

**BEFORE the OTAGO REGIONAL COUNCIL
IN THE MATTER of the Resource Management Act 1991
AND
IN THE MATTER of applications by Port Otago to undertake various activities
within the Lower Otago Harbour.
SUBMISSION BY THE DUNEDIN BRANCH OF THE ROYAL FOREST AND
BIRD PROTECTION SOCIETY**

My name is Janet Mary Ledingham.

I am the Chairperson of the Dunedin Branch of the Royal Forest and Bird Protection Society which has approximatly 900 members.

1. The Dunedin Branch is active in the conservation of the marine environment. We run field trips to headlands and out to sea to familiarise and educate members. We financially supported the creation of the covenant of the largest mainland titi colony near Taiaoroa Head. Our distinguished member Sir Alan Mark campaigned to have Aramoana saltmarsh made an Ecological Reserve. We funded the construction of a boardwalk to assist the public appreciation of the saltmarsh. We actively support the fostering of seabird colonies at Long Point in the Catlins and yellow-eyed penguins. Our current focus is on restoring and fostering seabird colonies at Lawyers Head and near Cargills Castle.
2. The Society at the national level campaigns for the creation of marine reserves and the cessation of fishing methods that have damaging bycatch. In conjunction with Birdlife international our staff have in press a report on Important Seabird Areas in New Zealand. This report describes the outstanding nature of our seabird fauna in international terms and identifies the Otago waters as one of the Important Bird Areas with special significance for yellow-eyed penguins and Stewart Island shags.
3. We are making this submission because we believe that there is potential to harm the populations of 'Threatened' and 'At Risk' birds and mammals that use the sea at and downstream from A0. New Zealand is a party to The London Protocol on disposal of waste at sea^{which} provides the framework for NZ law to protect the marine environment. We support the recognition of the values and principles in the consideration of this application. The protocol embodies the "Precautionary Principle", defined as: *'Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.'*
4. To allow the application as it stands would be to allow the disposal of a large amount of waste without complete knowledge of where it goes and how it will affect the habitat of Threatened and at Risk species.
5. We wish to thank Port Otago for their willingness to engage in discussion with us during this process.

6. We wish to make the point that any monitoring or other scientific studies should be carried out by experts and under protocols approved by the Department of Conservation rather than solely by Port Otago or the Regional Council.
7. The original response of the Dunedin Branch of Forest and Bird concerning the Port Otago application to dredge the harbour was that in general we found the application to be deficient in stating any real conditions for both determining and mitigating adverse effects on the harbour and offshore ecology and birdlife, etc. While the monitoring to be undertaken was detailed, there were no threshold levels stated nor conditions laid down for outcomes from unfavourable monitoring data, such as unacceptable suspended sediment levels (no more than 25mg/l of suspended sediment) or displacement of the feeding and breeding bird populations, particularly on and around the Aramoana Saltmarsh Ecological Area.
8. No proper field information has been gathered for birds and marine mammals.
9. There was and still is, no acknowledgement that establishing effects of pollution of the marine habitat upon top level predators such as birds is very difficult science. This is the reason that precautionary measures are necessary, because we cannot reasonably know what the specific impact might be.
10. Port Otago had not identified the need to protect areas implicated with sensitive parts of the reproductive cycle of marine organisms or proposed any mitigation to offset potential damage to such areas.
11. The applicant has not accurately identified the wildlife values of the areas that are likely to be affected by dumping, or at the proposed AO dump site. The impact statement is written for the short-term use of a large dredge, not the continuous use of a small dredge. The applicant had not recognised the need to protect wildlife values of the AO site and had not specified mitigation of undesirable impacts upon those values.
12. The detail of our original submission is presented below and comment is made on whether those concerns have been allayed in any way by the draft conditions set out in the ORC report to the Hearings Panel and by recent discussion that we have had with Port Otago personnel.
13. **Sediment deposition within the harbour** is likely to adversely affect benthic communities, eel grass beds, rocky shore communities and bird feeding patterns. While it was stated that sediment monitoring will be carried out there was no specification of steps to be taken should suspended sediment thresholds rise to an unacceptable level.
14. We suggested that there must be a management condition that dredging should cease immediately once preset suspended sediment levels are breached (no more than 25mg/l of suspended sediment, as set for the dredging at Port Melbourne). This is particularly important offshore from the Aramoana Ecological Area and Taiaroa Head, and where there are eel-grass beds which are likely to sustain long-term damage from sediment.
15. The Aramoana Ecological Area is the largest saltmarsh on the South Islands east coast and is of major scientific importance and dredging activity must be designed to have minimal or preferably no effect on it or the eel-grass beds on

its margin. No mention was made of an intent to dredge only when the tide conditions are optimal state for preventing pollution of the saltmarsh. There should be a condition that dredging in the vicinity of the Aramoana Ecological Area only be carried out when tidal conditions would be likely to carry sediment out to sea.

16. We note that the ORC's report and recommendation (Consent No: 2010.195) and the draft of the Port Otago's management plan address the above concerns to a large extent.
17. Disturbance of threatened and 'at risk' species. The Aramoana tidal flats are a prime component of the wader habitat in Otago. Migratory godwits, oyster catchers, pied stilts, banded dotterels, white-faced herons, royal spoonbills, several gull and duck species and kingfishers are commonly found in the area and several shag species including the Stewart Island shags that nest around Taiaroa Head feed within the harbour adjoining the saltmarsh and down near Taiaroa Head. We were concerned about dredging noise and light effects on Taiaroa Head bird colonies.
18. Yellow-eyed penguins formerly bred within the harbour mouth at Otekiho Reserve (adjacent to Pilots Beach) until the early 1990s and the nearest breeding site is currently at Aramoana. To the north there is a small breeding site at Kaikai Beach, but several important Otago Peninsula yellow-eyed penguin breeding sites are close by, particularly those at Penguin & Pipikaretu Beaches. While the direct effects of dredging (noise and light) are likely to be of concern for the Aramoana penguins, there is a wider and unquantified potential issue relating to the AO dumping area and sediment plume in terms of penguin foraging in general. There is no survey data related to yellow-eyed penguin foraging from the northern Otago Peninsula breeding sites mentioned, Aramoana or Kaikai Beach, to give some understanding of the potential effect of the dredging on their feeding grounds.
19. We were concerned about dredging noise and light effects on Taiaroa Head bird colonies. It is very important to shield any lights at titi fledging time to prevent young birds being attracted to lights and colliding with structures. We do not think that these matters have been addressed so far.
20. There needs to be a conditions to prohibit dredging off Aramoana and Taiaroa Head during the bird breeding season or during the period when migratory birds such as godwits are very dependant on good access to food, i.e., from September to late April.
21. The surveys on birds feeding in the affected areas are quite inadequate and need to be carried out over a much longer period. The survey done over one day only provides data on response to noise. There was no identification of the important feeding sites of waders. The bird colonies and migrant waders of the harbour and Taiaroa Head are important to Otago and New Zealand and internationally. Some are international migrant. Otago Harbour and coastal seabirds also generate major income to the City from tourist activities.
22. There should be no dredging close to Taiaroa Head, the Aramoana saltmarsh and mudflats and any other breeding sites be carried out during the breeding season or over the time most important for migratory birds, i.e. pre their migration north.

23. We note that paragraphs 319,320 and the draft conditions set out in the ORC report, Consent No 2000.472_V1 have addressed much of our concern by specifying procedures for the monitoring and management of birdlife on the saltmarsh and an intent not to undertake incremental or major capital works during specified periods most likely to affect nesting, feeding and migratory birds.
24. Should consent be granted there needs to be a condition requiring that the dredging equipment, techniques and practices shall be of the best standard to minimise the mobilisation of silt and clay particles. This will ideally require the separate treatment of clays, silts and soft rock from that of sand. Differential dredging procedures for areas of clay and fine silt, using scoop buckets to minimise release of suspended particles both in the dredged area and the dump site would be desirable.
25. **We are concerned that the current intent to use the New Era dredge for the dredging down to 12 metres means that the differential dredging would not be possible.**
26. **Rigorous baseline seabird monitoring should be carried out prior to any dredging and mitigation procedures to minimise effects on seabirds, fish and marine mammals, including penguins, and the protocols for this should be agreed in consultation with DOC.**
27. There should also be an ongoing survey of the bird species feeding at and around the site of AO with initial assessments being made before the commencement of dumping at the site. There should be turbidity meters out at AO as a permanent arrangement.
28. As part of the mitigation for the undoubted effects on some bird species we strongly support surveys of the population and breeding success of blue penguins as those nesting around the Pilot Beach coast will be most subject to disturbance. We understand that Port Otago are considering such surveys.
29. As further mitigation we also suggest that the provision of bird roosts along the mole be considered. There were major roosts and nesting areas in the high part of the old framework that existed on the Tairaroa Head side of the Mole which are now largely gone through the ravages of weather.
30. Port Otago has not identified and proposed mitigation to protect areas implicated with sensitive parts of the reproductive cycle of marine organisms.
31. The nationally endangered brachiopod, *Pumilis antiquatis* once found in the harbour has not been seen during a recent survey (Robinson, J. Otago Harbour survey of *Pumulus antiquatis* for Port of Otago, Dec. 2010). The author noted that "I observed that the coallines where *P. antiquatis* was once abundant were often quite muddy with thin layers of silt on most surface. It may be that sediment build-up in the harbour (brought in by tidal flow or from dredging or runoff or a combination of these) has encroached onto previously 'clean' areas."
32. Consideration should be given to the selection of several indicator species that could be monitored to determine the effect of silt deposition on the health of marine organisms.

33. The **sediment modelling** only relates to the silt plume released at the event of the dumping.
34. The impact of the movement from AO elsewhere has not been modelled, measured nor assessed.
35. The eventual fate of the spoil has not been identified except in the most general manner.
36. Should consent be granted there must be conditions that require the applicant to identify the optimum conditions for the settlement of the bladder kelp, *Macrocystis pyrifera*, and specify the management that is needed to protect them from impacts arising from spoil disposal.
37. We believe that baseline information on this kelp should be obtained with a protocol set by the Department of Conservation and monitoring should include assessments of the effects from silt deposition.
38. **Hector's Dolphins** are an endangered species and work by Associate Professor Liz Slooten and colleagues summarised in a report to the Department of Conservation (Slooten, L. and Benjamins, S. Potential impacts of Project Next Generation on Hector's dolphins and other marine mammals. August 2010.) shows that some of the Otago population is found in the Otago Peninsula to Blueskin Bay area and have been recorded within the entrance of the Otago Harbour.
39. Slooten and Benjamin note that additional scientific surveys would be required to provide a definitive answer to the question of dolphin distribution and movements in the area where they are likely to be affected by the dredging operation and the disposal at AO. It is obvious that this work needs to be carried out before any dredging can commence and surely should be funded by Port Otago.
40. **Sealions.** Data obtained from sea-lion tracking indicate that the Bryozoan beds in the 'no trawl' area adjacent to the proposed dumping site at AO are favoured feeding grounds and adequate monitoring to ensure that optimum sediment levels are not breached would be very important for this area. This is another valid reason why there should be an array of permanent turbidity meters surrounding the AO site.
41. Mitigation for any effects on sealions should take the form of financing further tracking studies to give more information on the sealions movements.
42. We note that New Zealand is a signatory to the London Protocol – "1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter of 29 December 1972" – and note that Article 3 of that protocol is relevant to this application.
43. We acknowledge that the project to deepen the harbour is desirable from a commercial point of view but advocate strongly for optimum conditions to be set to minimise the inevitable adverse ecological effects on marine ecology referred to in the evidence presented by Dr Mark James.
44. We suggest that much more base work needs to be done to identify the bird and marine mammal values in the receiving waters since there has been no systematic field work to identify the values, only literature survey. This review

is deficient in its findings and complacent in its assessment of its affect upon those values.

45. I call upon Derek Onley, ^a well known ornithological expert, to describe the species that utilize AO, the importance of the AO site for sea birds, the potential impacts of the project on them and how they might best be avoided, remedied, or mitigated, the requirements for monitoring and suggestions for a suitable monitoring regime.