

Rio Tinto

Kew

PLANTS PEOPLE
POSSIBILITIES

The Royal Botanic Gardens, Kew

Rio Tinto Partnership
Celebrating a decade

“Rio Tinto and Kew have developed an increasingly close relationship over the past few years. This is based around collaboration on research, capacity building and knowledge transfer. Neither industry or conservation organisations can protect the world’s biodiversity on their own, but can achieve much more by working together.”

Professor Steve Hopper, Royal Botanic Gardens, Kew

Cover: A Madagascan endemic plant species being incorporated in the field guide to the littoral forest by RBG, Kew and Rio Tinto botanists in Madagascar.

In 2009, Rio Tinto and the Royal Botanic Gardens, Kew, celebrate ten years of a successful partnership, in the same year that Kew celebrates its 250th anniversary. The partnership illustrates how relationships between industry and conservation organisations can take huge steps forward to protect global biodiversity.

The Royal Botanic Gardens, Kew, is an internationally important botanical research and education institution, and one of the world's leading botanic gardens. Kew's mission is to inspire and deliver science based plant conservation worldwide, enhancing the quality of life. Working with Rio Tinto has given Kew the opportunity to learn about the processes, pressures and impacts of the extractive sectors.

Rio Tinto's goal is to have a "net positive impact" on biodiversity. This means minimising the impacts of its business and contributing to biodiversity conservation to ensure a region ultimately benefits as a result of Rio Tinto's presence.

The company aims to achieve this first by reducing impacts on biodiversity values through avoidance, minimisation and rehabilitation. Then, by achieving a positive impact with the use of biodiversity offsets and additional conservation actions.

Together, Kew and Rio Tinto are working towards innovative solutions to achieve net positive impacts on biodiversity for present and future mining operations.

2008 saw the completion of a four year partnership phase – the second phase in the overarching Plants for Life Agreement – during which work took place in locations including Chile, Brazil, Bolivia, Madagascar, Guinea, Papua New Guinea and Namibia.

Promoting understanding and conservation of biodiversity

Botanical inventory and vegetation mapping in Guinea, West Africa

With its valuable iron ore deposits, this is a priority site for the Rio Tinto Iron Ore group. Kew undertook a thorough botanical survey and vegetation mapping analysis to help inform mine design. Scientists collected more than 1,400 specimens in the field in November 2005, and a number of interesting species were discovered, with three being new to science, but not endangered. Further fieldwork was conducted in 2008, with nine species of conservation significance being identified.



Building on this, Kew is now mapping other nearby habitats to identify threat ratings of endangered and endemic plants found in the path of the proposed mining operation.

Methods of moving rare plant populations are being developed using Kew's horticultural knowledge and skills, ensuring that due care is taken of the *in situ* population of the plants concerned.

Surveying also helps to identify areas that could most easily be restored or improved to ensure the mine development can achieve a net positive impact on biodiversity.

Vegetation mapping and management in Mato Grosso do Sul, Brazil

Kew and its Brazilian partners undertook the first detailed vegetation survey and mapping of the Morraria de Santa Cruz in March 2005. This impressive ironstone mountain rises from the edge of the internationally important Pantanal wetlands. The purpose of the survey was to provide baseline information on the vegetation of the mountain for improved management of the large open cast iron ore mine operated by Rio Tinto subsidiary Mineração Corumbaense Reunida.

The results have played an important part in "biodiversity action planning" for a proposed mine extension. Kew has continued to take an active role in helping develop the plan through its participation in the operation's biodiversity steering group, while providing specialist advice on habitat restoration including species selection, experimental design, seed harvesting and storage, nursery management and plant propagation.

The IUCN Sampled Red List Index (SRLI)

Kew's SRLI project plays a critical role in defining the status and trends of biodiversity in the 21st century. The list provides plant information to the World Conservation Union's sampled Red List Index and will help raise awareness among the general public and decision makers about biodiversity loss and its implications.

By showing trends in biodiversity loss, the indicator will enable conservationists and policy makers to determine whether the World Summit on Sustainable Development's target of achieving a "significant reduction in the current rate of loss of biodiversity by 2010" is being met. It will enable society, for the first time, to measure its collective success or failure at reducing the rate of biodiversity loss.

The list will also provide insights into which species groups are declining the most rapidly, where declines are occurring, which ecosystems are most affected, and the major causes of decline.

Additionally, the index will enable the setting of targets for biodiversity conservation and determine whether these targets have been met. Rio Tinto has provided valuable financial support for the SRLI at Kew.

Protecting the future

Conservation, restoration and sustainable use of littoral forest in Madagascar

Kew is involved in a number of different activities at Rio Tinto's ilmenite project in southwest Madagascar. These include seed conservation to aid restoration activities, developing a field guide to the littoral forest, and reviewing opportunities to establish income generating horticultural activities with local communities.

The contribution of Kew's seed conservationists in Rio Tinto's restoration programme has greatly improved seed survival and germination of the plant species on the mining area. And storing seeds from the littoral forest in the Malagasy National Seed Bank and at the Millennium Seed Bank at Kew allows further research into the germination and propagation of these species.

Kew also advised on the size of the forest needed to ensure the littoral forest would be conserved. As a result, increased areas of littoral forest are now exempt from mining activity. In partnership with the mine site, protection measures are now in place decades in advance of mining activities in the Ste Luce and Petriky forest areas.



RBG, Kew botanist Martin Cheek undertaking botanical survey work with local partners on the Simandou Range in Guinea, West Africa.

Building capacity to protect biodiversity

One of the partnership's key objectives is supporting and building the plant conservation and management capacity of Rio Tinto's operational employees, "in-country partners" and selected local communities in and around selected mining operations or agreed conservation areas.

Training local counterparts

At the Royal Botanic Gardens, Kew, in London the partnership trains botanists selected from Rio Tinto's mining operations on three month internships. The subsequent increase in local capacity has built national capacity around biodiversity decision making and will assist industry with future vegetation surveying.

In Guinea, Rio Tinto has supported through the partnership the first phase of creating a national herbarium, which will result in Guinea understanding further its own vegetation, and informing national policy on biodiversity management.

Training in vegetation survey and mapping

The partnership has developed specialist training in botanical survey techniques suitable for industrial lands, increasing the number of individuals able to survey vegetation. Such skills are also relevant to Kew's wider role in *in situ* conservation projects around the world, assisting Kew to meet targets 2c and 2d of the Global Plant Conservation Strategy.

Building on the evidence

Kew has now built up evidence to show extractive industry/conservation partnerships can be mutually beneficial both for internal and external capacity building, and also by increasing ability to ensure *in situ* conservation and restoration.

Learn more at
www.kew.org
www.riotinto.com

Rio Tinto plc
5 Aldermanbury Square
London EC2V 7HR
United Kingdom
T +44 (0)20 7781 2000

Rio Tinto Limited
120 Collins Street
Melbourne Victoria 3000
Australia
T +61 (0)3 9283 3333

Royal Botanic Gardens, Kew
Kew Innovation Unit
Richmond
Surrey TW9 3AB
T +44 (0)2 08332 3225
T +44 (0)2 08332 3231

Designed by Flag
Printed in England by Cousin
© Rio Tinto plc and Rio Tinto Limited 2008



Recycled

Supporting responsible use
of forest resources

www.fsc.org Cert no. SA-COC-1654 AK
© 1996 Forest Stewardship Council

