment of the 'ribbon' of marine farms and the existing pattern of marine farms. We highlight the evidence that only approximately 450 m of open water remains between a point 200 m from the land on the west side and a point 200 m from the seaward line of marine farms. In our view, this has reached a point where any further extension seaward would be likely to have significant adverse effects on the navigational safety, amenity, recreational values, open space and natural character.

151. On the basis of the evidence of Mrs McNae and Mr Johnson, we find that overall any cumulative effects of the application will be no more than minor with the imposition of appropriate conditions

Section 104(1)(a) Environmental Effects

152. On the basis of the evidence presented and our finding above, we accept that overall the actual and potential effects of the application on the environment will be no more than minor.

153. We note the evidence of Mr Tester that there will be positive effects from the extension by contributing to employment opportunities and export earnings for the region. He estimated the extension would enable the production of 60 tonnes of mussels per year, which he calculated would create employment for one person for 100 days per year.

154. We note the evidence of Mrs McNae in relation to the significant positive effects of marine farming, but also note that she acknowledged through questioning that this would be small given the relatively small extension.

155. Overall, we find the extension will have small positive effect on the Applicant and their employees.

Section 104(1)(ab) Offsets or Compensation

156. We are required to consider 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 arise from allowing the activity.

157. No offsets or compensation were proposed by the Applicant.

Section 104(1)(b) Relevant Statutory and Plan Provisions

158. An assessment of the application against the relevant planning provisions of the NZCPS, RPS, the operative MSRMP and the proposed MEP was provided in the s42A Report by Mr Johnson and by Mrs McNae for the Applicant.

159. The s42A Report concluded the application was consistent with some of the relevant provisions and inconsistent with other provisions. The report set out the most relevant provisions of the NZCPS, RPS, MSRMP and the proposed MEP, and made comment on each provision.

160. Mrs McNae noted the operative MSRMP was the relevant statutory plan and that the proposed MEP contained no rules or policy guidance in relation to marine farming. She highlighted the two zones CMZ1 and CMZ2 determined at a broad level where marine farming was inappropriate and where marine farming was potentially appropriate.

161. Mrs McNae provided her comments on the s42A Report's table of planning provisions and noted where she concurred and disagreed. She noted the application would not enhance public open space and recreation qualities and values (NZCPS Policy 6(2)(b)), but that these values would be maintained. She considered the application was not contrary to NZCPS Policies 11 and 13, as any adverse effects would be no more than minor. She considered the application was consistent with RPS Policy 7.1.10 as it was clustered with existing marine farm development and the seaward line of the consented areas. She noted there was no statutory mechanism requiring a 'buffer zone' from the CMZ1 boundary and that being close to the boundary is not in itself an adverse effect. In terms of RPS Policy 7.2.10, she highlighted the evidence of Captain Walker and considered public access to the shore would not be prevented.

162. In relation to the MSRMP Part 8.3 Objective 1 and Policy 1.2 (public access to and along the CMA) and Policy 1.1 (navigation and safety) Mrs McNae considered the application would maintain public access and that the shape of the access would not be a 'significant complication'. She noted that although it was not a regular shape, the access proposed maintained the existing access width and adequate separation was maintained.

163. Mr Roush submitted that the lack of information demanded a precautionary approach and a stop of any increases until the magnitude of the combined effects is proven.

164. At the hearing, we asked Mr Johnson to comment on whether the application was consistent with each of the provisions listed in the s42A Report. In relation to the NZCPS, he concluded the application was consistent with all the policies set out, except for Policy 6(2)(b) because its size, shape and location would detract from, rather than maintain and enhance, public open space and recreation qualities. In relation to the RPS, he concluded the application was consistent with the provisions, except Policy 7.1.7 (to promote the enhancement of amenity values) and Policy 7.2.10 (public access to and along the CMA and recreational use). In relation to the MSRMP, he concluded the application was generally consistent with the provisions, except Part 8.3 Objective 1 and Policy 1.2 (public access to and along the CMA) and Policy 1.1 (navigation and safety) due to modifying the shape of the access route and effects on recreational use between the marine farm sites.

165. Mr Johnson considered the mitigation provided by removing the triangular shaped area on the southern boundary would ensure amenity values, open space, navigational safety, recreational use and public access to and along the CMA were maintained. He concluded that, with the recommended mitigation proposed, overall the application was consistent with the provisions outlined and was not contrary to any provisions. He considered little weight should be given to the provisions of the proposed MEP.

166. In his further comments, Mr Johnson considered the length of the warp ropes in the triangular shape area on the southern boundary of the proposed extension and a warp ratio of 5:1 did not promote the efficient use of space (NZCPS Policy 6(2)(e)). To address this, he recommended the length be reduced to 22 m, with a maximum warp ratio of 2:1 in accordance with Appendix B of the proposed conditions; and that the boundary of the southern boundary of the proposed site be amended to align with the existing site boundary.

167. Mr McFadden submitted we should prefer the 'more detailed assessment' of Mrs McNae. He noted NZCPS Objective 2 and Policies 8 and 13. He noted the preservation of the natural character of the coastal environment is achieved by the avoidance of adverse effects on areas of outstanding natural character and the avoidance of 'significant' adverse effects on the natural character of all other areas of the coastal environment. He submitted Policy 8 recognises the importance of aquaculture in appropriate places and that the MSRMP reflected this through the CMZ2. He noted the MSRMP focussed on effects to be avoided, remedied and mitigated within the zone and set out the assessment criteria.

168. Mr McFadden submitted that the proposed MEP has no relevance to our determination given the stage of the planning process and the fact it will be subject to change.

Findings

169. We have had regard to all of the relevant objectives and policies of the NZCPS, RPS and MSRMP. We have given these provisions significant weight. We have had regard to the relevant provisions of the proposed MEP, but note this plan does not directly address marine farms. We have given the provisions of the proposed MEP little weight.

170. Overall, we agree with both Mr Johnson and Mrs McNae that the application is not 'contrary' to the relevant planning provisions.

171. We acknowledge it is unlikely that marine farming would enhance the coastal environment, but accept many of these provisions require the maintenance of existing amenity values and recreational use, the quality of the environment, and public access to and along the CMA.

172. Overall, we agree with Mr Johnson that any inconsistency with the provisions outlined can be avoided by removing the triangular shaped area from the extension to ensure the existing level of amenity value and public access is maintained. We do not accept that ensuring public access is not prevented is consistent with the clear directive to maintain.

173. On the basis of the evidence, we find that with the removal of the triangular shaped area of the extension, the application is consistent with the relevant provisions of the NZCPS, RPS and MSRMP. Overall, we are satisfied the Applicant has sufficiently avoided and mitigated adverse the environmental effects of the proposed extension.

Section 104(1)(c) Other Matters

174. The s42A Report noted that marine farm Site 8419 was originally established as a 2.6 ha farm operating under marine farm license MFL382 granted on 19 August 1987. This site was extended by a further 1.4 ha to a total area of 4 ha through a variation to MFL382 registered on 5 May 1994. This site was extended further by 3.29 ha through resource consent U130312 granted on 12 November 2013.

175. The s42A Report also noted that the marine farm to the north, Site 8640, was recently extended by 6.87 ha under resource consent U170288 granted in 19 October 2017. We were provided with a copy of the MDC's decision granting this extension.

176. In response to questions, Mr McFadden agreed the other application to extend existing marine farm sites adjoining the application site were relevant other matters to be aware of.

177. We have had regard to these extensions and the decision regarding U170288.

178. The submission by the Association stated that the extension to within 120 m of the CMZ1 boundary would set a precedent for future applications to be granted. Mr Roush noted the Association considered this application on top of previous extensions goes too far and would promote the desire for more applications and a never-ending cycle of expansion.

179. Mr McFadden submitted that while it is often said that a non-complying activity can lead to a 'precedent', the Courts have addressed this matter on many occasions. He noted *Dye v Auckland Regional Council* where a precedent is not an environmental effect in terms of section 104(1)(a) and is different to any cumulative effect; and *Ross Croft Orchards Limited v Waimakariri District Council* where a non-compliance with a plan cannot of itself create a precedent effect, even though there may be situations where such an effect occurs, if there is a nexus between a precedent effect and a cumulative effect that follows.

180. On the basis of the evidence, we accept that the grant of consent for non-complying previous extensions has given other marine farmers the confidence to make a similar application. However, we acknowledge that each application must be considered on its merits. We have paid particular attention to cumulative effects.

Section 104D

181. Mr Roush noted it was the responsibility of the Applicant to prove that any adverse effects will be minor. He considered the 'absence of evidence is not evidence of absence' and that lack of information did not imply there were no effects. He noted it is not sufficient to say the expansion was small therefore the cumulative effect minor. He submitted the application would be contrary to objectives and policies of the plans. He said the Association considered the application passed neither gateway test of section 104D.

182. Mrs McNae considered the adverse effects of the proposed extension would be no more than minor on the basis of the assessment of environmental effects. While she acknowledged the application was not supported by all the objectives and policies, she considered the expansion was not contrary to the nature of the relevant provisions. She concluded the application passed both gateway tests under section 104D.

183. Mr Johnson considered the application passed both gateway tests and that there was no impediment to granting consent.

184. On the basis of the evidence, we have found that overall the actual and potential adverse effects on the environment from the application will be no more than minor with the imposition of appropriate consent conditions and the removal of the triangular shaped area. We have also concluded that the application is not contrary to the relevant objectives and policies of the NZCPS, RPS and the operative MSRMP. We therefore find the application passes both gateway tests of section 104D(1) and can be considered under section 104(1) and granted under section 104B.

Part 2 of the RMA

185. Mrs McNae considered Part 2 of the RMA and considered sections 6(a), (d) and (e) were relevant to the application. She noted the MSRMP recognises and provides for the preservation of natural character from inappropriate use and development through the CMZ1 area. She considered the assessment of effects showed the proposed extension was an appropriate use and development within the CMZ2 area. She noted the application maintained public access and that no marine farm would enhance public access. She stated there was no evidence there is any adverse impact on cultural relationships.

186. Mrs McNae noted the relevance of sections 7(b), (c), (d) and (f) and considered the application supports the efficient use of resources while avoiding and mitigating adverse effects on public access, recreational use, amenity values, intrinsic values and the quality of the environment. She concluded that the expansion represents sustainable management, as defined in section 5 of the RMA.

187. All our considerations of the application are subject to Part 2 of the RMA, which contains the purpose and principles of sustainable management. We accept that the provisions of the NZCPS, RPS and MSRMP give effect to the purpose and principles of the RMA within the context of the coastal environment. We acknowledge the RPS pre-dates the NZCPS. We note the NZCPS is the highest order instrument and consider the relevant objectives and policies of the RPS and MSRMP do not detract from or conflict with the higher order document.

188. We have also considered the relevant objectives and policies of the proposed MEP and the general thrust of the provisions in relation to transportation, occupation of space, landscape and amenity, ecological values, cultural values and navigational safety.

189. Overall, we agree with the Applicant and the Reporting Officer that the proposed extension of the existing marine farm is consistent with Part 2 of the RMA and the promotion of sustainable management, as defined in section 5.

Conditions

190. On the basis of our findings in relation to the adverse effects of the zig zag shape of the access and use of the triangular shaped area of the extension for subsurface structures only, we have removed this area from the extension area granted. We have adjusted the southern site boundary and the length of the longlines to match the existing marine farm. This is reflected in Appendix A and Appendix B, attached to the conditions

191. There was a high level of agreement between the Applicant and the Reporting Officer that the proposed conditions were appropriate, reasonable and acceptable. We agree. We have amended the extension area granted to 1.265 ha to reflect the reduced consented area.

Conclusion

192. We find there is no restriction on the grant of consent under section 104D. We have considered the application under section 104 and 104B. We are satisfied the actual and potential environmental effects of this application will be no more than minor and are consistent with the relevant provisions of the NZCPS, RPS and MSRMP. We are satisfied that the purpose and principles of the RMA can be achieved by granting the application to extend marine farm Site 8419, subject to the conditions set out in Appendix 1 of this decision.

Sharon McGarry
Independent Hearings Commissioner

Cynthia Brooks
Councillor, Marlborough District Council

Date this 27th day of June 2019

Appendix 1

1. This coastal permit shall expire on 1 December 2033.

2. This coastal permit shall lapse three years from the date of its commencement.

3. Within two weeks following the installation of any structures pursuant to this coastal permit, the consent holder must inform the Compliance Manager, Marlborough District Council, by written or electronic notice of the installation date and the type and number of structures installed.

4. Any one or more of the following species may be farmed:
   a) Greenshell mussel (*Perna canaliculus*)
   b) Scallop (*Pecten novaezelandiae*)
   c) Blue mussel (*Mytilus galloprovincialis*)
   d) Dredge Oyster (*Ostrea chilensis*)

   and/or the following algae species:

   e) *Macrocystis pyrifera*
   f) *Ecklonia radiata*
   g) *Gracilaria spp.*
   h) *Pterocladia lucida*

5. Without restricting the consent holder from reasonably undertaking the activities authorised by this resource consent, the consent holder must not undertake the activities in such a way that would effectively exclude the public from the permit area.

6. There shall be no feed artificially introduced into the marine farm unless a specific coastal permit for discharge is firstly obtained.

7. The structures authorised by this consent must be wholly within the 1.265 hectare area identified in **Appendix A** to this consent and must be laid out in a manner that conforms with **Appendix B** to this consent.

8. The structures shall be limited to the anchors, ropes, droppers, cages, racks, floats and lights associated with the farming of the approved species within the boundaries of the consent area. The number of lines shall be at the discretion of the consent holder, but shall not exceed the number and length shown in **Appendix B**, the separation distances between lines must be no less than as shown, other distances must be as shown and lines must be oriented as shown.

9. Within one month of the installation of the structures (or each stage of structures, if the development is to be staged), the consent holder must provide documentary evidence to the Compliance Manager, Marlborough District Council, that demonstrates that all installed or repositioned farm structures, including anchor blocks and warps, are wholly contained within the authorised farm boundaries and in all respects comply with Conditions 7 and 8 above.

10. The type, design, functionality and placement of marine farm lighting and marking shall be as approved by the Harbour Master under his or her Maritime Delegation from the Director of Maritime New Zealand pursuant to Sections 200, 444(2) and 444(4) of the Maritime Transport Act 1994.

11. Each end of the most landward and most seaward longlines must carry the name of the consent holder and the marine farm site number and be displayed in bold, clear letters in such a manner that they can be clearly read from a distance of at least 10 metres.

12. Except as required by the Harbour Master in the lighting and marking plan, all buoys used on the farm must be black in colour.

13. All farm structures must be designed, constructed, installed and maintained in a manner which ensures that they are restrained, secure and in working order at all times.

14. The consent holder must take whatever steps are reasonably necessary to retrieve any non-biodegradable debris lost in or from the permit area.

15. Upon the expiration, forfeiture or surrender of the coastal permit the consent holder must remove all structures including buoys, longlines, blocks, and all associated equipment from the site, and restore the area as far as is practicable to its original condition to the reasonable satisfaction of the Marlborough District Council. If the consent holder fails to do this the Marlborough District Council may arrange compliance on the consent holder's behalf and expense.

16. In accordance with section 128 of the Resource Management Act 1991, the Marlborough District Council may, during the months of January to December (inclusive) in any year for the duration of this consent, serve notice of its intention to review the conditions of this consent for any of the following purposes:
    a) To deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or
    b) To modify the lighting and marking plan; or
    c) To modify the type, number and extent of structures, longlines and backbones; or
    d) To ensure that adverse effects on ecological values, maritime safety, public access and amenity values are adequately avoided, remedied or mitigated; or
    e) To incorporate best management practice guidelines developed to address the cumulative effects of marine farming; or
    f) To protect the extent and/or health of whale and/or dolphin habitat.

Advice Notes

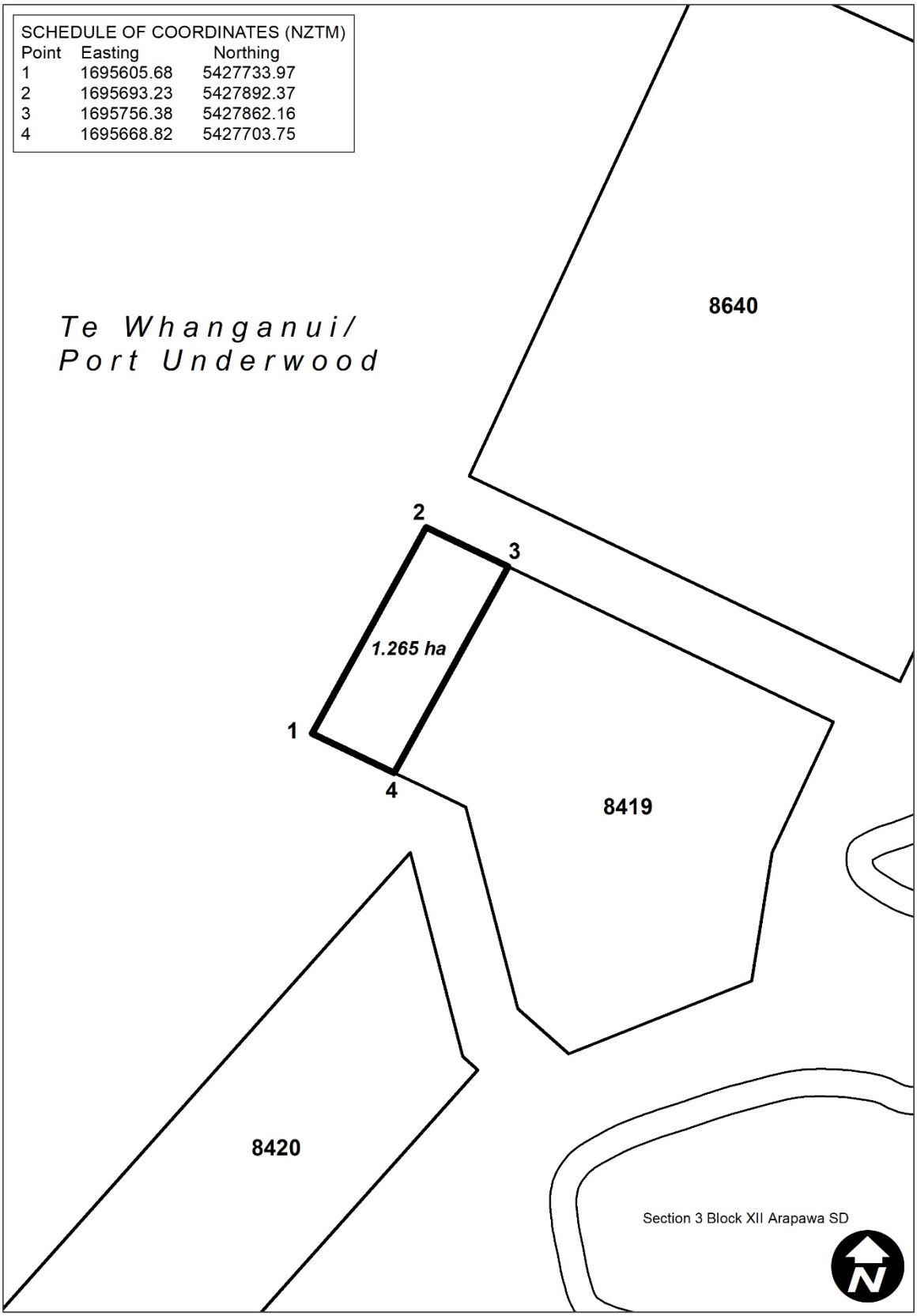
1. Pursuant to section 36 of the Resource Management Act 1991 and the Marlborough District Council's schedule of fees, the consent holder will be responsible for all actual and reasonable costs associated with the administration and monitoring of this resource consent.

2. The consent holder will in the future be required to pay coastal occupation charges if they are imposed through the Marlborough District Council's resource management plans.

3. This consent cannot commence other that in accordance with section 116A of the Resource Management Act 1991.

4. Pursuant to section 114(4)(c)(ii) of the Resource Management Act 1991, the Marlborough District Council is required to request an aquaculture decision from the Ministry for Primary Industries (MPI) after the appeal period is completed or all appeals are determined for this consent. The MPI will undertake an assessment of the undue adverse effects on customary, recreational and non-quota commercial fisheries resources. Depending on the MPI's decision, the applicant may be able to establish the marine farm as granted, or the Marlborough District Council may have to modify or reverse this decision.

Appendix A


SCHEDULE OF COORDINATES (NZTM)
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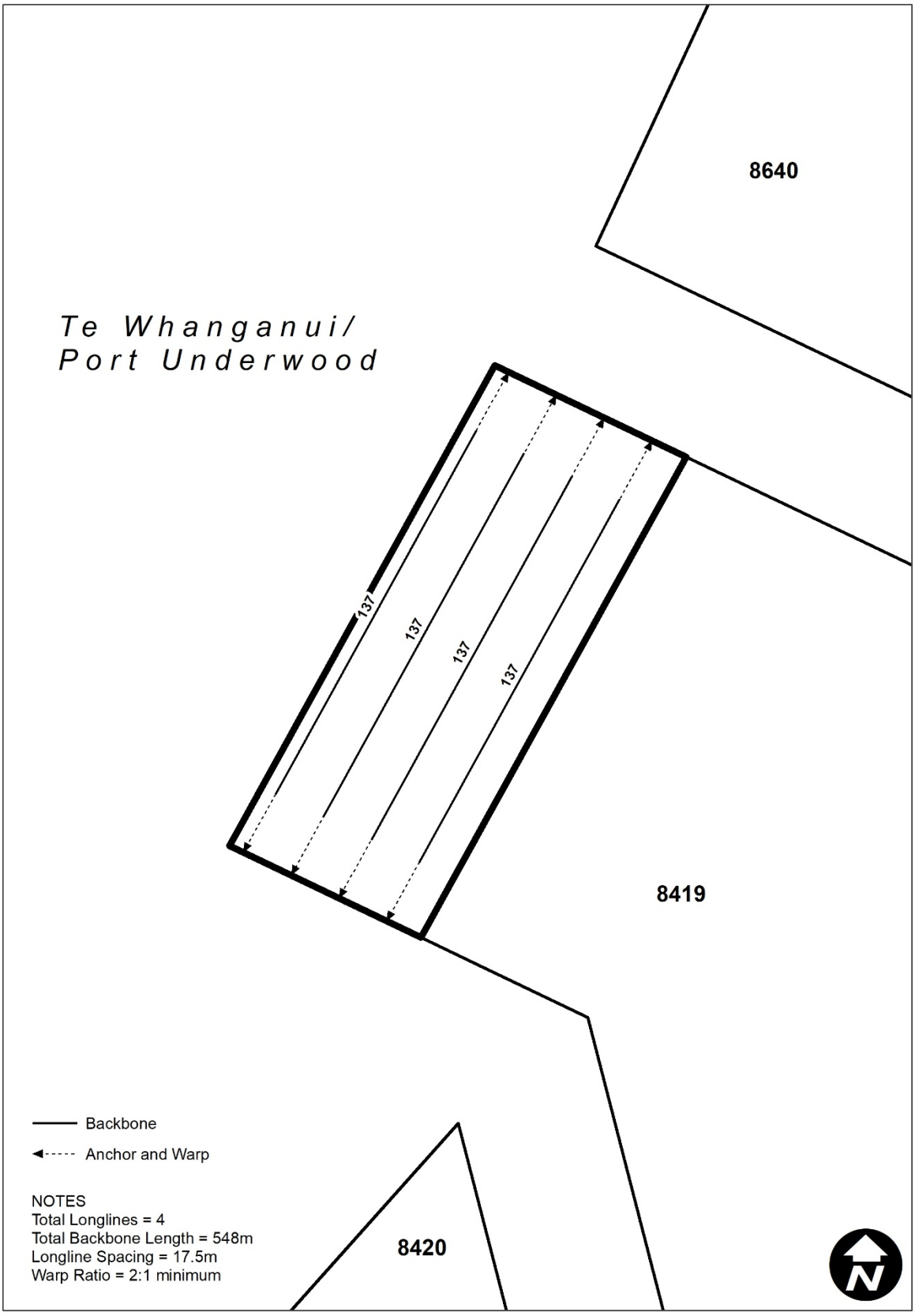
2 1695693.23 5427892.37
3 1695756.38 5427862.16
4 1695668.82 5427703.75
Te Whanganui/
Port Underwood
8640
2
3
1.265 ha
1
4
8419
8420
Section 3 Block XII Arapawa SD
N

Appendix B


8640
Te Whanganui/
Port Underwood
137
137
137
137
8419
8420
Backbone
Anchor and Warp
NOTES
Total Longlines = 4
Total Backbone Length = 548m
Longline Spacing = 17.5m
Warp Ratio = 2:1 minimum
N