1 INTRODUCTION

1.1 Role and function of the Supervising Scientist

The Supervising Scientist is a statutory office under the *Environment Protection (Alligator Rivers Region) Act 1978* and the occupant of the office is the head of the Supervising Scientist Division (SSD) within the Department of the Environment and Heritage.

The Supervising Scientist Division consists of the Environmental Research Institute of the Supervising Scientist (***eriss***) and the Office of the Supervising Scientist (***oss***).

eriss conducts environmental monitoring and research into the impact of uranium mining on the environment and people of the Alligator Rivers Region of the Northern Territory. ***eriss*** also conducts research on the sustainable use and environmental protection of tropical rivers and their associated wetlands, and is a partner in the National Centre for Tropical Wetland Research (***nctwr***).

oss carries out supervision, audit and policy functions in relation to uranium mining in the Alligator Rivers Region and provides support and administrative services to the Division.

In summary, the functions of the Supervising Scientist, as specified in the EPARR Act, are to:

- develop, coordinate and manage programmes of research into the effects on the environment of uranium mining within the Alligator Rivers Region;
- develop standards, practices and procedures that will protect the environment and people from the effects of uranium mining within the Alligator Rivers Region;
- develop measures for the protection and restoration of the environment;
- coordinate and supervise the implementation of requirements made under laws applicable to environmental aspects of uranium mining in the Alligator Rivers Region;
- provide the Minister for the Environment and Heritage with scientific and technical advice on mining in the Alligator Rivers Region; and
- on request, provide the Minister for the Environment and Heritage with scientific and technical advice on environmental matters elsewhere in Australia.

1.2 Performance summary

SSD is a Division of the Department of the Environment and Heritage and, as such, is funded as part of the Environment and Heritage Portfolio Budget Statements (PBS). The Department of Environment and Heritage's own annual report reports against the PBS.

The activities of the Supervising Scientist fall within PBS Outcome 1, which is:

> The environment, especially those aspects that are matters of national environmental significance, is protected and conserved.

Outcome 1 is divided into five individual *Outputs*. The Supervising Scientist is included in Output 1.2 *Conservation of the land and inland waters* and Output 1.5 *Response to the impacts of human settlements.* Output 1.2 includes Sub-output 1.2.5 *Tropical wetlands research* and Output 1.5 includes Sub-output 1.5.3 *Supervision of uranium mines*.

The Supervising Scientist's responsibilities in relation to Sub-output 1.2.5 are included in Chapters 3 and 5 of this annual report.

Sub-output 1.5.3 encompasses a range of research, monitoring and supervising tasks. These are described in Chapters 2 and 3 and contribute towards the protection of the Alligator Rivers Region environment from the impacts of uranium mining.

Communicating the outcomes of research, monitoring and supervision activities to stakeholders and the broader scientific community is also an important part of the work of the Supervising Scientist. Communication and liaison with the Aboriginal people of the Alligator Rivers Region is of particular importance. Further information on communications activities is provided in Chapter 5.

1.3 The Alligator Rivers Region and its uranium deposits

The Alligator Rivers Region is approximately 220 km east of Darwin (see Map 1). Encompassing an area of about 28 000 km^2, it includes the catchments of the West Alligator, South Alligator and East Alligator Rivers, extending into west Arnhem Land. The World Heritage listed Kakadu National Park lies entirely within the Alligator Rivers Region.

Mineral titles over the Ranger, Jabiluka and Koongarra uranium deposits within the Alligator Rivers Region pre-dated the proclamation of Kakadu National Park. The Ranger Project Area and the Jabiluka and Koongarra leases that were in existence at the time of proclamation of the Park were excluded from the area of the Park and are not now, nor have ever been, a part of Kakadu National Park. Nabarlek is situated to the east of Kakadu National Park within Arnhem Land.

Ranger is currently the only operational uranium mine in the Region. Development work at Jabiluka ceased in 1999 and the site was placed in long-term care and maintenance in 2003–04.

The Koongarra uranium deposit is a significant uranium resource but grant of an exploration licence, which is a prerequisite to the operator seeking a mining title, is under veto by traditional Aboriginal owners under the provisions of the *Aboriginal Land Rights (Northern Territory) Act 1976*. Discussions between the traditional Aboriginal owners and the mining company recommenced in 2005.

Nabarlek was operational in the 1970s and 1980s but has now been decommissioned and rehabilitation and revegetation work is continuing.

There are also a number of former uranium mines in the South Alligator River Valley that date back to mining and milling activities in the 1950s and 1960s.

1.3.1 Nabarlek

Nabarlek is located approximately 280 km east of Darwin. Queensland Mines Ltd undertook mining at Nabarlek during the dry season of 1979, and milling of the ore continued until 1988. Some 10 857 t of uranium concentrate (U_3O_8) was produced whilst the mill was operational.

The mine was decommissioned in 1995–96 and the performance of the rehabilitation and revegetation programme continues to be monitored prior to final close-out.

1.3.2 Ranger

Energy Resources of Australia Ltd (ERA) operates the Ranger mine, which is 8 km east of the township of Jabiru. The mine lies within the 78 km^2 Ranger Project Area and is adjacent to Magela Creek, a tributary of the East Alligator River. The Ranger Project Area is surrounded by, but does not form part of, Kakadu National Park.

Ranger is an open cut mine and commercial production of uranium concentrate (U_3O_8) has been under way since 1981. Orebody No. 1 was exhausted in December 1994 and excavation of Orebody No. 3 began in May 1997.

Current ERA planning is for mining to cease in 2008 with processing of stockpiled ore to continue until 2014. Planning has commenced for the eventual decommissioning and rehabilitation of the site.

1.3.3 Jabiluka

The Jabiluka mineral lease abuts the northern boundary of the Ranger Project Area, with the Jabiluka site situated some 20 km north of the Ranger mine site. It is also owned by Energy Resources of Australia Ltd.

Unlike the Ranger and Nabarlek deposits, the Jabiluka orebody lies beneath a cover of cliff-forming sandstone. It is in the catchment of the East Alligator River, adjacent to Ngarradj (Swift Creek), which drains north to the Magela floodplain. The Commonwealth Government completed its assessment of ERA's Environmental Impact Statement, which provided for milling of Jabiluka ore at Ranger, on 22 August 1997.

Development work at Jabiluka took place in the late 1990s but ceased in September 1999 and the site was then placed in an environmental management and standby phase that lasted until 2003–04.

Following discussions between ERA, the Commonwealth and Northern Territory Governments, the Northern Land Council (NLC) and the Gundjeihmi Aboriginal Corporation (GAC – representing the area's traditional Aboriginal owners, the Mirarr people) during 2002–03, agreement was reached and Jabiluka was subsequently placed in long-term care and maintenance. This agreement includes an ERA undertaking not to engage in mining activities at Jabiluka without the consent of the Mirarr people. The agreement was endorsed by the NLC in April 2004 and was approved by the Minister for Immigration and Multicultural and Indigenous Affairs in 2004–05.

1.3.4 Koongarra

The Koongarra deposit is about 25 km south-west of Ranger, in the South Alligator River catchment. An Act (the *Koongarra Project Area Act 1981*) providing for a change of the boundaries of the project (and thus the area of excision from Kakadu National Park) was passed in 1981 but has not been proclaimed. The Koongarra deposit is owned by Koongarra Pty Ltd, a subsidiary of French company Areva. Plans to develop Koongarra were not approved by traditional Aboriginal owners in April 2000, and the proposal was then subject to a five year period under the *Aboriginal Land Rights (Northern Territory) Act 1976* during which time no further discussions could occur between traditional Aboriginal owners and Koongarra Pty Ltd.

Koongarra Pty Ltd wrote to the Northern Land Council in May 2005 seeking to recommence discussions with traditional Aboriginal owners.

1.3.5 South Alligator Valley mines

Several small uranium mining and milling operations occurred during the 1950s and 1960s in the South Alligator River Valley, in the southern part of the Alligator Rivers Region. Mining occurred at several locations in the valley, principally at El Sherana, El Sherana West, Rockhole Creek and Coronation Hill (Guratba). Milling occurred at Rockhole Creek within the South Alligator Valley as well as at nearby Moline, which lies outside the Alligator Rivers Region.

Output from these mines was relatively small. It is estimated that less than 1000 t of uranium concentrate was produced at the Rockhole Creek and Moline mills from the ore mined in the South Alligator Valley during the 1950s and 1960s.

These sites, excluding Moline, are the responsibility of the Commonwealth Director of National Parks through Parks Australia North. On 9 May 2006 the Hon Greg Hunt MP, Parliamentary Secretary to the Minister for the Environment and Heritage, announced funding of $7.3 million over four years to conduct rehabilitation activities at abandoned uranium mining sites in the valley.

The Supervising Scientist Division continues to be involved in a number of projects assisting Parks Australia North with rehabilitation.

This work is further described in Sections 2.5.1 and 2.5.2 of this Annual Report.