

Rising to the Climate Challenge

Artists and Scientists Imagine Tomorrow's World

19 - 20 March 2010

Tate Modern, Starr Auditorium

Dr. Bob Bloomfield

Coordinator -International year of
Biodiversity UK
Natural History Museum

Lucy + Jorge Orta

Artists – AMAZONIA



Biodiversity & Climate Change

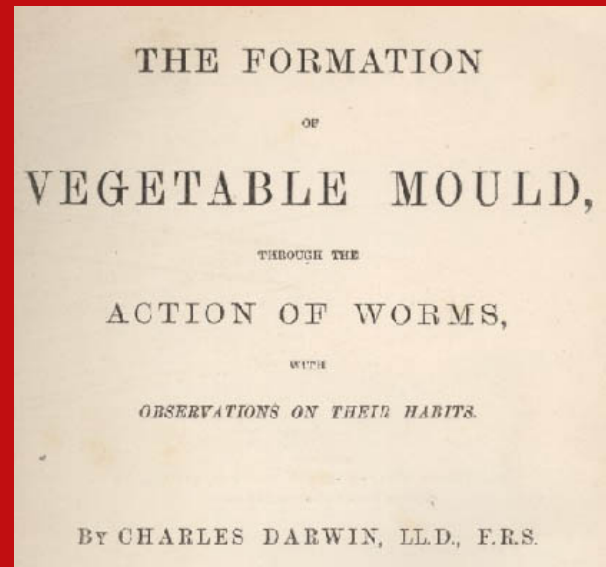


- Biological systems intrinsic to global climate history
- Biological systems intrinsic to current climate issues both through the part they have to play in ADAPTATION and their part in climate MITIGATION
- Yet biodiversity and ecosystem resources are suffering critical losses and decline due to human impacts.
- Why is there so little sense of appreciation of how nature contributes to environmental wellbeing? Intrinsic question is social-cultural rather than scientific

Climate & Ecosystem services



- Ecology & Economics (Greek oîkos, 'house'; study of) Earnst Haeckel – 'Ecology, the study of the *the economies of living forms* in all the complex interrelations referred to by Darwin as the conditions of the struggle for existence'
- ...*WORMS have played a more important part in the history of the world than most persons would at first suppose...*



Biodiversity & Climate Change



- Biodiversity provides resources (food, medicine, clothing, building materials)
- And ecosystem services (clean air water, soil fertility, drought and flood resistance. Climate management).
- Not the luxury of the rich but... the necessity of the poor... the wealth and health of the planet and people
- But this is all Public Good NOT accounted in GDP, hence our economic world is remote from the loss of the wealth of Natural Capital

AMAZONIA - Exhibition



- Commission of an contemporary art exhibition, for the NHM Jerwood Gallery.
- Exploration of NHM collections: entomology, botany, palaeontology and library archive.
- In the spirit of the ‘Voyage of Discovery’ , artists expedition to the Peruvian rainforest documenting the the flora and fauna through drawing, photography and video.
- Volunteering at MANU Learning Centre on a eco-science research project, leading to the development of a new collaborative artwork.

Andes Expedition 23 June - 10 July 2009



Glacier Salcantay

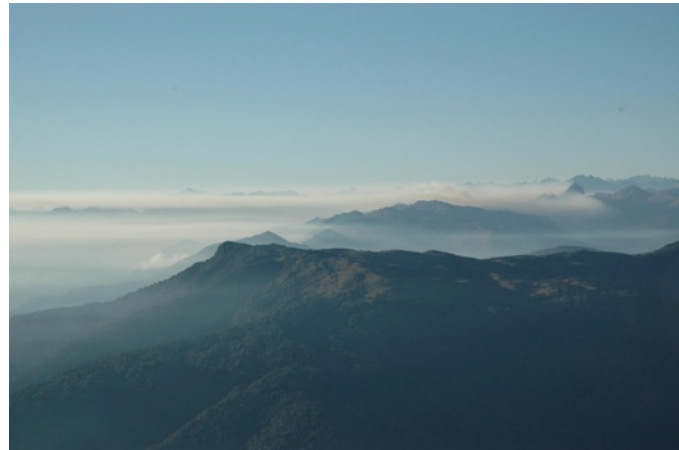
Cloud Forest Tree line

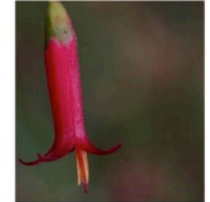
Wayqecha

Trocha Union

Amazon Basin

Puerto Maldonado





Artist' s thoughts



“(...) Through the artworks we hope to focus attention on the thousands of species that depend on the eco-equilibrium of the Amazon – the State of the Amazon alone covers 1,57 million km² of forest – six times the surface of Great Britain. To reflect on the fragile balance and co-existence of the cycles of life and death and of a deeper appreciation of the nature world, which is closer to each of us.

The Peruvian Amazon is a place we actually visited, to see with our own eyes and feel with our senses — to become overpowered by the immensity and grandeur of such a vulnerable living organism and to restore a sense of humility. We hope our artwork can evoke such feelings and help to nurture a renewed vision of the natural environment, in particular the special place we should conserve within our homes and backyards so that nature can once again invade our minds.”

Scientist's thoughts:



“(...) Through the project share perspectives on valuing nature, from intrinsic aesthetic and spiritual to its functional system role and economic importance.

To perhaps see through the Peruvian Amazon project that even ‘remote’ nature’ is not divorced from people. That it is intimately entwined with the health and wealth of indigenous and local peoples

and that it is a crucial cog in the local and global balance of environment, influencing climate, through the interplay with the cycles of water and carbon, and of minerals.

To encourage people to see the need to be proactive in responding to the imperative of the International Year of Biodiversity.

AMAZONIA: exhibition content



- Video: footage taken during the expedition. Abstract imagery from the places we visited and explored. Script developed from poetry, scientific and philosophical texts.
- Sound: creating an immersive experience.
- Sculpture: porcelain and metal casts from prehistoric bone fossils, enamelled and inscribed with drawings of miniscule insect species.
- Look at curatorial mechanism which link global awareness with local ownership and potential for action.

Video projection



Question: How to convey the importance of biodiversity and the effects the loss will have on climate change knowing that each week 250,000 hectares of tropical forest disappear and their deforestation contributes to 20% of the greenhouse gases emitted worldwide?

Art-Science: collaborative work



Forests, Climate and Global Economics

- Science shows the underlying evidence of climate change, and the mechanisms of carbon sequestration through natural biological geological process – Carbon into forests, reef systems, ocean sediments, tundra & wetlands into subfossil and fossil deposits – peat, coal, limestone, marble etc.
- The need to work with these systems in times of unprecedented change – they are a key (the key) proven mechanism.
- New thinking for carbon economics emerging (not yet in place) e.g. REDD, REDD+ : Reduced emissions through reforestation and degradation (and accounting for other ecosystem services – getting global carbon production quotas directly aligned to improving biological mitigation mechanisms the true ECONOMICS of the planetary market?

Art-Science: collaborative work



Perpetual Amazonia

- A work about how to understand the economic cycle of ownership, conservation and value of land and the protection of biodiversity.
- Collaboration with ECI Oxford University, Manu Learning Centre and CREES Foundation.
- Currently collating scientific and economic data about 1 hectare site and feasibility of producing an edition artwork and distribution mechanism for every 1sqm of the site.
- Artwork to contain GPS / UTM coordinates of each sub plot and information about the specific biodiversity of the forest, as well as more general information and thoughts on the subject of climate change and sustainability.

Manu Learning Centre



Manu Biosphere Reserve, Fundo Mascoitania, Peru
UNESCO World Heritage Site

Manu Learning Centre grounds



Fig. 1: 55 taken in 1993. The MLC grounds are believed to fall within the red rectangle and the lodge area the light grey patch in the upper left hand corner.



Fig. 2: Landsat image with contour intervals. MLC lodge area as a white dot.

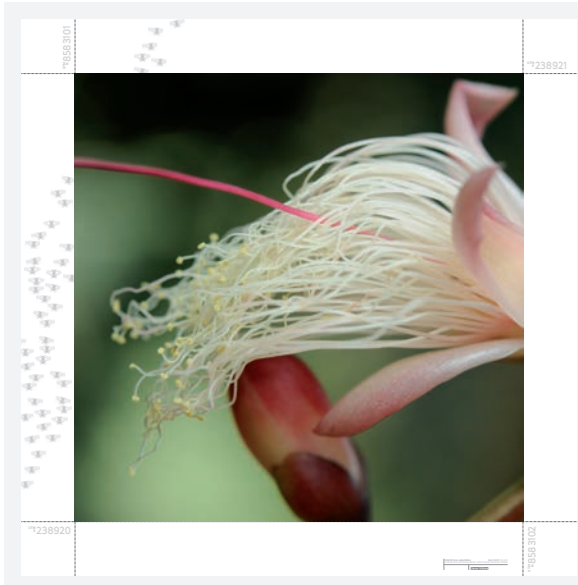
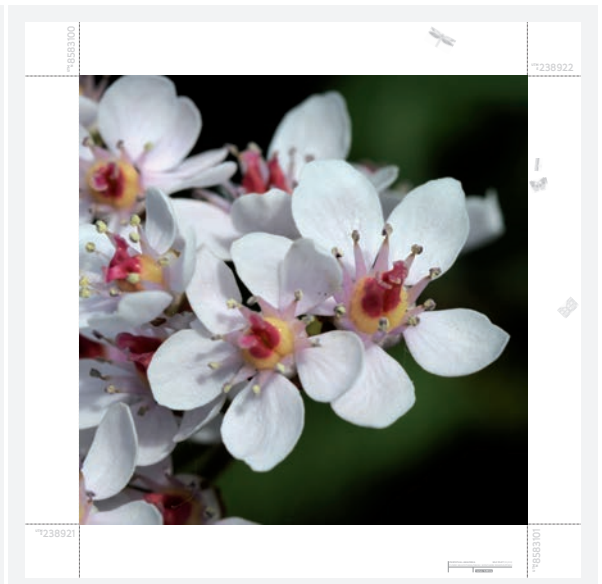
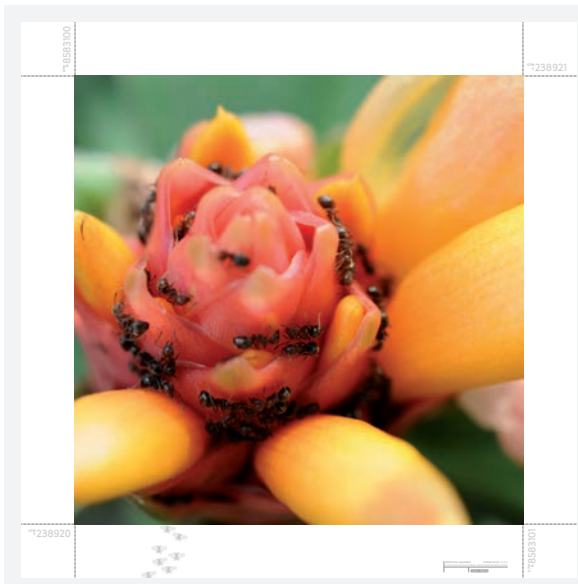
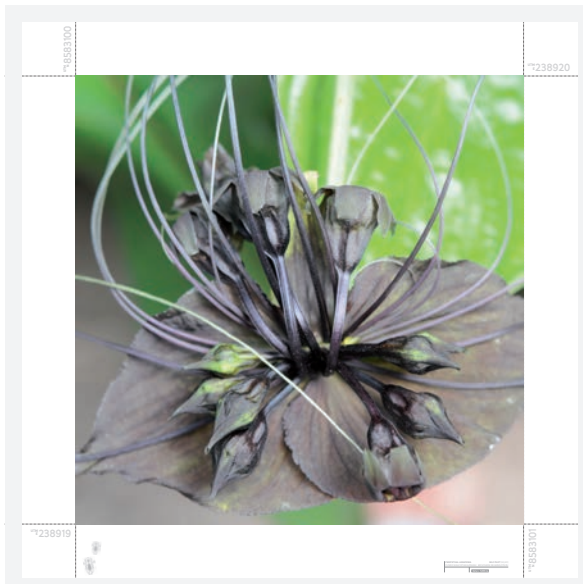
Tree survey programme



- ARECACEAE
(g) Iriartea (s) Deltoidea
- FABACEAE
- NYCTAGINACEAE
- BOMBACACEAE
- RUBIACEAE
- ARECACEAE
- EUPHORBIACEAE
- MELIACEAE
- RUBIACEAE



Orta: Perpetual Amazonia



Orta: Window on The World



AMAZONIA: exhibition impact



Intended outcomes

- Raise awareness of loss of biodiversity, our dependence on diversity and its need for protection and celebration.
- Make more apparent the interrelationship between biodiversity and environment change, including climate change.
- Create an audience involvement in the experience, understanding, debate and personal action about biodiversity.



2010 International Year of Biodiversity

