

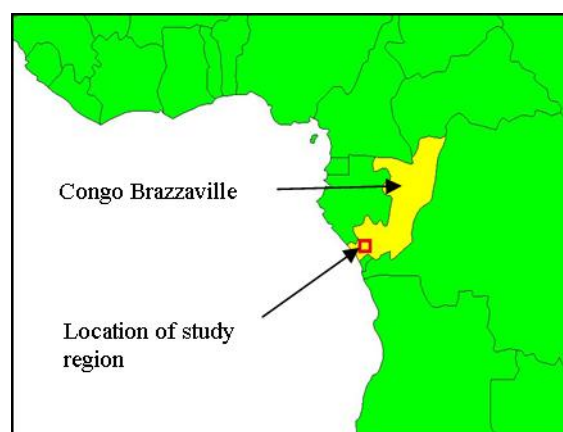
Darwin Initiative Annual Report [Template with Guidance]

Darwin Project Information

Project Ref Number	15-021
Project Title	Strengthening the National Biodiversity Strategy in Congo Brazzaville
Country(ies)	Congo (Brazzaville)
UK Contract Holder Institution	University of Reading, CAER
UK Partner Institution(s)	Royal Botanical Gardens, Kew Natural History Museum, London Oxford University Museum of Natural History
Host country Partner Institution(s)	Ministère de l'Economie Forestière et de l'Environnement (MEFE) Groupe d'Etude et de Recherche sur la Diversité Biologique (GERDIB) Centre d'études sur les Ressources Végétales (CERVE) Université Marien Ngouabi Groupe de Recherche sur l'Ecologie Forestière et l'Environnement (GREFE)
Darwin Grant Value	
Start/End dates of Project	1 September 2006 – 31 August 2009
Reporting period (1 Apr 200x to 31 Mar 200y) and annual report number (1,2,3..)	1 Apr 2006 to 31 Mar 2007 (Annual Report No. 1)
Project Leader Name	Dr Simon G. Potts
Project website	http://www.rdg.ac.uk/caer/project_congo.html
Author(s), date	Simon G. Potts, Ralf Becker, Ioannis Vogiatakis, Geoff Griffiths, Alain Pauly, Serge Valentin Pangou and Antoine Ouabonzi. 30 April 2007

1. Project Background

The project seeks to provide an evidence-base to help support development of the National Biodiversity Strategy of Congo Brazzaville. Currently there is relatively little data available to inform decision making for biodiversity conservation in the region, which reflects a lack of national capacity and expertise. The national herbarium has been severely degraded following the armed conflicts in the late 90's, there are no entomological facilities, and a significant gap in training in biodiversity assessment methodologies. Much of the country remains unexplored from a scientific perspective, and one



area in particular, the Mayombe Mountains (see map), are virtually unknown in museum and herbarium collections. This area presents the opportunity to build local capacity, implement training, and apply rigorous scientific methodologies to generate useful datasets for CBD applications.

2. Project Partnerships

The partnerships between the University of Reading, UK and the host country partners have developed well since the project start. Memoranda of understanding (MoU: outlining project aims, scientific and financial frameworks and expected outputs) were signed by several host country partners during a scoping visit to Congo in 2005. Original partners included: the Ministry of Economy, Forestry and Environment (MEFE); the University of Marien Ngouabi, Brazzaville (UMN) and the National Herbarium, Brazzaville. Following the project start-up seminar in February 2007, we have now included two additional partners and more clearly defined partner responsibilities within the project:

Environment - Mr Anatole Nagaye (Councilor to the Minister), MEFE. Research and access permits were facilitated, and future outputs will be targeted to key ministerial staff through this partnership. We have been in contact with the CBD focal point (Mr Jean Colin Namedoum) during the project development phase and will strengthen this relationship as the project matures. The regional directors in Dolesie and Pointe Noire have provided lab space for processing field samples and are helping us liaise other government departments. They have also provided us with excellent field staff, mostly forestry technicians, on an *ad hoc* basis.

Scientific Research - Dr Serge Valentin Pangou, Groupe d'Etude et de Recherche sur la Diversité Biologique (GERDIB). Training venues and students for training were provided through this partnership and a research assistant is now employed for the field research programme. The Herbarium will be maintained and National Entomology Collection will be hosted by this partner. The second scientific partner, Dr Antoine Ouabonzi, Centre d'études sur les Ressources Végétales (CERVE) has indicated his support, but has yet to demonstrate any concrete commitment. He expects substantial *per diem* payments for himself and staff despite his agreement in the MoU, that this will not be the case.

Higher Education - Université Marien Ngouabi (UMN). This partnership has proven much less productive to date. Though a MoU was signed stating that no direct financial payments would be made to UMN, staff and students have continued to make unrealistic demands for substantial *per diem* payments without demonstrating any contribution to the project goals. Previous responsibilities and involvement of this partner has now been shifted to GERDIB. Opportunities for future involvement of UMN remain open and we have re-emphasised that this needs to be in line with the terms in the MoU.

Outside Congo - Partnerships with other institutions remain good, with clear commitments to support the large taxonomic tasks which will start in mid 2007. UK: Royal Botanical Gardens, Kew; Natural History Museum, London; Oxford University Museum of Natural History. Worldwide: African Pollinator Initiative; Hamburg Herbarium, Germany; Koblenz Herbarium, Germany; Munich Herbarium, Germany; National Herbarium of Belgium; Royal Belgium Institute of Natural Sciences, Belgium; University of Muenster, Germany; US Department of Agriculture, USA; Wageningen Herbarium, Netherlands.

Alain Pauly (Royal Belgium Institute of Natural Sciences) gave one week in-kind in Feb 2007 to lead a specialist entomology workshop.

In Congo we have made links to FAO (Michel Bassil) and will look for potential overlap between the FAO forest resource assessment project (TCP/PRC/3101: Appui à l'évaluation des ressources en arbres et forêts) and the monitoring plots to be set up in Mayombe as part of this project.

3. Project progress

3.1 Progress in carrying out project activities

Progress was initially delayed (4 months)¹ due to late delivery of the project vehicle and equipment to Congo. However, rapid progress has been made since then, and most activities are now either back on schedule or have minor revisions in their timing.

Outputs 1 and 2: The upgrading of the herbarium and establishment of the National Entomology Collection are now on schedule. The herbarium building is now fully functional and staff at GERDIB are preparing a secure room for the entomology collection. Additional capacity building in the herbarium at Pointe Noire has also begun. Planned training workshops are underway (one completed and one postponed to June 2007), though with revised dates, and the project start-up seminar held with local partners.

Outputs 3 and 4: GIS work to identify potential study sites was completed on time and fieldwork has commenced in the Mayombe Mountain area. The start of the field survey programme was delayed, but will be compensated for by minor adjustments in the timing of fieldwork in the following two years. Field surveys programme for the project as follows with original timing in parentheses: Feb-May 2007 (Oct 2006-Mar 2007); Oct 2007-Feb 2008 (Oct 2007-Jan 2008); Oct-Dec 2008 (Mar-Apr 2008); Total months = 12 (12). To date we have collected 310 fertile plant species (flower/fruit) which are now fully documented, and a substantial number of bee specimens.

Outputs 5, 6, and 7: Activities working towards these outputs are underway, but the outputs themselves are set to be realised in the 2nd and 3rd years of the project.

Output 8: Major dissemination activities are planned for July and September 2007 and will use images and data brought in from the first block of fieldwork. The University of Reading Press Office has been briefed on the project and will be actively involved in all dissemination activities. Ralf Becker gave a live interview on 'Radio Nari' at Dolesie and discussed the project aims, involvement of local partners and likely outputs. The TV broadcasts in Congo have been set for the last two years of the project to ensure the best materials are available for the documentaries.

3.2 Progress towards Project Outputs

We have made good progress in training and capacity building activities in the first year, and despite initial delays, the fieldwork programme to collect primary data is now underway. We expect to remain on schedule with our revised timings and therefore deliver the outputs described in the logframe. The output level assumptions hold true, with the minor modification of assumption (1) that commitment from local staff now includes GERDIB instead of NHB.

Capacity building of the herbarium and entomology collections is underway: infrastructure for the herbarium is in place and an appropriate building for the entomology museum is being prepared. All major equipment items are now shipped to Congo. The herbarium will have the capacity to incorporate new material from the fieldwork expeditions and the entomology collection will have the capacity to house new specimens from the pollinator surveys. Improvements in both facilities can still be verified through reports on infrastructure and contents.

The training programme has progressed well and detailed reports of activities and assessment of attendees progress are complete. Workshop activities have successfully combined theoretical and practical aspects and included a mini-project with which experts can evaluate

¹ The project started 1 Sept 2006, the vehicle and equipment were shipped from UK in late August 2006 with an agreed delivery date of 29 September 2006. The vehicle finally arrived in Pointe Noire 2 December 2006 and was released from the port on 7 January 2007. We are currently investigating legal options for reclaiming costs from the shipping company (Grimaldi) for breach of contract.

progress made by the workshop participants. Additional hands-on training is being provided to local staff on the fieldwork surveys.

An initial stratification of the Mayombe Mountain region has been completed and will be updated as additional field data is made available. Methods for collecting botanical and entomological data have been agreed upon and standardised survey protocols developed. Surveys are designed to effectively cover both spatial (major landscape elements) and temporal (key flowering periods) dimensions of the study region. World-class taxonomists from at least 12 institutions have been engaged to identify the material collected. Analysis of primary data will underpin development of the biodiversity inventory and monitoring activities.

3.3 Standard Output Measures

Table 1 Project Standard Output Measures

Code No.	Description	Year 1 Total	TOTAL
6A	Number of people to receive other forms of education/training	7 (entomology)	7
6B	Number of training weeks to be provided	1 (entomology)	1
7	Number of (ie. different types - not volume - of material produced) training materials to be produced for use by host country	1 manual 'Bee Biodiversity Assessment' 1 manual 'Préparation du Stage sur les abeilles et la pollinisation'	2
8	Number of weeks to be spent by UK project staff on project work in the host country	27	27
14A	Number of conferences/seminars/workshops to be organised to present/disseminate findings	1 Start-up seminar	1
19C	Number of local radio interviews/features in host country(ies)	1 on Radio Nari	1
23	Value of resources raised from other sources (ie. in addition to Darwin funding) for project work		
New - Project specific measures	Staff trained and receiving extensive (>1 month) hands-on training in the field	2	2

Table 2 Publications

None in year 2006/7.

3.4 Progress towards the project purpose and outcomes

Several small and significant steps have been made towards the purpose. We have involved Congolese partners in all major activities to date: training, development of field programmes, and building up the herbarium and entomology collections. The foundations have been laid to continue with in-country training and the collection of extensive primary data from the Mayombe Mountain region. Project participants are all aware of the overall aim to provide a relevant evidence-base and local capacity to strengthen the National Biodiversity Strategy. The purpose level assumptions hold true.

3.5 Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

The elevation of the National Herbarium and National Entomology Collection as functional biodiversity resources is aimed at delivering a long-term resource to support and facilitate future plant and insect inventories; and to ultimately provide a set of useful databases to underpin policy for the management of biodiversity resources in Congo. The establishment of well maintained collections and databases aims to facilitate the sharing of knowledge between government, NGO, scientific, education and public users. As far as we are aware, this is the first attempt by any project to do so within Congo Brazzaville. Coupled with this capacity building, local staff are being trained to undertake high quality scientific research and are being exposed to international projects with future opportunities to seek overseas funds to support research related to biodiversity conservation. Together these measures will contribute a knowledge-base which the MEFE and other ministries can potentially use to make informed decisions aimed at producing positive biodiversity impacts. It is too early in the project to judge the likely impacts.

4. Monitoring, evaluation and lessons

Monitoring at this stage of the project is primarily through direct communications (meetings, telephone, email, Skype) with the project manager, Ralf Becker, who is in residence in Congo Brazzaville. He is regularly in contact with the UK project team and local partners in Congo. Monitoring of training success is through the evaluation of skills learnt by workshop participants and is carried out by recognised experts. All workshops and seminars are fully reported and documentation circulated to partners in UK and Congo for comments and feedback to the project leader. Specific secondary milestones have been set to structure the fieldwork programme and facilitate the monitoring of progress. A Project Management Group meeting will review all of the first 12 months of activities and is scheduled for autumn 2007.

5. Actions taken in response to previous reviews (if applicable)

6. Other comments on progress not covered elsewhere

The delay in the arrival of the truck and equipment to Congo Brazzaville was a major challenge and necessitated changes in the timing of some project activities, but not changes in the nature of the activities. The project team worked closely with local partners to re-schedule tasks accordingly.

The initial commitment of local partners was variable, and the inclusion of GERDIB as the lead scientific partner has greatly facilitated progress in research, capacity building and training. The continued demands for large *per diem* payments () by staff at CEVRE and NHM, despite signing a memorandum of understanding to the contrary, are proving a barrier to further involvement of these partners. These organisations are also asking for *per diems* for students to receive training from the project. We have stated this is impossible, explained why, referred to the signed memorandums, but the situation remains unresolved at present.

Provision of research and access permits was initially slow, however local partners, MEFE and GERDIB, quickly overcame the administrative difficulties following the project start-up seminar.

7. Sustainability

A programme of dissemination activities in Congo has been agreed by partners and will be actioned once the first block of fieldwork is complete (July-September 2007). Several governmental organisations (GERDIB, CEVRE, GREFE) have expressed interest in using the upgraded herbarium and insect collection.

8. Dissemination

The start-up seminar (Feb 2007) was attended by 19 representatives of MEFE, GERDIB, CEVRE and covered all key aspects of the project. As outlined above, most dissemination activities will start in July 2007, once suitable material (photographs, individual accounts and new data) are available from the first field expedition. The project manager, Ralf Becker, promoted the project during a radio interview on 'Radio Nari'. A dedicated project website has been online since September 2006: http://www.rdg.ac.uk/caer/project_congo.html.

9. .

10. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum).

No contribution for this reporting period.

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2006/07

Project summary	Measurable Indicators	Progress and Achievements April 2006 - March 2007	Actions required/planned for next period
<p>Goal: <i>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</i></p> <p><i>The conservation of biological diversity,</i></p> <p><i>The sustainable use of its components, and</i></p> <p><i>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</i></p>			<p><i>(do not fill not applicable)</i></p>
<p>Purpose To work with Congolese nationals to strengthen the National Biodiversity Strategy.</p>	<ol style="list-style-type: none"> 1) National Herbarium in Brazzaville (NHB) established as a biodiversity resource; entomological collection set up at GERDIB. 2) Developing basic research and training facilities for long-term in country expertise. 3) Integrated biodiversity assessment of Mayombe Mountains region (MM). 4) Generic framework of activities needed to assess and monitor biodiversity. 	<p>The NHB is now a structurally secure building (roof, doors & AC units) and the collections are no longer at continued risk of degradation. Extensive delivery of museum and herbarium equipment has been made and refurbishments are in progress. Establishment of pollinator reference collections has been initiated at GERDIB. Training in vegetation and pollinator biodiversity assessments has been initiated. MM fieldwork programme has started. Facilities improvements and training are together building local capacity.</p>	<p>Second phase of training programme implemented (advanced methods).</p> <p>Housing of the National Entomology Collection at (Groupe d'Etude et de Recherche sur la Diversité Biologique) GERDIB.</p> <p>Upgrading of herbarium facilities at CEVRE (Centre d'études sur les Ressources Végétales).</p> <p>Identification of plant and insect samples from fieldwork surveys.</p> <p>Continuation of fieldwork programme.</p>
<p>Output 1. Well maintained and data-based plant and insect collections.</p>	<p>Existing NHB material curated; entomological collection housed at GERDIB. Material data-based.</p>	<p>Despite the delayed start in the project, progress is good and indicator remains appropriate.</p>	
<p>Activity 1.1 Training workshops (including assessment of attendees progress): pollinator field survey methods, insect preservation and storage. Botanical training (including introduction to Brahms database,</p>		<p>Entomology biodiversity assessment workshops held at GERDIB, with 7 and students passing. 'Bee biodiversity assessment' Feb 2007; Botanical training has primarily been on the job and a formal workshop is planned</p>	

basic GIS, and vegetation sampling protocols).		for June 2007; Start-up seminar Feb 2007. Workshop reports complete. Training manuals produced and circulated.
Activity 1.2 Provision of capacity building materials for herbarium and national entomology collection.		Botany equipment is <i>in situ</i> in Pointe Noire and Brazzaville, including: more than 250 books, journals, guides and keys, 10,000 sheets of mounting paper, 2,000 Genus covers, 4,000 species covers, and 20 litres of glue. 12 computers (3 CD writers and 3 scanner-printers) for databasing are in secure storage in Pointe Noire in readiness for installation when computer rooms are fully prepared. All entomology sampling (nets and traps) and storage equipment (cabinets, boxes, chemicals etc.) exported to Congo Brazzaville and now <i>in situ</i> at GERDIB.
Output 2. Partners able to collect and curate plant and insect material.	45 NHB, UMN and GERDIB staff trained variously in survey, database, GIS and identification methods.	All planned workshops completed. Local partners committed to future workshops. Indicator remains useful.
Activity 2.1. see Activity 1.1.		see Activity 1.1.
Activity 2.2. see Activity 1.2		see Activity 1.2.
Output 3. Environmental stratification of MM completed identifying survey sites.	Vegetation mapping, analysis and monitoring report drafted.	Stratification and initial site selection complete. Vegetation and pollinator data to be mapped once available from field expeditions. Indicator remains appropriate.
Activity 3.1. Initial satellite imagery analysis and year 1 survey sites defined		Completed. Ongoing analysis for additional sites based on results of future fieldwork. Site selection report complete.
Output 4. Inventory and biodiversity assessment for MM complete.	9 months field work, identification and databasing.	Expedition vehicle and field equipment successfully exported to Congo. Fieldwork in MM has been initiated. Field programme set to continue in 2007/8 and 2008/9. Indicator remains appropriate.
Activity 4.1. Field surveys		First set of surveys were originally planned Oct. 2006 to March 2007 (6 months). However, delay in arrival of shipped vehicle meant late start of fieldwork: Feb to Mar 2007 (2 months). Preliminary surveys (Rapid Vegetation Assessments) across a large part of the Mayombe Mountain region has been completed. Additional months transferred to fieldwork

		programme of 2007/8 and 2008/9.
Activity 4.2. Identification of material initially in Congo then by ex-Congo experts (after field surveys)		Local partners and international experts remain committed to identification of material.
Output 5. Monitoring framework for MM established.	Biodiversity monitoring plan drafted.	This output lies in the future and will be underpinned by the results from the fieldwork programme. Indicator remains appropriate.
Output 6. Assessment and monitoring manual published and circulated.	Manual drafted, reviewed and publication date set.	This output lies in the future and will be underpinned by the results from the fieldwork programme. Indicator remains appropriate.
Output 7. NBS framework workshop.	Workshop planned and conducted.	This output lies in the future and will be underpinned by the results from the fieldwork programme. Indicator remains appropriate.
Output 8. Publications and presentations.	Three public seminars, press releases, popular articles and papers. Two TV broadcasts and an exhibition.	Workshop reports complete and preparations made for other dissemination activities for July-September 2007 and beyond.
Activity 8.1. Workshop reports (2 months post workshop)		Reports available for all workshops and also start-up seminar. Workshop reports include details of assessment of participants performance.
Activity 8.2. Public seminar, press release, popular article and paper		One of each scheduled for each project year. Public seminar – Congo (September 2007); press release (July 2007); popular article (July 2007).
Activity 8.3. TV broadcast		Two planned for 2008 and 2009. TV Congo, in Brazzaville, contacted and agreed to make documentary.

Annex 2 Project's full current logframe (modified text in blue, original text crossed)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Goal:</p> <p>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising out of the utilisation of genetic resources</p>			
<p>Purpose</p> <p>To work with Congolese nationals to strengthen the National Biodiversity Strategy (NBS).</p>	<p>1) NHB established as a biodiversity resource; UMN GERDIB entomological collection set up.</p> <p>2) Developing basic research and training facilities for long-term in country expertise.</p> <p>3) Integrated biodiversity assessment of Mayombe Mountains region (MM).</p> <p>4) Generic framework of activities needed to assess and monitor biodiversity.</p>	<p>1) Reports on the research facilities and working database.</p> <p>2) Participation of Congolese in training programme.</p> <p>3) Reports and publications on plant and pollinator biodiversity of MM, and monitoring plan.</p> <p>4) Report and workshop for CBD focal point and government ministries.</p>	<p>Effective collaboration between GERDIB, NHB, UMN, MEFE and ex-Congo experts.</p> <p>Continued political stability in Congo Brazzaville.</p> <p>Incorporation of new knowledge into MEFE activities.</p>
<p>Outputs</p> <p>1) Well maintained and data-based plant and insect collections.</p> <p>2) Partners able to collect and curate plant and insect material.</p> <p>3) Environmental stratification of MM completed identifying survey sites.</p>	<p>1) Existing NHB material curated; UMN GERDIB entomological collection housed. Material data-based.</p> <p>2) 45 NHB, UMN and GERDIB staff trained variously in survey, database, GIS and identification methods.</p> <p>3) Vegetation mapping, analysis</p>	<p>1) Receipts for equipment donated. Report on facilities.</p> <p>2) Reports on training; workshop attendance records and skill assessment by experts.</p> <p>3) Report peer-reviewed.</p> <p>4) Report on vegetation maps, checklists and databases of plants</p>	<p>1) Commitment from NHB and UMN staff.</p> <p>2) Local support for workshops available.</p> <p>3) None. Technique used by UoR.</p> <p>4) Extreme weather and health issues.</p> <p>5) Expert input available.</p> <p>6) None.</p> <p>7) Continued cooperation with MEFE maintained.</p>

<p>4) Inventory and biodiversity assessment for MM complete.</p> <p>5) Monitoring framework for MM established.</p> <p>6) Assessment and monitoring manual published and circulated.</p> <p>7) NBS framework workshop.</p> <p>8) Publications and presentations.</p>	<p>and monitoring report drafted.</p> <p>4) 9 months field work, identification and databasing.</p> <p>5) Biodiversity monitoring plan drafted.</p> <p>6) Manual drafted, reviewed and publication date set.</p> <p>7) Workshop planned and conducted.</p> <p>8) Three public seminars, press releases, popular articles and papers. Two TV broadcasts and an exhibition.</p>	<p>and pollinators.</p> <p>5) Report and monitoring timetable.</p> <p>6) Manual assessment by expert panel. 50 copies circulated; two copies sent to Darwin Initiative.</p> <p>7) Direct involvement of Ministries and CBD focal point.</p> <p>8) Copies of publications sent to Darwin Initiative.</p>	
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Activities	Activity milestones (summary of project implementation timetable)	Assumptions
1) Training.	<p>1) Training workshops including assessment of attendees progress: a) Bee biodiversity assessment Feb 2007; Collection management, introduction to Brahms database, basic GIS, and sampling protocols (Sept 2006 June 2007); b) Advanced collection management and databasing, CITES protocols, overview of key CBD articles (May June 2007); c) Species assessment (IUCN protocols), rapid biodiversity assessment methods, teaching methods (Sept 2007); d) Advanced GIS and basic data interpretation using field material (Sept 2007); e) Advanced data analysis and use of Brahms (May 2008); f) Generating outputs (checklists, maps, reports) (June 2008); g) NBS framework workshop (Aug 2009).</p>	<p>1) Timing of rainy season (flowering time) and dry season (fruiting time) typical.</p> <p>Exceptional changes may modify timetable of workshops but not number or content.</p> <p>Continued support of UK experts.</p>
2) Field research programme.	<p>2) Initial satellite imagery analysis and year 1 survey sites defined (Sept 2006); Ongoing analysis for further sites (Jan 2007 -Dec 2007 May 2008).</p> <p>Field surveys (Oct 2006-Mar 2007 Feb-May 2007; Oct 2007-Jan Feb 2008; Mar-Apr Oct-Dec 2008; 3 months in 2008/9).</p> <p>Identification of material initially in Congo then by ex-Congo experts (after field surveys).</p>	<p>2) Timing of seasons, though generally predictable, will define time windows for survey work.</p>
3) Dissemination.	<p>3) Reports: Site selection (Oct 2006/7); NHB and UMN facilities (Dec 2007); workshop reports (2 months post workshop); MM biodiversity assessment (Aug 2008 and June 2009); monitoring report (July 2009).</p> <p>Manual of assessment protocols (Aug 2009).</p> <p>Two TV broadcasts (TVC) in Congo (2007 2008 & 2009); each year, one local public seminar, press release (UoR), paper and popular science article; Botanical exhibition, Kew (2009).</p>	<p>3) Continued commitment of TV broadcasters and local partners.</p>

Annex 3 onwards – supplementary material

Four items of supplementary material are included:

1. Report on project start-up seminar
2. Report on 'Bee Biodiversity' workshop
3. Training manual for Bee biodiversity assessment workshop
4. Report on the initial site selection

PROJECT START UP SEMINAR REPORT

Date: 15 February 2007

Location: Groupe d'Etude et de Recherche sur la Biodiversité Biologique, Orstom science park, Brazzaville, Congo

Seminar Leader: Ralf Becker (University of Reading, UK)

Lead Local Partner: Dr Serge Valentin Pangou (GERDIB)

Project Leader: Dr Simon G. Potts (University of Reading, UK)

Number of participants: 19

Workshop Aim

To fully engage Congolese partners in the project 'Strengthening the National Biodiversity Strategy in Congo Brazzaville'.

Specific Objectives

1. To present the project objectives, workplan and outputs.
2. To introduce the Darwin project team.
3. To allow local partners to discuss all parts of the project.
4. To finalise the activity plan for 2007 and beyond.
5. To present the certificates to the participants of the 'Bee Biodiversity' training workshop.

Programme

- Presentation of the project aims, objectives, outputs and timetable.
- Presentation of core team.
- Open discussion of project participants and outputs.
- Summary of future activities and roles of all participants.
- Presentation of training certificates.
- Social lunch and informal discussions.

Participants

There were 19 participants attending the seminar which included:

- Mr Anatole Nagaye – Councilor to the Ministère de l'Economie Forestière et de l'Environnement (MEFE)
- Dr Serge Valentin Pangou – Director of Groupe d'Etude et de Recherche sur la Diversité Biologique (GERDIB)
- Dr Antoine Ouabonzi – Director of Centre d'études sur les Ressources Végétales (CERVE)
- Dr Ungangoue – Director of Fauna and Protected areas, MEFE
- Dr Simon G. Potts – Darwin project leader
- Mr Ralf Becker – Darwin project manager
- Mr Alain Pauly – Leader of 'Bee Biodiversity' workshop
- Additional staff and students of GERDIB and CERVE.

Summary of workshop discussions

1. Project aims, activities and outputs were presented and unanimously accepted and supported by the seminar participants.
2. The need to publish findings in high quality international journals was universally recognised.
3. After extended discussion between local partners and the Darwin project team it was agreed that the following roles and responsibilities would be recognised for the duration of the project:

- Lead partner for Ministry: Mr Anatole Nagaye – Councillor to the Minister of Economy, Forestry and Environment
 - Lead partners for scientific research: Dr Serge Valentin Pangou – Director of Groupe d'Etude et de Recherche sur la Biodiversité Biologique (GERDIB) and Dr Antoine Ouabonzi – Director of Centre d'études sur les Ressources Vegetales (CERVE)
 - Lead partner for higher education: Université Marien Ngouabi
 - Lead partner for Environmental Research: Dr Jean-Joel Loumeto, Groupe de Recherche sur l'Ecologie Forestière et l'Environnement (GREFE)
4. It was agreed that field staff joining the research expedition would be selected on the basis of their skills and motivation rather than their affiliation. This will help ensure the best scientific quality from fieldwork.
 5. The location of the botanical material will be split between the herbariums in Brazzaville and Pointe Noir. Both herbariums under the umbrella of CERVE and this will allow the building of additional regional capacity in Pointe Noire as well as in the capital Brazzaville.
 6. Dissemination of the project activities were seen as very important. The Darwin project team outlined the plan for Press Releases, popular science articles and TV broadcasts. An immediate action was for the website to be updated with full details of the local partners.

Lessons learnt

It is essential to openly discuss all aspects of the project and agree on all activities prior to commencement. Details must be addressed and recorded for future reference.

All details were discussed during the scoping visit of 2005, and the workplan constructed (including financial framework) in collaboration with local partners (recorded in letters of support and memorandum of understanding). The main difficulty has been the unrealistic financial demands from some local partners which ignored previous agreements. The lesson learned here is that it is important to choose one partner who is genuinely interested in and committed to the scientific work; this partner can then engage additional local partners as appropriate on an informal base. This general problem already recognised and well understood by NGOs currently operating in Congo Brazzaville and these organisations have chosen to keep cooperation with local partners to an absolute minimum.

Next meeting of the Project Management Group (PMG)

This will take place in late 2007 or early 2008 and will be based on a progress report drafted by the research partners. The meeting will be conducted electronically by email, Skype and/or by phone so that all partners have a full opportunity to provide comment on progress to date and future plans. If the majority of partners request a physical meeting of the PMG, then this will be arranged in Brazzaville.

Appendix A: Pictures of the meeting



Ralf Becker introduces the background to the project



The lead Congolese partners. From left to right: Dr Ungangoue; Mr Nagaye; and Dr Pangou.



The other participants.

Appendix B: Participants list

TRAINING WORKSHOP REPORT:

BEE BIODIVERSITY

Workshop Name: Bee Biodiversity

Date: 12-14 February 2007

Location: Groupe d'Etude et de Recherche sur la Diversité Biologique, Orstom science park, Brazzaville, Congo

Workshop Leader: Mr Alain Pauly (Institut royal des Sciences naturelles de Belgique)

Local Partner: Dr Serge Valentin Pangou (G.E.R.D.I.B.)

Workshop Assistants: Dr Simon G. Potts & Mr Ralf Becker (University of Reading, UK)

Number of students: 7

Number of passes: 7



Workshop Aim

The overall was to train students to survey, identify and preserve bees using standardized methodologies.

Specific Objectives

The specific objectives were to:

6. Increase student awareness of the importance of pollinators and the ecosystem services they deliver.
7. Teach a variety of standardized methods for surveying and monitoring bees.
8. Introduce the students to bee identification.
9. Teach students how to pin, label and prepare specimens for long-term storage.
10. Demonstrate how to construct and maintain a database for bees.
11. Advise students on how to design a framework for surveying bees in a variety of habitat types.

Programme

Feb 12 th am	Introduction of participants and trainers Discussion on importance of bees and pollination
Feb 12 th pm	Hand netting methods Pan trapping methods
Feb 13 th am	Field collection of bees Bee pinning and long-term storage
Feb 13 th pm	Preparation of bees by students Demonstration of light traps
Feb 14 th am	Bee identification Labelling and databases
Feb 14 th pm	Practical test of students and assessment

Workshop manuals provided:

1. *Estimation de la biodiversité en abeilles: Manuel de methodologie* (21 pages). See Appendix C.
2. *Préparation du Stage sur les abeilles et la pollinisation* (181 pages)

Equipment provided

Hand nets, pantraps, killing jars, hand lenses, GPS, books (Bees of the World - C.D. Michener, Bees of the world – C. O'Toole, Handbook for African insects, Pollinators and Pollination: A resource book for policy and practice), storage boxes, museum cabinets, dissection kits, chemicals, moth trap, butterfly traps, handbooks, pooters, pins, pinning stages, pinning boards and CD of all course material.

Participants and Grades

There were seven students who attended the course and were all undergraduate or master's level. See Appendix A for photographs of course. All students passed with the following grades:

BOUKAKA MIKEMBI Valdie Nina	Excellent
NGOMA MOUTSINGA Annette	Good
MOUNKALA MABANZA Ildevert	Good
MAKANGA Frank Freddy	Good
BANZOUZI Ange	Good
ANDZOMBA Ludovic	Good
NTSIKOLI MAMPOUYA Christian	Satisfactory

See Appendix B for example certificate.

Assessment of workshop

The seven students worked well and participated fully in all the activities. The practical assessment was useful in determining the students competence. The top student, Nina BOUKAKA MIKEMBI, was offered a place on the field survey team and she accepted. This student will work with Ralf Becker and two botanists on the field survey work to be carried out in the Mayombe region between February and June 2007.

Lessons learnt

Workshops must include a clear balance of theoretical and practical work with a detailed evaluation of performance at the end.

Appendix A: Pictures of the course



Introduction to bee identification



Collecting in the field



Seladonia jucunda bee on *Sonchus* sp.



Pantrap demonstration



Student bee collection



The assessment

Appendix B: Example certificate awarded



Darwin Initiative Project 15/021:
'Strengthening the National biodiversity Strategy of Congo Brazzaville'

Bee Biodiversity Workshop

12 – 14 February 2007

BOUKAKA MIKEMBI Valdie Nina..... successfully completed the workshop
with a grade of: EXCELLENT

Verified by: **Dr Serge Valentin PANGOU**.....
Directeur du Groupe d'Etude et de Recherche sur la Biodiversité

Workshop Leader: **Alain Pauly, Institut royal des Sciences naturelles de Belgique**
Project Manager: **Ralf Becker, University of Reading**
Project Leader: **Dr Simon G. Potts, University of Reading**
Project webpage: **www.rdg.ac.uk/caer/project_congo.html**



REPORT: Large Scale Mapping for Site Selection

Date: 11 April 2007

Contributors: Dr Ioannis Vogiatzakis, Dr Simon G. Potts, Mr Ralf Becker, & Dr Geoff Griffiths (University of Reading, UK)



Background and approach

Since the area of study is fairly unexplored it was necessary to provide a spatial framework that would assist field survey. Environmental Stratification is method that has been widely employed in the UK and elsewhere (Australia, Spain, Austria) as the basis for survey, monitoring and management. This is considered the only feasible way of assessing ecological resources, such as habitats and vegetation, and enabling monitoring schemes to be developed for large, heterogeneous areas. Using a series of mapped variables (mainly biophysical) the idea is to try and identify large tracts of land with similar -broad physical characteristics, which will then have sets of sites sampled.

Although a scientifically sound stratification should be based on detailed information on the distribution, quality and quantity of bio-physical variables, in many cases such information may only be derived from heterogeneous data sets of differing quality. Quality is compromised by, for example: modernity, spatial scale, area coverage. Before the process of mapping can begin all of the relevant, readily available information for the study area needs to be collated as a series of digital map layers within the GIS.

Methods

For the stratification in this study elevation, geology and land cover were employed. In the absence of detailed mapped information for the study area the stratification had to rely on readily available information. All the maps used in this study form a co-registered spatial database in ArcGIS.

Elevation data were taken from the USGS- STRM Data 90m. Data available to the geospatial data user are approximately 90m over non-U.S. territory (<http://erg.usgs.gov/isb/pubs/factsheets/fs07103.html>).

Geology was produced using the 1:500 000 geological map of SW Congo which was digitised and georeferenced within a GIS.

Land cover, the expression of natural and man made vegetation, was mapped with the aid of freely available Landsat ETM satellite imagery provided by USGS using unsupervised classification technique. For that purpose 4 scenes were used to cover the entire study area: 2 scenes dated 24/4/02, 1 scene of 9/4/00 and 1 scene of 14/07/00. The land cover classes in the study area reflect the broad pattern of primary land use at the landscape scale: agricultural areas, forested and semi-natural vegetation, humid zones, water bodies.

Image Analysis

The study had to rely on the freely available scenes from different times of the year as described above. Therefore there was no merging of the scenes prior to classification since different times of the year when the imagery were taken would reveal differences in vegetation phenology which introduce inevitably error in the classification. Instead every scene was classified separately by using unsupervised classification. This technique is employed when there is no prior knowledge of the land cover types in the area of study. Similar pixels are grouped together and provide with mapped spectral classes that can be then assigned to land cover classes following field work. The basic premise of supervised classification is that values within a given cover type should be close together in the measurement space, whereas data in

different classes should be comparatively well separated. This then must be interpreted by the user as to what the colour patterns may mean in terms of classes, etc. that are actually present in the real world scene; this requires some knowledge of the scene's feature/class/material content from general experience or personal familiarity with the area imaged.

Fig 1a: Congo and the study area.

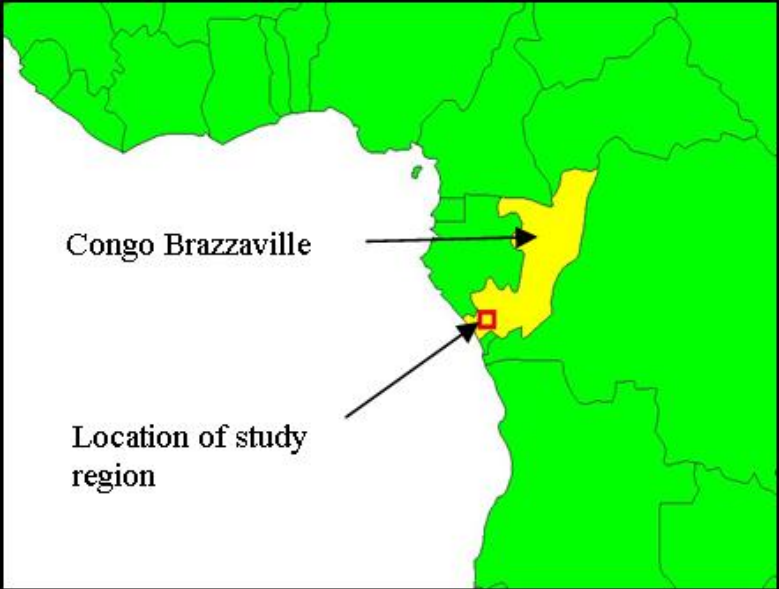


Fig1b False Colour composite of the SE corner of the study area (image acquisition 24/4/02)

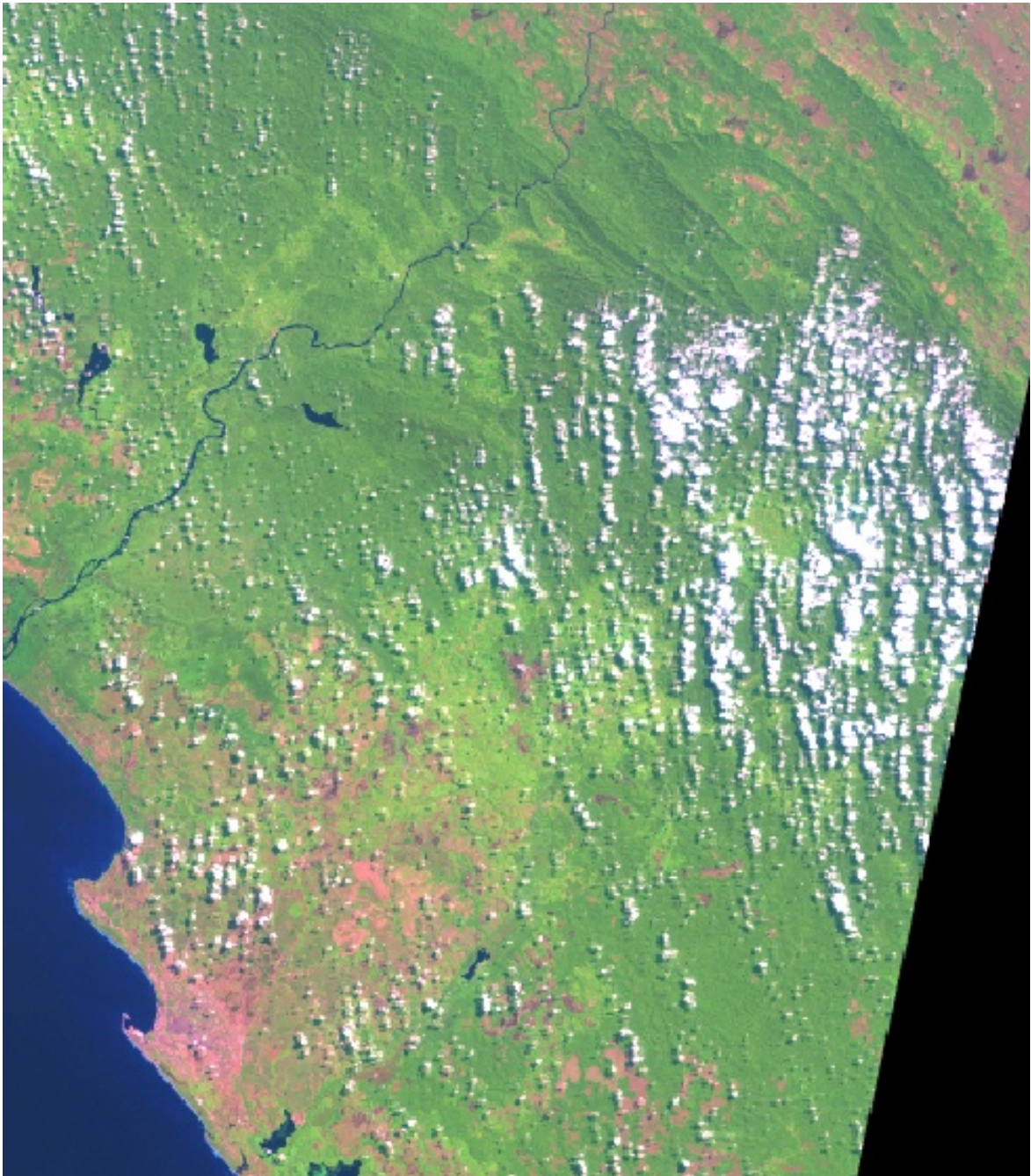


Fig 2: DEMCongo.jpg: Digital Elevation Model of the Study area

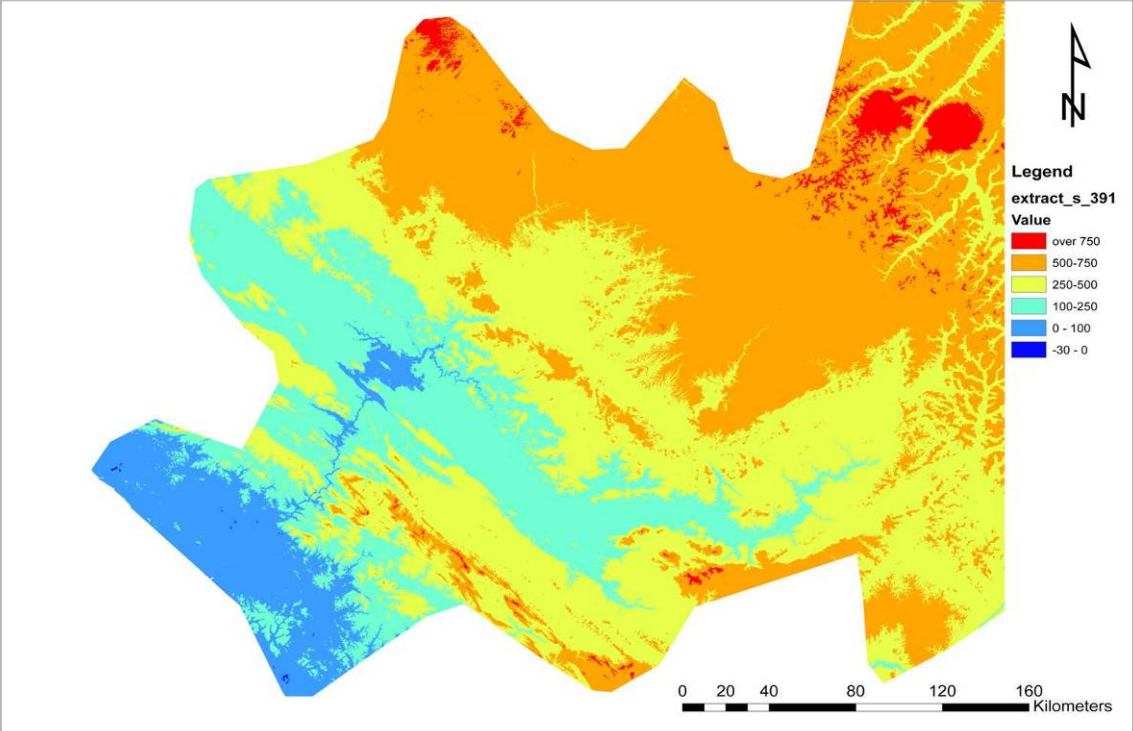


Fig 3: Geol_alt.jpg: Example of map overlaying to produce environmental strata for guidance in the field. Combination of 2 biophysical variables elevation and geology.

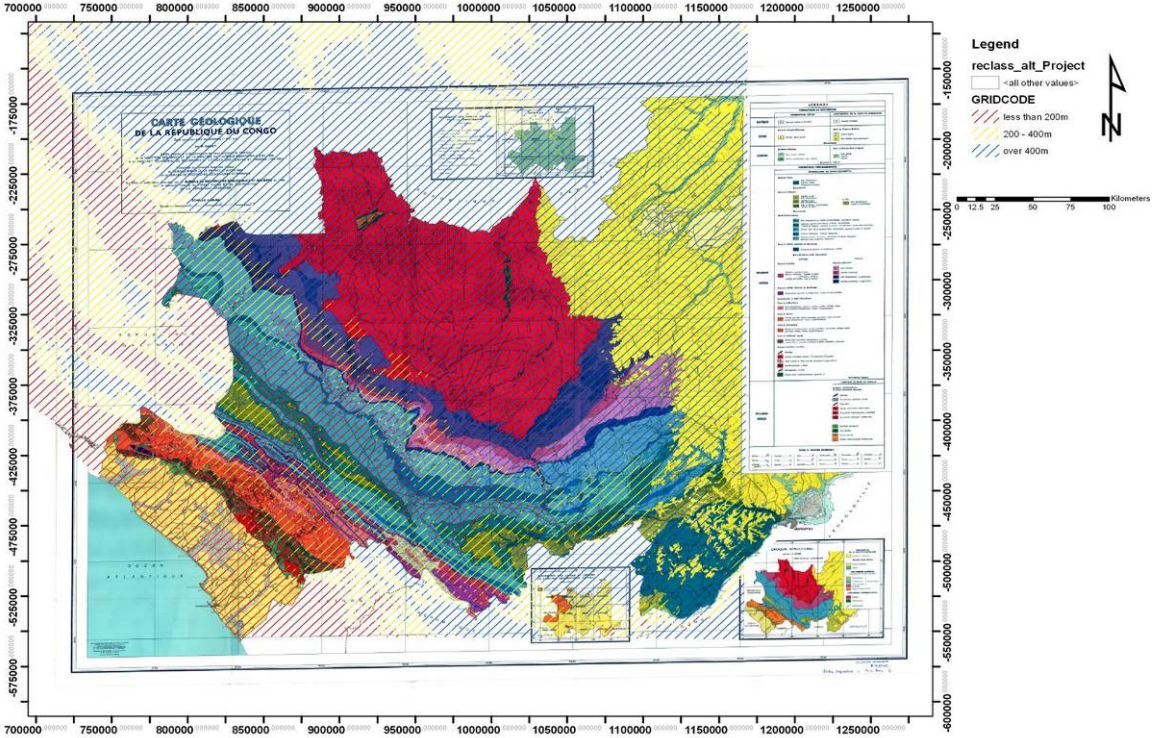
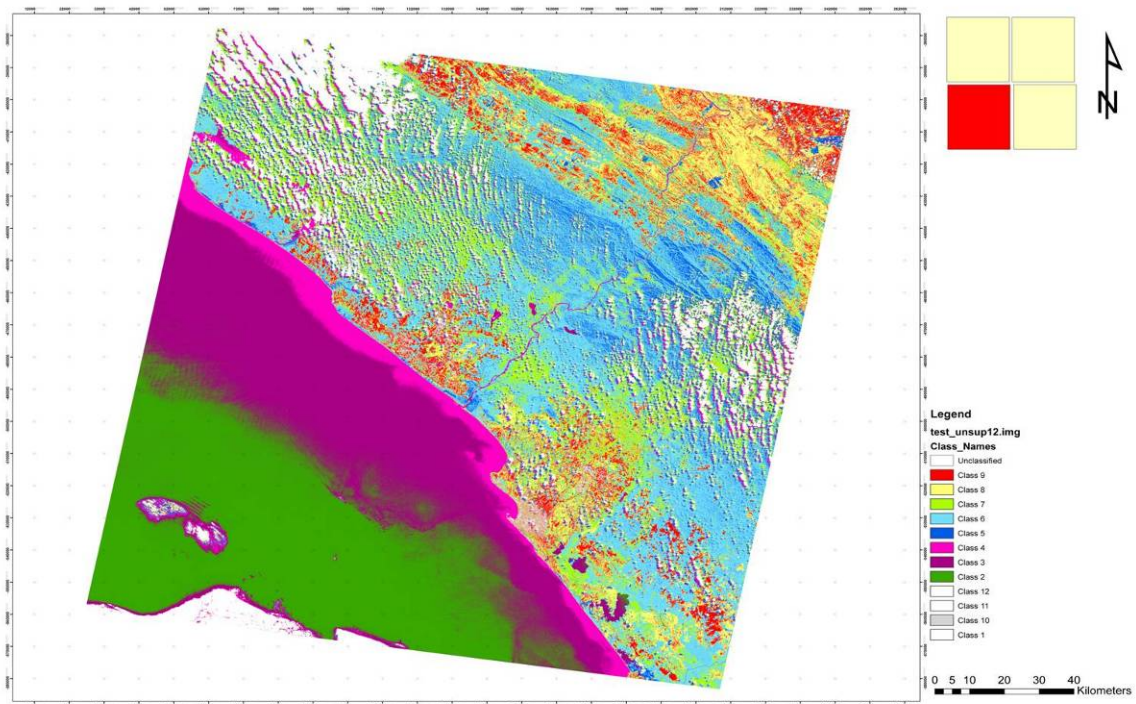


Fig. 4: Unsupclass_example.jpg: Example of unsupervised classification for the SE corner of the study area. Legend classes correspond to spectral classes that will be assigned to land cover classes following fieldwork.



Checklist for submission

	Check
Is the report less than 5MB? If so, please email to Darwin-Projects@ectf-ed.org.uk putting the project number in the Subject line.	Yes
Is your report more than 5MB? If so, please advise Darwin-Projects@ectf-ed.org.uk that the report will be send by post on CD, putting the project number in the Subject line.	
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	No
Have you completed the Project Expenditure table?	Yes
Do not include claim forms or communications for Defra with this report.	OK