



Carbon Offset Bio-sequestration Project

At the Daintree Discovery Centre we are passionate about conserving the environment so that people from all over the world can enjoy it, now and in the future.

Everything we do at DDC reinforces the need to preserve this very special World Heritage area. A series of ecologically responsible, elevated mesh walkways keep people off the ground. They protect the fragile root systems, maximize air circulation and allow sunlight to reach the forest floor; minimizing mosquitoes and preventing die-back. Interpretive displays foster sustainable practices and DDC models best practice in water conservation, waste management, recycling and eco-friendly design.

The site was especially chosen for its extraordinary bio-diversity and DDC



was deliberately located away from the main road to protect the aesthetic beauty of the area. Buildings were constructed around trees rather than remove them, wildlife corridors assiduously protected and the natural rainforest canopy left undisturbed.

Protecting this ancient rainforest is also the focus of our Carbon Offset Project. This innovative bio-sequestration project is committed to reducing and neutralizing the impact of CO₂ emissions.

At the outset of the project we engaged an independent, accredited carbon offset consultant to audit both our direct, and indirect green house gas (GHG) emissions.

Kim Forde, of *The Missing Link* then helped us develop strategies to avoid, reduce and finally offset our GHG emissions by bio-sequestration (planting trees to soak up CO₂). DDC staff have been actively involved in the project from the outset and are very proud of their achievements.

The Daintree Discovery Centre has increased community awareness by their innovative carbon reduction initiatives, which have gone beyond the traditional 'tree planting' to include support for local community projects, scientific research and the purchase of land under the Daintree Buy-back program. The Centre is helping visitors understand climate change impacts and how to better manage protected areas.

Kim Forde, Carbon Offset Consultant

Revegetation of Degraded Land

In the past many freehold blocks of land were cleared for residential, agricultural and commercial purposes, but in Sept 2006 legislation was passed preventing further development North of the Daintree River and many of these properties were secured under the Daintree Buy-Back Scheme.

As part of its bio-sequestration program, the Daintree Discovery Centre is working with members of the Queensland Parks and Wildlife Service in the rehabilitation of degraded blocks. But this is truly a community based project and local school children, residents, environmental volunteers, Rainforest Rescue and staff from the Discovery Centre are all making a valuable contribution.





Conservation Partnerships - Outcomes

In 2008, DDC signed a Memorandum of Understanding with QPWS to revegetate an 8 hectare block that had been cleared. This agreement set a new and positive precedent for community relations between government and private enterprise.

The outcome has been a productive working relationship where DERM (Dept Environmental Resource Management) prepare the block by slashing the unwanted growth. This allows DDC staff to go in and eradicate weeds, dig holes and plant rainforest seedlings raised in conjunction with the local Daintree Rainforest Rescue Nursery.

The site of the initial QPWS/Daintree Discovery Centre joint venture project is located on the left of the Cape Tribulation Road, just past Alexandra Bay School, heading north. After planting more than 9,700 trees, it is estimated that this block will soon be fully planted and revegetation work will then begin on another degraded Daintree site.



Benefits of Bio-sequestration

In addition to the well known benefits of bio-sequestration; increased bio-diversity, protection of flora and fauna, habitat recovery, salinity and erosion control, this project has produced an added and unanticipated bonus!

Regular weed control by Discovery Centre staff has allowed other native species to regenerate and there has been a proliferation of tree species including Grevilleas, Mallotus and Deplancheas, that were previously suppressed by rampant weed cover. Its a wonderful example of what can be achieved by planting the right trees in the right place!



Rainforest Research

In addition to planting trees to offset CO₂ emissions, DDC staff are also assisting in long term rainforest research being carried out by James Cook University. Soil samples measuring carbon content have been collected and will be tested by Dr Mike Liddell and JCU's MTSRF project team.

As the trees mature the soil will be re-tested and analyzed for carbon content. The seedlings are measured and will be re-measured again in ten years to determine the amount of carbon stored in them since planting.

This is an important project and will hopefully make a valuable contribution to the debate on carbon offset. The intention is to be able to provide scientifically tested data on how effective tree planting in the lowland rainforest is for carbon reduction.



Carbon Neutrality – Continuing the good work!

Based on an independent audit of our carbon footprint, the Daintree Discovery Centre has now well exceeded the quota of trees needed to ensure carbon neutrality. However, no business is truly carbon neutral - a more appropriate term is '*carbon conscious*'. The Centre will continue to develop innovative strategies for minimizing its carbon footprint and devote part of every entry fee to its community based, Carbon Offset Project.

James Cook University Carbon Flux Micro-meteorological Weather Station

A project of international significance

In 2008, the Daintree Discovery Centre announced a \$60,000 sponsorship for a 10 year longitudinal study to further rainforest research. The project is known as the JCU / DDC Ozflux Station. It is part of an international network of 13 similar carbon flux stations all round the world.

JCU scientists led by Dr Mike Liddell have begun a long term monitoring program designed to unravel the changing carbon and water balance in the Daintree Rainforest.

The Micromet Weather station is located on top of the Centre's Canopy Tower and measures rainfall, air temp, relative humidity, wind speed & direction and solar radiation.

Weather data is used to help gain a better understanding of why there are changes in the carbon balance and the water/energy balance in the rainforest. Data from the DDC Micromet Weather station will be compared to information collected from the other research stations around the world.

What is particularly exciting is that raw data, transmitted from the equipment on the top of the Tower, can be viewed by visitors on a computer station located in the DDC Interpretive Display Centre.



A Sense of Community Achievement

Having taken over the management of the original Cassowary Care Nursery, Rainforest Rescue and its supporters, continues to propagate 1000's of rainforest seedlings.

Discovery Centre employees are actively involved in this local initiative, contributing both labour and expertise.

In addition, DDC continues to support the nursery; financially and in kind. It promotes environmental rehabilitation, sponsors revegetation programs and encourages others to do the same.

The first seedlings planted on the DDC/QPWS block are now well established and subsequent plantings are doing well. However, there is still a lot of work to be done and additional plantings will continue to be undertaken.

As the winners of the *Skal International Ecotourism Award* in Hungary, as well as the Tourism Queensland's *Qantas Award for Excellence in Sustainable Tourism*, DDC's contribution to responsible ecotourism continues to receive wide spread recognition.



What is most important, is that both the management and staff get great pleasure in sharing their knowledge, skills and experiences with others.

The Authority commends the Centre for providing what is truly the most innovative interpretive centre in the Wet Tropics. Your Carbon Offset initiative is not only enriching the visitor experience but has helped local residents to be more aware and take greater care in preserving their environment.

Wet Tropics Management Authority