

**Hearing Before the Otago Regional Council  
In the Matter of the Resource Management Act 1991**

**And**

**In the Matter of the application by Port Otago to undertake various activities within  
the Lower Otago Harbour and Blueskin Bay**

**Verbal Submission by the Yellow-eyed Penguin Trust**

**My name is David McFarlane**

**I am the Field Manager of the Yellow-eyed Penguin Trust**

1. To briefly recap our written submission: we discussed the potential for adverse impacts on the ecological communities of both the harbour and the Blueskin Bay area, from the dredging of the lower harbour channel and depositing of dredge material at the new A0 off shore disposal site in Blueskin Bay.
2. Sediment deposition on the scale proposed will effect the immediate dumping area, and the sediment plume from both the dumping and dredging process, may effect a much wider area.
3. While Port Otago has proposed a regime of monitoring of turbidity and sedimentation it has not specified what standards will be set and then the actions it will undertake to remedy or mitigate adverse effects if they are identified.
4. In order to address the issue of fine sediment effects we requested that a threshold of 25mg/l of suspended sediment , as the maximum sediment level, be set in the vicinity of the dredge and that particular care is exercised with the separate treatment and disposal of dredge material.
5. We also requested that baseline, pre-dredging monitoring and post dredging monitoring of yellow-eyed penguin and southern blue penguin foraging patterns be undertaken, and that dredging should be avoided during the penguin breeding season (September – February).
6. I am not aware if any of these concerns have been addressed since my written submission in August 2010.
7. With respect to yellow-eyed penguins, a species classified as nationally vulnerable, there is limited data available on the use made of the disposal area by foraging yellow-eyed penguins. The Yellow-eyed Penguin Trust agrees with Paul Sagar (Affidavit on behalf of Port Otago, 11 April 2011, 29.4.1 p. 23) that yellow-eyed penguins are, “likely to forage at some stage within the proposed A0 disposal zone”.
8. The nearest yellow-eyed penguin breeding site is at Aramoana, with a smaller site at Kaikai Beach and very significant breeding sites in the adjacent area on Otago Peninsula, at Penguin and Pipikaretu Beaches. Otago Peninsula overall, has approximately 47% of the South Island breeding population of yellow-eyed penguins. (M. Young, DOC, pers. com.)

9. Yellow-eyed penguins are inshore and benthic or bottom foragers, regularly diving to the seafloor, and travelling up to 20km during foraging trips. Evidence from Paul Sagar (Affidavit 11 April 2011, 29.4.1 p. 24) states that yellow-eyed penguins, mostly obtain their prey at depths greater than 40-80m and so yellow-eyed penguin foraging is likely to occur mostly well off shore from the A0 disposal site, which lies in depths of 25-30m. Expert evidence from Dr Mattern, which follows this submission, will discuss yellow-eyed penguin foraging.
10. Mr Sagar (Affidavit on behalf of Port Otago, 11 April 2011, 39.3& 39.4 p. 33) does not agree with the Yellow-eyed Penguin Trust request that pre dredging and then ongoing monitoring be carried out on yellow-eyed penguin and southern blue penguin foraging patterns, due to the "literature that indicates significant effects of flipper banding and the deployment of devices on penguins".
11. The paper cited as support (Saraux et al 2011) deals with the effect of flipper bands on king penguins, rather than discrediting monitoring and the use of GPS dive loggers.
12. In any case, the Yellow-eyed Penguin Trust proposes that transponders, passive tags, inserted under the skin, should be used rather than flipper bands to mark individual birds. These are used by the Trust to mark penguins on our reserves and do not have the hydro-dynamic issues associated with flipper bands.
13. The impact from the deployment of other devices, such as GPS dive loggers, which would be important in the monitoring of foraging patterns, is also short term and restricted to a few individuals.
14. The Yellow-eyed Penguin Trust offers Port Otago the use of three GPS dive loggers, at no charge, for yellow-eyed penguin monitoring.
15. With regard to the recent proposals regarding alternative use of dredge material, the Yellow-eyed Penguin Trust supports further investigation and a feasibility study into the creation of habitat islands in the upper harbour.
16. Finally, competing economic values, especially those of Otago Peninsula wildlife and the nature-based tourism industry that is based upon them, do not appear to have been sufficiently addressed by Port Otago in their application. Economic impact studies commissioned by Port Otago, seem to have been narrowly interpreted, with reference to the gains to be made from the proposed dredging, while the potential for negative economic effects on the \$100 million pa nature-based tourism sector has been minimized or ignored.
17. Port Otago, in its previous incarnation as the Otago Harbour Board has played a significant role in biodiversity conservation. They paid for fencing to protect the fledgling royal albatross colony at Taiaroa Head in 1939-40, OHB signalman at Taiaroa Head helped to monitor albatross movements, and they supported the work of full time ranger, Stan Sharpe between 1951 and 1968.
18. In conclusion, the Yellow-eyed Penguin Trust urges Port Otago to show more consideration in dealing with the possible effects of the dredging proposal on harbour and coastal ecosystems and species, and in particular on the yellow-eyed penguin.

I now hand over to the Yellow-eyed Penguin Trust expert witness, Dr Thomas Mattern, who will discuss yellow-eyed penguin foraging and the Port Otago proposal.