

# **The Influence of EIA on Environmental Management in Western Australia**

Angus Neil Morrison-Saunders  
BSc (Hons)

A thesis presented for the degree of  
Doctor of Philosophy

School of Biological and Environmental Sciences  
Murdoch University  
Western Australia  
1997

## **ABSTRACT**

An important measure of the effectiveness of environmental impact assessment (EIA) is the extent to which it achieves its goals for environmental protection and management. To determine this requires an examination of environmental outcomes for projects that have undergone EIA. The utility of the pre-decision stages of EIA in influencing environmental management outcomes has been well documented by others. It is argued that EIA can also play a useful role in providing for ongoing adaptive environmental management. A theoretical model of the EIA/environmental management relationship is proposed which identifies three stages based on the principal approval decision point; pre-decision, post-decision and transitional; in which the influence of EIA may be realised. Consideration was also given to how environmental management activities came about based on the influence of rational processes, external pressures and internal reform. A methodology for EIA auditing to explore this model is presented. The audit uses a computerised database whose design reflects four distinct EIA components: impact prediction, occurrence of impacts, environmental management activities and environmental monitoring. The database structure enables pre-decision, post-decision and transitional stage EIA influences on project outcomes to be differentiated. The audit methodology is applied to six case studies in Western Australia. During project assessment, strong emphasis was placed on the need for ongoing monitoring and management programmes. The implementation of these programmes was found to be central to successful achievement of project and environmental performance objectives. The results indicate that EIA practitioners have focussed environmental management actions on issues of greatest significance. Some predicted impacts were avoided by management activities. Most impacts were identified in impact predictions although predictive accuracy had little bearing on environmental management response. Many impacts were responded to by EIA managers irrespective of whether they were predicted accurately or even considered in predictions. Most significant impacts had ongoing monitoring. Most environmental management activities originated from the pre-decision stage of EIA, although the transitional and post-decision stages were also important. There was considerable evidence of the influence of external pressures on environmental management outcomes as well as rational processes and to a lesser extent internal reforms. Overall, the case studies demonstrate that a strong relationship exists between EIA and ongoing environmental management performance in Western Australia.

## **ACKNOWLEDGMENTS**

Many people have helped me over the last four years during the preparation and execution of this research. I would like to thank the following people.

Louise Morrison-Saunders for her unconditional support throughout as well as proof-reading material submitted for publication and design of the figure depicting the theoretical model.

Dr John Bailey, Senior Lecturer, School of Biological and Environmental Sciences, Murdoch University for the original concept and many important ideas since, his ongoing supervision of this research and provision of valuable feedback on numerous drafts of this thesis.

Dr Sue Moore, Lecturer, School of Biological and Environmental Sciences, Murdoch University for providing invaluable critical feedback on the study methodology in response to a seminar presentation.

Dr Ross Dowling, Senior Lecturer, College of Arts and Sciences, University of Notre Dame Australia for his support, encouragement and inspiration throughout.

Kathy Little and Trudy Parker, Librarians, Department of Environmental Protection for providing access to numerous EIA documents including limited edition monitoring reports and departmental files.

Colin Ferguson, Cartography Office, School of Biological and Environmental Sciences, Murdoch University for preparing the six location diagrams.

All of the participants interviewed during the research who are identified individually in the relevant text and in Appendix 2.

The three external examiners; Professor Chris Wood (University of Manchester, UK), Associate Professor Paul Culhane (Northern Illinois University, USA) and Dr Jenny Dixon (Massey University, NZ); who suggested minor amendments for the final thesis.

Funding for this research was provided by a Murdoch University Research Studentship.

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## SYMBOLS AND ACRONYMS USED

BACI	before/ after and control/ impact site monitoring
BB	Big Brook Dam (case study)
CALM	Department of Conservation and Land Management
CBD	central business district
CEQ	Council on Environmental Quality (US)
CER	Consultative Environmental Review
CP	Cape Peron Ocean Outfall (case study)
CRRIA	Cliffs Robe River Iron Associates
CSBP	CSBP & Farmers Ltd
DEP	Department of Environmental Protection
EA	environmental assessment
EIA	environmental impact assessment
EIS	environmental impact statement
EMP	environmental management programme
EPA	Environmental Protection Authority
ERMP	Environmental Review and Management Programme
FONSI	Finding Of No Significant Impact (US)
HAZOP	hazard and operability study
HD	Harding River Dam (case study)
IGAE	Intergovernment Agreement on the Environment (Australia)
ISRS	International Safety Rating System
km	kilometre
km <sup>2</sup>	square kilometre
m	metre
m <sup>3</sup>	cubic metre
MWSSDB	Metropolitan Water Supply, Sewerage & Drainage Board
NEPA	National Environment Policy Act (US)
NG	Narngulu Synthetic Rutile Plant (case study)
NOI	Notice of Intent
OSCP	Oil Spill Contingency Plan
PER	Public Environmental Report
ppm	parts per million
SA	Saladin Oilfield (case study)
SO	Sodium Cyanide Plant (case study)
tpa	tonnes per annum
WAPET	West Australian Petroleum Pty. Limited
WAWA	Water Authority of Western Australia