Assessment of risks relating to Ōpōtiki Harbour Development Project

Report for the Ōpōtiki District Council

11 November 2012

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Preface

Tuia International provides expert trade development, investment promotion and economic development services to Government, trade support institutions and private companies.

Our team is internationally recognised. We bring together many years of experience in policy and strategy development, organisation and services design; project management and successful implementation of complex projects.

Tuia International is special because it is a member of the wider Tuia Group. This means we bring an understanding of the economic development imperatives of indigenous people and cultural values. Our approach is based on bridging social, cultural, policy, economic and commercial activities and perspectives in a way that leads to positive long-term outcomes.

A distinguishing factor of Tuia International is that we are experienced practitioners, not theoretical consultants, who combine strong technical skills and experience with a deep understanding of indigenous economic and commercial development opportunities particularly within the Pacific Region. Our wider team blends experience at the most senior Government levels, through to Chief Executive and former Ministers, and senior practitioner level in the public and private sectors.

This report has been prepared at Tuia International by Ross Tanner, Tim Gibson and Mary Beth Cook.

Table of Contents

1. Introduction

Tuia International has been commissioned to assist the Ōpōtiki District Council (ODC) to undertake a risk assessment for the Ōpōtiki Harbour Development project in accordance with the AS/NZS ISO 31000 risk assessment standard. The harbour development project has been approved by the Council as part of a plan to revitalise the economy of this Eastern Bay of Plenty district. It has been included in the Council's 2012-2022 Long Term Plan for the district. The harbour development is closely linked to a separate aquaculture development project led by Te Whakatōhea Māori Trust Board (majority shareholder in Eastern Seafarms Ltd). The harbour development is intended to create access to the harbour for larger vessels, allowing Ōpōtiki to become a service and processing base for the aquaculture industry in the future.

2. Context for this report

The viability and commercial potential of aquaculture development in the eastern Bay of Plenty has been assessed by the Cawthron Institute of Nelson as having huge potential for the region and for the achievement of New Zealand's aquaculture strategy. Eastern Seafarms Ltd (ESL), which was established in 2001, has obtained resource consent for the establishment of an offshore marine farm comprising some 3,800 hectares and is currently undertaking further research and commercial trials to confirm the Cawthron findings. Te Whakatōhea Māori Trust Board owns 54 percent of ESL, with the remaining shareholding split between Sealord (26%), and New Zealand Seafarms Ltd (20%). Te Whakatōhea has prepared a business case that provides the commercial and financial basis for progressive expansion of the marine farm over the next 10-20 years. The business case has been prepared for Te Whakatōhea Māori Trust Board. Current plans are for the marine farm to be further expanded from 2013, and for the possible establishment of a processing factory in Ōpōtiki in 2020-21 (some eight years away).

For the marine farm to be viable and to operate on a commercially sustainable basis, it needs to have access to harbour facilities as close as is possible to the farm development. The Ōpōtiki District Council has led the development of a proposal to recreate a usable harbour entrance that will provide a level of access suitable for vessels servicing the marine farm. A number of expert reports have been commissioned in recent years that examine the engineering aspects of the proposed harbour development as well as the social and community benefits for the region. An additional such report that assesses the economic impacts arising from both projects, is nearing completion.

A business case that sets out options for the construction and financing of the harbour development has been prepared. This business case is predicated on the harbour construction commencing in the second quarter of 2016, with completion mid 2018.

The Council cannot however finance the capital cost of the harbour development on its own. The ODC intends to make an application to the Bay of Plenty Regional Council (BOPRC) early in 2013 for financial support from the BOP Regional Infrastructure Fund. The BOPRC guidelines for financial applications stipulate a requirement for a formal risk assessment, and it has been agreed with

them that the assessment should be conducted in line with the appropriate risk management standard AS/NZS ISO 31000.

The ODC also intends to ask the Government to, therefore, make provision in a future Budget for a contribution for the harbour development. Given the need for the Council to meet the Treasury's requirements for development of a business case, the risk assessment is also likely to form part of that funding application.

As well as a structured risk assessment, this report provides the Council with a 'reality check' on developments and progress to date.

3. Method

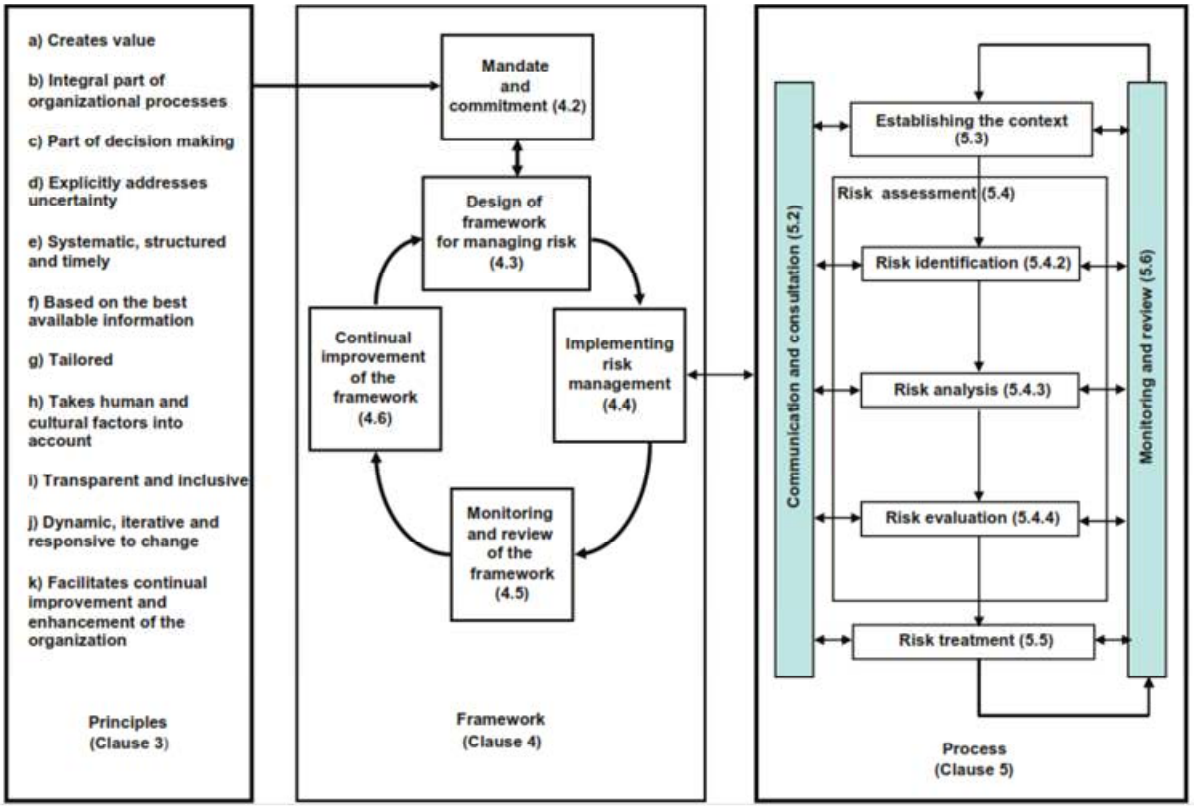
The members of the review team undertook the following activities:

- met individually with the Mayor and Councillors;
- interviewed the Chief Executive and Council staff who are involved with the project, and the business advisers to both the Council and Te Whakatōhea Māori Trust Board, to gain an appreciation of the planning done to date, the sequencing of the project, the risks and the mitigations in place. The business advisers gave us access to the confidential business case of Te Whakatōhea Māori Trust Board;
- interviewed (mostly by telephone) a range of key stakeholders in the project, including the Chief Executive of Te Whakatōhea;
- reviewed engineering and economic reports already completed, since those reports had identified a range of risks associated with each aspect of the project; and
- facilitated a risk assessment workshop for the Council, which was attended by Council staff, at which we reported back on our initial assessment of the risks, and then sought additional views from those present.

Our report lists as many of the conceivable risks as we have identified that face the Ōpōtiki harbour transformation project. We have done so under a number of categories. We briefly describe what issues are there and what level of risk they pose to success of the venture. The Council has anticipated that there may be several risks that will require further evaluation. We identify and provide our assessment of such risks in the report below.

4. Risk assessment

In undertaking this risk assessment, council intends to apply the principles set out in the AS/NZS ISO 31000 Risk Management standard. The diagram below sets out the process described in the standard.



The standard establishes a process for risk management that includes:

- understanding the context;
- risk assessment;
  - identification
  - analysis
  - evaluation
- risk treatment.

In assisting Council to undertake its risk assessment we first familiarised ourselves with the context of the Harbour Development project.

We then reviewed key documents and met with people as described above to identify the range of risks to the project. We collated the risk information and created a risk register (see appendix) that identifies the risks, the types of impacts they could have, circumstances that could cause them, current mitigation and possible additional mitigation.

We approached risk identification by exploring different aspects of the harbour development project and the Seafarm development. The remainder of this report sets out this general risk identification. Sections 5-7 discuss risks that would impact directly on the Council, and Sections 8-11 describe those that, if they affected Eastern Seafarm, would have the potential to create significant risk for the Council.

The risk register (see appendix) then categorises the risks identified by key impact areas.

By collating this information, we are able to provide a basis for Council to confirm the level of impact and likelihood for each of these risks and consider whether additional mitigation is required.

5. Harbour development

5.1 *Engineering/design*

There have been a number of reports commissioned in the past 7-10 years about how to design and construct the proposed harbour development. Several options have been discarded for sound engineering reasons, as further feasibility assessments have progressed. The initial parameters for the harbour development (2005 URS report) based on the installation of harbour moles and some dredging of the harbour, resulted in an estimated capital cost of $12.9 million. However, further engineering work undertaken at the time of the resource consent in 2008 highlighted potential problems with the type of construction earlier proposed, given the nature of the harbour, and provided a different set of options for construction. The preferred option now (supported by engineering assessment) is for steel sheet pile-based groynes construction.

This construction method will, however, result in a much higher cost than earlier anticipated by the ODC. The base cost incorporated into the commercial business case[1] for the harbour development is now estimated at $45.0 million.

There is still a sensitivity i.e. risk around this cost of some 30% (i.e. a total capital cost range of $35 to $60 million). This will become firmer (i.e. the design and cost will be confirmed) as a result of flood modelling now underway, and additional geotechnical work that is planned for the 2013/14 year, for which a Council decision to proceed will be sought. Any later adjustment to the capital cost would need to be a matter for consideration and public consultation in successive Annual Plans and future reviews of the Long Term Plan (LTP). In terms of actual construction, a proposal from Brian Perry Civil has been received by the Council, recommending an Early Contractor Involvement process for design and construction of the harbour. This is a valid and increasingly used design and build process but it would seem to present a risk to the Council that cost increases determined during this process could escalate beyond those now estimated unless mitigated by contractual arrangements e.g. a 'bail-out' provision.

[1] Galbraith, J. Ōpōtiki Harbour Development – Commercial Business Case (preliminary assessment) Revised March 2012. Report prepared for the Ōpōtiki District Council

As an alternative, the preliminary business case prepared for the Council proposes initial commissioning of design work (cost est. $750,000) followed by an Engineer and Construct Tender. That would allow the Council an additional decision point, and effectively therefore mitigate the cost escalation risk.

We recommend that the Council undertakes further due diligence about the risks/costs/benefits of the two proposals.

We also asked whether the early contractor involvement above process would require discussion with Audit NZ if it is seen to depart from normal local authority procurement practice. We were assured by Council staff that the Council has a procurement policy that provides for various exceptions. They believe that provided a formal proposal is well evaluated and an informed decision made by the Council, that would meet the requirements of the Council policy. Council staff intends to discuss the nature of the proposed contracting arrangement with the potential funders, as they will need to be comfortable with procurement process.

5.2 *Alternative port locations*

We understand from documents made available to us that the ODC has commissioned several reports since 1993 on the suitability and feasibility of potential harbours in the district. The latest such report[2] prepared in 2008 (finalised 2009) compared 20 different possibilities, including the Ohiwa harbour. This report concluded that of the 20 sites, only two would, with modification, function as reasonably safe harbours with community and commercial potential. These are Whakatāne and Ōpōtiki .

A harbour development based on the Waioeka River in Ōpōtiki was seen as the site with the most potential for the Ōpōtiki district.

The Ohiwa harbour is identified in a range of planning documents as being environmentally, culturally and recreationally significant. While there has historically been some commercial use, the rules and policies have become significantly more restrictive as the various policy documents have been developed under the Resource Management Act. Part 2 of the RMA, in particular s6, seeks the preservation of many of the values of the harbour. The regional policy statement sets a high threshold for protection that is given effect to through the regional Coastal Environment Plan. The harbour has various zonings such as habitat preservation zones, areas of significant conservation value, outstanding natural feature and landscape, area of significant cultural value. Rules applying to the development of structures range from discretionary to prohibited, and the overarching policy direction is one of avoiding environmental and cumulative effects. Outside of the RMA framework the three councils - WDC, ODC and BOPRC, in conjunction with the relevant iwi and hapu, have developed an Ohiwa harbour strategy that also points to the preservation and restoration of the environmental and cultural values.

There are ongoing discussions with Whakatāne District Council (WDC) staff about the use of the Whakatāne harbour for marine farm servicing. That harbour might be needed in any event as a

[2] Reece, D.: 'Location Analysis for a Harbour Entrance To Service The Ōpōtiki District', August 2008 (amended June 2009).

servicing/ support base for the marine farm in the initial years before a harbour development proceeded at Ōpōtiki .

The issues with use of the Whakatāne harbour appear to be two fold – serviceability of the harbour entrance and available wharfage. Eastern Seafarms are considering vessel specifications. The WDC are preparing maps of their wharves and berthage, and examining options. Initial indications are that available berthage is fully occupied, with waiting lists, and that there is neither budget nor consents for wharf extension. A formal technical response from WDC to Eastern Seafarms Ltd is expected in due course, and will be reported to the Council.

5.3 *Relationship with Tauranga*

There are two ways in which the port of Tauranga is an important consideration in terms of the overall marine farm and harbour development. First, it is possible that if other harbour developments (e.g. Whakatāne or Ōpōtiki) are either not economically or technically feasible then product from the marine farm would have to be barged to Tauranga and off-loaded there. That will clearly increase the cost of transporting the marine farm mussel product, and require further examination of commercial viability. That option has been considered in the preparation of the commercial business case for the marine farm but is not favoured. However, we do note that until a processing factory is established in Ōpōtiki, mussel product will be transported to Tauranga by road to the North Island Mussels Ltd processing factory there.

The second aspect of the relationship with Tauranga to be considered is whether there is any potential impact of a harbour development at Ōpōtiki, and the Council's aspirations to attract marine servicing and support industries in Ōpōtiki, on the development of such service industries at the Port of Tauranga.

Our inquiries revealed that the Port of Tauranga is neutral about the Ōpōtiki harbour development proposal. It does not see the development as a competitive threat in any way. The port company would be happy to provide advice or comment on any engineering issues that may arise.

There was a suggestion made during our consultation with councillors that small scale marine/ harbour development of the sort envisaged for Ōpōtiki would be unlikely to develop in Tauranga in the future, given the much larger scale of that port.

We were advised upon enquiry to the relevant Tauranga advisers on this point that there has previously been a proposal to develop marine facilities in the Tauranga port precinct. However those proposing such a development were not able to justify it on commercial grounds i.e. there was insufficient potential revenue. It is also the case that were a marine precinct to be built in Tauranga in the future, it would be targeted at a different market from that proposed for Ōpōtiki. The Tauranga marine precinct proposal would replace a 600 tonne slipway with a 300 tonne travelift to service commercial vessels - mainly the local and East Coast North Island tuna fleet, and the port's tugs. It would also support any future super yacht production in the vicinity. By contrast, the Ōpōtiki marine development would likely support the aquaculture industry and small-scale marine servicing. The Tauranga EDA are supporters of the Ōpōtiki Harbour entrance and submitted to the Council's LTP consultation process in support of Ōpōtiki's proposed harbour development.

5.4 *Economic/financial*

(a) *Construction costs of the groynes and harbour development*

As noted above, the base cost of the harbour construction (groynes, dredging etc) is currently assumed in the summary business case as $45.0 million[3]. This figure is still an estimate and is not yet firm (i.e. a significant risk at this point, but with the range likely to narrow).

(b) *Life span*

The summary business case (and the engineering assessments) assume a lifespan of 100 years for the groynes development. This is not unusual for large scale infrastructure. The harbour development represents a significant investment in infrastructure and Council would look to engineer for the longest possible useful life hence the 100 year assumption.

The Council's own engineer has advised that:

> "For the purposes of designing the navigation performance and considerations of flood levels upstream, the project brief required that a 1% AEP flood event be used. The design life of a structure such as this is generally taken to be 100 yrs. For a 100 year design life the encounter probability of the design flood conditions is 63%. Because the foundation performance is sensitive to scour, the adopted design flood for foundation design (scour protection) has been taken as 1000 years and external analysis was carried out to determine the flood discharge and consequent scour depth of 9.5m. The structure's encounter probability for this event is 10%".

The engineer also advised us that it is possible to monitor and control corrosion by various means, in particular with electric current and sacrificial anodes/cathodes.

Nevertheless that the 100 year estimate will be further tested as part of detailed design and engineering, flood modelling etc. There are implications of any reduction in this estimate on the financial aspects of the business case that we discuss in (d) below.

The ODC's accounting policies provide for useful lives of 100 years for bridges and new reticulation assets.

(c) *Ownership of the groynes (structure, contributions etc)*

Ownership of the groynes has been identified by the Mayor and councillors as an issue/ risk. The Council's Long Term Plan (LTP) provides a KPI around the determination of ownership structures, with a concept to be developed and agreed in 2012/13. We confirm that this is an important issue, but to our knowledge this work has yet to commence. We recommend

[3] The number used in the summary business case is derived from inflating the lowest cost alternative from the Duffill Watts feasibility report to current dollars, plus approx. $2,000,000 of future investigation and design prior to tender. It is therefore different from that quoted in the Brian Perry Civil proposal. It will be important that in any external communications that the Council and its staff use consistent figures in any reference to project costings.

that a project to identify and analyse alternative ownership structures become a matter of priority. The Council needs to be fully informed on options for ownership structures prior to entering into any discussions with funders. Additional expert advice might be required for the Council on this matter.

At present the full depreciation and maintenance costs are assumed in the LTCCP as being a cost to the Council. Alternative ownership structures might present an opportunity to mitigate these.

(d) *Capital funding (Government, BOPRIF, Council)*

Capital funding for the harbour development is not yet assured. The Council anticipates that the cost of up to $51 million (c.f. LTCCP) will be split approximately $5million Council/$20m million BOPRIF/$25 million central government.

It has been clear for some time that for the harbour development to proceed central Government support and funding would be required. The Mayor and CEO had originally anticipated that an approach to central Government for funding might be made for consideration in the 2013 Budget. The Council's staff, assisted by external advisers, have maintained regular contact with a range of central Government departments in recent years. It is now anticipated that a case for funding will be prepared over the next few months and presented to the Government next year for consideration in the 2014 Budget process. We discuss the issues that now need to be addressed to secure that support in Section 6 of this report below.

We have been advised that an application to the Regional Infrastructure Fund will be required by February 2013. There may not be another opportunity for such an application as the Regional Council will be seeking to allocate all of the capital available at that point. A favourable outcome here is by no means assured although Council representatives have been keeping in close contact with regional councillors and officials.

A further risk is that the proposed removal of the 'four well-beings' from the responsibilities ascribed to local government in New Zealand under the proposed amendments to the Local Government Act may result in changes to the BOP Regional Infrastructure fund. The report from the Parliamentary Select Committee shows a 50:50 split on this point and therefore the outcome will be determined by a vote in Parliament. The Regional Council have already signalled their intention to review their Infrastructure Fund policy once the changes are enacted. There are currently no transitional provisions proposed in the LGA amendments.

A favourable outcome from the application to the Regional Infrastructure Fund in 2013 would add considerable weight to the Council's application to central Government and to inclusion later next year in the Government's 2014 Budget process.

The Regional Council has confirmed that they will talk to the ODC about the form of the funding (grant, equity or loan) after they have made a decision on the application. The Council's own planned contribution of $5.4 million has been capped and should remain so. This is an important decision by the Council and gives certainty to the local community**.**

(e) *Nature of council contribution to and revenue from harbour development*

The assumption is made in the Long Term Plan that capital contributions from central Government and the Regional Infrastructure Fund might comprise a combination of grant and suspensory loan, presumably to the Council. The Council's own investment in the harbour development will be funded from debt.

As noted above, the ownership arrangement for the harbour development will determine the exact financial structure of the Council's involvement in/contribution to the harbour development, as well as any potential ownership interest in the harbour development from central and regional government.

The ODC is intending that revenue from line levies and other revenue (e.g. harbour usage fees) will enable the Council to repay its loan over a 25 year period. However, we note that assumptions made in the summary business plan for the harbour development about the quantum of a 'line levy', which is in effect the toll that the aquaculture venture would pay to the Council for the use of the harbour, are not yet agreed with ESL (i.e. a risk to be mitigated).

(f) Depreciation treatment

The summary business case suggests that the harbour development project could accept a higher debt level (of up to $9 million) by using a deferred depreciation treatment during the term of the loan. The basis of such a proposal is that for a long lived asset like a harbour, depreciation charges can be partly set off against loan repayments. Accumulation of the depreciation reserve can be partly deferred until after the loan repayments are completed and then accelerated. This would enable the Council to work with other investment partners and funders if required.

During the course of our work with the Council we were asked to consider the effect of reduction in life cycle from 100 to 50 years, on the assumption that the economic life cycle of the new development may need to be reduced as a result of the design and engineering assessments. At our request, Mr Galbraith, author of the summary business case has rerun his financial analysis for a reduced life of 50 years, under the Deferred Depreciation scenario.

The effect of using a 50-year economic life can be summarised as:

- Reducing the total debt funding that can be covered by commercial income from $9M to $7.8M.
- In the worst case, the total debt funding that can be carried is $5.4M.

As noted above, the further information/analysis available as a result of detailed design/engineering will assist in firming up the assumption regarding useful life.

(g) *Operational costs*

Operational costs of the harbour (groynes) development —maintenance, depreciation etc – are assumed in the business case as being a cost to the Council. There may be an

opportunity to mitigate these via the ownership structure that is yet to be established. That may allow for changes to the debt repayment schedule that is currently envisaged.

The operational costs include $200,000 per annum for maintenance and dredging of the harbour. The latter is a conservative assumption— the extent of annual dredging built in may be not be necessary depending on the impact of the ' self flushing' design of the groynes.

(h) *Impact on rates*

Current estimates based on the business case project that the percentage of rates for harbour development will increase from 0.71% of total rates in 2012/13 to 5.40% in 2017/18 and decline thereafter.

By way of comparison, the percentage of total rates for the Council's proposed improvements to the sewerage scheme will increase from 6.2% of total rates in 2012/13 to 35% by 2021/22.

The average rate for harbour development will increase from $10.25 per annum per urban ratepayer in 2012/13 to $90.90 p.a. in 2017/18. That is however dependent on the harbour construction proceeding as planned in 2017/18. It also assumes that the current base cost for the harbour construction is realised.

(i) *Infrastructure planning [ancillary /support industries, roading and reticulation etc]*

Further development of the harbour and ancillary facilities e.g. for other marine activity or support industries is not yet part of Council's District Plan. Moreover the Council's Long Term Plan is relatively silent on other requirements that might emerge from the harbour construction e.g. for roading or reticulation, and for which Council funding might be required. Estimates have, however, been included in the latest LTP, and in the commercial business case for the aquaculture project, for water and sewerage upgrades related to the development of seafood processing facilities. The cost of any such upgrades have been assumed to be 'user pays', whether it be through development or financial contributions, or negotiated separately (as was undertaken for the recently constructed New World supermarket in Ōpōtiki). Delivering these services to the processing plant will make them available for other uses. We were advised by Council staff that need for amendments to the district plan is wider than merely the harbour development. The district plan review is programmed in from 2014 onward and it will be possible to make wider planning provisions, including for additional harbour –related developments at that stage. Review of the District Plan is a 10 year statutory requirement.

However, we were advised that there is a need for the Council to review the question of development/financial contributions in either the LTP or District Plan.

(j) *Project management—capacity, capability*

Another potential issue/risk we examined is whether the council has the appropriate management skills on its staff to be able to manage a project of this size and complexity. We noted that the Council has made a budget allowance in the current LTP for $200,000 from 1

July 2013 to employ specialist project management expertise. We assume that that expertise will be employed as soon as the Council has made a decision to proceed with the harbour construction i.e. when tenders are to be called (2014?). There may, however, be a need for such expertise to be available to the Council earlier than that (but not necessarily full time at the outset). A question therefore to be decided is when to employ this expertise and in what form (more than one person on contract?) and whether there is sufficient certainty for the project to attract the right sort of skills. The Council's CEO is currently undertaking the project management function.

There will, however, be an impact of any development on other areas of council activity and a corresponding need to enhance staff capacity/ capability if the harbour development proceeds. Project/management capability should therefore remain identified as a risk to be reviewed.

(k) *Abandonment costs (dismantlement/ restoration)*

If the project were to fail for any reason e.g. if the marine farm did not proceed, no allowance has been made for any abandonment costs to the council in respect of the harbour development.

The Long Term Plan assumes that if the harbour development were in place but the marine farm did not proceed (either quickly or at all), then there would be other commercial developments that the harbour would attract. There are, however, no firm plans currently in place to attract such investment.

While it can be assumed that any harbour development will result in long lasting groynes structures there will be the impact and financing of maintenance and the ongoing dredging of the harbour to consider if commercial revenues from the marine farm development were not available. The future viability/ status of any improvements to the wharf(s) would also need to be factored in.

It may therefore be prudent for the Council to analyse and estimate the cost of any ongoing works that might be necessary in the future in the event that the marine farm did not proceed.

6. Government

As noted above (Section 5.4 (c)), the Mayor and CEO had originally anticipated that an approach to central Government for funding might be made for consideration in the 2013 Budget Council staff, assisted by external advisers, have maintained regular contact with a range of central Government departments. Officials from the Ministry of Primary Industries (MPI) are supportive of the marine farm project (and are also aware of the harbour development). Other government departments (e.g. MBIE, MSD) have also been briefed about the project over several years, both directly and also through their involvement in the CoBoP forum.

There have also so far been three meetings between the Mayor and or CEO with key Ministers, who appear to be interested in (and potentially supportive of) the overall transformation project.

The Mayor and CEO had originally anticipated that an approach to central Government for funding might be made for consideration in the 2013 Budget. However we consider that any further approach to central government would be premature until a full business case is prepared, covering both the harbour development and its relationship to the marine farm development, and explaining the potential benefits for Ōpōtiki and the Bay of Plenty region.

It appears most likely that officials will suggest the Council seek to access funding through either the Ministry of Primary Industries or Ministry of Business Innovation and Employment. The Aquaculture Unit of MPI is facilitating discussions with other agencies to look for investment opportunities, especially in light of the opportunity to offset the benefit spend. The unit considers that the marine farm is credible and can contribute to the Government's 2025 goal of achieving $1 billion income for New Zealand from aquaculture development. The Minister of Primary Industries has not been formally briefed by officials, but is likely aware of the project.

It is important therefore that work now commence on preparation of a full business case for central Government support. It seems best that the Council aim for consideration in the 2014 Budget. The business case will need to include a clear indication of the timeframes for both the harbour development and the marine farm, the commitment of investors currently involved and a summary (at least) of the financial details (including rates of return) for the composite development. It may also be necessary to provide an indication of who is likely to invest in the processing factory planned for Ōpōtiki and the timing of that development.

For the business case to be credible with the Government there will need to be active support from Eastern Seafarms Ltd and its shareholders, who will undoubtedly be asked for their views by Government officials. The involvement of Te Whakatōhea will of course be vital in presenting the business case, and their own Statement of Corporate Intent relating to aquaculture should also form part of the Council's presentation.

7. Council Governance

We were impressed as we met with individual Councillors and others in the Ōpōtiki community at the level of support for the marine farm development and the willingness to consider a substantial Council (and hence ratepayer) contribution by way of the construction of new harbour facilities to support and service the marine farm. However, we became aware of a degree of unease within the Council that had resulted in the commissioning of this risk assessment and hence the 'reality check' for the Council.

Although the Council has received regular reports on the harbour development, and has made a number of decisions relating to commissioning and funding etc of expert advice, the Council does not appear yet to have received sufficient information about the business strategy of Eastern Seafarms Ltd (or a summary of the business case that has been prepared) to give it confidence about the timing of the proposed harbour development in relation to the marine farm requirements. This can be relatively quickly remedied by a more active engagement with ESL, and regular and systematic reporting back to the Council. We understand that there has been discussion by the Ōpōtiki Marine Advisory Group (OMAG) with ESL representatives, but we perceive now that there is a need for greater disclosure to the Council itself. We comment further below about the role and effectiveness of OMAG.

We also noted during our investigations that there is no formal agreement in place relating to the overall (i.e. marine farm and harbour) development between the main parties. For this purpose the main parties are assumed to be the ODC, Eastern Seafarms Ltd, and Te Whakatōhea Māori Trust Board. The development of a more formal memorandum of understanding or agreement between the main parties would not only assist with external funding processes, but probably more importantly would hold the parties together through what is the most likely risk – slippage in time, and changes in personnel and governance.

Despite the reporting on particular aspects of the development, it would seem helpful for the Council if a composite report on the overall project could be prepared, and updated on a periodic basis. There is currently no complete 'story' of the project (other than for promotional purposes) in any one document. Such a write-up needs to contain a high level summary of the business case for both the harbour development and the sea farm. One means of doing this would be for the business case that is being prepared for the Government to be used as the basis of a report for the Council and then updated as further information or developments occur in the project.

It will also be important that the Council regularly review the risks relating to the harbour development and the mitigations in place at the time. We understand that this is the intention of the Council, and will be assisted by this risk assessment. There are a number of discrete decision points that will be available to the Council as the preparations for the harbour construction proceed.

The Council has been assisted in terms of oversight of the Ōpōtiki harbour development by the work of the Ōpōtiki Marine Advisory Group (OMAG). The group operates under a formal terms of Reference (last updated August 2012) and membership consists of the Mayor and one other Councillor, the Council's CEO and chief engineer, representatives from Te Whakatōhea and from other regional and community organisations. OMAG provides regular reports on its activities to the Council. We consider that the role and contribution of OMAG is a very useful one, as it combines representatives from the community, as well as Te Whakatōhea, to provide advice and be well informed on the harbour developments. It is however a technical advisory group, not a formally constituted Council Subcommittee. That might warrant further consideration once the project gets fully underway. It would also be beneficial if additional Councillors participated on the Group.

Finally, in terms of identification of risks facing Council governance, we note that it will be important that the Council remains assured that it has the capacity (both in terms of its own governance and also staff capability) to undertake and manage a project of this size. The harbour construction will require specialist project management, reporting to the Council through its CEO. The level of project management expertise required is more than a construction skill set. A project of this nature requires managing all the stakeholders, communications, overall budget, etc.

There will also be a need to appropriately manage the relationship with the aquaculture development project, and Eastern Seafarms Ltd.

8. Aquaculture development

8.1 *Design and development*

Eastern Seafarms Ltd currently holds resource consents to farm greenshell mussels using innovative technology adapted from overseas for offshore applications. The on-water farm structure proposed for the marine farm is based on system of subsurface buoys and mussel lines. Design principles applied to the development of the farm have been based on a combination of scientific testing and also commercial trials. The technology is performing well in terms of withstanding the sea and weather conditions.

We were also very encouraged that all of the scientists and experts, as well as the chief executive of Sealord, to whom we spoke to about the development of the marine farm reiterated to us that very positive results in terms of mussel quality and quantity, as well as a rapid growth cycle, are being experienced from the trials so far.

Increased efficiency gains are potentially possible from adaptations of the technology in the future.

Initial plans are for staged scaling up of the farm e.g. 3 lines currently in place; 12 more lines are proposed to be installed in 2013 a further 15 in 2014, and further development in subsequent years. Staging is being carefully planned.

While the development of the sea farm is a long term prospect at present, and will depend on further investment decisions to be made by ESL and its constituent shareholders, as well as other enterprises who will lease water space from ESL. In a technical sense it is conceivable that this marine farm could not only achieve the development timetable that is currently planned for it, but improve upon it. Accordingly while there must always be an element of risk in terms of design and technical development of such a substantial project, we would not rate it as a high one at this stage.

8.2 *Business strategy*

We sought to test the Council's expectations of when the sea farm might proceed into full production and what an appropriate business strategy might be. It is currently anticipated in the business case that commercial scale development might commence from late 2013.

Revenue for the farm will be available from lease of waterspace rights to aquaculture companies (and use of their rights by shareholders of ESL) to develop farming ventures within the overall farm limits, and according to the development timetable currently proposed. An information memorandum is to be prepared in 2013 for distribution to potential investors and development companies.

Expectations (i.e. not yet formal plans) are for development initially to be phased for mussels then other shellfish and seafood varieties -- oysters, geoduck, finfish, etc.

The current business case is based entirely on mussel farm development. There is no long term plan for the development of other seafood/ shellfish species.

Potential shareholder engagement in development of the farm is not certain. Advice to us from Sealords indicates that in general, open water marine farms are always going to be less attractive than "closed water" farm sites because they will be more capital intensive, requiring more robust mooring systems and larger servicing vessels to cope with rougher weather conditions and harvesting. Open water marine farming operations will also be more prone to weather disruption.

For this reason Sealord believes it is likely that the open water marine farm sites will only be developed commercially after the potential of closed water sites in New Zealand has been fully developed. Recently large new closed water marine farm sites have been granted consents in Golden Bay and the Coromandel.

Other open water developments are in various stages of progression through the consenting process (Napier, Bay of Plenty). Napier and Pegasus Bay are consented but not for multiple species and are also in much more exposed locations with lower productivity (phytoplankton) levels.

Other industry participants to whom we spoke apart from Sealords, however, were much more confident about the potential from this farm. It can be a difficult and time-consuming process to gain the necessary resource consents in NZ. ESL now has them in place. The rights to waterspace are very valuable, and there is a good potential for access to a port nearby (i.e. Ōpōtiki). The quality and potential production quality/quantity of mussels is seen as an advantage that would be attractive to potential investors, by several to whom we spoke.

Sealord, however, takes a more conservative view. The existing water space plus the new closed water sites have the potential to produce by Sealord's estimates 160-180,000 tonnes. Sealord believes that sales of mussel production from these sites would have to have to exceed 160,000 tonnes before wide spread development of open water sites became viable, and of course market returns would have to be high enough.

We discussed the issue of availability of capital for marine farm development with the NZ Seafarms director on the ESL Board. The speed of development of a marine farm, and the economics of the aquaculture industry are directly linked to the availability of capital, primarily through bank financing. The improving quality of marine farm output, together with better knowledge about and confidence in the financial outcomes, are providing greater confidence to the commercial bank lenders. It is seen as feasible and therefore that the new offshore facilities will be increasingly bankable.

Consequently there has to be a reasonably high risk attached at this point to the likelihood that new investors will be found, with access to bank finance, but that risk may be able to be reduced over time.

{Abridged}

8.3 *Market factors: demand and supply*

Sealord advised us that market demand for green shell mussel production from existing marine farm development has been stable at around 95-100,000 tonnes per annum for the past 5 years. Supply has been constrained by market returns. US$ pricing has been reasonably consistent over the past decade: however the NZ: US exchange rate remains a constraint on market returns, and a risk that must be assessed.

There has been considerable interest expressed to NZ industry participants from China and Korea for the purchase of green lipped mussels from NZ. The possibility of commercial investment from those countries in aquaculture development has also been mooted. A report in the NZ Herald on Saturday 10 November noted that China already consumes a quarter of the world's seafood and that Chinese imports of fish and shellfish are expected to triple over the next eight years.

{Abridged}

It remains to be seen whether the view from Sealords i.e. that sales of the product from the existing water space plus the new closed water sites would have to have to exceed 160,000 tonnes before wide spread development of open water sites became viable, is an accurate reflection of the market. It will depend entirely on the involvement in and commitment to development of the Eastern Seafarm site by the Board of ESL. We believe therefore that there needs to be more intensive discussion between the Council and ESL (and its individual shareholders) about the proposed development of the sea farm, and an informed engagement about the economics and potential competitive situation within the industry, to accurately inform the Council's own planning. There appear to be other possibilities for marketing of the seafarm production that need to be explored e.g. Sanfords.

8.4 *Economic/ financial issues*

Commercial viability of the farm has been tested by preparation of a business case by Whakatōhea's project manager, with assumptions tested with Sealords and NZ Seafarms, and peer review from Aquaculture Direct Ltd. It was also stated to us by NZ Seafarms that this business case represents the first time in the industry that a consolidated business case presentation has been prepared that integrates all aspects of a marine farm development i.e. production, processing and potential market returns.

The total operating cost of the marine farm is reported in the peer review to compare favourably with similar structures in Marlborough. A positive return is expected on mussel production alone.

The commercial business case has yet to be fully debated by the ESL Board, however, as it has been developed though an iterative series of discussions and drafts.

8.5 *Business/ management competence/ capacity*

We were able to review the business case for the marine farm development and processing plant ourselves and to review its underpinning assumptions. There was nothing in the business case that caused us to question its assumptions or conclusions.

Peer review of that business case indicates that the business plan "has been well prepared, thorough and clearly presented. The level of financial detail is better than that normally presented for mussel farm developments".

We were similarly favourably impressed by the quality of the business case development for the harbour development done so far by John Galbraith (funded through a Regional Initiatives grant that came through BOPRC) on behalf of the Council.

While the assumptions and elements of the respective business cases must continually be evaluated and tested in the light of changing circumstances or new information, and will also need to be understood and tested by Councillors we are confident that this risk is being appropriately managed. It must nevertheless remain as an identified risk on any risk register.

8.6 *Abandonment costs (dismantlement/restoration).*

Costs in respect of possible discontinuance of the sea farm development and will be the regional council's statutory responsibility if it is abandoned (within the coastal marine area). They hold a bond (or surety) from ESL for this purpose.

9. Processing arrangements

9.1 *Establishment of factory*

It is the intention of Eastern Seafarms Ltd, and certainly of Whakatōhea, that a processing factory be established in Ōpōtiki as soon as there is sufficient production from the marine farm to justify such an investment. The Council has also been interested in and supportive of this potential development, the employment and community benefits of which have been described and analysed in recent expert reports. The current summary business plan project the construction of the factory in 2019, and processing to commence in 2020.

Sealord advised us that an economic scale processing facility would have a capacity of circa 30,000 tonnes per annum, using current (automated) technology.

A number of the people to whom we spoke described the location of a processing plant in Ōpōtiki as the ideal scenario once volume supported its establishment. Mussel industry preference is for port handling and processing facilities to be as close to the farming operation as possible. While it is feasible to transport mussels either by barge or road transport for processing at some distance, it is the distance and cost of transport to the processing facility that will be the determining factors in economic success. We had been told during our inquiries that deterioration of mussel quality and potential damage to shells were also important considerations. That was not, however, corroborated by the experts to whom we spoke.

9.2 *Ownership of factory and ancillary facilities*

We noted that there are different estimates of the cost of installation of an economic scale facility in the documentation we received. This needs further investigation. It is apparent, however, that the cost would represent a substantial capital investment on its own (potentially $20-25 million).

It is not clear to us at this stage who it is proposed might own the proposed processing factory. There appears to be an expectation that investors in the marine farm (including its shareholders) would be likely to invest in a processing facility, and as noted above the likelihood of bank finance being available is a reasonable prospect. However there are no confirmed plans yet, so the establishment of the processing factory is also something that the Council should seek to discuss with Eastern Seafarms Ltd, to understand what their own intentions are and what plans are in place.

9.3 *Interim processing facilities*

Until a processing facility is built in Ōpōtiki, it will be necessary to transport the mussels to Tauranga for processing in the NIMPL factory. It is assumed that there will be sufficient capacity there, although once the full production from Coromandel based marine farms is realised, there may be some capacity constraints.

There are also transport considerations. Until the Ōpōtiki harbour is built, mussels will have to be offloaded elsewhere. Barging mussels to Whakatāne for processing in Tauranga appears feasible as an interim step.

However there are currently no available wharfside berths in Whakatāne, and also some potential difficulty in terms of manoeuvrability for larger vessels/ barges.

10. Consortium cohesion

{Abridged}

10.1 *Te Whakatōhea Māori Trust Board*

Our conversations with Whakatōhea's chief executive, and evidence from documents such as their aquaculture SCI, indicate that there is a strong commitment to the marine farm project.

{Abridged}

Whakatōhea also stand to benefit from the commercial aquaculture claims settlement. This would not be insignificant and present opportunities for further investment in aquaculture development for the iwi.

Whakatōhea have an extensive engagement with council in areas other than the marine farm project. Their relationship with the Council is close and strong.

10.2 *Sealord*

Graham Stuart, CE of Sealord advised us that "We are cautiously optimistic about this project and believe that the farm could prove to be viable over a 10 to 20 year time horizon. This farm is one of several "open water" marine farm consents in various stages of progression through the consenting process. Sealord has been involved in several and regards this as the most promising of all because of factors such as water temperatures and the water conditions on this site. The Ōpōtiki site would be the most attractive to develop of all the open water consents either granted or in the process at present".

Mr Stuart professed Sealord's intent to retain a long term engagement in ESL, based on their strong relationship with Whakatōhea.

10.3 *NZ Seafarms Ltd*

Jon Tidswell, Director of NZ Seafarms Ltd. advised that this company is a relatively small business. It is committed to the ESL marine farm development and wants to see it succeed. As far as its shareholding in ESL is concerned, he confirmed an intent to reduce its shareholding but not to eliminate it. They would prefer to remain involved with ESL for as long as possible.

There have, however, been positive indications (to us) that another investor is currently undertaking due diligence on ESL, and is positive about investing in the company.

11. Environmental considerations

11.1 *Impacts of the farm*

The impacts of the marine farm on the environment have been considered in the consent process and required mitigations have been included in the consent conditions.

11.2 *Impacts on the farm*

(i) Effluent/water pollution: Cawthron advises that the distance of the marine farm from the shore significantly reduces the risk of the effects from effluent.

(ii) Natural disaster: this is a ubiquitous risk. It is advisable to ensure that Eastern Seafarms carries adequate insurance. We note here, however, that the marine farm has been subjected thus far in its development to a number of tropical cyclones, flood events and tsunami.

(iii) Biosecurity/disease: the distance of the seafarm from the shore mitigates the risk of biosecurity threats from land, e.g. those that would be carried in effluent. We have been advised that mussels have a low disease risk.

11.3 *Impact of the harbour*

The environmental effects of the harbour are arguably likely to be greater than the marine farm. However the Council holds consent subject to conditions, and thus the effects of the harbour on the adjacent environment are to be avoided, remedied or mitigated appropriately.

12. Social factors

(a) Community/ratepayer support

It is apparent that there is strong community/ ratepayer support for the harbour development and the marine farm project. This is evidenced by results of surveys and engagement with the Long Term Plan. Nevertheless the implication is also that very high expectations have now been built up in the community. There is therefore a risk of this eroding due to passage of time if nothing is seen to happen.

The management of communications will require a carefully tailored communications plan and activity. We were assured that a strong communications programme is in place. This includes a website, regular pamphlet updates, community presentations, and a quarterly newsletter. Councillors also have a strong role to play.

(b) Recreational sector engagement

Since the farm will be submerged, it will not impact recreational boating. The farm is also likely to increase the populations of wild fisheries, which will be a benefit to recreational fishers.

There appears to have been only limited engagement with recreational boating of fishing groups, which is something that the Council may wish to develop as plans for the harbour development become firmer.

(c) Community benefits and opportunities

The Corydon/Sapere report provides solid evidence of potential community social/ economic benefit that will derive from the establishment of the marine farm and the harbour development. The potential regional benefits are also being closely monitored and anticipated: the harbour is a standing item on the CoBoP agenda. A further expert report on wider economic benefits (regional/ national) is currently in preparation with finalisation expected in December.

(d) Longer term planning for impact of harbour/ seafarm on Ōpōtiki District

We also sought to establish whether the Council had commenced any longer term planning for the impact of the harbour on the Ōpōtiki District. As noted above, the ODC District plan is due for review in 2014. The Regional Coastal Environment Plan is under review at present at preliminary stages. The Ōpōtiki Marine Advisory Group has have contributed to it and the ODC has agreement that BOPRC will incorporate its harbour consents into the zoning, protect the ecological site in the harbour and free up for development in the rest of the harbour. A Regional Policy Statement is also in process and the ODC has obtained acceptance of Ōpōtiki as a "secondary port" through the informal process ahead of the statutory one.

In terms of longer term planning of community social aspects the ODC will need to look to regional and community development planning experts and Government ministries could

contribute on board here. A multi sector approach will be required for this, including for housing, community services, education, work readiness etc. Te Whakatōhea will have an important role and have already started strategic planning around social aspects. The ODC has not had a strong social and community development leadership role in recent years.

13. Conclusion

13.1 The key messages from the risk identification process were:

(i) The marine farm has credibility with aquaculture policy and science agencies, as well as the Ōpōtiki community. The farm has significant production potential, and there are large potential markets for the product – although there are risks that will need to be managed.

(ii) All of the people that we interviewed noted that the harbour development and Ōpōtiki-based processing plant were crucial or at least highly desirable for the marine farm to be successful. The aquaculture and harbour investments are almost completely interdependent.

(iii) There would be a significant risk to the Council's credibility and its relationships at least within the Bay of Plenty region were it to decide not to proceed / stop the harbour development planning now. Moreover, the Council does not yet have the full information required to make that decision. This will be fully informed by the results of the flood modelling now underway and the geotechnical assessment that is due to commence in 2013/14.

(iv) The overall capital cost of the combined harbour development, marine farm and processing factory is estimated to be around $120million. Although only part of this cost will be related to the harbour development and therefore within the Council's control, there is a clear need for the Council to employ appropriate project management expertise and to ensure that its governance and risk management processes are robust. The Council should actively monitor the overall transformation and establish a formal relationship with the main parties in the overall project in order to strengthen its oversight.

(v) The Council should use the decision points available to it at each stage of the planning process for the harbour development and engage in an informed risk management discussion about the entire transformation project. This will provide the Council with opportunity for further reality checks. The development of a comprehensive risk register and management plan should assist here.

14. Recommendations

14.1 We recommend that the Council undertakes further due diligence about the risks/costs/benefits of the two engineering/ contracting proposals for the harbour development.

14.2 We recommend also that work now commence on preparation of a full business case for central Government support.

14.3 There needs to be a closer working relationship between the Council and ESL (and its individual shareholders) about the proposed development of the sea farm, and an informed engagement about the economics and potential competitive situation within the industry, to accurately inform the Council's own planning.

14.4 The Council should also establish a formal agreement about the overall (i.e. marine farm and harbour) development between the main parties. For this purpose the main parties are assumed to be the ODC, Eastern Seafarms Ltd, and Te Whakatōhea Māori Trust Board.

14.5 The Council should use the decision points available to it at each stage of the planning process to engage in an informed risk management discussion. This will provide the Council with opportunity for further reality checks. The development of a comprehensive risk register and management plan should assist here

Appendix: Ōpōtiki District Council – Harbour development project risk register (note that this is a working tool. Council should consider providing assessments of the degree of impact and likelihood to assist decision-making about risk treatment/mitigation. The register should be updated regularly as new risks and analysis come to hand.

Risk and Impacts	Causes	Description	Comments	Mitigation currently planned/ in place	Possible further work
Inadequate funding to complete the project. • Higher debt load than planned for • Project or aspects of it not completed	• Inaccurate costing: Fundraising target set at less than actual need	Cost elements overlooked, unrealistic or uninformed estimates	Range of possible costs is wide. Revenue streams (harbour usage fees, line levies) and levels not fully developed	ODC debt capped at $5M. Business case development Flood and geotechnical modelling Devt/financial contributions review	
	• Unable to reach fundraising target		'Regional funding process is woolly' Concerns raised about sequencing, eg funders expecting to see production before committing funds		Identify opportunities for strategic development with govt, eg MSD interested in reducing benefit spend. Develop closer working relationship with government to ensure that risks and opportunities are identified and addressed in a timely fashion.
	• Poor management of funds raised	Funds earmarked for project diverted to other needs Depreciation treatment			

Risk and Impacts	Causes	Description	Comments	Mitigation currently planned/ in place	Possible further work
	• Time and cost overruns (project management/ governance)	Budgets, resources, deliverables not carefully managed Lack of cohesion of council impacts planning/ commitment		Planning includes budget for programme/project manager	Establish a Steering Committee Consider whether project/project management requirements fully identified and planned for
	• Engineering/design issues	Any unplanned for changes to design before or during construction	Some concern at workshop about the design being untested	Flood and geo modelling commissioned Mitigation options suggested by Brian Perry and John Galbraith – there are pros and cons to each Alternative port locations considered	Modelling work will need to feed into business case Due diligence on the two proposals

Risk	Causes	Description	Comments	Mitigation currently planned/ in place	Possible further work
Inadequate return on the investment over time. • The ROI on the Harbour development project is fully dependent on ESF line and wharf fees Note that Whakatōhea along with the partners in ESF will be addressing these issues through their strategic risk planning.	• No return from marine farm	Eg, the farm fails or takes business to another port	• Farm is considered viable • Whakatōhea appears to be strongly committed to using Ōpōtiki facilities, but note that if there is an IPO, they may not be able to control this. • Differing views of whether trucking to another port is viable.	Scrutinisation of farm viability	ODC needs to be closer to ESF to monitor/ respond to risk of losing the business to another port; implications of IPO Identify opportunities for additional revenue streams
	• Revenue from marine farm less than expected	Fewer lines established than planned for Less throughput on wharf Levies need to be renegotiated due to eg, lower export prices			Identify ***opportunities*** for additional revenue streams
	• Poor business/asset/ debt management	Higher than expected maintenance costs affect ROI Unoptimised levies and fees			

Risk	Causes	Description	Comments	Mitigation currently planned/ in place	Possible further work
	• Inadequate governance /strategic leadership	ESF, ODC and third party owners of support infrastructure do not work cohesively and manage interdependencies for mutual benefit All support infrastructure needs not met	Business not vertically integrated – note that the significant returns are from processing, not growing There is currently a lack of clarity over ownership of groynes, and of indirect costs eg pipes, carparks	Investigate ownership structures for all aspects of development and support requirements	ODC needs to develop a close working relationship with ESL and other parties that maybe involved in the future – consider whether a formal arrangement is needed ODC needs to take leadership role in identifying industry gaps and strategies to fill them

Risk	Causes	Description	Comments	Mitigation currently planned/ in place	Possible further work
Project loses support of community • Council reputation	• Community priorities change; demands more focus on other projects/services • Harbour project fails • ESF doesn't deliver expected return	Community loses interest over the long time span of the project			Long-term comms strategy. Part of overall project manager responsibility
ODC governance / management • Project delivery • Asset/business performance • Compliance (legal and Council policy)	• ODC does not speak with one voice once decisions made • lack of overall business case			Plan to employ overall project manager.	
Misalignment of harbour and farm developments • ODC unable to receive revenue if marine farm development timeline lags • Marine farm unable to get product to Ōpōtiki if harbour development lags	• Inadequate coordination between organisations responsible for the two projects • Either project experiences delays for any reason				Implementation planning; close working relationship with ESL

Risk	Causes	Description	Comments	Mitigation currently planned/ in place	Possible further work
ESL risks that could impact ODC	• inadequate investment	Consortium does not have adequate capital, or unwilling to commit capital	Uncertainty as to whether Whakatōhea needs settlement money to proceed, and when that might be forthcoming There is interest from other investors ODC may not have complete picture of the investment and ownership of primary and support elements required to ensure the success of the marine farm and the Harbour development		Establish closer relationship in general to understand consortium risks
	• Inadequate support infrastructure for marine farm	This could include, fuel for boats, access for trucks and boats, fresh water and sewerage for plant – anything that the marine farm, processing plant and wharf require to function efficiently			Establish closer working relationship with ESL to monitor this risk Consider taking a leadership role to ensure that all primary and support aspects required for the success of the marine farm and the Harbour development are planned.

Risk	Causes	Description	Comments	Mitigation currently planned/ in place	Possible further work
	• Inadequate labour force	There may be insufficient numbers of willing and able workers in the area	Raised as a concern at the workshop	Regional ministries and govt departments updated 6 monthly	
	• Poor strategic and business planning		Whakatōhea has an aquaculture statement of intent, but uncertain of the extent of strategic and business planning ESF has done?		Establish closer working relationship with ESL to understand planning risks
	• Access to markets			MOU between Whakatōhea and Oriental Ocean	
	• International business risks	This could relate to business and consumer culture issues, exchange hedging, certification requirements, etc			Establish closer working relationship with ESL to monitor this risk
	• Lower than expected demand / revenue		Farm appears to be viable on production of mussels alone Operating costs appear to compare well to similar farms in Marlborough		Establish closer working relationship with ESL to monitor this risk
	• Lower than expected pricing/disadvantage -ous exchange rates		Pricing has stabilised over recent years, NZ Pure trial promising		

Risk	Causes	Description	Comments	Mitigation currently planned/ in place	Possible further work
	• Cohesion of consortium		Ability and interest of members in progressing farm not certain Sealord interests divided – 100% on its current inshore developments / 25% on longer-term ESF offshore development		Establish closer working relationship with ESL to monitor this risk
	• Governance, management capacity		Consortium may be fragile; but Sealord's appears to value relationship with Whakatōhea Uncertainty about NZSF	Other parties interested	Establish closer working relationship with ESL to monitor this risk
	• Disease		Cawthron report informs re disease risk – appears to be low for mussels		
	• Natural disaster		Ubiquitous risk		Establish closer working relationship with ESL to monitor this risk and mitigation, eg insurance.