



Darwin Initiative Annual Report



Submission deadline 30 April 2011

Darwin Project Information

Project Ref Number	17-020
Project Title	Enhancing the Elephant Trade Information System to guide CITES policy
Country(ies)	All elephant range states in Africa and Asia
UK Contract Holder Institution	University of Reading
Host country Partner Institution(s)	TRAFFIC East/Southern Africa
Other Partner Institution(s)	
Darwin Grant Value	£239,399
Start/End dates of Project	1 September 2009 – 31 August 2012
Reporting period (1 Apr 200x to 31 Mar 200y) and annual report number (1,2,3..)	1 April 2010 – 31 March 2011 Annual Report 2
Project Leader Name	Dr Fiona M Underwood
Project website	
Author(s) and main contributors, date	Dr Fiona M Underwood, Mr Robert W Burn, Mr Tom I Milliken

1. Project Background

This project aims to enhance the Elephant Trade Information System (ETIS), one of two global monitoring systems for elephants under CITES. It was first mandated by the CITES Parties in Resolution Conf. 10.10 in 1997 to support decision-making for elephants under CITES. ETIS aims to assess illicit trade in ivory and other elephant products, establish trends over time and determine whether or not such trends are related to CITES decisions. To achieve this ETIS collects and analyses illegal ivory seizure records received from law enforcement bodies in 175 countries (CITES Parties). Currently the database contains nearly 16,000 illegal ivory seizure records.

ETIS is run by TRAFFIC East/Southern Africa (TESA), currently based in Harare, Zimbabwe. In 1997, CITES mandated TRAFFIC to develop and run ETIS, and provided some limited funding for ETIS' initial conception and design. Since then, funding from CITES has been minimal and sporadic, and the development of ETIS has generally been in response to CITES reporting requirements in a piecemeal manner with external funding. This project seeks to build a firm long-term foundation and framework for sustaining ETIS by focusing on problems in the following four areas:

ETIS database

The database of seizure records is the central component of ETIS. The existing database software was developed in a now obsolete framework. Also, after some ten years of operation, various shortcomings of the existing database structure and content have become apparent, and the system is in need of major revision and upgrading.

Analytical Framework and communication of technical results

To provide effective evidence to address the aims of ETIS, statistical analyses of the ETIS seizure records must address and reduce the many different sources of bias in the data. There are no off-the-shelf statistical tools available for this purpose and the current methods of analysis have been developed in one-off reports in response to the CITES reporting requirements. These methods have not been peer reviewed and the analytical methods are presented together with the results in the CITES reports. Furthermore, the reporting procedure lacks simple indicators. For these reasons, ETIS is sometimes perceived by some policy makers and the media as being too complex.

Strengthening support for operational procedures

Currently the operation of ETIS depends on a small number of key personnel and lacks adequate tools to promote long-term sustainability.

Building capacity for participation

Reporting of seizure records continues to be sporadic and uneven in quantity and quality, giving rise to a major source of bias in the data. For example, in Africa and Asia, many elephant range States almost never report making ivory seizures themselves, but are regularly implicated in hundreds of seizures made elsewhere in the world.

2. Project Partnerships

Project partnerships:

The project partner is TRAFFIC East/Southern Africa (TESA) and Mr Robert W Burn (RWB) is a project principal. The lead contact in TESA is Mr Tom Milliken (TM), the Regional Director of TESA, and (Ms.) Louisa Sangalakula (LS), who manages the ETIS database for TESA, is also involved. The project is lead by Dr Fiona M Underwood (FMU). One principal partner is responsible for each of the four outputs although all require collaboration with the others. RWB has operational oversight of the project and, as part of this assignment, has reviewed ETIS procedures from data entry through to reporting. He has responsibility for the database development and is working closely on the analytical framework with FMU who has responsibility for this. TESA have responsibility for the development of standard operating procedures and capacity building.

FMU works with RWB via weekly face-to-face meetings. Both RWB and FMU are in contact with TESA via email and Skype on a regular basis. Since April 2010, RWB and FMU have been to Harare to meet with TESA in May 2010 and December 2010. RWB made a further visit to Harare in March 2011.

Other Collaboration:

The project has served to strengthen links with the other global monitoring system for elephants – Monitoring the Illegal Killing of Elephants (MIKE). At a joint meeting of the MIKE and ETIS Technical Advisory Groups in Nairobi in December 2010, a one-day workshop was held on assessing the drivers of illegal killing and illegal trade in ivory (see analytical framework of 4.1 below).

Although TESA is based in Zimbabwe, we regard the host countries for this project as all elephant range states in Africa and Asia. At a CITES-sponsored meeting in November 2010, African elephant range States called for better integration between the ETIS and MIKE systems, which was part of the motivation for the joint MIKE and ETIS workshop described above. Further efforts to provide training

and build capacity for participation in ETIS have continued and are described in the training section of 4.1 below.

3. Project progress

Work in this reporting period has built on the foundations laid in the first seven months of the project, which started in September 2009. Development of the new database is underway, as is work on developing the new analytical framework. Much of the work during this year has focussed on changes to the existing database structure and analytical framework that better describe the illegal ivory trade.

3.1 Progress in carrying out project activities

Output 1: Database

A functional specification for the new database has been prepared Functional Specification Act 1-2.pdf and available software platforms evaluated. Decisions have been reached on a number of issues that were unclear or pending at the time of the last report. Specifically:

(a) Wider access to the database

The database will be moved to a remote server rather than being held on one computer in the TESA office. Under a strictly regulated system of access control, yet to be determined in detail, a group of users and stakeholders will be able to access the database to enter data and review their own records. These users will mainly be the CITES Management Authorities. Issues relating to providing help to those using the on-line system are being explored.

Internet connections in the TESA office are sometimes slow and unpredictable. To deal with this problem, a small server, to be dedicated to the ETIS database, has been purchased and will be installed in the TESA office. This will serve as a buffer between the on-line database, which will reside on a remote server, and work in the TESA office, so that work can continue in the event of internet failure. There will be a facility to periodically synchronise the local and on-line copies of the database.

(b) Database structure

New fields for the database have been identified and clearly defined and some important changes to existing fields have been. These changes will contribute to an extension of the analysis to consider trade routes and it is believed that trade routes and drivers of these routes will differ for raw and worked ivory. Documentation of these changes is being prepared for the next meeting of the ETIS TAG in May 2011. A small amount of the Darwin budget has been used to employ someone to retrospectively enter the data for these new fields for the existing 16,000 records.

(c) Database inputs

On-screen data entry forms are under development both for on-line data providers (DPs) and the ETIS System Administrator (SA). These forms are currently being extensively tested by TESA and RWB. The SA version of the interface will also have extensive facilities for querying the database and a preliminary version of the query generator is also under test.

(d) Reporting outputs

Database outputs for DPs will consist of case listings and data summaries (of their own records only), while the SA outputs will include complete country reports and statistical analyses.

(e) Software development platform

The system is being developed in the "Ruby on Rails" framework driving a remotely hosted PostgreSQL database (see Evaluation of Software Platforms Act 1-3.pdf for more detail). Statistical analyses will be carried out in the R statistical software, and efficient ways of interfacing R with the database are currently under trial.

The contract for the database development has been awarded to the Solertium Corporation following a tender process run by the University of Reading. Because of cost, it was necessary to reduce the length of time for database development by 6 months, to remove long periods with little developmental activity, as per the original timetable. Even then, the cost of the database development, with the

inclusion of VAT, has led to a reduction in other parts of the budget and a reorganisation of the timing of the analytical framework.

An initial meeting of the database contractors and the project team was held in Harare in December 2010 and an alpha test version has now been produced. Initial alpha testing was carried out by RWB and LS in Harare in March 2011 and is on-going.

Output 2: Analytical Framework

Development of the analytical framework is ongoing and the deadline extended until December 2011 because of the current focus on the database development. One Master's level project (by MSc Biometry students at the University of Reading) has contributed to subcomponents of the framework development (see *MScBiometryProject1Abstract.pdf*), and a second continues.

General framework

The proposed analytical framework has been presented to the TAG. The aim is to produce relative estimates of the number of illegal ivory seizures and the weight of illegal ivory for each country in each year. Part of the approach is to investigate whether separate estimates for raw and worked ivory can be calculated. The relative estimates will be bias-adjusted to account for different reporting and seizure rates between countries and over time. Extensive discussions of the sources of bias have been held with TESA and proxies identified. TESA are carrying out an extensive review of their records and providing data for a number of these proxies and others will be derived from publicly available databases as described in Activity 1.1.

Drivers of the trade

A further aim of the analysis is to assess the relative importance of CITES decisions on driving the illegal ivory trade. The drivers of the illegal ivory trade and sensible proxy measures of these drivers were discussed at a specially organized one-day workshop which included all members of the MIKE-ETIS Technical Advisory Group in December 2010 and FMU. The aim of this workshop was to determine influencing factors that impact the illegal killing of elephants and illegal trade in ivory, to identify and assess existing or potential sources of data for these factors, and to understand and map causal and hierarchical relationships between these influencing factors themselves, and between factors and outcomes. Whilst more work on these issues remains to be done, some important progress was made looking at these issues from a trade chain perspective moving from source elephant populations through transit countries to end-use consumers.

Estimating Weights

A little more than half of seizure records in the existing database have no data on the weight of ivory seized. In these cases only the number of pieces has been recorded (and if neither weight nor number of pieces is recorded, then at present the record is not entered in ETIS). In order to get global estimates of weights of ivory seized, the current analysis includes a statistical estimate based on cases which report both number of pieces and weights. However, owing to the large amount of variability in these data, there is a wide margin of error in the estimated weights for semi-worked and worked ivory. Improvement of the underlying statistical model has been explored, but the overall conclusion is that it is probably impossible to get a significant improvement.

For the new framework a different approach is being explored. In this, it is recognised that most of the covariates, both bias-adjusters and drivers, act on the occurrence of seizures and not on the size of the seizure, although there will probably be some relatively minor exceptions to this. The numbers of seizures will therefore be modelled on covariates (in a Bayesian hierarchical model). The estimated distribution of weight per seizure, based on seizures with known weights only, can then be used to predict total weights by combining with predicted estimates of numbers of seizures. Initial trials with these models look promising and will be further explored.

"Canned" procedures for summaries and analyses:

Once the analytical framework has been finalised, "scanned" procedures for summaries and analyses will be produced. This will require an interface of R with the PostgreSQL database and a user-friendly interface with R, currently being explored, using MS Excel.

Output 3: Long-term operational sustainability

Discussions in December 2010 regarding the management and maintenance of the database will be part of the standard operating procedures. Little other activity has been required in this reporting period.

Output 4: Enhancing ability of national CITES Management Authorities capacity for tracking and reporting illegal trade

Training described in (a-c) is funded by the EU-funded project “Long Term System for Monitoring the Illegal Killing of Elephants (MIKE) Phase II”

Review of existing training materials:

Whilst an initial review of the ETIS training modules had occurred with reference to the database review carried out and reported in the last annual report under Activity 1.1, further refinements and decisions concerning the future structure of ETIS have necessitated a further review to ensure that all new features that will have a bearing on how countries report future elephant product trade seizure data to ETIS are included in the training materials. Decisions concerning the structure of ETIS have just recently been completed. A further review of the ETIS training materials including the ETIS Action Toolkit will occur in the next reporting period

(b) Production of training materials

As indicated in (a) above, ETIS training materials need to address the structure and future reporting formats that will take effect in the future. Decisions on key elements have only recently been finalised. As a result, a detailed review of the ETIS Data Collection Form is only now possible and, once completed, the existing training materials will be modified to accommodate structural changes and facilitate understanding and participation of the CITES Parties in ETIS.

(c) Undertake training in key countries.

Capacity building and training events to support participation in ETIS and improve regulatory and law enforcement performance of the CITES Parties have transpired in China and Thailand in Asia and Cameroon in Africa in this reporting period. All of these countries have been heavily implicated in illegal ivory trade as first or second tier countries according to the ETIS analysis presented to CITES CoP15. In the Darwin Initiative assessment for ‘*Identifying Priority Countries for ETIS Training*’ these countries were ranked High (Thailand), Medium (Cameroon) and Low (China). Altogether, a total of 157 participants attended these workshops. Details of these training activities are provided in document *TESA Training Report April 2010 – March 2011.pdf*.

(d) Plans for future training

Once the new ETIS database structure has been completed and fully tested, on-line data entry features will be tested by a selected group of CITES Parties (possibly in conjunction with the next CITES Standing Committee meeting in August 2011).

3.2 Progress towards Project Outputs

Output 1: Database

A functional specification for the new database has been prepared and approved by the TAG and available software platforms evaluated. The work went out to tender in July 2010 and has been awarded. A first meeting with the contractors was carried out in Harare in December 2010 and an alpha test version of the data base was produced in mid-March and is being tested by the project team.

Output 2: Analytical Framework

The development of the analytical framework is underway and an outline of the methodology was presented to the ETIS TAG in December 2010. A workshop to help identify drivers of the illegal ivory trade was run and attended by the MIKE-ETIS Technical Advisory Group. Two MSc Biometry students at the University of Reading carried out projects last summer on aspects of the analytical framework. One student has finished their project, whilst the other has until August 2011 to complete their work. To further assist in the development of the analytical framework, a paper is still in preparation that will review the existing methods and define the key issues that need to be addressed when analysing seizures data.

Output 3: Long-term operational sustainability

Sustainability will be referenced to the new structure, operational features and the analytical framework, all of which are works in progress. Work on the standard operating procedures will be mainly in the next reporting period.

Output 4: Enhancing capability of national CITES Management Authorities for tracking and reporting illegal trade

Training so far has been funded by the matched funding provided by EU grant. Workshops have been run using existing training material. Due to changes in the database structure, training material will need to be reviewed again before they can be finalised.

Many of the measurable indicators for each of the four outputs will be verified by the ETIS Technical Advisory Group (TAG). FMU and RWB were present at the last meeting of the TAG, December 2010, and they have been contacted when necessary regarding particular decisions such as the functional specification. No output level assumptions have changed.

3.3 Standard Measures

Table 1 Project Standard Output Measures

<i>Code No.</i>	<i>Description</i>	<i>Year 1 Total</i>	<i>Yr 2 Tot</i>	<i>Number planned for this reporting period</i>	<i>Total planned from application *</i>
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above)	0	0	0	50
6B	Number of training weeks to be provided	0	0	0	3
7	Number of (ie different types - not volume - of material produced) training materials to be produced for use by host country	1.(ETIS Toolkit into Thai language)	1. (ETIS Action Toolkit prepared in French for Cameron	1	3
8	Number of weeks to be spent by UK project staff on project work in the host country	1.2	4.2	1.2	5
11A	Number of papers to be published in peer reviewed journals	0	0	0	2
11B	Number of papers to be submitted to peer reviewed journals	0	0	0	2

<i>Code No.</i>	<i>Description</i>	<i>Year 1 Total</i>	<i>Yr 2 Tot</i>	<i>Number planned for this reporting period</i>	<i>Total planned from application *</i>
12B	Number of computer based databases to be enhanced and handed over to host country	0	0	0	1
14A	Number of conferences/seminars/workshops to be organised to present/disseminate findings	0	0	0	1
14B	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/ disseminated.	2 <i>ETIS TAG + CITES CoP15</i>	2 <i>ETIS TAG & drivers workshop</i> 5 <i>Training workshops – see training report – at which 157 individuals were trained over a total of 8 days collectively.</i>	2	6
15A	Number of national press releases in host country(ies)	0	0	0	1
15B	Number of local press releases in host country(ies)	0	0	0	1
15C	Number of national press releases in UK	0	0	0	1
17B	Number of dissemination networks to be enhanced/ extended	0	0	0	1
18B	Number of national TV programmes/features in UK	0	0	0	1
19A	Number of national radio interviews/features in host county(ies)	0	0	0	1
19B	Number of national radio interviews/features in UK	0	0	0	1
23	Value of resources raised from other sources (ie in addition to Darwin funding) for project work	0	USD 1,430	0	#

* Note that in the final application we only specified that these standard measures would be relevant – in the last annual report we identified how many we would plan for each of these.

This is difficult to estimate.

Table 2 Publications

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
Pachyderm 47: January – June 2010, Journal of the African Elephant Specialist Group	ETIS update number three: Progress in the implementation of the Elephant Trade Information System - Tom Milliken, Louisa Sangalakula	IUCN/SSC African Elephant Specialist Group, Nairobi, Kenya	http://www.african-elephant.org/pachy/pachy47.html	No cost
Pachyderm 48: July – December 2010, Journal of the African Elephant Specialist Group	ETIS update number four: Progress in the implementation of the Elephant Trade Information System - Tom Milliken, Louisa Sangalakula	IUCN/SSC African Elephant Specialist Group, Nairobi, Kenya	http://www.african-elephant.org/pachy/pachy48.html	No cost

* These publications refer to the Darwin Initiative Project but are not outputs or results from the project.

3.4 Progress towards the project purpose and outcomes

This year has focussed on the development of the database software and fleshing out the details of the analytical framework. These are both essential to the project's successful completion. The review and decision making process on the database design and structure has been completed and the technical redesign of the ETIS software is now in progress. The alpha version of the new system is being rigorously tested and reviewed at the present time. As this project must logically unfold in a step-wise manner, it is currently in a crucial phase of development. Generally speaking, milestones and targets are being met, although fine tuning a number of programming issues is taking a bit longer than originally anticipated. Overall, however, the project is very much on track to delivering final outcomes as indicated in the original project document.

The purpose level assumptions hold true.

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

This project focuses on its impact in relation to CITES as ETIS was specifically developed in response to CITES Resolution Conf. 10.10 which mandated the creation of a long-term monitoring programme for tracking trade in ivory. This project will ensure the enduring sustainability of ETIS and the project has now outlined the future direction of ETIS to ensure this. The findings of ETIS contribute to the development of CITES policy for elephants, as seen in the last Conference of the Parties (CoP15) held during this reporting period. This project aims to improve how ETIS findings are communicated and interpreted by the development of "simple" indicators to accurately describe trends in the illegal ivory trade.

Once fully operative, new on-line data output features will for the first time allow CITES Parties to obtain simple summary tables of their data and other canned outputs upon demand. This will greatly enhance access to the data, facilitate meaningful participation and provide immediate services to ETIS users all over the world for the benefit of elephant conservation.

4. Monitoring, evaluation and lessons

Within the project team, monitoring has mainly consisted of FMU and RWB meeting weekly to discuss progress and regular discussions via Skype and email with TESA staff (although Skype is currently working intermittently due to a poor internet connection in the WWF office where TESA are based).

The four named staff have met twice as a group this year in Harare (once on the back of a trip funded by another project). RWB has made a further trip to Harare for alpha testing of the database.

The database development has required more input and management from the project team than initially expected, and communication with the contractor, especially with regard to deadlines, has not always been easy. The issue has been one of different expectations regarding the extent of our participation in the software development process. We are currently working with the contractors to find an approach that is useful for all to use and we are confident that this will be successful

With regard to our two formal monitoring processes:

1. ETIS Technical Advisory Group (TAG)

The ETIS TAG provides expert and transparent specialized oversight of ETIS. TM and RWB are members of the TAG. The functional specification was sent to the TAG for approval and they will be kept informed of recent developments. The ETIS TAG met in December 2010 and FMU was invited to attend. FMU and RWB gave presentations about the project to the TAG. Discussions on these issues have fed into the reviews and development of the functional specification for the database and the analytical framework.

2. Project Monitoring Group (PMG)

This group was set up to monitor the progress of the project itself and to provide an entirely independent view of the project. PMG members were sent copies of the previous annual and half year report. See Project Monitoring Group Meeting Report April 2011.pdf for a report on a meeting between the PMG and RWB and FMU in early April 2011 to discuss progress in this reporting period.

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

We received one comment “Whilst your approach is robust and will provide a defensible framework of analysis of the trade, are you still not prone (to) sending out a complicated message to the end users? Who will be involved in “translating” your work for a wider audience?”

Our belief is that the current problem with ETIS is not that the messages to end users are complex. The complexity actually arises from the way that the results are arrived at, which in turn is complex because the analysis attempts to take account of issues of bias, under-reporting, etc. The key issue is rather that because there is no standard peer-reviewed methodology for producing the results, it has been necessary to present both the results and the methodology employed for the ETIS analyses together at meetings of the CITES Conference of the Parties. Generally speaking, those who attend such meetings do not really have the technical expertise to evaluate statistical methodologies and, as such, may have an impression that ETIS is over-complex. Indeed, in our Project Proposal, we tried to show why this problem is one of the key motivating factors behind the project. The aim is to remove the analysis from the debate by providing a standard peer-reviewed and accepted methodology, allowing the CITES focus to fall on the results. By way of an analogy, “seasonally adjusted unemployment” figures are commonly presented in the public arena. The underlying statistical analysis that makes the adjustments depends on methods that are complex, but well-published and widely known and accepted in the statistical community. What is presented and discussed by policy makers is the result, not the methodology. ETIS should be in a similar position in the future.

Concerning the question as to who will “translate” ETIS outputs, the issue is not one of “translating”, but testing the ease with which project outputs are understood, Our intention is to involve the ETIS TAG in this exercise.

6. Other comments on progress not covered elsewhere

Much more time has been spent by the project team on software development than was anticipated due to: (1) issues related to the setting up of contracts for the database software development; and (2) project management of the software development. This has meant that there has been less development of the analytical framework than we might have hoped for. This issue has been largely

resolved by adjusting the project timetable to allow more time for work on the analytical framework later on. This is possible because the software development will now be completed earlier than originally anticipated.

7. Sustainability

The entire focus of this project is to make ETIS sustainable so that, at the end of the project, there is a sustainable mechanism for data collection and management and standard methodologies for producing pre-determined reports and analyses, especially for CITES CoP reporting purposes and for individual countries.

Further sustainability issues have been addressed concerning maintenance of the database over a period of years. In particular, a recommendation from the software developers is to build into the system a specification for a periodic (every one or two years) software upgrade. This will amount to upgrading the software components to current versions and rebuild the entire system, resolving any compatibility issues that arise. This process will be detailed in the standard operating procedures.

8. Dissemination

During this reporting period, the Darwin Initiative project has been briefly explained in presentations to the African Elephant Range States Meeting hosted by the CITES Secretariat in Gilgiri, Kenya in November 2010. Further, detailed presentations on progress under the Darwin Initiative project were presented to the ETIS TAG at its December 2010 meeting. Dissemination of the new database once it is operational is being planned for the next reporting period.

9. Project Expenditure

Table 3 Project expenditure during the reporting period (Defra Financial Year)

Item	Budget	Expenditure	Variance
Rent, rates, heating, overheads etc			
Office costs (eg postage, telephone, stationery)			
Travel and subsistence			
Printing			
Conferences, seminars, etc			
Capital items/equipment Printer/Scanner Server Computer Parts			
Others Development of Database Software			
Salaries Dr Fiona M Underwood Mr Robert W Burn Mr Tom Milliken TESA - other			
TOTAL			

NOTE: Changes in the budget are mainly due to the budget for software development (once VAT is included) being more than originally budgeted for. Hence there has been a reduction in a number of other parts of the budget.

10. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

Currently, the database and analytical framework are works in progress and we expect next year to produce significant outcomes in terms of a fully functioning on-line database and an analytical framework.

At this stage we have been successful in bringing together a core group of relevant experts to assess the key characteristics of the illegal ivory trade at each level of the trade chain. The insights that have been gained through this process have greatly influenced developments with respect to the proposed new database structure and the future analytical framework. For example, to capture this new approach, the trade chains for raw and worked ivory will be looked at separately which should improve the quality of future analyses of the ETIS data. Whilst very much a work in progress, the underpinning foundation for a new, improved ETIS is firmly in hand.

In addition, we already have an embryonic functioning on-line database of illegal ivory seizure records that the Project Team can use to remotely exchange data

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2010/11

Project summary	Measurable Indicators	Progress and Achievements September 2010 - March 2011	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>This project ensures the long-term, sustainability of ETIS, mandated by CITES Resolution Conf 10.10 and the project has outlined the long-term direction of ETIS.</i></p>	
<p>Purpose</p> <p><i>Development of ETIS Phase 2: Enhanced and sustainable collection, management, analysis and reporting of seizure data for the Elephant Trade Information System (ETIS) to monitor illicit trade in ivory as mandated by CITES.</i></p>	<p><i>a) Phase 2 ETIS database operational by end of project.</i></p> <p><i>b) Analytical framework is in place.</i></p> <p><i>c) Standard Operating Procedures adopted by TESA.</i></p> <p><i>d) Improved reporting of seizures in majority of targeted countries.</i></p>	<p><i>Functional Specification for database written, platforms evaluated and software development started.</i></p> <p><i>Analytical framework continues to be developed</i></p> <p><i>Training carried out in Cameroon, China and Thailand</i></p>	<p><i>Database software completed and tested.</i></p> <p><i>Analytical framework completed and accepted by TAG.</i></p> <p><i>Standard operating procedures under development.</i></p> <p><i>Training materials reviewed and training/testing of new database undertaken</i></p>
<p>Output 1.1. <i>Phase 2 ETIS software program developed, installed and in use.</i></p>	<p><i>1a. New database designed and functional specification written.</i></p> <p><i>1b. Available software platforms reviewed and evaluated.</i></p> <p><i>1c. Software developed.</i></p> <p><i>1d. Software installed and in use.</i></p> <p><i>1e. Train TESA staff in use of software.</i></p>	<p>The new database has been designed and a functional specification written. Available software have been reviewed and evaluated.</p> <p><i>The database software is being developed and an alpha version is currently undergoing testing.</i></p>	

Activity 1.1 Review of existing database system and identification of additional (and redundant) requirements.		Completed in previous reporting year.
Activity 1.2 Prepare detailed functional specification for new database system.		Completed. Document <i>Functional Specification Act 1-2.pdf</i> . This has been approved by the TAG.
Activity 1.3 Review and evaluate available software platforms for the new database system		Completed. Document <i>Evaluation of Software Platforms Act 1-3.pdf</i> was produced in consultation with software developers. Ruby on Rails platform is being implemented.
Activity 1.4 Design and produce the software		In progress. Alpha testing is ongoing. A final fully tested version is expected by November 2011.
Output 2. <i>Improved analytical framework for assessing and reporting trends of illicit trade in ivory adopted and implemented.</i>	<p>2a. <i>Methodology for future analysis to produce bias-adjusted indicators of illegal ivory trade developed and tested.</i></p> <p>2b. <i>Recommendations drafted for a reporting framework and indicators to assist CITES in policy making.</i></p> <p>2c. <i>Recommendations for country specific reports developed.</i></p> <p>2d. <i>Software tools for reporting developed.</i></p> <p>2e. TESA staff trained in use of reporting tools.</p>	A conceptual framework for the analysis is being developed.
Activity 2.1 Choose indicators and summary measures for ETIS outputs and identify variables (both in the ETIS database and from secondary sources) that contain information about them; identify sources of bias.		Completed in previous reporting year.
Activity 2.2 Using existing ETIS data, implement and evaluate potential statistical models for producing bias-adjusted indicators; make recommendations on methodology to TAG.		In progress. A conceptual framework has been developed, statistical models are being explored and data on proxies for bias being obtained. Two MSc Biometry projects have assisted in this work. This work continues until December 2011.
Output 3. <i>Enhanced measures for supporting the long-term operational sustainability of ETIS</i>	3a. <i>Standard Operating Procedures (SOPs) for use of ETIS framework.</i>	A review of existing procedures and current standard operating procedures has been completed.

<i>in place and functioning.</i>	<i>3b. TESA staff trained in use of ETIS SOPs.</i>	
<i>Activity 3.1 Carry out review and detailed analysis of ETIS operations from data collection to reporting.</i>		Completed in previous reporting period.
<i>Activity 3.2 Draft a manual of Standard Operating Procedures</i>		Initial discussions this year will feed into this activity which takes place in the next reporting period.
Output 4. National CITES Management Authorities capacity for tracking and reporting illegal trade in elephant products in fulfilment of CITES requirements for participation in ETIS enhanced.	<p><i>4a. Priority elephant range States where training most needed identified.</i></p> <p><i>4b. Review and update existing training materials.</i></p> <p><i>4c. Training programmes undertaken.</i></p> <p><i>4d. Report on training written and submitted to TAG.</i></p>	Priority elephant range States were identified in the previous reporting period. Training materials are being reviewed. Five workshop events have taken place in the current reporting period.
<i>Activity 4.1 Identify and prioritise elephant range states with the greatest need for training.</i>		Completed in previous reporting year.
<i>Activity 4.2 Review and update existing training materials; produce new materials as required.</i>		Late changes to the ETIS structure have necessitated a further review of this issue. New materials that will explain various new features of the ETIS structure, for example, the decision to make country of export/re-export a multiple country field, will now need to be prepared so that countries are informed of how to report data in the future.
<i>Activity 4.3 Produce final training materials, translated into suitable languages.</i>		<i>An ETIS training package was prepared in French and distributed at training events in Cameroon.</i>
<i>Activity 4.4 Undertake training programmes in selected countries.</i>		<i>A total of five training events were held in Cameroon, China and Thailand in which a total of 157 participants were trained in CITES, ETIS and ivory trade issues.</i>

Annex 2 *Project's full current logframe*

<i>Project summary</i>	<i>Measurable Indicators</i>	<i>Means of verification</i>	<i>Important Assumptions</i>
<p><i>Goal:</i></p> <p><i>Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.</i></p>			
<p><i>Sub-Goal:</i></p> <p><i>CITES policy is effective in significantly reducing global illicit trade in African and Asian elephant ivory.</i></p>	<p><i>a) Vulnerable elephant populations stabilised.</i></p> <p><i>b) Declining trend in illegal trade in ivory.</i></p> <p><i>c) Reduction in illegal killing of elephants for ivory.</i></p>	<p><i>a) African Elephant Database (IUCN/SSC African Elephant Specialist Group);</i></p> <p><i>National elephant status reports in elephant range States.</i></p> <p><i>b) ETIS reports (TRAFFIC).</i></p> <p><i>c) MIKE reports (CITES Secretariat).</i></p>	
<p><i>Purpose</i></p> <p><i>Development of ETIS Phase 2: Enhanced and sustainable collection, management, analysis and reporting of seizure data for the Elephant Trade Information System (ETIS) to monitor illicit trade in ivory as mandated by CITES.</i></p>	<p><i>a) Phase 2 ETIS database operational by end of project.</i></p> <p><i>b) Analytical framework is in place.</i></p> <p><i>c) Standard Operating Procedures adopted by TESA.</i></p> <p><i>d) Improved reporting of seizures in majority of targeted countries.</i></p>	<p><i>a) Validation and approval of ETIS Phase 2, database, analysis and reporting, by TAG.</i></p> <p><i>b) Comprehensive ETIS analyses presented and accepted at MIKE/ETIS Subgroup of the Standing Committee.</i></p> <p><i>c) Changes in staff do not inhibit operation of ETIS.</i></p> <p><i>d) Seizure reporting rates to ETIS improved and gaps in historical data filled.</i></p>	<p><i>The mandate for ETIS remains in effect.</i></p> <p><i>CITES support for ETIS TAG continues</i></p> <p><i>CITES Management Authorities remain engaged and strive to improve performance</i></p>

<p><i>Outputs</i></p> <p><i>1. Phase 2 ETIS software program developed, installed and in use.</i></p>	<p><i>1a. New database designed and functional specification written.</i></p> <p><i>1b. Available software platforms reviewed and evaluated.</i></p> <p><i>1c. Software developed.</i></p> <p><i>1d. Software installed and in use.</i></p> <p><i>1e. Train TESA staff in use of software.</i></p>	<p><i>1a. Functional spec. reviewed by TESA and accepted by TAG.</i></p> <p><i>1b. Report on likely sustainability of each option.</i></p> <p><i>1c/d. Installation tested; report on its use prepared by ETIS operator and validated by TAG members.</i></p> <p><i>1e. TESA staff independently using software.</i></p>	
<p><i>2. Improved analytical framework for assessing and reporting trends of illicit trade in ivory adopted and implemented.</i></p>	<p><i>2a. Methodology for future analysis to produce bias-adjusted indicators of illegal ivory trade developed and tested.</i></p> <p><i>2b. Recommendations drafted for a reporting framework and indicators to assist CITES in policy making.</i></p> <p><i>2c. Recommendations for country specific reports developed.</i></p> <p><i>2d. Software tools for reporting developed.</i></p> <p><i>2e. TESA staff trained in use of reporting tools.</i></p>	<p><i>2a. Methodology approved by TAG and paper submitted for publication.</i></p> <p><i>2b. Recommendations accepted by TAG</i></p> <p><i>2c. Recommendations accepted by TAG and positive feedback from elephant range states.</i></p> <p><i>2d. Software installed and tested.</i></p> <p><i>2e. TESA staff produce CITES and country reports.</i></p>	<p><i>TAG accepts the recommendations on methodology.</i></p>
<p><i>3. Enhanced measures for supporting the long-term operational sustainability of ETIS in place and functioning.</i></p>	<p><i>3a. Standard Operating Procedures (SOPs) for use of ETIS framework.</i></p> <p><i>3b. TESA staff trained in use of ETIS SOPs.</i></p>	<p><i>3a. SOP manual approved by TAG and used by TRAFFIC.</i></p> <p><i>3b. Performance evaluation of staff demonstrate effective use of SOPs.</i></p>	

<p><i>4. National CITES Management Authorities capacity for tracking and reporting illegal trade in elephant products in fulfilment of CITES requirements for participation in ETIS enhanced.</i></p>	<p><i>4a. Priority elephant range States where training most needed identified.</i></p> <p><i>4b. Review and update existing training materials.</i></p> <p><i>4c. Training programmes undertaken.</i></p> <p><i>4d. Report on training written and submitted to TAG.</i></p>	<p><i>4a. Assessment reports from ETIS highlight elephant range States and other key countries with poor law enforcement effort ratios.</i></p> <p><i>4b. Final training materials produced in appropriate languages.</i></p> <p><i>4c. Rate of reporting seizures to ETIS by target countries improves following training; law enforcement effort ratio improves; backlog elephant seizure data submitted to ETIS.</i></p> <p><i>4d. Training Report accepted by TAG.</i></p>	<p><i>4a. CITES Management Authorities embrace training and include cross-sectoral law enforcement authorities as participants.</i></p> <p><i>4b. Suitable trainers with requisite language skills identified and engaged for training events.</i></p>
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Activities (*details in workplan*)

- 1.1 *Review existing database software.*
- 1.2 *Prepare functional specification of new database.*
- 1.3 *Evaluate available software platforms.*
- 1.4 *Design and produce the software.*
- 1.5 *Install and test the software.*
- 1.6 *Revise the software.*
- 1.7 *Train TESA staff in using the new software.*
- 2.1 *Identify indicators and data required for them.*
- 2.2 *Analyse existing data to evaluate statistical methods for producing bias-adjusted indicators.*
- 2.3 *Design the new ETIS reporting framework.*
- 2.4 *Write two papers on methodology to submit to peer-reviewed journals.*
- 2.5 *Write software for producing the indicators.*
- 3.1 *Analyse and review all ETIS operations.*
- 3.2 *Draft a Manual of Standard Operating Procedures (SOPs).*
- 3.3 *Revise the Manual in the light of Output 1.*
- 3.4 *Submit SOPs to TAG and revise as required.*
- 3.5 *Train TESA staff in use of SOPs.*
- 4.1 *Identify range states with greatest need of training.*
- 4.2 *Review existing training materials.*
- 4.3 *Produce training materials.*
- 4.4 *Undertake training in key countries.*
- 4.5 *Prepare training report and present to TAG.*

Monitoring activities:

Indicator 1: Visits by UK partners to work with host region partners in assessing (a) the new system, and (b) the effectiveness of staff.

Indicator 2: Presentation of methodological ideas for scrutiny in scientific and other technical forums, both in UK and the host region.

Indicator 3: On-going monitoring by TESA Director of development and adoption of SOPs by TESA staff.

Indicator 4: Feedback from trainees after each training event; regular recording of ETIS indicators that measure participation and law enforcement effort.

Annex 3 *Onwards – supplementary material (optional but encouraged as evidence of project achievement)*

Activity 1.2

Functional Specification Act 1-2.pdf - used in verification 1a with TESA and the TAG
FS Amendments 17Mar2011.pdf – amendments to functional specification

Activity 1.3

Evaluation of Software Platforms Act 1-3.pdf – this is a means of verification 1b.

Activity 2.2

MScBiometryProject1Abstract.pdf

Activity 4.4

TESA Training Report April 2010 – March 2011.pdf

Project Monitoring Group

Project Monitoring Group Meeting Report April 2011.pdf

Checklist for submission

	Check
Is the report less than 5MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	YES
Is your report more than 5MB? If so, please advise Darwin-Projects@ltsi.co.uk that the report will be send by post on CD, putting the project number in the Subject line.	NA
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	YES
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 involved your partners in preparation of the report and named the main contributors	YES
Have you completed the Project Expenditure table fully?	YES
Do not include claim forms or other communications with this report.	