

## 4.5 Detailed Environmental Assessments, Studies and Reports

Once the project design was determined Port Otago commissioned a broad range of comprehensive technical reports to fill gaps in knowledge so that the full effects of the project could be comprehensively assessed in the context of the RMA. It is noted that as these detailed assessments were being prepared, additional measures to manage the effects of the project on the environment were proposed and incorporated into the final project design.

These background reports and assessments have informed this AEE, particularly Section 5 "the existing environment" and Section 6 "assessment of effects". These reports and assessments comprise the following:

<b>Biological / Ecological Environment</b>		
Author Reference	Reference Name	Full Report Title
James et al 2009*	Ecological Environment & Assessment	Biological resources of Otago Harbour and offshore: assessment of effects of proposed dredging and disposal by Port Otago Ltd
Willis et al 2008	Offshore Ecology	Benthic offshore surveys of proposed dredge spoil disposal sites off Otago Peninsula
Paavo, Probert & James 2008	Harbour Ecology	Benthic Habitat Structures and Macrofauna of Lower Otago Harbour
Paavo 2009	Harbour Rocky Shores	Observations of Rocky Shore Habitats in Lower Otago Harbour
Paavo 2010	Te Rauone Latham Bay Ecology	Benthic Habitat Structures and Macrofauna of Te Rauone Beach and Latham Bay, Otago Harbour
Sagar 2008	Bird Foraging	Field study of bird foraging and roosting sites in lower Otago Harbour
Boyd 2008	Fisheries Preliminary	Fisheries resources in Otago Harbour and on the adjacent coast
James et al 2007	Preliminary Summary of Ecological Info	Summary of existing Ecological Information and scoping of further Assessments for Port Otago Dredging Project

<b>Physical Environment</b>		
Author Reference	Short Title	Full Report Title
Single et al 2010*	Physical Coastal Environment & Assessment	Physical coastal environment of Otago Harbour and offshore: assessment of effects of proposed dredging by Port Otago Ltd
Bell et al 2009*	Hydrodynamic Modelling	Port of Otago Dredging Project: Harbour and Offshore Modelling
Bell & Hart 2008	ADCP Field Report	Offshore ADCP deployments (Otago Peninsula) for Port Otago dredging project
Single & Benn 2007	Preliminary Physical Coastal Environment	Port Otago Project Next Generation Summary of existing physical coastal environment information and scoping for further studies
Bell et al 2008	Preliminary Hydrodynamic	Port of Otago Dredging Project: Preliminary Hydrodynamic Modelling and Scoping Further Work
Benn & Single 2007	Annotated Bibliography	Annotated bibliography: Coastal and continental shelf processes of Otago Harbour and Blueskin Bay. Report for Port Otago Ltd.

<b>Dredging, Design and Other</b>		
<b>Author Reference</b>	<b>Reference Name</b>	<b>Full Report Title</b>
Davis 2009	Short History of Harbour Dredging	Next Generation - Channel Development Short History of Otago Harbour Development and Dredging
Opus 2008	Geotechnical Factual	Factual Report of Geotechnical Investigations
Opus 2009	Geotechnical Interpretation	Geotechnical Advice "Next Generation" Project - Interpretation of Geotechnical Data and Quantity Survey
Pullar & Hughes 2009	Dredging Methodology	Project Next Generation Dredging Methodology and Disposal Alternatives
Single & Pullar 2009	Vessel Effects	Vessel effects as a result of a deeper channel in the Lower Otago Harbour

<b>General &amp; Related Studies</b>		
<b>Author Reference</b>	<b>Reference Name</b>	<b>Full Report Title</b>
Butcher 2010	Economic Impacts	Development of lower Otago harbour and channel at Port Chalmers for 6000 TEU Ships - Economic efficiency & Economic Impacts
Traffic Design Group 2008	SH88 Transport Review	SH88 Transport Review
Kiwirail 2009	Rail Infrastructure	Dunedin-Port Chalmers Rail Infrastructure and Future Volume Increase
Port Otago 2009	Port Capacity Assessment	Container Terminal Capacity Assessment
Ballagh 2009	Noise Assessment	Assessment of Noise Effects from Project Next Generation - Dredging and Operation
KTKO 2010	Cultural Impact Assessment	Cultural Impact Assessment - Project Next Generation, Otago Harbour
James, Boyd & Probert 2010	Key Species Ngai Tahu	Information on Key Species of Interest to Ngāi Tahu – Supplementary Paper for Next Generation Project

Note that the reports are categorised into broad subject groups. The references that are contained in Section 11 of this assessment are highlighted with an asterisk\* in the author reference column

All of these reports are available on the Port Otago website [www.portotago.co.nz](http://www.portotago.co.nz) / Next Generation / Consent Documentation. In addition to the individual reports themselves the report summaries are zipped as one file to provide a quick reference as to the content of these reports.