



Submit by 5 January 2007

DARWIN INITIATIVE APPLICATION FOR GRANT ROUND 15 COMPETITION:STAGE 2

Please read the Guidance Notes before completing this form. Applications will be considered on the basis of information submitted on this form and you should give a full answer to **each** question. Please do not cross-refer to information in separate documents except where invited on this form. The space provided indicates the level of detail required. Please do not reduce the font size below 11pt or alter the paragraph spacing. Keep within word limits.

1. Name and address of organisation (NB: Notification of results will be by post)

Name: The Open University	Address: Biological Sciences, Walton Hall, Milton Keynes, MK7 6AA
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2. Project title (not exceeding 10 words)

Tools, training and research for managing eco-hydrology of Cape flora

3. Project dates, duration and total Darwin Initiative Grant requested

Proposed start date: 01.09.07	Duration of project: 36 months	End date: 31.08.10			
The start date could be flexible if the duration of the project can be preserved.					
Darwin funding requested	2007/08	2008/09	2009/10	2010/11	Total
	£69,370.52	£103,291.76	£108,307.65	£44,570.12	£325,540.05

4. Define the purpose of the project (extracted from logframe)

To provide a quantitative, scientific basis for the incorporation of eco-hydrology in the management of fynbos habitats potentially threatened by water abstraction in the Cape Floristic Region. Success will be measured & verified by the inclusion of eco-hydrological data in impact assessments and conservation management plans.
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5. Principals in project. Please provide a one page CV for each of these named individuals

Details	Project Leader	Other UK personnel (working more than 50% of their time on project)	Main project partner and co-ordinator in host country/ies
Surname	Silvertown	Araya	Midgley
Forename (s)	Jonathan	Yoseph	Guy
Post held	Professor	Post Doc. Research Fellow	Chief Specialist Scientist
Institution	Open University	Open University	South African National Biodiversity Institute
Department	Biological Sciences	Biological Sciences	Global Change Research Group

6. Has your organisation received funding under the Darwin Initiative before? If so, give details

Reference No	Project Leader	Title
		No

7. IF YOU ANSWERED NO TO QUESTION 6 describe briefly the aims, activities and achievements of your organisation. (Large institutions please note that this should describe your unit or department)

Aims (50 words)

Biological Sciences aims for excellence in teaching and research across all its activities which are focussed on ecology and evolution, cognitive psychology, neuroscience, molecular biology and genetics, and immunology and cell biology.

Activities (50 words)

Biological Sciences teaches about 5,000 undergraduates and postgraduates in the UK and abroad. In 2006 our labs were totally refurbished and a new building for ecosystems research was opened. The Ecology and Evolution Research Group conducts both basic and applied research supported by NERC, Leverhulme Trust, Defra, EU, RSPB etc.

Achievements (50 words)

Applied research on the hydro-ecology of meadows has contributed to management policy for this scarce habitat. We actively publish in high-impact journals including Science, Nature, Proc. Roy. Soc., Ecology and Evolution.

8. Please list the UK/collaborative (where there are partners in addition to the applicant organisation) and host country partners that will be involved, and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. This section should illustrate the capacity of host country partners to be involved in the project. Please provide written evidence of partnerships.

Partner	Details (including roles and responsibilities and capacity to engage with the project):
South African National Biodiversity Institute	<p>SANBI's mission is <i>"To promote the sustainable use, conservation, appreciation and enjoyment of the exceptionally rich biodiversity of South Africa, for the benefit of all people"</i> and it has a mandatory obligation to <i>"undertake and promote research on indigenous biodiversity and the sustainable use of indigenous biological resources"</i>. SANBI's Strategic Plan 2005-2009 (Section 1.6b) specifically identifies working with other organizations in research as critical to its own success. It does this in many areas, notably hosting a recent meeting of the International Panel on Climate Change. The Global Change Research Group at SANBI conducts world-class research on the impact of climate change on plant communities and its head, Dr Guy Midgley, is our project partner. He played a full part in the development of our pilot project and the planning of the present proposal. The South African postdoc we aim to employ will work under Dr Midgley's direction in his research group, incorporating our results on eco-hydrology into the climate models for fynbos plants that the group have developed. These models will be parameterized for current climatic conditions to predict the influence of changing hydrology on plant distribution, and for future climate change scenarios to extend predictions to the next 50 years.</p> <p>In addition, SANBI will provide our project with office accommodation for the UK postdoc and laboratory facilities at its Kirstenbosch research facility in Cape Town. These facilities include equipment we have recently constructed there to measure soil moisture release curves. These curves provide data that will enable us to customise our hydrological models to the different sites in our study. Staff at SANBI are currently being trained by us in use of the equipment. The equipment and the technical skills required to use it and to interpret the data will become a permanent addition to SANBI's research capacities.</p>

<p>Partner</p> <p>Cape Nature</p>	<p>Details (including roles and responsibilities and capacity to engage with the project):</p> <p>Our project partner is the Scientific Services Division (SSD) of CapeNature, headed by Dr Ernst Baard. Their mission “<i>is to provide professional scientific services to support conservation programmes in the Western Cape Province</i>”. The division makes an input into the evaluation of environmental impact assessments (EIAs) for new developments in the region. Therefore, the results of our study, in which SSD will be intimately involved, will directly contribute to environmental impact assessments in the W. Cape through SSD’s own input to EIAs.</p> <p>Most of the research sites we shall use are on reserves managed by Cape Nature (the exception is Cape Point which is managed by National Parks). Extension of our current 4 sites to a final total of 12 will be made in consultation with Cape Nature (CN), with the objective of providing the most comprehensive coverage of fynbos communities and species that we can within the resources available. CN will provide extensive help to the project in the form of staff time. Field Rangers and Reserve Managers will be trained by us in the methods of acquiring and interpreting eco-hydrological data and will then monitor sites for us. Regular checks will be made by us on the quality of the recording. CN will also provide logistical support for transport within nature reserves, many of which are large and inaccessible to normal vehicles. The progress of the research will be discussed with SSD staff who will participate in decisions about its direction towards well-defined goals that will be agreed with them in advance.</p>
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<p>9a. Have you consulted stakeholders not already mentioned above? If yes, please give details:</p> <p>We have discussed this research with Prof. William Bond and others in the Department of Botany, University of Cape Town. Prof. Bond has provided a letter of support and we shall continue to stay in close touch throughout the project.</p> <p>Throughout our pilot project we have collaborated with Prof. Peter Linder, a South African botanist now based at University of Zurich, who is a world expert on Restionaceae and on fynbos ecology. This collaboration will continue on an informal basis. His field knowledge of fynbos sites, as well as of systematics, is invaluable.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>9b. Do you intend to consult other stakeholders? If yes, please give details:</p> <p>Preliminary contacts with hydrogeologists at CSIR, Stellenbosch and with the Western Cape branch of SA National Parks have been made and will be followed-up.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>9c. Have you had any (other) contact with the government not already stated? If yes, please give details:</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>

PROJECT DETAILS

10. Please provide a Concept note (Max 800 words) (repeat from Stage 1, with changes highlighted)

The Cape Floristic Region (CFR) of South Africa is an internationally recognised biodiversity hotspot, where 70% of the 9,000 plant species are endemic. The most important habitat of the CFR is the fynbos (a mixture of dwarf shrub and herbaceous species.) This diversity is protected by a network of nature reserves in the management or oversight of Cape Nature and South African National Parks, but rapid population growth and economic development in the Western Cape region are placing increasing demands upon water resources. To meet the urban demand for water, increased abstraction from the sandstone aquifers underlying important fynbos habitats is planned. Currently, very little is known about how such abstraction might affect the Cape flora and there is almost no information at all about the eco-hydrology of Cape plants. Our team has been studying the eco-hydrology of diverse plant communities in English meadows for many years and has devised methodologies that now successfully inform their management [Gowing *et al.* (2002) The water-regime requirements and the response to hydrological change of grassland plant communities. Final report to Defra (Conservation Management Division), London]. With funding from the Leverhulme Trust we have recently piloted a trial of the methods that have proved successful in English meadows in the fynbos habitats of the Cape. We have discovered that fynbos species segregate along hydrological gradients, just as meadow species do in England. The significance of this is that the diversity of the community is dependent upon hydrological processes. There is now, therefore, a pressing need to quantify precisely how species of the fynbos flora respond to fine-scale hydrological gradients. This information then needs to be both disseminated among nature-conservation managers and understood by all stakeholders, such as water abstractors, involved in the management of the unique fynbos habitat. The dual needs for more research and training could be combined under the auspices of a Darwin Initiative project. Cape Nature reserve managers have shown great interest in our research to date and a Darwin project would provide them with the opportunity to extend the scope of the research, to learn the methods of data collection, to implement the findings on the ground and to spread the knowledge they have gained through the conservation community.

The roles of the UK team and our South African partners in Cape Nature, the National Park Service and the South African National Biodiversity Institute (SANBI) will be complementary. The UK team of experts comprises an eco-hydrologist (Dr David Gowing), a hydrologist (Prof. Edward Youngs), a plant population biologist (Prof. Jonathan Silvertown) and a statistician (Dr Kevin McConway). Under the Leverhulme project, we are only able to study four fynbos sites. This is sufficient to establish proof of the principle that our methods, developed in England, work in the Cape, but it is not enough to devise management recommendations for a flora that is as diverse as that of the Cape. Any four good meadow sites in England contain perhaps 75% of the species found in meadows as a whole, but fynbos is so diverse that the equivalent figure is less than 10%. We propose to appoint a post-doctoral ecologist from the UK who will work under our supervision and with staff from Cape Nature to extend the study, install monitoring equipment and train local staff in the methods of acquiring and interpreting ecohydrological data. Simultaneously, a South African ecologist will be employed within the project at SANBI to incorporate our eco-hydrological results into regional models of the distribution of species in the Proteaceae and Restionaceae, two of the dominant families in the Cape flora that contains many endemics. This will build capacity in eco-hydrological research in South Africa within the institute where it can have most effect on future strategic planning for the conservation of biological diversity in the Cape.

11a. Is this a new initiative or a development of existing work (funded through any source)? Please give details:

This is a development of a pilot project funded by the Leverhulme Trust

11b. Are you aware of any other individuals/organisations/Darwin Initiative projects carrying out similar work? Yes No
If yes, please give details explaining similarities and differences, and explaining how your work will be additional to this work and what attempts have/will be made to co-operate with and learn lessons from such work for mutual benefits:

A Masters student at University of Cape Town recently investigated the relationship between fynbos shrub distributions and areas of ground water upwelling at Cape Point using different methods to ours. That study was inconclusive. We have now found relationships between restio distribution and water table depth at all four of our sites, including Cape Point. This indicates that we are using the right approach and that it is very likely to be successful at other sites. Work by a PhD student at University of Oxford on the distribution of Proteaceae in the Cape has found that species in the Restionaceae (the group we have focussed on until now) are a good indicator of which species of Proteaceae can be found at a site. We shall investigate this further to determine how good the correlation is and whether it has an eco-hydrological basis.

12. How does this project meet a clearly identifiable biodiversity need or priority defined by the host country? Please indicate how this work will fit in with National Biodiversity Strategies or Environmental Action Plans, if applicable.

The Cape Floristic Region (CFR), of which the Western Cape is a major part, is a Priority Area in South Africa's 2005 National Biodiversity Strategy and Action Plan (NBSAP). Our research on the eco-hydrology of fynbos plants will directly support Strategic Objective 3 of NBSAP: "Integrated terrestrial and aquatic management across the country minimizes the impacts of threatening processes on biodiversity, enhances ecosystem services and improves social and economic security." More specifically, Outcome 3.7 indicates the need for "Research and monitoring programmes [to] support integrated management of terrestrial and aquatic ecosystems" and Activity 3.7.1 is to "Carry out research on the impact of of all current and future threatening processes on biodiversity...". CapeNature is committed to place the management and maintenance of the CFR biodiversity on a solid scientific base, and therefore has adopted the NBSAP approach fully. A better understanding of the pattern and processes, including threatening processes in the CFR will enhance the way in which this biodiversity hotspot is managed.

13a. How will the project assist the host country in its implementation of the Convention on Biological Diversity? Please rank the relevance of the project to the relevant article(s) of the CBD thematic programmes and/or cross-cutting themes by indicating percentages.

Articles	% Relevance	Themes	% Relevance
5. Co-operation	10%	Access and Benefit Sharing	
6. General measures for Conservation and Sustainable Use		Agricultural Biodiversity	
7. Identification and Monitoring	60%	Alien Species	
8. <i>In-situ</i> Conservation	50%	Biodiversity and Tourism	
8h. Alien Species		Biosafety	
8j. Traditional Knowledge		Climate Change and Biodiversity	10%
9. <i>Ex-situ</i> Conservation		Economics, Trade and Incentives	
10. Sustainable use of components of Biological Diversity		Ecosystems approach	

11. Incentive measures		Forest Biodiversity	
12. Research and Training	100%	Global Strategy for Plant Conservation	
13. Public education and awareness	15%	Global Taxonomy Initiative	
14. Impact assessment and minimizing adverse impacts	90%	Impact Assessment, Liability and Redress	50%
15. Access to genetic resources		Indicators	
16. Access to and transfer of technology	20%	Inland Waters Biodiversity	
17. Exchange of information		Marine and Coastal Biodiversity	
18. Technical and scientific co-operation	80%	Mountain Biodiversity	25%
19. Handling of biotechnology and distribution of its benefits		Protected Areas	100%
20. Financial resources		Public Education and Awareness	
21. Financial mechanism		Sustainable Use and Biodiversity	
22. Relationship with other international conventions		Traditional Knowledge, Innovations and Practices	
23. Conference of the Parties			
24. Secretariat			
25. Subsidiary Body on Scientific, Technical and Technological advice			
26. Reports			

13b. Is any liaison proposed with the CBD national focal point in the host country? Yes No
If yes, please give details:

14. If relevant, please explain how the work will contribute to sustainable livelihoods in the host country. (Max 200 words)

Not applicable

15. What will be the impact of the work, and how will this be achieved? Please include details of how the results of the project will be disseminated and put into effect to achieve this impact. (max 200 words)

The work will have an impact in three ways: 1. through the incorporation of eco-hydrological data into Environmental Impact Assessments (EIAs), 2. Field Rangers and other staff of Cape Nature will acquire skills in hydrological monitoring required for assessments and 3. through the incorporation of eco-hydrology into models of the impact of climate change on the flora of the Cape Floristic Region. The means of achieving each of these impacts is integral to our research plan. 1. Our project partner Cape Nature make direct inputs into EIAs and will have access to our data at all points during the project. This will enable them to draw upon the latest results as they become available. 2. Field Rangers and other staff of Cape Nature will carry out hydrological monitoring at our study sites and will be trained how to do this, 3. The South African Postdoc employed under the grant will work within the Climate Change research group at SANBI, where their responsibility will be to incorporate eco-hydrology into the models of the impact of climate change that have been developed by that group.

16. How will the work leave a lasting legacy in the host country or region? (max 200 words)

The chief legacy of the project will be the protection of fynbos habitats from any water abstraction that could damage their biodiversity in the short to medium term. In order to achieve this we need to determine the extent to which major components of the fynbos flora are sensitive to hydrological conditions. This new ecological knowledge, and the skills and understanding acquired by our partners in the process of conducting the research with us will also be a legacy of the project. Over the medium to longer-term, the biodiversity of the Cape Floristic region is likely to be threatened by climate change. SANBI's models are being used to determine the likely impacts of this and to plan nature reserves that will accommodate it. It is now generally recognized in this field of climate change research that hydrology ought to be considered and our project will ensure that this happens. This will be of lasting benefit to SANBI's research capacity as well as ultimately to the conservation of fynbos.

17. Please give details of a clear exit strategy and state what steps have been taken to identify and address potential problems in achieving impact and legacy. For example, what steps have been taken to ensure the benefits of the project will continue despite any staff changes in these organisations? (max 200 words)

The project is self-contained and its legacy will not depend on continued funding after the Darwin Initiative project is concluded. In addition to peer-reviewed scientific publications, a leaflet about the eco-hydrology of fynbos plants will be produced for use by Cape Nature both internally and externally. Because a significant part of this project involves training, at the end of the project Cape Nature will have the skilled personnel to continue hydrological monitoring if they so wish and they will be able to do this without our involvement. Up to two dozen Cape Nature staff will be trained so their capacity to continue or extend hydrological monitoring will not depend upon just one or two staff. Of course if further funding is available, we would continue to offer any help we could, but this would not be essential for the legacy of the current project to remain intact. The same applies to the work at SANBI where our line of investigation could continue at the end of the project without us if this is desired.

18. How will the project be advertised as a Darwin project and in what ways will the Darwin name and logo be used? (max 100 words)

We will create dedicated web pages for the project as soon as work begins and these will display the Darwin name and logo. Publicity will be sought in the press in South Africa and in the UK and the Darwin name will be used in any media reports. All presentations of the research results, including the leaflet for Cape Nature, will include the Darwin name and logo and scientific publications will acknowledge the source of funding by name.

19. If your project includes training and development, please indicate a) who the trainees will be, b) the criteria for selection, c) what the level and content of training will be, d) how many people will be involved, e) which countries will they be from, f) how will you measure the effectiveness of the training, g) will those trained then be able to train others and h) how will trainee outcomes be monitored after the end of the training? (max 300 words)

a) Trainees will mainly be Field Rangers who do much of the physical conservation management on the reserves in CN's care.

b) Cape Nature will select trainees using their standard staff development procedures. An additional criterion will be that the trainees will have to include at least one person per research site who regularly works there.

c) The training will be set at a level accessible to persons with no post-compulsory school education. The content will mainly be hands-on field-based with designed exercises in field recording of various kinds for trainees to carry out. Record keeping, drawing and interpreting simple graphs will also be taught. Basics of eco-hydrology will be taught in the field. We will use Open University experience and educational materials where appropriate.

d) Up to two-dozen trainees will be involved over the life of the project.

e) Trainees will mainly be Field Rangers employed by Cape Nature. Field Rangers are South Africans largely belonging to groups recognized as "Historically Disadvantaged". The first language of many historically disadvantaged workers in the Western Cape is Afrikaans, with some English spoken. Training will be given in English, but with translation available where required.

f) Quizzes will be set where appropriate and monitoring and cross-checking of measurements taken by trainees will be made. We will investigate whether credits towards formal recognition of the training received can be awarded by a South African Institution and if so, we will comply with any assessment procedures required.

g) Some of the staff we train will be designated by Cape Nature to train others.

h) After training, participants will be involved in field monitoring and we shall validate the data submitted by them by spot-checks, cross-validation among sites and correlation of readings with known rainfall patterns. Anomalies will be followed-up and re-training offered.

LOGICAL FRAMEWORK

20. Please enter the details of your project onto the matrix using the note at Annex C of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Goal: 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</p> <ul style="list-style-type: none"> • 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>Purpose</p> <p>To provide a quantitative, scientific basis for the incorporation of eco-hydrology in the management of fynbos habitats in the Cape Floristic Region potentially threatened by water abstraction.</p>	<p>Inclusion of eco-hydrological data in impact assessments and conservation management plans for fynbos habitats.</p>	<p>Impact assessments and management plans for fynbos habitats</p>	<p>Impact assessments and management use an evidence-based approach.</p>
<p>Outputs</p> <p>(i) A database of eco-hydrological requirements of endemic species</p> <p>(ii) Enhanced models of the distribution of species in the Proteaceae and Restionaceae.</p> <p>(iii) Trained staff.</p> <p>(iv) Improved decision-making tools.</p>	<p>(i) Number of species and sites for which eco-hydrological parameters have been entered in the database.</p> <p>(ii) Comparison of the performance of models with and without eco-hydrological parameters.</p> <p>(iii) Number of trained staff.</p> <p>(iv) Comparison of new decision-making tools with previous practice.</p>	<p>(i) Reports and publication of peer-reviewed papers.</p> <p>(ii) Test models against observed distributions of species with and without inclusion of eco-hydrological parameters.</p> <p>(iii) Independent verification by Cape Nature &/or allied bodies.</p> <p>(iv) Testing and use of decision-making tools.</p>	<p>Sufficient staff of the right grades obtain training, so as to permanently enhance the capacity of conservation managers in eco-hydrology,</p>

Activities	Activity Milestones	Assumptions
<p>(i) Acquisition of quantitative data on the eco-hydrological requirements of endemic species in fynbos habitats of the Western Cape.</p> <p>(ii) Incorporation of the data acquired into regional models of the distribution of species in the Proteaceae and Restionaceae.</p> <p>(iii) Training of South African nature conservation staff in the principles and practice of eco-hydrology as applied to fynbos.</p> <p>(iv) Design of tools to enable eco-hydrology to be incorporated into decision-making about fynbos management and conservation.</p>	<p>(i) Number of species and sites for which eco-hydrological parameters have been measured</p> <p>(ii) New or modified models that include eco-hydrological parameters.</p> <p>(iii) Identification of key personnel for training & decision-making; training of those personnel; utilization of training in conservation management & planning.</p> <p>(iv) Production of decision-making tools.</p>	<p>A set of decision-making tools can be devised that are sufficiently simple to use so that they can be readily adopted by conservation managers.</p>

21. Provide a project implementation timetable that shows the key milestones in project activities.

Project implementation timetable		
Date	Financial year	Key milestones
		<i>Relevant Activity Milestones from #20 shown in Roman numerals</i>
1 May 07 1 Sep 07 15 Sep 07 15 Nov 07 1 Dec 07 1 Jan 07 1 Mar 08	Apr-Mar 2007/08	(ii) SANBI Postdoc post advertised in SA (i-iv) Project commences. All staff attend planning meeting in Cape Town. (iii) First cohort of 8 Field Rangers begin training. (i) Dip wells installed & monitoring started at 4 new sites. (ii) Review of hydrological sub-models based on pilot data. (i) Dip wells installed & monitoring started at all 8 new sites. (i) Topographic & botanical survey of 2 sites completed

1 Apr 08		(iii) First cohort of 8 Field Rangers complete training.
1 May 08 1 July 08 1 Sep 08 31 Dec 08 31 Dec 08 31 Dec 08	Apr-Mar 2008/09	(ii) Revised hydrological sub-models tested against data. (iii) Second cohort of 8 Field Rangers begin training. (i) First field season's data analysed (i) Topographic & botanical survey of 4 new sites completed (iii) Second cohort of 8 Field Rangers complete training (iv) Decision tool ready for initial trials
1 July 09 1 Aug 09 31 Dec 09 31 Dec 09	Apr-Mar 2009/10	(iii) Third cohort of 8 Field Rangers begin training. (iv) Final version of decision tool ready. (i) Topographic & botanical survey of all 8 new sites completed (iii) Third cohort of 8 Field Rangers complete training
1 Mar 2010 1 June 2010 31 Aug 2010 31 Aug 2010	Apr-Mar 2010/11	(iv) Leaflet for dissemination of results produced (i-ii) Completion of data analysis (i-ii) 1 modelling & 1 data paper written & submitted for publication in peer-reviewed journals. (i-iv) Project ends

22. Set out the project's measurable outputs using the separate list of output measures.

PROJECT OUTPUTS		
Year/Month	Standard output number (see standard output list)	Description (include numbers of people involved, publications produced, days/weeks etc.)
2008/Apr-2010/Apr	6A 6B	24 South African Field Rangers trained over 3 years. Total 12 weeks training provided
2008/Jan- 2010/Dec	8	105 weeks, 90wks by Post Doc + 15wks total between 3 PIs & consultant (Prof Youngs).
2010/Aug	11b	2 papers: 1 on the modelling, 1 based on the data.
2010/Aug	12a	1 ecohydrology database handed over
2010/Aug	14b	3 presentations of results at international scientific and/or conservation conferences
2007/Sep	15a	1 national press release at start of project in SA
2008/Sep, 2010/Aug	15b	2 local press releases in SA in years 2 & 3
2007/Sep, 2010/Sep	15c	2 national UK press releases at start and end of project
2010/Aug	20	£11,000: Hydrological monitoring equipment handed over to SA partners
2010/Aug	--	Decision-making tools for managing eco-hydrology & EIAs.

PROJECT BASED MONITORING AND EVALUATION

23. Describe, referring to the Indicators in the Logical Framework, how the progress of the project will be monitored and evaluated, including towards delivery of its outputs and in terms of achieving its overall purpose. This should be during the lifetime of the project and at its conclusion. Please include information on how host country partners will be included in the monitoring and evaluation.

(i) Number of species and sites for which eco-hydrological parameters have been entered in the database.

The database will be held at SANBI and will be up-dated as new data are analysed. A copy of the database file will be sent to the PI every month for progress-monitoring and checks on data quality, with copies distributed to Cape Nature at the same time.

(ii) Comparison of the performance of models with and without eco-hydrological parameters.

This will be undertaken by the postdoc at SANBI, with reports made every 3 months to the PI in the UK and to our partners at Cape Nature during the relevant part of the project (07-09).

(iii) Number of trained staff.

Records of the number of trained staff will be kept by Cape Nature personnel department.

(iv) Comparison of new decision-making tools with previous practice.

This will be evaluated by conservation staff in the Scientific Services Division of Cape Nature.