

Overview

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Introduction

This report contains a summary of major research projects undertaken by staff from the Environmental Research Institute of the Supervising Scientist (*eriss*) over the 5 year period 1995–2000. It does not cover all research activities. These have been reported in various forms over this period, including external paper and reports (see 1995–2000 list in appendix 2), annual reports (appendix 3 contains all publications published by SSD), conferences and workshops, informal and local meetings, training courses and study tours for visiting scientists and environmental managers, and formal documentation submitted to the statutory Alligator Rivers Region Technical Committee.

The Research Institute is part of the Supervising Scientist Division (SSD) of Environment Australia. It was established to carry out independent research, on behalf of the Australian community, to establish the best methods available for the protection of people and ecosystems in the Alligator Rivers Region (ARR) both during and following mining in the region. Following the decision by the Australian Federal Government in 1993 to enact recommendations from the external review of the institute (Barrow 1994), we commenced a program of research on the ecology and conservation of wetlands. This recognised the skills available within the institute and the absence of a research unit principally addressing wetlands. This program has developed and is integrated within our research structure and is carried out largely with partners in the National Centre for Tropical Wetland Research which was formally established in November 1999. The Centre is a formal alliance between *eriss*, James Cook University, Northern Territory University and the University of Western Australia.

In response to community concerns about environmental protection in the ARR we made consultation and communication tasks an integral component of our research activities. We also recognise that our research programs need to be developed in cooperation with stakeholders which include the communities potentially affected by mining activities in the ARR as well as the regulators, mining companies and wetland managers. This has seen consultation and communication tasks being formally included within our project planning and assessment. In particular we have taken steps to ensure that Aboriginal people in the region are included in these processes and where possible able to participate in research projects.

The research program

To fulfill the expectations from our research we undertook the following programs:

- Research on the impact of mining, particularly uranium mining, on people and ecosystems
- Research on the ecology and conservation of tropical wetlands
- Other environmental research as requested by Government

Research activities were divided into two branches — Environmental Impact of Mining and Wetland Ecology and Conservation. These were supported by a communications program and corporate services. We also spend considerable time attending to formal governmental processes that both assist the implementation of our research programs and contribute to program, structural and personnel development within Environment Australia. Such activities include compliance with and promotion of occupational health and safety procedures, personal training and development, and staff assessment and performance. We also respond to requests for departmental briefs and information needs. The latter includes providing scientific guidance within various technical forums and national and international environmental agreements. In this respect we are not only keeping abreast with international practices but also providing leadership in environmental inventory, assessment and monitoring.

Workplans for the research program are reviewed each year and priorities assessed within general objectives. For the period 1995–2000 the research objectives were:

Environmental Impact of Mining — provide advice, based on research and monitoring, to the Supervising Scientist and other stakeholders on standards, practices and procedures to protect the environment from the effects of uranium mining in the Alligator Rivers Region.

Wetland Ecology and Conservation — provide advice, based on research and monitoring, to key stakeholders on the ecology and conservation of tropical wetlands.

Based on these objectives and analyses of the required research effort the research programs were further divided into smaller teams to undertake specific projects and deliver the results to stakeholders. The ***Environmental Impact of Mining*** program comprised three units — environmental radioactivity; ecosystem protection; and erosion and hydrology. The ***Wetland Ecology and Conservation*** program comprised two units — wetland ecology and inventory; and wetland risk identification and assessment. Major projects undertaken by these units are described in this report. A listing of reports arising from these projects is also attached (see appendix 3).

References

Barrow J, Bowmer K & Davey D 1994. Report on the consultancy on the Alligator Rivers Region Research Institute. 2 vols.

Introduction

Role of the Supervising Scientist

The position of the Supervising Scientist was established in 1978 under the *Environmental Protection (Alligator Rivers Region) Act 1978* to conduct research on the impact of uranium mining on the environment of the Alligator Rivers Region and to supervise the regulation of uranium mining in the region on behalf of the Commonwealth Government.

To assist the Supervising Scientist perform this role, the Environmental Research Institute of the Supervising Scientist (**eriss**) and the Office of the Supervising Scientist (**oss**) were established.

eriss conducts crucial research into the impact of uranium mining on the environment and the people of the Alligator Rivers Region, and on the protection and management of wetlands. **oss** carries out audit and policy functions. This Research Summary highlights some key areas of research undertaken by **eriss** from 1995–2000. For more information about research undertaken during this time, please consult the Supervising Scientist Annual Report for each year (<http://www.ea.gov.au/about/annual-report/index.html>).

For information about the Alligator Rivers Region and the development of the uranium mining industry, please consult the list of publications produced by the Supervising Scientist Division (see appendix 2 & appendix 3) and the Supervising Scientist web site (<http://www.ea.gov.au/ssd>). A map of the Alligator Rivers Region is located on page 4.

Throughout the period 1995–2000, **eriss** comprised two research programs: ‘Environmental Impact of Mining’ and ‘Wetland ecology and conservation’. Major topics included in these research programs are summarised in this report.

Environmental Impact of Mining

This program provides advice, based on research and monitoring, to the Supervising Scientist and other stakeholders, on standards, practices and procedures to protect the environment from the effects of mining, particularly uranium mining in the Alligator Rivers Region.

There were three main areas of research within this program:

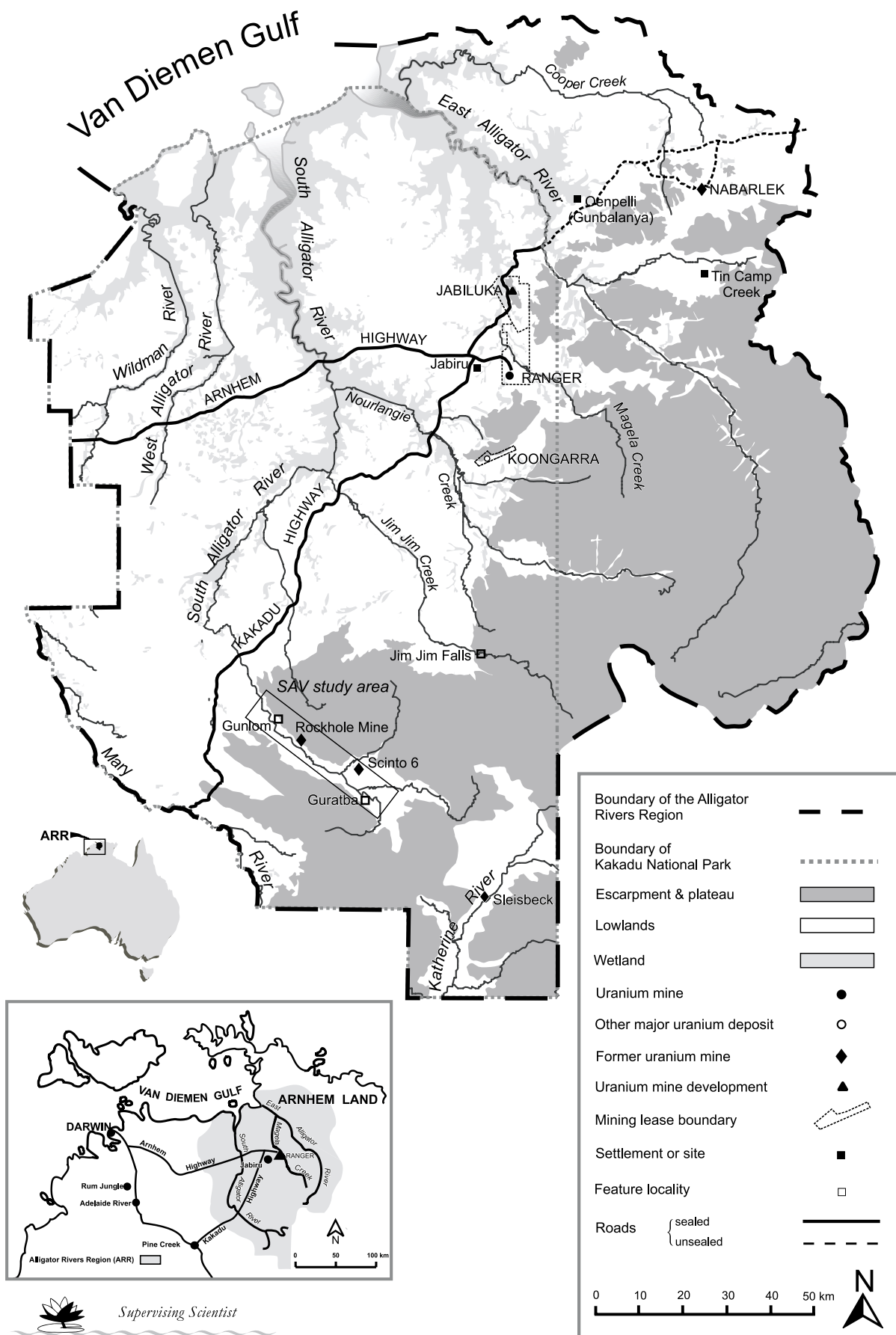
- Radiological Impacts of Mining
- Erosion and Hydrology
- Ecosystem Protection

Wetland Ecology and Conservation

This program provides advice, based on research and monitoring, to key stakeholders on the ecology and conservation of tropical wetlands.

There were two main areas of research within this program:

- Ecology and Inventory
- Risk Identification and Assessment



Map of the Alligator Rivers Region