



**SUMMARY OF ADVICE PROVIDED BY THE CHIEF SCIENTIST OF  
AUSTRALIA ON THE GUNNS LIMITED PROPOSED PULP MILL  
(EPBC 2007/3385)**

This document provides a non-technical summary of the advice provided to the Minister for the Environment and Water Resources by the Chief Scientist of Australia, Dr Jim Peacock AC, on the Gunns Limited proposed pulp mill in Tasmania.

Dr Peacock, with the assistance of a panel of scientific experts, reviewed the Department's Recommendation Report and many thousands of pages of assessment documentation. He met with key stakeholders and completed an inspection of the proposed site. Dr Peacock and his panel also reviewed submissions of a scientific or technical nature made to the Minister during the public comment period that were relevant to the Australian Government's jurisdiction.

Dr Peacock's report can be obtained from [www.environment.gov.au/epbc/pulpmill](http://www.environment.gov.au/epbc/pulpmill).

**Key points:**

- Dr Peacock notes that the technical and engineering advances that have been made in the design and operation of Elemental Chlorine Free pulp mills (such as the Gunns proposal) are impressive. If built as described and operated in accordance with the conditions he has recommended, the proposed mill is unlikely to have an unacceptable impact on the environment.
- The panel found that aspects of the submitted preparatory biological and hydrodynamic assessments for mill establishment and operation are inadequate and, as a result, the construction and operation of the mill poses some residual risks and uncertainties in the areas of Australian Government jurisdiction.
- Nevertheless, the panel has suggested that the environmental risks and uncertainties should be able to be managed satisfactorily through some strengthening of the Department's proposed conditions and some additional conditions.
- There are essentially six elements of strengthening the conditions as proposed by Dr Peacock:
  - An integrated Environmental Impact Management Plan (EIMP) that will strictly prescribe all actions relating to EPBC Act matters;
  - An independent panel, drawn from national and international experts, to oversee the design, implementation and monitoring of the pulp mill;
  - An independent inspector, appointed by the Australian Government, to monitor Gunns compliance;
  - Extensive modeling and monitoring of the environment, including in sentinel species, to ensure any unforeseen impacts on the environment are detected quickly;
  - Specific remedial changes to pulp mill processes and operation in the event specified trigger points to any part of the environment are breached; and
  - A guarantee that, if maximum limits for effluent discharge are reached and cannot be reduced within stipulated timeframes, the pulp mill will cease to operate until tertiary treatment of effluent is installed.

- The EIMP will cover all the requirements for the operation of the mill considered to impact on the matters of Australian Government jurisdiction.
- The terms of the EIMP must be met to the satisfaction of the Australian Government Department of the Environment and Water Resources.
- The EIMP will be set up in three categories dealing with the development of the pulp mill – pre-construction, construction and pre-commissioning.
- The actual operation of the pulp mill will be dealt with in two categories in the EIMP – ongoing monitoring and remedial and response strategies.
- In the EIMP Gunns must describe the specific changes to mill processes and operation they would undertake in the event that specified trigger points are reached such that unacceptable impact is likely. If necessary, the pulp mill will cease operation with the retrofitting of effluent tertiary treatment.
- Some conditions of the recommended EIMP will need to be fulfilled prior to any construction of the mill and the associated water supply and effluent disposal pipelines. Other conditions of the EIMP will require actions during construction but prior to commissioning.
- A monitoring regime must be established that includes baseline and ongoing measurement of pollutants in the water column, in sediments and in biota.
- The effluent discharge from the operation of the pulp mill must be continuously monitored and sampled on at least a daily basis for a range of key pollutants.
- All the trigger levels and maximum limits for effluent discharge, together with agreed response strategies and timeframes, must be approved in the EIMP before the pulp mill enters its commissioning phase.

### **Advisory Panel**

Dr Peacock established an Advisory Panel of experts to assist him in compiling his report. The Panel members were:

Dr Graeme Batley

CSIRO Land and Water

Area of expertise: environmental contaminants

*Graeme Batley is an international leader in research on the speciation, bioavailability and toxicity of contaminants in natural waters and sediments systems. He is the author of over 340 research publications, and in 2006 was awarded a CSIRO Research Achievement Award and the Eureka Prize for Water Research for research on sediment quality assessment. He is Co-Director of the Centre for Environmental Contaminants Research*

Associate Professor Peter Clarke

Botany Department, University of New England

Area of expertise: threatened plant species and communities

*Peter Clarke is the Deputy Chair of the NSW Scientific Committee. He teaches plant ecology at the University of New England and has a research group that examines the effects of disturbance on plant communities. He is the author of more than 60 research papers and is on the editorial board of Oecologia, Austral Ecology and Australian Journal of Botany*

Dr Mike Herzfeld

CSIRO Marine and Atmospheric Research

Area of expertise: hydrodynamic modeling

*Mike Herzfeld joined CSIRO in 2000 after working as a research associate at the Centre for Water Research, University of Western Australia. At the Centre, He worked on the development and implementation of a computational aquatic ecosystem dynamics model of the Swan River in Western Australia. He is the Coastal Environmental Modeller at CSIRO Marine and Atmospheric Research. His current duties include the development, maintenance, application and analysis of numerical hydrodynamic models to coastal case studies around Australia.*

Professor Helene Marsh

School of Earth and Environmental Sciences, James Cook University

Area of expertise: marine mammals

*Helene Marsh is Professor of Environmental Science at James Cook University and leads a research group which studies the ecology and conservation biology of marine wildlife, especially marine mammals. She is the author of more than one hundred research papers, and has provided advice on the management of human impacts on marine mammals to governments and non-government organisations in twelve countries. She is a member of the Board of the Society for Marine Mammalogy and of the Editorial Board of Endangered Species Research and in 1998 was awarded a prestigious Pew Fellowship in Marine Conservation.*

Professor Hamish McCallum

School of Zoology University of Tasmania

Area of expertise: threatened mammals, birds and animal communities

*Hamish McCallum is a Professor in Wildlife Research at the School of Zoology, University of Tasmania and Senior Scientist of the Tasmanian Devil Facial Tumour Disease Program. His field of interest includes conservation biology and mathematical ecology, particularly the ecology of wildlife disease and vertebrate population dynamics. His current interests lie in the Tasmanian Devil facial tumour disease, which is threatening extinction of the largest surviving marsupial carnivore, and frog chytrid fungus disease, which appears to have caused multiple extinctions of frogs in both Australia and Central America. He has authored a book on estimating parameters for ecological models, together with more than 75 research papers. He is also an Associate Editor of Oikos and Biosystems.*

Dr John Parslow

CSIRO Marine and Atmospheric Research

Area of expertise: coastal environmental modeling

*John Parslow is a Research Scientist at CSIRO Marine and Atmospheric Research and a Stream Leader in the Wealth From Oceans Flagship. His research experience includes mathematical modelling of marine nutrient cycles and pollutants, experimental phytoplankton physiology, biological oceanography and ocean colour remote sensing. He leads a Coastal Environmental Modelling Team in CSIRO, and has contributed to numerous coastal environmental studies around Australia over the last 20 years. He is a member of the Scientific Steering Committee for the international research program Land-Ocean Interactions in the Coastal Zone.*

### **Consultation by Dr Peacock and the Advisory Panel**

Dr Peacock and the Panel conducted consultations with several groups and individuals and scientific experts in relevant fields with interest in the proposed mill and aspects of its construction, operation and potential environmental impacts. Consultations included:

- Officers of the Australian Department of the Environment and Water Resources led by Ms Vicki Middleton, Assistant Secretary, Environment Assessment Branch, Department of the Environment and Water Resources

- Officers of the Tasmanian Government led by Mr Warren Jones, Director, Environmental Management, Department of Tourism, Arts and Environment.
- Mr John Gay, Executive Chairman, Gunns Limited, and staff and advisers.
- Mr Tony McAlister, Director, BMT WBM Proprietary Limited.
- Associate Professor Greg Leslie, NS Global Consulting, University of NSW.
- Mr David McConnell, Principal, Patterson Britton and Partners Proprietary Limited.
- Mr Roberto Miotti, Principal, Miotti Consulting.
- Dr Andrew Wadsley, Petroleum engineer.
- Dr Stuart Godfrey Oceanographer (retired).
- Dr Warwick Raverty, Pulp and paper scientist.

### **Term of Reference for the Chief Scientist's review**

The Chief Scientist will undertake an assessment and review of the scientific aspects of the Department of the Environment and Water Resources' recommendation report and relevant supporting documentation and public comments on Gunns Limited Pulp Mill proposal (EPBC 2007/3385) in Tasmania.

The Chief Scientist will prepare advice to the Minister for the Environment and Water Resources. This advice will include the Chief Scientist's opinion of the likelihood of significant impacts on the three areas of Commonwealth responsibility; listed threatened species and communities; listed migratory species; and likely impacts on the Commonwealth marine area.

In forming his advice, the Chief Scientist may draw on the expertise of appropriately qualified experts as required.