The Opotiki Harbour Transformation Project
The key step to a brighter future
THE RIPPLE EFFECT

The transformation of Opotiki through the Harbour Transformation Project greatly benefits the region and people within. The ripple effect from this project means growth in job opportunities locally and regionally, plus increased quality of life through growth in the local economy.

The opportunities for various land use initiatives in the area surrounding the harbour will also create a thriving hub for like-minded businesses. The ripple effect from this project has the potential to inspire the community to get behind this innovative exporting opportunity and put Opotiki firmly and squarely on New Zealand’s Aquaculture map.
EXECUTIVE SUMMARY

The Opotiki Harbour Transformation Project is comprised of two interdependent projects: one is the Eastern Seafarms aquaculture venture – the country’s largest offshore marine farm, the other is a large-scale infrastructure project to improve the navigability of the Opotiki Harbour entrance. Together these projects have the potential to transform the Opotiki community from high levels of deprivation and social spend, to social and economic independence.

There are a large number of groups and organisations working together to help realise the project. These include central and local government, community groups, iwi and a major Chinese aquaculture company. The key parties involved are Eastern Seafarms Limited, Te Whakatõhea Maori Trust Board, and the Opotiki District Council. Te Whakatõhea Maori Trust Board own 54% of Eastern Seafarms Limited, with the remaining shareholding split between Seaford (26%) and New Zealand Seafarms (20%).

The Eastern Seafarms marine farm site is located 8.5km off the Eastern Bay of Plenty coastline and when fully developed will have a total area of 3,800 hectares. Comprehensive research and investigations undertaken as part of the development of the proposal determined that the site is potentially one of the most productive marine farming areas nationally and, in all probability, internationally. The marine farm, which will be developed in several stages, utilises subsurface structures and low density growing lines to minimise environmental effects. Eastern Seafarms holds all necessary resource consents for the development of the multi-species marine farm. A commercial trial involving 3km of mussel lines commenced in October 2010 and trials with other species are in the planning stages. The resource consents enable diversification into other species including scallops, pacific and flat oysters, sea ducks, paua, native seaweeds, and sea cucumbers.

Te Whakatõhea Maori Trust Board is involved in a land-based aquaculture development in a joint venture with Shandong Oriental Ocean Limited to farm sea cucumbers – a Chinese delicacy. A 2-hectare trial is planned on Whakatõhea-owned land near Opotiki, where the sea cucumbers will be grown in ponds. If the trials are successful, large-scale farming operations will follow.

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The navigability of the Opotiki Harbour entrance has been difficult since the mid-1960’s, however prior to this the harbour had a long history of use as a trading port for coastal shipping vessels. Those days navigation is limited to small recreational vessels and is further restricted by tides and weather conditions. The Opotiki District Council has led the development of a proposal to recreate a usable harbour entrance that provides a level of access suitable for servicing the Eastern Seafarms marine farm. Extensive investigations and modelling has led to the identification of a preferred design solution involving the creation of a new river entrance 400m to the east of the existing entrance and the construction of two 500m long training walls and associated erosion protection structures to confine the entrance.

In July 2009 all necessary resource consents were granted for the improvement works, including Regional and District Council consents and restricted coastal activity approvals from the Minister of Conservation. Three different construction options have been identified for the structures (rock rip-rap, concrete sheet piling, and geotextile tubes), however the consents include sufficient flexibility to enable alternative construction options to be developed through the detailed design process.

In addition to servicing offshore marine farming developments, an improved harbour entrance will promote a variety of marine industry developments and marine-based tourism and recreational activities. The Eastern Seafarms marine farm and the harbour entrance improvements are inextricably linked. For Eastern Seafarms the proximity of the marine farm to servicing and processing facilities is a key determining factor in the long-term viability of the farm’s development. Currently, the nearest suitable port is Tauranga, however, its distance makes it unsuitable. Locally, the Whakatane and Ohiwa harbours both have difficult
entrances and a lack of suitable land for servicing and processing facilities. Locating the servicing base in Opotiki is the most cost-effective option, subject to a reliable entrance being created. Similarly, the benefits of the Opotiki harbour entrance improvements project will only be fully realised if the Eastern Seafarms marine farm servicing and facilities can be located in Opotiki with the resultant social and economic benefits to the community. The offshore marine farm together with the harbour entrance improvements will create opportunities for numerous associated land-use developments around the harbour. Providing for the development of the substantial support industry required for the marine farm, such as wharves and loading facilities, servicing areas, a processing plant, and research and development facilities will be a priority. Aside from ensuring appropriate land areas are available, it is important to ensure the necessary infrastructure can be provided. In addition to aquaculture servicing facilities, the harbour entrance improvements will increase commercial and recreational boating activities in the harbour, resulting in the need to provide additional facilities to meet demand. Furthermore, there will be opportunities to develop land around the harbour for commercial and residential activities, building on the growing vibrancy of the harbour area.

Land-use planning is underway to ensure land use and infrastructure arrangements are in place to gain maximum benefit from the marine farming and harbour entrance projects.

Aquaculture is the fastest growing seafood sector in New Zealand and is recognised globally as a superb growth industry with increasing demand and diminishing wild stocks.

New Zealand has the potential to be a significant contributor to meeting the increasing global seafood demand, given the small proportion of our Exclusive Economic Zone (0.02%) we currently use to generate $360 million of aquaculture products. The aquaculture sector in New Zealand is currently focused around three main species, Greenshell Mussels, King Salmon, and Pacific Oysters. There is an industry drive towards diversification into new, high-value species and value added products.

One of the key documents guiding the future growth of the aquaculture industry is the New Zealand Aquaculture Strategy, which was released in 2006. The strategy sets out a ten-point plan to achieve a $1 billion industry by 2025, which is to be implemented by Aquaculture New Zealand – a national organisation formed out of the strategy to represent the interests of the industry. The government has committed to maximising the potential of the aquaculture industry and has released a National Aquaculture Position Statement and as part of the aquaculture sector reforms has established an Aquaculture Unit within the Ministry of Fisheries to take the lead on aquaculture across central government.

An assessment of the future growth scenarios for the aquaculture industry has been undertaken as part of the implementation of the NZ Aquaculture Strategy. The report by Ernst and Young took into account a variety of industry drivers and based on the various scenarios, estimated revenue levels ranging between $623 and $2.190 million by 2025.

At a regional level, the Bay of Plenty Regional Economic Development Strategy “Bay of Connections” identifies aquaculture as one of the 13 key focus areas for the future development of the regional economy. As part of the implementation of this strategy the Bay of Plenty Regional Aquaculture Strategy was released in 2009. The first document of its type in New Zealand, the strategy recognises the potential for aquaculture to make a substantial contribution to the regional economy, and aims to develop export sales of $250 million by 2025.

Regional support for the transformation projects is also provided by Community Outcomes Bay of Plenty, a network of local and central government agencies, which initiated the development of the Regional Economic Development Strategy.

The Bay of Plenty Community Trust, ‘BayTrust’ has signed a Memorandum of Understanding with Opotiki District Council for a five-year commitment to help advance the Opotiki Harbour project and the benefits it will bring.

Inspiring Communities, a non-profit community development organisation has been working alongside Opotiki leaders to support and assist in achieving the community’s aspirations for a sustainable future through new industry and local jobs.

A social and economic analysis of the potential benefits of the Eastern Seafarms marine farm and the harbour entrance improvements was undertaken in 2005. This report by URS estimated that the two projects would result in the creation of over 900 jobs, the addition of $27 million in household income, and $35 million to Opotiki’s GDP. Aside from the considerable social and economic benefits, the projects provide significant learning opportunities. The pioneering nature of the Eastern Seafarms venture and ongoing research and development provides a valuable opportunity to expand the country’s aquaculture into a greenfields area with the benefit of lessons learnt elsewhere. The transformation project also demonstrates new ways of communities working together in partnership and opportunities for an integrated government agency approach to achieve positive and lasting change.

There are a number of key steps required towards realising the vision for the Opotiki Harbour transformation. The key areas of work are focused around building the business case for the harbour improvements. The specific inputs required include the results of the Eastern Seafarms commercial trials and a comprehensive assessment of the impacts of the Opotiki Harbour project. These two areas of work will enable a cost-benefit analysis to be undertaken for the harbour improvements project, which will inform the business case for funding the improvement works.

On the strength of the draft Eastern Seafarms business case, the Council, assisted by its partners and community are scoping spatial planning, plan changes and construction planning to ensure regulatory alignment with the harbour vision and to ensure that a lack of infrastructure does not become a constraint on the development of the industry.

Substantial progress has already been made towards realising the vision, with resource consents in place for both the Eastern Seafarms marine farm and the harbour entrance improvements, and with commercial trials currently underway at the Eastern Seafarms site. With the involvement of Shandong Oriental Ocean Limited in a major Greenshell Mussel export deal and in land-based aquaculture developments with Te Whakatōhea the momentum continues to build and Opotiki moves closer to a brighter future.
For the past decade the Opotiki District Council (ODC) and local iwi Te Whakatōhea have been working together to transform their community through aquaculture. These efforts have been focused around two interrelated projects:

1. A vast open ocean aquaculture project led by Te Whakatōhea (the majority shareholder in Eastern Seafarms Limited)
2. A large public infrastructure project to improve the navigability of the Opotiki Harbour entrance led by ODC on behalf of the opotiki community.

Through overwhelming community support and a high level of local and regional co-operation, both projects are fully consented and poised to effect lasting positive change in an area facing many challenges.

Research into the potential of aquaculture in the Bay of Plenty has found that the region’s waters are among the most productive in the world. The consented Eastern Seafarms marine farm in Eastern Bay waters is very significant in aquaculture terms, representing around 30% of the country’s allocated water space. The farm is also pioneering in the use of open ocean aquaculture technology.

The key to maximising the potential benefits of this aquaculture opportunity rests on being able to bring the harvest ashore for processing, and in providing the servicing industry for the marine farm in Opotiki. The servicing and processing industries required to support the Eastern Seafarms venture will create economic growth and provide the tools to address social issues; something that is long overdue in the Eastern Bay of Plenty.

One thing stands in the way - the difficult harbour access.

This has been the primary driver for the project to recreate a usable entrance to the Opotiki Harbour: improving the harbour entrance will also provide opportunities for a host or other marine-based activities, both commercial and recreational.

There is interdependence between the two main projects – the benefit of the Opotiki harbour entrance improvements will only be fully realised with onshore servicing and processing occurring in Opotiki. Likewise, the availability of a servicing base in Opotiki is vital to the long-term viability of the Eastern Seafarms marine farm.
The vision is to use the development of the Eastern Seafarms offshore marine farm as a springboard to transform the current social spend and persistent deprivation in the area into productive economic and community gain, thereby creating independence.

Aquaculture development has the potential to raise income levels, employment opportunities and standards of living while encouraging people who have left to return.

The transformation will be a re-opening of the harbour and awakening other marine ventures such as freight alternatives, marine servicing industries, tourism and recreation-based business opportunities. It will also vastly improve operating conditions for marine leisure activities.

This vision is shared by Te Whakatōhea, Opotiki District Council, the Opotiki community, and the wider Bay of Plenty region.

Te Whakatōhea has been investing in aquaculture for more than a decade in recognition of the significant contribution that the industry can make to the economic independence and development of its people.

It is estimated that in excess of $6 million has been spent by the various agencies involved in investigating and developing the aquaculture and harbour entrance projects.

A 61 metre long mural was created as part of the Opotiki Youth Mural Project and is located at Opotiki Wharf.

The mural is made up of seven individual panels, which describe the history of the Opotiki Harbour from before the arrival of man, through to the present day. The mural also depicts a vision for the future incorporating the mussel farm and “OpaMus” – the future company the young artists dream of forming to process and market the seafood harvest. Find out more at www.arthouse.org.nz
There are a number of groups and organisations involved in the various projects that collectively make up the Opotiki Harbour Transformation Project. The key stakeholders include:

- Te Whakatõhea Maori Trust Board
- Eastern Seafarms Limited
- Opotiki District Council
- Bay of Plenty Regional Council
- Horizon Energy Distribution Limited
- Bay of Connections Regional Economic Development Strategy - Regional Governance Group
- Community Outcomes Bay of Plenty
- Inspiring Communities
- Department of Conservation
- The New Zealand Government, including;
  - Ministry of Economic Development
  - Ministry of Social Development
  - Ministry of Fisheries
  - New Zealand Trade and Enterprise
  - New Zealand Transport Agency
- Shandong Oriental Ocean Group
- The traditional rohe of Te Whakatõhea including the lands, coastline and waters offshore have long held an abundance of food resources, particularly seafood.
- The Te Whakatõhea Maori Trust Board manages the assets of the iwi.
- It holds the majority shareholding in Eastern Seafarms Limited (54%) and has been driving the marine farming development process since its inception. One of its key motivations for Whakatõhea’s investment in Eastern Seafarms is to improve the social and economic wellbeing of its people and the wider community through the development of the aquaculture industry in Opotiki.
- A Memorandum of Undertaking is in place between Opotiki District Council and the Te Whakatõhea Maori Trust Board, which sets out the joint intent to work together to bring the harbour entrance improvements project to fruition and establish a base for marine farming and processing in Opotiki.
- A similar agreement is in place between Opotiki District Council and Eastern Seafarms Limited.

Eastern Seafarms Limited holds the resource consents and marine farming permits for the large open ocean marine farm off the coast of the eastern Bay of Plenty. Eastern Seafarms Limited is 54% owned by Te Whakatõhea, 26% Sealord, and 20% New Zealand Seafarms Limited.

- Shandong Oriental Ocean Group is a Chinese seafood company with headquarters in Yantai, Tauranga’s sister city, and has built up a relationship with Opotiki through years of meetings and reciprocated visits.
- The company has invested around $30 million per year in aquaculture research and development.
- Oriental Ocean is also the sixth largest importer of fish and fishery products.

- Te Whakatõhea Maori Trust Board
- Eastern Seafarms Limited
- Opotiki District Council
- Bay of Plenty Regional Council
- Horizon Energy Distribution Limited
- Bay of Connections Regional Economic Development Strategy - Regional Governance Group
- Community Outcomes Bay of Plenty
- Inspiring Communities
- Department of Conservation
- The New Zealand Government, including:
  - Ministry of Economic Development
  - Ministry of Social Development
  - Ministry of Fisheries
  - New Zealand Trade and Enterprise
  - New Zealand Transport Agency

Significant amounts of work have been done by these stakeholders, including:

- Te Whakatõhea Maori Trust Board - Research and development for aquaculture species
- Eastern Seafarms – investigations, consenting, research, and commercial trials for open ocean aquaculture
- Opotiki District Council – Aquaculture specific research and harbour entrance investigations and consenting
- Bay of Plenty Regional Council – Investigations and scientific work, processing resource consent applications, and coordinating regional forums to progress aquaculture
- Horizon Energy Distribution Limited - Technical support and funding for the harbour entrance improvements project and in the development of the business case to be made to the Government for the final design and construction phase
- Inspiring Communities – assisting community-led development particularly through relationship development, media support and information flows, facilitating national interest and support through advocacy and resources
- Central Government agencies (New Zealand Trade & Enterprise and Ministry for the Environment) – Investigations into the potential for, and efficacy of, off shore aquaculture in the Bay of Plenty, and funding towards feasibility of harbour entrance improvements
- New Zealand Transport Agency – Funding for transportation study

Eastern Seafarms Limited

Eastern Seafarms Limited is 54% owned by Te Whakatõhea, 26% Sealord, and 20% New Zealand Seafarms Limited. It is a global seabass enterprise jointly owned by Aotearoa Fisheries Limited (formerly The Treaty of Waitangi Fisheries Commission) and Japanese seafood company Nippon Suisan Kaisha (Nissui).

New Zealand Seafarms Limited is a project management consultancy, which has been investigating the development of open ocean mussel farms and the utilisation of engineering technology for these conditions.

Opotiki District Council

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KEY PROJECT COMPONENTS

4.1 Eastern Seafarms Limited 

Marine Farm

4.1.1 Project Description

In 2001 Eastern Seafarms developed a proposal to establish the country’s largest marine farm approximately 8.5 kilometres off the Eastern BOP coastline. This proposal was underpinned by extensive research, modelling, and investigations to determine the suitability of the Bay of Plenty’s coastal waters for establishing large-scale marine farms. These assessments found that the water depth, current flows, phytoplankton and zooplankton levels, and seafloor characteristics of the subject area are highly suited to marine farming activities. In particular, the high current flows and nutrient levels at the site mean that faster growth rates can be achieved compared with other established marine farming areas in New Zealand.

Eastern Seafarms currently holds resource consents to farm Greenshell mussels using innovative technology adapted from overseas for offshore applications. The farming system primarily uses subsurface structures with the growing lines and most floats suspended 10 metres below the water surface. The use of subsurface lines and ropes anchored to the seabed greatly reduces the number of floats on the surface compared with traditional mussel growing methods and allows recreational vessels to pass through the farm area.

The mussel farm involves a total area of 3,800 hectares and is to be developed in five individual stages. The first commercial stage of the farm comprises eight blocks with a maximum number of 256 longlines and covers an area of up to 950 hectares. It is intended that each stage will commence three years after “completion” of the earlier stage (meaning at least 75% of the lines in the earlier stage are in place). The longlines are to be spaced 50 metres apart and the blocks of longlines will be separated by 500 metre wide navigation channels. The large area of the farm enables a lower density of lines to avoid some of the potential adverse ecological effects of mussel farms, which are often generated through concentrating mussels in a small area. It is anticipated that the lower density together with the characteristics of the offshore environment will result in faster growth rates than conventional inshore mussel farms.

4.1.2 Achievements to Date

Resource Consents

The mussel farm required a number of resource consents from the Bay of Plenty Regional Council to build and occupy the proposed marine farm. Due to the size of the proposed farm, approval from the Minister of Conservation was required to occupy space within the coastal marine area. Under the Fisheries Act 1983, Eastern Seafarms also required a marine farming permit and a spot catching permit for New Zealand Greenshell Mussels (Perna canaliculus). Both of these permits are issued by the Chief Executive of the Ministry of Fisheries. Marine farming (and spot catching) permits are required to specify the area in which the permit may be exercised, the type, fish, aquatic life or seaweed that may be farmed, and may be granted on conditions.

The resource consents and marine farming permits were subject to Environment Court and High Court appeals respectively. The last of these appeals was resolved in 2009. The resource consents were granted by the Environment Court in September 2008 (Decision No. A1102/2008).

4.1.3 Next Steps

Commercial Trials

In October 2010, Te Whakatõhea commenced a 2-3 year commercial trial at the Eastern Seafarms site (Stage 1A). This trial involves spot catching and mussel growing using 3km of mussel lines. If the trial confirms the relatively conservative assumptions made in the draft business case, and subject to international trading conditions, commercial development of the water space will commence.

Diversification

In addition to mussels, commercial modelling of different species undertaken by the Cawthron Institute has identified a variety of species likely to grow well in the marine environment within the Eastern Seafarms consented area. In October 2010 the Bay of Plenty Regional Council granted an application to vary the existing resource consents to enable diversification into a wider range of species, including scallops, Pacific oysters, flat oysters, geo ducks, paua, native seaweeds and sea cucumbers. A marine farming permit will also be sought from the Ministry of Fisheries for the additional species. This is significant as nationwide there is a shortage of space providing for species other than NZ Greenshell Mussels.

The variations obtained to date do not enable fin fish species to be farmed, however this is seen as a potential future development pending sufficient research and investigation to be confident of sustainability.

4.2 TE WHAKATõHEA LAND- BASED AQUACULTURE

Oriental Ocean has agreed to enter into a joint venture with Te Whakatõhea to develop a land-based aquaculture operation to farm sea cucumber in ponds.

In China there are about 20 species of edible sea cucumbers that have long been considered as a traditional medicine and tonic food. China is the largest producer of sea cucumber worldwide, however demand is much higher than domestic production can supply. The Chinese consider sea cucumber a delicacy and it demands high prices whether sold directly to restaurants or processed as dried edible and medicinal products. The New Zealand sea cucumber is regarded as being almost indistinguishable from the most desirable Chinese species.

4.3 OPOTIKI HARBOUR ENTRANCE IMPROVEMENTS

4.3.1 Project Description

The Opotiki Harbour has a long history of use and was visited by coastal shipping vessels until the mid-1960s. Since then, however, the navigability of the river mouth has deteriorated to the point where only small recreational vessels are able to use the entrance and even this use is subject to tidal restrictions and calm weather conditions.

The deterioration of the river entrance has been largely attributed to river control works in the Waioeka and Otara catchments and road construction activities in the Waioeka Gorge. During construction of State Highway 2 through the Waioeka Gorge between Opotiki and Gisborne, large volumes of material were deposited into the Waioeka River and have been transported downstream to river control works in the Waioeka and Otara catchments subject to tidal restrictions and calm weather conditions. The idea of recreating a usable harbour entrance has been discussed by Opotiki District Council for over twenty years.

The project gained significant momentum when the Eastern Seafarms offshore aquaculture project was initiated. This has led to an intensive effort by Opotiki District Council (assisted by a number of key funding, professional and technical partners) to develop a proposal to upgrade the entrance into the Opotiki Harbour so that a minimum channel depth of about 3.7 metres (at mid tide) is maintained for most of the time. This depth will provide a level of accessibility suitable for servicing the offshore marine farm and other marine activities.

The proposal is to create a new river entrance 400m to the east of the existing entrance and construct two 500 metre long training walls. These walls will be 120m apart and provide a channel width of at least 60m that is navigable in wave heights of up to 2 metres. The existing river entrance channel will be closed.

The purpose of the works will be to reduce the blockages from the littoral movement of coastal sand and maximise the flushing effects of river and tidal flows at the harbour entrance in order to maintain a navigable entrance channel.
The key aspects of these consents include:

- Requirement to submit full engineering design details for the selected construction option
- Preparation of a series of detailed management plans to manage the effects of the construction activities, including
  » Construction Management Plan
  » Environmental Mitigation and Remediation Plan
  » Site-wide Contingency Plan (spill containment)
  » Erosion and Sediment Control Plan
  » Monitoring and Review Plan
  » Dredge Material Disposal Plan
  » Maintenance Dredging Plan
  » Maintenance Inspection Programme for Structures
- Specific requirements regarding the timing of construction works to avoid the NZ Dotterel breeding and nesting season (construction commencement only), and the whitebait migration season (entrance channel closure operation only)
- Fencing of the NZ Dotterel nesting sites during construction
- Rehabilitation works including the restoration of the natural landform, planting, and the creation of a 1 hectare area of habitat following the completion of construction
- Enhanced public access to the entrance, including an access road, carpark and walking track. Signage is to be provided and the Huntress Creek Conservation Area is to be fenced
- An ongoing monitoring programme is required to assess the effects of the works on salinity, water quality, wildlife and habitat, coastal morphology (beach cross-sections), and river channel dimensions

The developments can be grouped into three stages:

**Stage 1**
- Improvements to existing wharf to enable interim use by marine farm servicing vessels
- Develop marine farm servicing infrastructure
- Marine farm hatchery
- Vessel servicing facilities
- Create suitable moorings for servicing vessels near existing wharf

**Stage 2**
- Commercial wharf
- Commercial vessel marina
- Processing infrastructure
- Vessels haulout / slipway facility

**Stage 3**
- Marina
- Recreational facilities
- Housing / commercial land development

Good infrastructure is required to get the aquaculture product from farm to land and then to processing or on-transport facilities. The processing plant will need to be located in close proximity to the unloading facilities. Also important is the availability of plentiful clean water and a secure energy supply. Upgrades to the Opotiki town sewer system will be required to service the developments. In addition to the commercial development associated with aquaculture activities, the entrance improvements will provide opportunities for commercial fishing, charter boats, and recreational boating. Additional facilities are likely to be needed to meet the increased demand. There is the potential for wharves, jetties, additional boat ramps/ parking areas, and a marina.

As the harbour area becomes a more active and vibrant place there will be opportunities to develop land around the harbour for commercial and residential activities. These developments will help to revitalise the Opotiki township by providing a waterfront focus and reconnecting the town with one of its best attributes — its location at the confluence of two rivers. There are also potential opportunities to improve the connectivity of the town with the coastline as the town grows around the harbour.

**4.4.2 Next Steps**

Land-use planning has already begun to ensure that all land-use arrangements and social and physical infrastructure is in place to ensure that maximum benefit can be derived from these developments for the Opotiki community.

### 4.4.1 Project Description

The offshore marine farm together with the harbour entrance improvements are the catalyst for a host of associated land-use developments in and around the Opotiki harbour. The priority in redeveloping the harbour will be to provide the facilities required to service the offshore aquaculture operation. A marine farm of the scale proposed requires a substantial support industry, including purpose-built wharves and unloading facilities, as well as infrastructure for the construction, repair, and storage of farm structures and equipment. A processing plant will be developed and it is likely that a research and development facility will be established. These developments will be staged, with indications thatwharf facilities will be required within the first 3-4 years and a processing facility constructed subsequently as production volumes increase.
RELATIONSHIP BETWEEN THE PROJECTS

The proposed Opotiki harbour entrance improvement works will allow vessels to use the port in almost all weathers and tides. The Eastern Seafarms marine farm will require servicing for up to ten hours per day in all but the most severe weather conditions. The closest port that is currently able to provide all weather, all tide access is Tauranga, some 100km away.

A large amount of material is transported to and from marine farms as part of day to day operations. This includes ropes and farm structures as well as stocking the farm with young shellfish (and other farmed species). The further that vessels need to travel from a land base to service and harvest product from the marine farm, the more challenging it becomes for the venture in terms of economics and timing, as well as the design and safety of vessels. Mussels lose weight following harvest, therefore minimising the time between harvesting and processing is an important consideration.

The existing Opotiki harbour entrance difficulties have been identified as a potential ‘fatal flaw’ in the draft Eastern Seafarms business case. The operating costs of transporting fully laden mussel barges to Tauranga has been estimated at $400 per hour, taking around 4 hours each way, with one trip every two or three days to service the farm in addition to daily harvesting trips. This cost is prohibitive. Furthermore, the loss of condition and the risk of mussels spawning before reaching port due to the trauma during transport, means that this option is unfeasible.

The option of using the Whakatane harbour is also considered unfeasible due to the risk to the fully laden mussel vessels negotiating the entrance and the lack of suitable land adjacent to the harbour for developing servicing and processing facilities. The Ohiwa harbour at the eastern end of Ohope Beach is of high ecological and cultural value, which is reflected in the regulatory regime and makes it unsuitable for development as an aquaculture servicing base.

The most economic proposition is therefore a harbour entrance at Opotiki which will allow the town to become the service and processing base for a future marine farming industry. For commercial viability in the long-term, a vertically integrated business, with marine farm servicing and processing facilities located as closely as possible is vital.

The current proposal to develop a second offshore marine farm of a similar scale to the Eastern Seafarms site offshore from Otamarakau (near Pukehina) by Bay of Plenty Mussels Limited (for which resource consent applications have been lodged) places further emphasis on the need to develop an accessible service base for offshore aquaculture activities.
AQUACULTURE INDUSTRY AND TRENDS

Aquaculture is recognised globally as a strong growth industry. The United Nations Food and Agriculture Organisation (FAO) predicts that global consumer demand for seafood will almost double from 45 to 85 million tonnes by 2015. With wild fisheries declining and a global shift towards sustainable fisheries, aquaculture products have filled the gap in meeting the rising demand for seafood products.

New Zealand’s aquaculture sector has grown at a rapid rate since the late 1980s and is the fastest growing seafood sector in New Zealand with an estimated value of $360 million currently and a sales target of $1 billion by 2025. Currently the sector is focused on a small number of species, with the main contributors being Greenshell Mussels, King Salmon, and Pacific Oysters, in descending order. New Zealand’s contribution to global aquaculture is about 0.02% of sales by weight. Two thirds of New Zealand’s aquaculture production is exported, with markets in 72 countries worldwide.

About 15,800 hectares of water space is allocated for aquaculture activities, which equates to only 0.02% of New Zealand’s water space. New Zealand has the potential to be a significant contributor to meeting growing world demand because at present, we use a very small proportion of the highly productive water space within our Exclusive Economic Zone to produce NZ$350 million of aquaculture products.

Proportion of aquaculture exports for 2008 (by volume)

<table>
<thead>
<tr>
<th>Species</th>
<th>Proportion of exports (by volume)</th>
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</thead>
<tbody>
<tr>
<td>Mussels</td>
<td>86%</td>
</tr>
<tr>
<td>Salmon</td>
<td>9%</td>
</tr>
<tr>
<td>Oysters</td>
<td>5%</td>
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New Zealand has a reputation for a clean, green, environmentally sustainable aquaculture product and this has played a large part in the success of the industry to date. There is an industry drive towards new, high value species and value added products which have the potential to be the future of aquaculture in New Zealand.

New Zealand Aquaculture Strategy

In 2006 the New Zealand Aquaculture Strategy was released. This document was developed by the New Zealand Aquaculture Council with assistance from the New Zealand Seafood Industry Council and the Ministry of Economic Development. The vision of the strategy is for New Zealand’s aquaculture sector to be recognised nationally and internationally as producing healthy, high quality, and environmentally sustainable aquaculture products.

The strategy has led to the establishment of Aquaculture New Zealand, a national organisation representing the interests of the aquaculture industry and charged with implementing the New Zealand Aquaculture Strategy’s ten-point plan to achieve a $1 billion industry by 2025.

NZ Aquaculture Strategy 10-Point Plan

1. Establish a new national sector organisation
2. Strengthen the partnership with Government
3. Strengthen other stakeholder partnerships
4. Secure and promote investment in aquaculture
5. Improve public understanding and support for aquaculture
6. Promote Maori success in aquaculture
7. Develop the market for New Zealand aquaculture products
8. Maximise opportunities for innovation
9. Promote environmental sustainability and integrity of aquaculture
10. Invest in training, education, and workforce promotion

National Aquaculture Position Statement

Sitting alongside the NZ Aquaculture Strategy is the Government’s National Aquaculture Position Statement, which commits the government to maximising the contribution that aquaculture makes to the economy by working in partnership with the aquaculture industry, local government, Maori and communities. The government recognises the significant role that an internationally competitive and environmentally sustainable aquaculture industry has to play as part of New Zealand’s economic transformation.

Maori in Aquaculture

As specified in Treaty of Waitangi Settlement legislation, iwi are entitled to 20% of marine farm space consented since 1992 and 20% of all future consented marine farm space. The scale of potential iwi involvement in the future of the aquaculture industry is such that the sector as a whole will not reach its full potential unless iwi prosper. The development of the Eastern Seafarms marine farm presents a significant opportunity for Maori economic development.

Ministry of Fisheries Aquaculture Unit

As part of the Government’s reform of the aquaculture industry, an Aquaculture Unit has recently been established within the Ministry of Fisheries. The Aquaculture Unit will take the lead on aquaculture across central government and will undertake legislative changes and implement the NZ Aquaculture Strategy. Early indications are that the scope of the Aquaculture Unit will extend to infrastructure.

New Zealand Aquaculture – Industry Growth Scenarios

As part of the implementation of the NZ Aquaculture Strategy, Aquaculture New Zealand commissioned Ernst & Young Transaction Advisory Services to prepare a report considering future growth scenarios for New Zealand’s aquaculture industry. The report outlines 5 possible growth scenarios which take into account various industry drivers such as:

- Inflationary and real price growth
- Development of existing permitted space and expansion of water space
- Transfer of production into higher value products
- Introduction of Kingfish farming
- Productivity improvements through improved farming techniques and technological advancements

An assessment of these scenarios indicated revenue levels in 2025 ranging from $633 - $854 million based on inflationary price growth and development of permitted water space only, through to $1,590 - $2,190 million taking into account all of the above factors. The report did not consider the introduction of new commercial species other than Kingfish, but noted that the profitable introduction of new species would have a positive impact on revenue over and above the scenarios outlined above.
The Bay of Plenty Economic Development Strategy ‘Bay of Connections’ was launched in 2008. The strategy sets out the goals and priorities for sustainable economic growth in the region. The vision of the strategy is:

The Bay of Plenty – the most dynamic and progressive region – where we work together to achieve economic prosperity, a sustainable environment, and improved wellbeing for all people.

Aquaculture is one of the 13 key areas of focus identified for the future development of the Bay of Plenty economy. The overall goal of the aquaculture focus areas is to establish a significant aquaculture industry in the eastern Bay of Plenty and investigate options to improve the Opotiki Harbour entrance.

The strategy sets out eight key focus areas to develop a sustainable environment, and improved wellbeing for all people. These actions are guided by 1. Economic growth and employment
2. Infrastructure
3. Research and development
4. Partnerships and integration
5. Education and training
6. Infrastructure
7. Enabling legislation and regulations
8. Market development
9. Maori development

For each focus area the strategy identifies future opportunities, risks and high level actions required to implement the components of the strategy. These actions are guided and informed by the New Zealand Aquaculture Strategy and will be implemented over the period 2009-2012.

Regional Responses

7.1 Bay of Connections

The Bay of Plenty Regional Aquaculture Strategy has been developed. The strategy was released in 2009 and is the first regional strategy of its type in New Zealand.

The strategy recognises that aquaculture presents a real opportunity to substantially contribute to the Bay of Plenty economy and has an unmatched potential for growth within the region. The strategy aims to develop the Bay of Plenty as a world-class aquaculture region with export sales of $250 million by 2025. The main objectives of the strategy are economic growth and employment.

The strategy sets out eight key focus areas to develop a successful aquaculture industry in the Bay of Plenty. These are:

- Implementation / administration
- Partnerships and integration
- Research and development
- Education and training
- Infrastructure
- Enabling legislation and regulations
- Market development
- Maori development

The Bay of Plenty Regional Aquaculture Strategy provides some 'ball-park' estimates of the potential economic benefits of the aquaculture industry in the Bay of Plenty region. These figures are based on the development of the Eastern Sea farms site together with another large (400ha) offshore marine farm proposed off the coast of Pukenha, for which resource consents have been applied for by Bay of Plenty Mussel Limited. The potential benefits of these farms are set out in the following table:

<table>
<thead>
<tr>
<th>Category</th>
<th>GDP (Value added)</th>
<th>Employment (FTEs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquaculture</td>
<td>$228m</td>
<td>3,145</td>
</tr>
</tbody>
</table>

The report considers that the harbour development combined with the mussel farm and processing plant will generate substantial benefits. These benefits will result from construction, direct employment from the mussel farm and processing plant, as well as indirect economic benefits (increased business and employment resulting from the development). The report estimates the long term annual economic impact (excluding construction of the entrance improvements) to include:

- Employment of 936 people
- Provision of $27.3 million in household income
- Contribution of $34.6 million to Opotiki's GDP
- An increase of $44.9 million in output

For additional details, please refer to the report titled "BENEFITS OF TRANSFORMATION PROJECT".
The steps towards realising the Opotiki Harbour Transformation vision can be grouped into the following areas of work:

1. **Commercial Trials**
2. **Comprehensive Impact Assessment**
3. **Integrated Sea and Land-Use Planning**
4. **Cost-Benefit Analysis**
5. **Completion of Business Case**
6. **Funding for Harbour Entrance Improvements Project**
7. **Infrastructure Construction**

The timing of these respective areas of work will be critical to ensuring maximum benefits are delivered. The following table sets out an indicative timeline for completing these steps.

<table>
<thead>
<tr>
<th>Task</th>
<th>Estimated Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Seafarms Commercial Trials</td>
<td>2012</td>
</tr>
<tr>
<td>Comprehensive Impact Assessment</td>
<td>2011</td>
</tr>
<tr>
<td>Integrated Land Use Planning</td>
<td>2012</td>
</tr>
<tr>
<td>Cost – Benefit Analysis</td>
<td>2012</td>
</tr>
<tr>
<td>Business Case</td>
<td>2012</td>
</tr>
<tr>
<td>Securing Funding (Entrance Improvements)</td>
<td>2012/13</td>
</tr>
<tr>
<td>Infrastructure Construction (Harbour Entrance – 2 year construction period)</td>
<td>2013-2015</td>
</tr>
</tbody>
</table>

The steps towards realising the Opotiki Harbour Transformation vision can be grouped into the following areas of work:

- **9.1 COMMERCIAL TRIALS**
  A significant milestone will be the results from the Eastern Seafarms commercial trials, which will form a key part of the business case for funding of the harbour entrance improvements project.
  It is anticipated that within 2 years (and possibly much sooner) the economic feasibility of the Eastern Seafarms marine farm will be demonstrated.
  The results from Te Whakatūtea’s land-based aquaculture trials are expected within a similar timeframe, although the start date is dependent on consenting and construction processes.

- **9.2 COMPREHENSIVE IMPACT ASSESSMENT**
  An updated assessment of the impacts of the Opotiki Harbour projects is required, taking into account social, economic, environmental and cultural factors.
  The earlier report prepared in 2005 by URS was prepared at a time when there was less certainty regarding some aspects of the Eastern Seafarms and harbour entrance improvements projects.
  A number of factors underpinning the URS assessment have changed since 2005.
  For example, resource consents have been granted for the marine farm and harbour entrance projects, which provides more certainty regarding costs.
  Other related projects have also been developed, assumptions have been confirmed and market conditions have changed.
  For this reason the council, supported by its partners and in conjunction with Eastern Seafarms will be revising this piece of work.

- **9.3 INTEGRATED LAND-USE PLANNING**
  One of the highest priorities in preparing for the development of the Opotiki Harbour is undertaking comprehensive planning for the future infrastructure and sea/land uses in and around the harbour.
  This work is needed so that when the time comes to develop the entrance and aquaculture servicing industry a favourable statutory framework is in place, which enables development to take place in a coherent and appropriate way to ensure maximum benefits to the people of the Eastern Bay of Plenty.
  The focus will be on ensuring the requirements of the aquaculture servicing industries are met, and providing for other harbour and land uses in appropriate locations.
  Revitalising the Opotiki township and creating connections between the town and the harbour will also be an important consideration.

- **9.4 COST-BENEFIT ANALYSIS**
  A detailed cost-benefit analysis is required for the harbour improvements project, taking into account the results of Eastern Seafarms commercial trials as well as the findings from the comprehensive impact assessment described in section 8.2.
  The updated cost-benefit analysis will inform the business case for funding the harbour entrance improvement works.

- **9.5 BUSINESS CASE**
  The preparation of the business case for funding the harbour entrance improvements project is a key requirement.
  Their main input required to build the business case is an updated cost-benefit analysis, which as outlined above will incorporate the results from the Eastern Seafarms commercial trials and the comprehensive assessment of the potential impacts of the Opotiki Harbour development.
  Work on all other aspects of the business case needs to be undertaken, so that the District is in a position to make a case for funding as soon as these results are available.
  The timing will be vital in terms of realising maximum productivity and economic benefit within the fastest timeframe possible.

- **9.6 FUNDING OF HARBOUR ENTRANCE IMPROVEMENTS PROJECT**
  Public investment of some form will be required to fund the construction of the harbour entrance improvements, which is estimated to cost between $22.6 million and $62.4 million depending on the preferred construction design and engineering aspects to be considered during the detailed design stage.

Potential funding sources include:

- Central Government (50%)
- Local and Regional Funding (50%)

One of the Government’s regional development priorities is to promote economic transformation and there is a strong case supporting investment in the harbour project because of the increased tax revenue (business and personal tax, plus GST from increased economic activity), reduced social welfare costs (arising from higher employment) and the reduced social costs which will result from it.

The Bay of Plenty Regional Council operates a Regional Infrastructure Fund as part of its role in promoting sustainable regional development. The purpose of the fund is to enable regional infrastructure development projects to be accelerated, improved in quality with regard to delivering outcomes or increased in scope, beyond what they otherwise would be.

The Opotiki District Council will also be a substantial investor, with further contributions to be sought from commercial entities and other regional funding agencies.

Other funding options are currently being considered for land and infrastructure development, as well as ongoing maintenance and operational expenses. These options include the use of development contributions, land tenures arrangements, and user fees and charges.

- **9.7 BUILD PHASE**
  Once funding has been secured it is anticipated that the Opotiki Harbour entrance improvements project will be subject to a design and build tender process. This will provide an opportunity for innovative, cost effective construction options to be identified.
  The preferred construction option will be subject to detailed assessment to confirm its suitability.

The staging development works in and around the harbour are expected to take place over several years to keep pace with the increasing production from the marine farm, including upgrades to infrastructure and services.
CONCLUSION

Opotiki District Council and Te Whakatöhea have been working together to create a positive change for their community and the wider sub-region - through aquaculture.

A real possibility exists right now for an integrated government approach to help accelerate positive change in the Eastern Bay of Plenty community. The aquaculture and harbour entrance projects have the potential to transform both the social spend and the economic productivity of the Eastern Bay of Plenty region.

Significant achievements have already been made towards realising the vision, with resource consents in place and planning underway to provide for the industry and infrastructure that will be the base for the economic growth and prosperity that the community needs.

The momentum continues to grow - with prospects of land-based aquaculture and major export deals reinforcing the transformational potential of these projects.

Your support in helping Opotiki achieve its aspirations would be greatly appreciated. If you have any feedback or would like to discuss these projects in more detail please contact one of the following people.

Aileen Lawrie – Chief Executive Officer Opotiki District Council

John Forbes – Mayor Opotiki District

Ian Craig – Aquaculture Project Manager Te Whakatöhea Maori Trust Board

Further information is available at www.opotikiharbour.co.nz