

## MEMO

Attention: Todd Whittaker

From: Shane Kelly

Cc: Reginald Proffit, Caroline Wilkinson, Paul Murphy

Date: 18 April 2018

Regarding: Eastland Port Ltd: Application to redevelop the Slipway and Wharves 6 and 7



## 1 Background

Eastland Port Ltd have applied for consents to facilitate the redevelopment of Wharves 6 and 7, and redevelop the disused slipway within the port. Gisborne District Council sought a review of the Assessment of Environmental Effects that accompanied the applications, and in particular a consideration of potential marine ecology and water quality effects. These matters were addressed in the wharf and slipway AEEs, and in the following key documents appended to them:

- Jeffs, A. (2017) Permanent devices to promote the settlement of post-larval lobsters in Gisborne. Report prepared for 4Sight Consulting Ltd, University of Auckland, Auckland. 7 p.
- Poynter, M. (2017a) Gisborne Port: Slipway redevelopment. Client report for Eastland Port Ltd., 4Sight Consulting Auckland. 11 p. plus appendices.
- Poynter, M. (2017b) Gisborne Port: Wharf 6 & 7 redevelopment. Client report for Eastland Port Ltd., 4Sight Consulting Auckland. 24 p. plus appendices.

## 2 Wharves 6 and 7

According to the AEE accompanying the applications (and among others matters), consent is required for:

- *Demolition of, and alterations to, existing wharf structures;*
- *A new pile wharf structures and associated reclamations of approximately 1,530m<sup>2</sup> (Wharf 6) and 4,200m<sup>2</sup> (Wharf 7),*
- *The discharge of treated stormwater from the redeveloped wharf areas into the coastal marine area from an outfall in the sheet pile wall approved as part of the adjacent Wharfside logyard redevelopment;*
- *Capital dredging of approximately 28,500m<sup>3</sup> of seabed adjacent to Wharf 6 to form vessel berth pockets;*

- *Maintenance dredging of approximately 1,500m<sup>3</sup> of material on average each year from the new Wharf 6 berth pockets and associated area;*
- *Disposal of the approximately 28,500m<sup>3</sup> of capital dredge spoils, along with maintenance dredgings of approximately 1,500m<sup>3</sup>/year, at the Offshore Spoil Disposal Ground;*
- *Discharges of decant water from the capital dredging, maintenance dredging and dredge spoil disposal activities to coastal waters.*

Based on the consents sought and information provided, I consider the potential issues in relation to effects on the coastal environment are likely to be those related to:

- sediment and contaminant runoff from Wharves 6 and 7 during construction and subsequent port operations;
- sediment and contaminant mobilisation and dispersal during wharf construction, dredging and disposal activities;
- disturbance and destruction of habitats, and associated effects on biota during wharf redevelopment, dredging and dredge disposal (including the destruction of juvenile lobster habitat).

The potential effects of these issues are assessed in the AEE and supporting documents, and a number of mitigation measures are proposed, including:

- the diversion of stormwater runoff through the Wharveside logyard stormwater treatment system;
- the bunding of a refuelling area;
- the potential use of silt curtains during capital dredging around Wharf 6;
- the preparation of a Construction Management Plan that includes an environmental component;
- the provision of artificial lobster shelters to offset the loss of juvenile lobster habitat.

Consent conditions proposed by the Applicant include:

- Measures to manage and monitor the effects of stormwater runoff, dredging and the disposal of dredge spoil. These are generally consistent with those provided in other consents held by Eastland Port Ltd.
- Requirements for crayfish pueruli settlement habitat devices to be designed and installed in accordance with a plan developed in conjunction with Dr Andrew Jeffs of the University of Auckland. The design and deployment plan requires certification by the Council's Consents Manager. The Applicant's proposed conditions also require the devices to be monitored for 5 years, after which a review shall be carried out. However, it is unclear, what happens after that review.

## **2.1 Assessment**

I agree with the conclusion of Applicant's technical assessment (Poynter 2017b) that the only effects of potential significance on habitat and biota are those related to juvenile crayfish (there will be other effects but I consider them to be relatively minor). I have therefore focussed my assessment of the redevelopment of Wharves 6 and 7 below, on that issue.

On this matter, I agree that the loss of crayfish habitat will affect the ability to collect juveniles for research purposes, and possibly, future aquaculture (Poynter 2017b). In my opinion, it would also adversely affect the ability of researchers to conduct in-situ field studies on juvenile crayfish. This is one of the few sites in the world where substantial settlement on natural surfaces has been observed. Its importance to lobster research is clearly reflected in the number of studies that have been carried out in the port, or which have used juvenile lobsters obtained from the port. Due to the international rarity of such habitats, I also consider the site to be of significant, intrinsic ecological value.

I also agree that the proposed crayfish settlement devices could potentially compensate for the loss of the ecological functions provided by the habitat beneath Wharf 6. I acknowledge that Dr Jeff's is one of New Zealand's leading pueruli and juvenile crayfish specialists. This indicates that a high level of expertise will be utilised in the development of an alternative, artificial habitat for juvenile crayfish.

Even so, I disagree with the certainty implied by the Wharf 6 and 7 AEE, which suggests that ecological effects will be of a 'minor' nature. Experience has shown me that the manipulation of nature is never simple, particularly in the marine environment. For instance, developing methods for culturing new aquaculture species typically takes years, and has a history of failures and experimental dead ends. I therefore believe that despite the best efforts of Eastland Port, there is a real risk that the mitigation provided by the proposed settlement devices will not offset the loss of functions currently provided by the existing crayfish habitat. Consequently, in my opinion effects on juvenile crayfish habitat could range from minor if mitigation measures work, to significant if they do not (i.e. the complete loss of the existing functions provided that habitat).

Ideally, the efficacy of the mitigation measures (relative to those provided by the existing habitat) would be demonstrated prior to reclamation occurring. I therefore recommend that the hearing panel consider options requiring "proof of concept" prior to reclamation occurring.

I note that the Applicant provided further information in a memo from Max Dunn and Mark Poynter to Todd Whittaker, dated 10 April 2018, which outlined additional work on refining options for mitigating effects on juvenile crayfish. Several options were still being worked through, with more detail to be provided at the hearing. Further comment on the refined options can be provided once those details are made available.

### **3 Slipway**

Eastland Port Ltd have applied for consents to facilitate the redevelopment of the disused slipway. According to the AEE accompanying the application (and among other things), consent is required for:

- *Removal of parts of the existing sheet pile walls and associated works;*
- *Alterations to the existing sheet pile walls, being port related structures;*
- *Declamation involving the excavation of approximately 2,800m<sup>3</sup> of slipway material below mean high water springs from an area of approximately 1,000m<sup>2</sup>;*

- *Construction of a new revetment wall, being a port related structure;*
- *Excavation of a seabed area of approximately 100m<sup>2</sup> associated with construction of a revetment toe;*
- *Reclamation of two areas of approximately 510m<sup>2</sup> and approximately 120m<sup>2</sup> and the associated use of excavated slipway and other imported material as fill;*
- *Discharge of runoff from earthworks, declamation, excavation and reclamation, possibly containing asbestos, lead and other contaminants, into the coastal marine area.*

Based on the consents sought and information provided, the potential issues in relation to effects on the coastal environment are likely to be those related to:

- sediment and contaminant runoff, mobilisation and dispersal during demolition, declamation, reclamation and construction. It is noted that soils on the slipway are contaminated with heavy metals and asbestos fibres;
- disturbance and alteration of habitats around the slipway, with associated effects on biota.

The AEE and supporting documents consider potential effects of these matters, and propose a number of mitigation measures, including:

- works to be undertaken in accordance with a Contaminated Site Management Plan.
- an Erosion and Sediment Control Plan is to be prepared for the whole site as part of the wider Construction Management Plan;
- relocating cats eye snails from the existing slipway sheet pile walls prior to demolition;
- creating voids suitable for marine life during the construction of new revetments.

### **3.1 Assessment**

Based on the information provided and mitigation measures proposed, I generally agree with the conclusions of Applicant's ecological and water quality assessment (Poynter 2017a), including:

- The effects of biota losses on, or affected by the physical works will be minor;
- The new revetment should provide marine habitat of at least equal or greater potential and quality;
- Water quality effects should be localised and small scale.

I also support proposed measures for moving cats eyes prior to construction, and requiring voids to be provided in the reclamation revetment. These measures will assist in preserving the population of a key marine species that lives on the existing structure, and will improve the potential for the revetment to be recolonised by a variety of marine species.

## **4 Summary of my qualifications and experience**

I have a BSc in zoology (1994) and a PhD in biological science (1999), both from the University of Auckland. I have a relatively diverse range of research experience, with a strong emphasis on applied science, environmental assessment, marine conservation and resource management. I completed my PhD on marine reserves and crayfish ecology at the University of Auckland, and then

spent my early career studying mussel recruitment processes, reef ecology and sponge aquaculture during two post doctoral fellowships. Over my career I have been involved in underwater marine surveys in regions throughout much of New Zealand, including Auckland, Northland, Taranaki, Waikato, Bay of Plenty, and Hawkes Bay, and Southland.

For 5 ½ years I was Project Leader/Principal Advisor in Environmental Research and Monitoring at the Auckland Regional Council (ARC). In this capacity I managed a number of major research, monitoring, and strategic projects. These included State of the Environment monitoring programmes for water quality, sediment quality and ecosystem health. While at the ARC, I also led the development of the Benthic Health Model (which was developed to assess the health of intertidal communities), co-authored a blueprint for monitoring stormwater effects in urban receiving environments, and, managed the development of the Waitemata Harbour and Pahurehure Contaminant Accumulation Models. I was also a key technical advisor on major urban infrastructure programmes and supported regulatory and planning teams by providing input to policy and plan development, major consents, and associated hearings and appeals.

In 2008 I established Coast and Catchment Ltd, and since that time have provided technical advice on the effects of a numerous coastal and landuse activities including the effects of stormwater and wastewater discharges, dredging, mangrove removal and pollution spills. My work has also included: fisheries surveys; the assessment of environmental values and issues in a number of harbours and estuaries; acting as a hearing commissioner; and providing technical advice on aquaculture development and regulation. I was the lead author of the 2011, 2014 and 2017 “State of the Hauraki Gulf” reports prepared for the Hauraki Gulf Forum.

I have prepared catchment plans and environmental assessments for stormwater management covering much of Auckland’s urban area, and acted as a technical expert and advisor for Greater Wellington Regional Council, in relation to Wellington City Council’s application for a city-wide stormwater discharge consent. I designed and report on the harbour monitoring programme for New Zealand’s largest wastewater treatment plant at Mangere, and have also advised Hawkes Bay Regional Council on impacts related to port dredging, urban stormwater discharges, and industrial discharges.