

## Next Generation Project Consultative Group

Notes from the meeting held on Monday 30 June 2008, 7pm  
Port Otago Limited Building, Port Chalmers.

In Attendance: Bert Youngman (Otago Yacht Club)  
Bruce Hill (DOC)  
Cheryl Adams (Blueskin Road resident),  
David O'Malley (Octa Associates Ltd),  
David Redshaw (Southern Clams Ltd)  
Graeme Burns (Harrington Point Community Society),  
Graeme Wall (Port Chalmers Yacht Club)  
Hoani Langsbury (Otakou Runanga)  
Irene Scurr (Otago Peninsula Community Board),  
Jan Tucker (Chalmers Community Board)  
Joan Conway (Port Environment Liaison Committee),  
John Perry (Port Environment Liaison Committee),  
Lincoln Coe (Port Otago),  
Mark James (NIWA),  
Martin Single (Shore Processes and Management Ltd),  
Peter Scott (Port Chalmers Fisherman)  
Peter Brown (Port Otago),  
Phil Mitchell (Mitchell Partnerships),  
Rob Bell (NIWA)  
Roy Innes ((Port Environment Liaison Committee),  
Selva Selvarajah (Otago Regional Council)  
Trevor Johnson (Chalmers Community Board),  
Warren Lewis (Recreational Fishing/boating)

Apologies: Stephen Higgs (Chair), Geoff Plunket (Port Otago), John Milburn (Monarch Wildlife Cruises), Roger Belton (Southern Clams), Robert Watt, Angela McErlane (Port Environment Liaison Committee), Paul Robinson (Otago Yacht Club), David McFarlane (Yellow-Eyed Penguin Trust).

### 1. Welcome/Introductions

As Stephen Higgs was absent from the meeting, Peter Brown invited a volunteer from the floor to chair the meeting. Peter Brown was confirmed as interim Chair. He then invited attendees to introduce themselves to ensure that everyone knew each other.

### 2. Apologies

The apologies for the meeting were confirmed.

### 3. Confirmation of Agenda

The agenda, which had been circulated with the notes of the previous meeting, was confirmed.

### 4. Confirmation of Notes from 31 March 2008 meeting

The minutes of the previous meeting of 31 March 2008 were accepted.

## 5. Matters arising

It was agreed to discuss any matters not dealt with in subsequent agenda items at the end of the meeting.

## 6. Update on meetings since 31 March

### a. DOC/Monarch Trip

A trip out on the Monarch had been organised for NIWA and DOC (Bruce Hill and Jim Fyfe) staff. Mark advised it had been a worthwhile trip with areas of concern discussed with Sean Hesselstine the Monarch's skipper. Everyone had been able to view bird life and habitats first hand and look at areas of concern and issues associated with all the harbour. Bruce Hill reinforced Mark's comments regarding the value of the trip and passed on thanks to the Monarch crew for their assistance.

### b. Yachties

Lincoln said that he and Phil Mitchell had met with yachties. At the meeting, work undertaken by the yacht clubs was reviewed. This work identified high use areas in the harbour and also discussed other areas of concern to the yachting community. Bert appreciated the meeting and the understanding that is being shown by POL.

### c. Southern Clams

Lincoln advised he and Geoff Plunket had met with Roger Belton and Bruce Inglis and Mark James' work had been reviewed. Southern Claims now have an appreciation of the work that is being undertaken by POL. David Bradshaw said that Southern Clams had completed a survey of commercial areas of cockle harvest. In answer to a question from Warren Lewis, he advised that they currently have no permits to harvest cockles in the harbour.

## 7. Presentations of Project Progress

### a. Physical Modelling & Monitoring – Rob Bell (Copy attached)

A hydrodynamic model has been set up for the inner harbour using a 30m grid. This has been calibrated using 1988 field data as well as current buoy data. To date there is good correlation achieved with the field data. Further calibration, using 1999 ADCP data, has also been undertaken.

With a calibrated model it is possible to look at sediment plumes and once calibration using the current channel has been achieved, the deepened channel dimensions are then integrated into the model.

Bert Youngman asked whether information from other wind stations was used. Rob Bell advised that they have been using wind data from Taiaroa Heads. The biggest winds are at Taiaroa Heads and they generate the biggest effects in respect to driving water into the harbour. Bert also asked about the topography effect of wind down the harbour. Lincoln Coe commented that the hills do change the wind along the length of the harbour at the various Port Otago measurement sites.

It was suggested that dredging in the basin could also drive sediment into the lower harbour. Rob Bell said that for sediment plume modelling calm conditions give a more "worst case" result than stronger winds do.

Phil Mitchell asked for clarification from Rob Bell on how well the model matched real field data. Rob Bell's view was that the model was now very good and that the results are a very good match and he is very satisfied with the results.

Bert Youngman noted that the yachties' concern is sedimentation in the harbour. He referred to Rob's earlier report that showed the anticipated sediment plume and noted that some effects from dredging were already being observed.

Rob said that the model in the earlier report was a preliminary one only, using a reasonably coarse grid. For the next stage the actual grain size data would be used with settling rates. Lincoln commented that this earlier output was a conservative model and the actual geotechnical information would now be used to determine settling velocities.

Bert asked whether there would be an opportunity to discuss the model in more detail. He would like to understand long term trends - for example, what effect would sea level rise have on flushing in the harbour. Rob noted that it would be possible to use the model for this, but his focus was currently on the effects created by deepening the channel.

Offshore modelling is also underway. The grid has been established with wind and tides being put into the model. The Southland current has also been modelled and used as an input to this model. Calibration is being done using offshore ACDPs.

Rob commented that tides make a relatively small contribution (about 20%) to the observed currents at the offshore modelling site. At wave buoy A1, current drift was consistently to the south east. Current drift direction at site B1 has less of a pattern. This indicates that the gyre is more offshore than previously envisaged.

Offshore wave modelling will consider a 10 year wave record. Rob noted that, at both sites, the currents alone would be unable to transport fine sand. It would need wave stirring on the seabed.

Warren Lewis asked what effect on tides and waves there would be around the disposal site. He was concerned that any mound might result in "confused seas". Rob replied that without waves, material deposited on the seabed wouldn't move. Phil Mitchell added that the model would be able to predict these effects.

The actual proposed disposal site and the possible effect on fishermen were queried. Lincoln advised that the areas marked A1 and A2 on the presentation were possible sites but this was still being investigated. It was suggested by Peter Scott (Port Chalmers Fisherman) that the work to date had not adequately considered the effects of disposal on people who make their living from the sea area in question.

Martin Single noted that the model would assist in determining whether dredged material would be disposed of in a small or large mound. It was noted by Warren Lewis that disposal further offshore would start to impact on the costs of dredging significantly.

Cheryl Adams asked whether the number of offshore wave buoys used were sufficient to calibrate the model. Rob Bell said that the two buoys used were more than sufficient to do that. Cheryl also asked about the effect of seasonal variations and Rob stated that he was satisfied that the amount of data being collected was appropriate.

**b. Marine Ecology – Mark James (Copy attached)**

Mark James outlined the approach that has been taken with researching available information, followed by "ground truthing" by field data. This has included a photo survey as well as quantitative survey (using grabs/photos). In the harbour six different habitat types have been identified.

Offshore sampling was done with side scan along with photographic survey and about half the offshore sites had been analysed to date. So far, no rare species or habitats had been identified.

In March there were also bird surveys undertaken and the report on fisheries is expected shortly. Bert Youngman asked for clarification on the effects of dredging on the water edge. Martin replied that water over tidal flats is important for bird feeding but there was no evidence that this would be affected. Mark James said that the birds follow the waters edge as the tide changes.

(Jan Tucker left the meeting at 8.25pm.)

Cheryl asked whether extra sampling would be required south of A1 now that the current has been shown to go south? Mark James advised that some sampling sites were to the south so this would be covered.

## **8. Project Progress Report – Lincoln Coe**

Lincoln referred to his report sent out with the agenda and noted it provides a snapshot of the work being undertaken to date. In respect to geotechnical investigations, these had been completed and this information was being fed into Rob's model. This information would also be a consideration regarding dredging methods (including timeframe and plant used).

Studies had confirmed that, in general, the upper harbour contained sand, with more silt in the lower half of the channel. There were no surprises in respect to results.

Lincoln also referred to progress with channel design and ship handling. Further simulations are planned over the next two weeks to refine the ship-handling and channel design.

Lincoln commented that the rock strength and characteristics was slightly different than expected and may require blasting, although this had yet to be confirmed. Warren Lewis asked about the potential effects of blasting on the marine environment and considered that it would be significant. Lincoln advised that there was a need for further work before this could be determined. Lincoln further advised the meeting he was expecting a report on previous dredging from Duffill Watts, engineers who were involved with the 1976 capital dredging project.

## **9. General Business**

Graeme Burns asked if beach replenishment was still an option for dredged sand. Lincoln confirmed that it was but that the volume involved was tiny in relation to the overall dredged volume. It was likely that material from POL's maintenance dredging programme might be more suitable for this purpose. Lincoln also noted that there was little other commercial use for the sand.

An initial report on SH88 capacity, from Traffic Design Group, had been received and was being assessed. It would be provided to the Group in due course.

In terms of the overall programme, work is perhaps slightly behind schedule. However this is a consequence of work uncovered during the investigations. The timeline for submitting a consent application was raised, as the community would need time to absorb information provided and did not want to see the process rushed. Lincoln confirmed that POL are still targeting lodgement this year.

## **10. Next Meeting**

The next meeting was set for Monday, 11 August, 2008 at 7.00pm – Port Otago Promotions Room.

## **11. Closure**

The meeting closed at 8.48pm.