



# Fact Sheet

## Next Generation Project

### 1. The Project

Port Otago Limited is upgrading its port facilities in preparation for bigger ships calling on the New Zealand coast. It is anticipated that these bigger ships will start arriving over the next few years as demand and cargo volumes increase.

The main components of the Project Next Generation include:

1. Deepening, widening and maintaining the lower harbour channel, the swinging area and the Port Chalmers berths
2. Disposal of dredging spoil at sea
3. Extending the Multipurpose Wharf and construction of a new fishing platform at Port Chalmers.

Port Chalmers is already the deepest container port in New Zealand, with a chart datum (low-tide) depth of 13m. Approximately 50% of the harbour channel is at least 14m deep, but to accommodate the new generation of bigger ships, Port Otago will need to deepen and widen the harbour channel further and extend its multi-purpose wharf.

### 2. The Project Rationale

Over the past 10 years, the size of container ships has been steadily increasing as shipping lines endeavour to move freight around the world more efficiently and economically. Shipping is already the most environmentally friendly method of transporting goods over long distances and newer, bigger ships provide even greater efficiencies and will further reduce their carbon footprint.

Currently, the biggest container ships that regularly come to New Zealand call at Port Chalmers. They have a nominal carrying capacity of 4,100 TEUs and are 281 m long, 32.2m wide and have a maximum draft of 12.5 m. Over the next 10 years, ship size could increase up to a carrying capacity of 6,000 TEUs and they could be up to 320 m long, 42 m wide and require a draft of 14.5 m.

Over 99% of New Zealand's international trade volume is transported by sea. This volume has been growing by an average of 8% per annum. For New Zealand ports (and the country's supply chain) to remain internationally competitive, it is essential that we develop the capability to handle these larger ships.

### 3. How the project will be implemented

#### 3.1 Dredging

The dredging will be carried out in three stages:

1. Progressive, incremental channel deepening using Port Otago's own dredge (*New Era* and *Vulcan*). This methodology could continue until the project is completed.
2. Rock (and some sand, silt and clay) removal requiring grab dredge or backhoe work, and
3. The removal of the balance of the material using a larger dredge over a shorter timeframe, upon confirmation that larger vessels are coming to Port Chalmers.

It is worth noting that, with the exception of Harington Bend and the Port Chalmers turning basin, the vast majority of dredging activity will take place within the Port's existing channel – an already historically modified environment. (See Figure 1 attached to the end of this Fact sheet.)

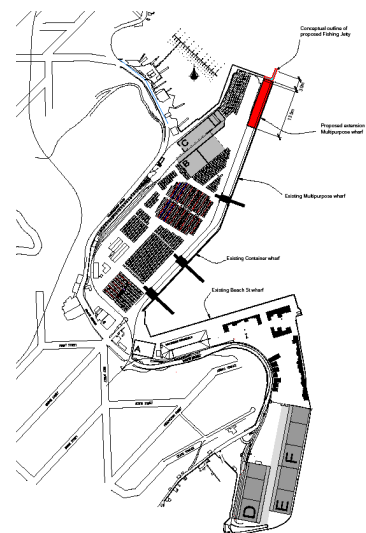
#### 3.2 Disposal of dredged material

This latest upgrading of the channel, berths and swinging area requires up to 7.2 million m<sup>3</sup> of material to be removed from the harbour. This largely comprises sands (62%) with the balance being silts (34%) and a small component of clays (3%) and rock (1%). The material will be disposed of at a specially chosen off-shore disposal site (Latitude 45° 735'S, Longitude 170° 80'E) located about 6.3 kilometres to the northeast of Taiaroa Head. This site is referred to as "AO" in the resource consent application. (See Figure 2 attached to the end of this Fact sheet.)

#### 3.3 Extension of Multipurpose Wharf and provision of a fishing jetty

The extension to the wharf will provide 135 metres of extra workable deck over which to load and unload vessels and make full use of the adjacent reclaimed area, which is presently used for the storage of empty containers. The need for this extension would exist irrespective of Port Chalmers receiving larger as it would immediately provide greater operational efficiency during times of congestion involving container ships, cruise ships and log ships.

The proposed Fishing Jetty is a community amenity being provided by Port Otago and is situated at the end of the public walkway that has been constructed around Boiler Point. It is physically separated from the Multipurpose Wharf. This project was initiated through community consultation.



### 4. The role of Port Chalmers in New Zealand's international supply chain

Port Chalmers is a major part of the local and national economy and is a vital link in New Zealand's international supply chain. It is New Zealand's third largest port (by cargo value) and is the international gateway for some of the country's most

important and valuable export cargo – most notably chilled and frozen meat, dairy products and timber and forestry products. Since 1997, cargo volumes at Port Chalmers have increased by more than 300%. Forward projections at a conservative 5% per annum show that container volumes through Port Chalmers are expected to increase to 550,000 TEUs by 2030. The region's shippers will benefit through lower freight rates if Port Chalmers is developed rather than having to ship this cargo through Lyttelton, Auckland or Tauranga.

## **5. Potential Effects of the Project**

Extensive scientific research into the potential effects of this project has been commissioned by Port Otago and undertaken over the last three years. This research has concluded that, while there will be some short-term effects they will be no more than minor. The coastal environment and its flora and fauna will recover quickly. The key areas of concern involve potential changes to the harbour channel, the disposal of dredged material, the dispersal of sediment, potential impacts on wildlife habitats, effects on recreational activity and noise.

### ***5.1 Deepening the Channel***

Deepening of the shipping channel leads to a slightly larger tidal range within the Harbour but this change will not be perceptible to human users of the Harbour. The dredging results mainly in reductions, rather than increases, in tide speed and currents, with any effects largely restricted to the Lower Harbour.

### ***5.2 Disposal of dredged material***

Extensive modeling of the effects of disposal at site "A0" shows that there is no potential for significant dispersal of dredged material inshore to Blueskin Bay and the outer Otago Peninsula and that there are no unique or special communities identified within the footprint of the disposal site.

### ***5.3 Sediment dispersal***

Sediment dispersal around the disposal site will be predominantly at the site or to the north of it, due to the prevailing Southland current. If any sediment does reach the coast, there will be less than 0.5 mm deposited during the entire dredging programme. In reality, these "deposited" sediments will be washed away by wave activity in shallow coastal waters and quickly disappear.

### ***5.4 Wildlife habitats***

Habitats and communities in the channel are already modified through maintenance dredging and most of these communities are well represented elsewhere in the Harbour. While the overall effects vary from site to site, recovery of these areas ranges from a period of several months through to 2 to 3 years for longer lived species. Impacts on food sources, if they do occur, are low and only short term. Fish are widespread and mobile and will avoid the effects of high suspended sediment levels during the dredging and disposal activity itself. They will re-establish quickly on the disposed sediments which are similar to those currently at the disposal site. Once re-established, the fisheries habitat is expected to be similar to that now present.

Cockles are the main shellfish resource and there will be some very minor loss of habitat and cockles along the margins of the channel and turning basin. However the area affected is very small relative to the overall distribution and abundance of this resource.

### **5.5 Recreational activity**

Recreational fishing is only likely to be affected in areas near where the dredger is operating or very shortly after. Commercial fishing effort is dispersed relatively thinly throughout the coastal area in Blueskin Bay and around the area of the disposal site. There should be no effects on reefs and diving activity as waves and currents will quickly disperse material that settles in these areas. Boating will be un-affected but, when the dredging is completed, a wider harbour channel will be available, allowing for greater separation distances between recreational and commercial users of the channel.

While sediment dispersal from the disposal ground is unlikely to reach the coast, any sediment that does so will not be discernible to beach users.

## **6. Noise**

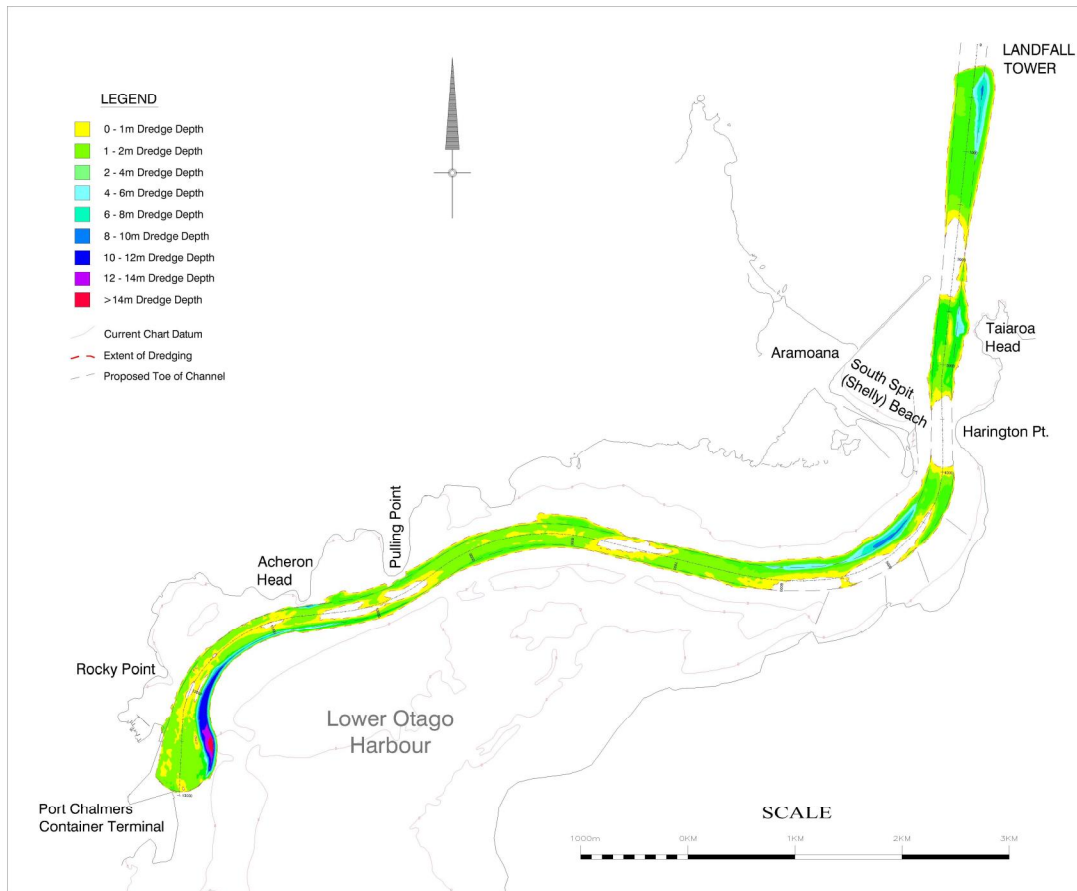
Noise effects from dredging will be similar to existing noise sources from shipping, and therefore, not disturbing. Intensive dredging may occur over a 6-9 month period but the dredge will not operate in one location for more than 2-3 days. For larger ships berthed at the container terminal wharf, there will be no discernable change in noise effects. For larger ships berthed at the Multipurpose wharf, there will be an increase in noise at Careys Bay. This could require some houses in Harbour Terrace to be included in the sound insulation programme, which could involve significant upgrading of the dwellings. Port Otago is committed to undertaking these works.

## **7. Summary**

The Next Generation project is a critical one for Port Otago's continued operation and development. Without the ability to provide the necessary facilities for bigger ships when they start calling on the New Zealand coast, Port Chalmers will be reduced to the role of a feeder port. Exporters in the Otago/Southland region will be forced to move their cargo by sea or rail to where the larger ships call, thereby increasing their cost of export and reducing the positive economic benefit Port Otago currently delivers to the region. A reduced volume of cargo through the Port will impact on employment and it will also increase the carbon footprint of many of our existing export activities. The extensive scientific research Port Otago has commissioned with regard to this project clearly shows that the effects of the dredging and wharf extension on the habitat and habits of the flora and fauna located in the area will be no more than minor. Port Otago stands behind the conclusions of these detailed studies with full confidence that any effects will be short-term and negligible. The longer-term potential benefits for the local economy and exporters of the region are significant and extremely positive. This project will ensure those potential benefits are realised and retained within our region and not lost to somewhere else in the country.

*The information contained above is designed to provide an overview of the project and its effects. For detailed information on the subjects discussed in this Fact Sheet, please consult the full AEE, which can be found at <http://www.portotago.co.nz/8/3.html>.*

**Figure 1: Proposed dredging depths within existing channel**



**Figure 2: Proposed disposal site for dredged material**

