



# Darwin Initiative Annual Report

## Important note:

To be completed with reference to the Reporting Guidance Notes for Project Leaders: it is expected that this report will be about 10 pages in length, excluding annexes



**Submission Deadline: 30 April 2011**

## 1. Darwin Project Information

Project Reference	17019
Project Title	<b>Developing wildlife forensic capacity for ASEAN biodiversity conservation</b>
Host Country/ies	UK, Malaysia, Thailand.
UK contract holder institution	TRACE Wildlife Forensics Network
Host country partner institutions	Traffic South East Asia (TSEA)
Other partner institutions	ASEAN-WEN PCU (Association of South East Asian Nations Programme Coordination Unit).
Darwin Grant Value	£205,750
Start/end dates of project	01/09/2009 – 31/08/2012
Reporting period (eg Apr 2010 – Mar 2011) and number (eg Annual Report 1, 2, 3)	01/04/2010 – 31/03/2011 Annual report 2.
Project Leader name	Dr Ross McEwing
Project website	Darwin website: <a href="http://darwin.defra.gov.uk/project/17019/">http://darwin.defra.gov.uk/project/17019/</a> Project website: <a href="http://www.asean-wfn.org/">http://www.asean-wfn.org/</a>
Report authors, main contributors and date	Jennifer Mailley (Project Manager), Dr Ross McEwing and Dr Rob Ogden (Directors of TRACE), Dr. Bill Schaedla (TSEA) Date: 30 /04/ 2011

## 2. Project Background

### Project context

CITES (the Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora) aims to control the level of trade in specific species deemed as endangered, to ensure that exploitation of wildlife is sustainable. CITES is a voluntary agreement and not itself law. Signatory nations are required to implement national laws which enact CITES.

The ASEAN region is a hub for the illegal export, import and re-export of CITES protected species (TRAFFIC 2008). All ten ASEAN nations are signatories to CITES. The suitability of national laws which action CITES and the *implementation* of these laws varies greatly across the ASEAN region (Shepherd and Nijman, 2008). One reason for ineffective implementation is the absence of facilities which enable enforcement agencies to routinely identify which species are present in a shipment (import or export), and therefore whether the shipment contravenes CITES. The ability of a country to effectively enforce CITES legislation directly supports the broader aim of biodiversity conservation, which under the Convention on Biological Diversity (CBD) is international obligation for member states.

## **Problem addressed**

Practical enforcement of national laws which implement CITES is currently seriously hampered in the ASEAN region by a lack of experience and capacity in wildlife crime investigation. Gathering evidence for successful prosecutions is problematic, one key issue being the accurate and robust identification of illegally traded animal and plant parts, derivatives, or trace evidence. Enforcement officers at airports, seaports, land-boundaries and within protected areas need to be able to identify the species and sometimes the geographic origin of specimens. When morphological identification (by eye) is not possible, forensic tests can be used. While analytical techniques and equipment used in wildlife forensics already exist in a number of ASEAN countries, there is a need for these to be supplemented through additional research and implemented within a coordinated forensic framework.

## **Project aims**

This project seeks to increase the ability of South East Asian (ASEAN) nations to use forensic science in the investigation and prosecution of offences which contravene CITES. It will improve the ability of ASEAN nations to enforce national level conservation legislation (which supersedes and actions CITES) and therefore better comply with CITES / CBD obligations.

## **Project location**

The project is being implemented in two priority ASEAN countries, Malaysia and Thailand. The project is managed locally from the office of TRAFFIC South East Asia, Kuala Lumpur, Malaysia, with executive management from TRACE in Edinburgh, UK.

## *References*

Shepherd, C. R. and Nijman, V. (2008): *Pet freshwater turtle and tortoise trade in Chatuchak Market, Bangkok, Thailand*. TRAFFIC Southeast Asia, Petaling Jaya, Malaysia

TRAFFIC, (2008). *What's Driving the Wildlife Trade? A Review of Expert Opinion on Economic and Social Drivers of the Wildlife Trade and Trade Control Efforts in Cambodia, Indonesia, Lao PDR and Vietnam*. East Asia and Pacific Region Sustainable Development Discussion Papers. East Asia and Pacific Region Sustainable Development Department, World Bank, Washington, DC.

## **3. Project Partnerships**

### **Structure of ASEAN Wildlife Forensics Network (ASEAN-WFN)**

The lead UK institution, TRACE Wildlife Forensics Network, works in close partnership with the two host country partners:

TRAFFIC South East Asia (TSEA) located in Kuala Lumpur Malaysia, and

The ASEAN-WEN PCU (Association of South East Asian Nations' Wildlife Enforcement Network Programme Coordination Unit) located in Bangkok, Thailand.

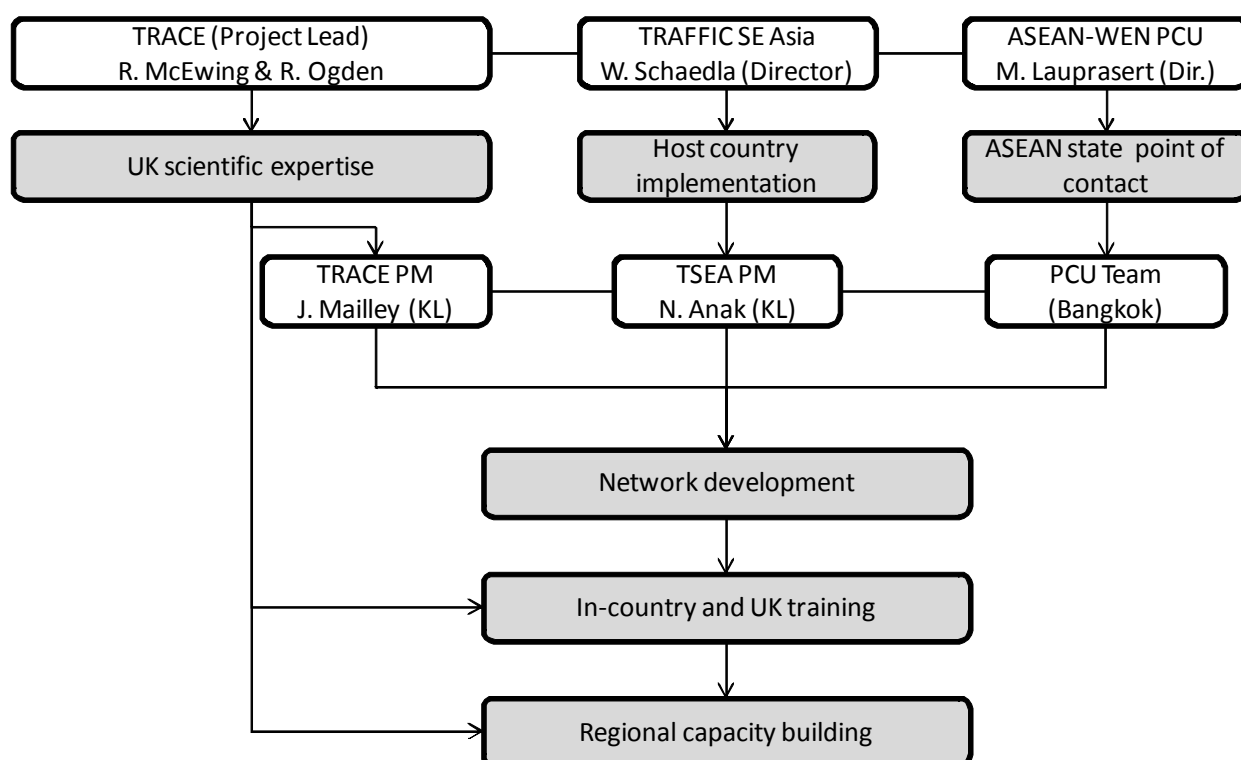
TRACE Wildlife Forensics Network are the project lead and a full time Project Manager (PM) was hired for the time period October 2009- September 2010. The role of the PM was to work in the host countries and develop the project by establishing links with ASEAN government agencies and raising awareness of the Darwin project. Three key planned activities relevant to this 2<sup>nd</sup> Annual Darwin report and delivered during the PMs employment were:

- Completing the regional Needs Assessment;
- Organising a 1 week international training course;
- Establishing a web-based network of regional forensic expertise.

Deliverables due after the PM's 12 month contract centred mainly on ongoing development host country capacity, infrastructure and laboratory based techniques, and organising UK based training of ASEAN scientists. Therefore TRACE Directors (Drs Ross McEwing and Dr Rob Ogden) took the lead in delivering these activities.

## The project team

Feedback from the first Darwin Annual Report requested a pictorial representation of the relationships and responsibilities of the overall project. The diagram below aims to answer this request: TRACE Wildlife Forensics Network, directed by Dr Rob Ogden and Dr Ross McEwing, have overall responsibility for project delivery as project lead. Their employee, Jennifer Mailley, fulfilled the role of project manager from Sep 2009 to Sep 2010. Ms Mailley was assisted by an employee of TRAFFIC South East Asia, Ms Noorainie Awang Anak. Ms Mailley was located in Kuala Lumpur along with Ms Anak. Line management responsibility for Ms Mailley remained with TRACE, and with TRAFFIC SEA for Ms Anak. Together, Ms Mailley and Ms Anak formed the core of the project team who were involved on a day to day basis. They received scientific support from Drs Ogden and McEwing of TRACE, and support with activities such as setting up the training course from experienced staff within the TSEA office. The ASEAN-WEN PCU (Association of South East Nations Wildlife Enforcement Network Programme Coordination Unit) provided support in the form of contact with CITES experts ('focal points') of each ASEAN country. The role of focal points was to pass information and requests for information to networks of relevant people within their respective country.



## 4. Project Progress

### 4.1 Progress in carrying out project activities

Key:

MI= Measurable indicator.

MV= means of verification.

Activity= activity as scheduled in the project workplan.

**Output1:** National wildlife forensic units following approved forensic protocols.

MI: Laboratory facility operational in each country with trained staff in place.

MV: Physical existence of forensic units and staff. Auditing of procedures.

**Activity 1.1:** Assessment of current facilities and staff in each country.

Time scale: Months 1 to 6.

The laboratory facilities within Malaysia and Thailand were assessed and reported on in the first Annual Report. Since that report, a number of sources have been used to gather further information on the overall picture of wildlife forensic facilities in the ASEAN region. These are reported in the attached 'Needs Analysis.doc'.

**Activity 1.2:** Implementation of laboratory systems for supporting forensic analysis.

Time scale: Months 7 to 30.

Both Malaysia and Thailand already have laboratories where forensic samples are submitted and analysed. The assessment of current facilities revealed that before further progress can be made in implementing new or refined technical or quality assurance systems, each country should clarify their *procedural* systems along with longer term plans for their forensic facilities.

The week long training event in August 2010 presented the ideal opportunity for Drs Rob Ogden and Ross McEwing to meet and interact with scientists and enforcement officers from the region. This training incorporated a number of specific activities/actions to develop laboratory systems:

#### Provision of software

The ability to easily record, archive and share DNA sequence data is fundamental to a wildlife DNA forensics laboratory. As part of the Darwin Initiative free licenses for a software programme, Geneious, were secured for the five main laboratories of the region. As well as constituting a considerable in kind contribution from the software manufacturer (BioMatters), these licenses represent a substantial step forward in the systems of data storage, handling, inspection and reporting that are required in a forensic genetic laboratory (the same software is currently being implemented by the authors in UK non-human forensic laboratories). Training in use of Geneious was included in the first training workshop.

#### Provision of standard laboratory forms

One of the central differences in the way laboratory work is performed between the research and forensic environments is the standardisation of techniques and procedures through the documented Standard Operating Procedures (SOPs). SOPs should be in place to cover all stages of analysis, from sample receipt to reporting. While SOPs may sometimes be technique specific, they are more usually applied at a procedural level, covering a variety of tests and types of investigation.

SOPs will be specific to each laboratory and should initially be developed by staff in each lab, however there many elements common to all forensic genetic casework. The scientific participants on the course were therefore introduced to the concept of SOP systems and provided with standard laboratory documentation relating to the following areas that they were encouraged to take away and adapt for their own use: Sample receipt; biological examination; DNA extraction; DNA sequencing; data evaluation

#### Strategic advice to host countries

The result of the needs assessment in both host countries highlighted the need for some strategic re-assessment of current capabilities and operations in relation to wildlife forensic testing. Getting the optimum systems in place in each country is important to the success of the project, but is arguably much more difficult than providing training or developing a network. Based on all of the information gleaned from the needs assessment, in country meetings and from discussion with the training course participants, TRACE developed two separate documents to advise the Malay and Thai authorities on how to alter and develop their laboratory systems for wildlife forensic casework (see Recommendations\_Malaysia.pdf and

Recommendations\_Thailand.pdf). Informal recommendations were also sent to the Indonesian authorities.

A formal response has been received from Thailand, thanking us for our input and indicating that it will follow our advice. No formal response has been received from Malaysia as yet, however the changes we are observing in the ground suggest that our recommendations are being favourably considered.

**Output 2:** Trained wildlife forensic technicians, researchers and field officers.

MI: A minimum of 3 national wildlife staff and 3 lab staff trained in each country.

MV: Course certificates obtained by trainees; trainee feedback.

**Activity 2.1:** Training: Provision of specialist training in collection and identification of evidence.

**Activity 2.2:** Training: Provision of specialist training in laboratory methods.

Original timescale: months 7 to 9. Revised timescale: months 10 to 12.

Together activities 2.1 and 2.2 constituted the 1<sup>st</sup> Training Workshop. The Workshop was held at the Headquarters of Malaysia's Department of Wildlife and National Parks, from 2<sup>nd</sup> to 6<sup>th</sup> August 2010. Altered from June to allow for final planning and logistics to be completed, the training was a great success. Nine of the ten ASEAN nations participated. The non-participant was the lowest priority nation of the region, Brunei. With the smallest geographical area, minimal resources and apparently low levels of wildlife crime, Brunei is unlikely to significantly impact on any enforcement activities regarding wildlife trade. The reason for their non involvement was simply a lack of response to multiple requests for information and invitations to engage with the training.

Ten scientists and 19 enforcement officers were trained during the Workshop. These 29 individuals and their roles are detailed in the attached 'Workshop attendees.doc'. All participants were trained in the collection of forensic samples for submission to a forensic laboratory. Each participant was given a Wildlife Forensics Sampling Kit for the purposes of this practical, and it is hoped that enthusiastic authorities will heed the advice within these kits and equip local enforcement officers with replica kits. Such simple actions would immediately increase the quality of forensic submissions in terms of security (packaging) and recording the chain of continuity from crime scene to the lab. To better enable local adoption of the forensic kits, the instructions relating to the kit were provided in hard copy and posted on the project website ([www.asean-wfn.org](http://www.asean-wfn.org)). Furthermore, the instructions were translated into local languages for all countries with active wildlife forensic laboratories (Malaysia, Thailand, Vietnam, Singapore and Indonesia).

Enforcement officers were trained in a number of other topics and skills including developing a forensic strategy in investigations, interview techniques, preparing reports for court and giving evidence in court. Scientists were trained separately in laboratory methods. The timetable for the course is attached as 'Workshop 2010 timetable.doc'

Attendance to the workshop was 100%, with all invited participants attending every session on every day. Each participant was given a certificate of attendance and most (n=27) completed a feedback form. The feedback from the workshop was overwhelmingly positive, with a mean overall score of 3.51 on a scale ranging from 1 to 4. The attached document 'Workshop 2010 Feedback.doc' details the original Questionnaire and the results of the feedback, including some of the additional comments provided by participants.

In addition to the 29 participants who attended the week long training, the first day of the Workshop was marketed as an 'Expert Lecture Series' at the request of PERHILITAN (DWNP). An estimated 50 officers from PERHILITAN'S enforcement ranks attended the first day and therefore received an internal certificate of attendance from PERHILITAN. The morning of the first day followed the protocol for Opening Ceremonies recommended by PERHILITAN, with representatives from the ASEAN-WEN, The British High Commission and from PERHILITAN giving key note speeches. Considerable discussion and consultation occurred when deciding on protocol, ranging from the order of the Opening Ceremony speeches to the order of logos on the bags given to participants and their certificates of attendance.

**Activity 2.3:** Training: Training of host country staff in the UK

This activity was scheduled for the final month of 2010/11 (March), but has been pushed back to June 2011. See Section 4.2 for further information.

**Output 3:** A body of research highlighting regional forensic needs and delivering scientific resources for applied use.

MI: Production of a Needs Analysis Report.

MI: A series of forensic analysis protocols addressing key issues.

**Activity 3.1:** Research: Needs Analysis for wildlife forensic identification tools.

Timescale: Months 1 to 9.

The Needs Analysis has been completed in line with the log frame (Needs Analysis\_final.doc). Two types of Questionnaire were disseminated in collaboration with the ASEAN-WEN PCU: laboratories known to have some involvement in wildlife forensics casework were asked to complete a Scientific Questionnaire, while the training needs of enforcement agencies were assessed using an Enforcement Questionnaire. As reported in the first annual report for this project, dissemination of these Questionnaires was originally via the nominated 'focal point' of each ASEAN nation. Focal points are individual nominated as responsible for coordinating communication between ASEAN-WEN projects and the relevant agencies and ministries in their country. Dissemination of the Questionnaires through the ASEAN-WEN focal points in each country was not, in the end, a great success and the Project Team in South East Asia had to identify individuals and agencies independently from the focal points and contact them in order to obtain a response. This is most likely because the ASEAN-WEN focal points are simply not aware of who in their countries has responsibility for wildlife forensics: further evidence of the absence of official policies and general awareness of the topic of wildlife forensics, and further evidence of the need for this project.

**Activity 3.2:** Research: Development of key forensic tools to address identified priorities.

Timescale: Months 7 to 32.

This section of the project aims to achieve two objectives in parallel: i) to train key scientists how to develop their own forensic DNA identification methods, and ii) through this process, actually produce a number of tests that are relevant to specific host country needs.

During the original project planning process, three target species groups were identified: timber, pangolin and turtles. The selection of these priorities was based on a number of requests from within ASEAN-WEN member states and on recommendations from TRAFFIC South East Asia. Having completed the needs assessment and met and discussed these issues with the scientists, it is clear that these priorities may be modified somewhat for the remainder of the project. There is an ongoing collaboration with both the Malay and Indonesian authorities to develop DNA identification systems for ramin, a group of tropical hardwoods belonging to the genus *Gonystylus*. However there has been an increased interest in developing better systems for tiger (from both Thailand and Malaysia) and this is an area that is likely to take priority over turtles in terms of research and development.

Aside from species specific targets, it was also clear from the first training course that many of the scientists responsible for wildlife forensic testing lack some of the fundamental skills required analysis, such as DNA profiling. Greater experience of DNA profiling techniques was requested by both Malaysia and Thailand, which amounts to a more fundamental project priority. This is therefore now being addressed as part of the project.

Bearing in mind the point raised above, the following programme has been devised for the UK based scientific training, now scheduled for June 2011:

- Development of novel wildlife DNA forensic techniques
- Validation of genetic markers
- Microsatellite and SNP markers in population genetics

- Forensic applications of microsatellite and SNP markers
- Introduction to population genetic statistics
- Forensic genetic statistics for presenting evidence
- Preparation of Standard Operating Procedures

These concepts and skills will be introduced through the development of specific tests that are currently being selected by the participants on the course, in consultation with TRACE.

**Activity 3.3:** Research: Creation of a species reference collection of DNA samples for shared use.

Timescale: Months 7 to 32.

This activity is interlinked with activity 5.2, Establishment of online networking forum and website. The long term goal is for the species reference collections of ASEAN government laboratories and research facilities such as Universities to be listed on the project website. This Directory will enable collaboration and cooperation between specialists while protecting intellectual property rights. The Malay DWNP have developed a reference database for several Malaysian species and discussions were held at the training workshop as to whether DWNP might list their collection as the first Directory entry on the project website. The website and its use as a Directory was demonstrated at the 1<sup>st</sup> Training Workshop and scientists encouraged to participate in the Directory. Development of the website is reported under Output 5.

**Output 4:** A framework of inter-agency cooperation for incorporating forensic analysis into illegal trade investigations.

MI: Attendance at inter-agency seminars and development of multi-agency approaches.

MV: Seminar reports. Documented agreements between agencies.

**Activity 4.1:** Interagency Cooperation: Seminar attendance at key project meetings.

Timescales: Months 4 to 6, 10 to 12, 34 to 36.

The 1<sup>st</sup> training workshop provided for most participants the first opportunity to spend any considerable amount of time with colleagues from other agencies and countries. Several opportunities for discussion and interaction were deliberately planned in to the training schedule. Face to face feedback during the course indicated to the project team that these sessions were a great success: participants commented that meeting other professionals with similar roles, and discussing their common issues was helpful as well as reassuring. The expectations of the project team were that face to face interaction of the Workshop participants would be the 'true' start of any network, given the importance of personal relationships. This has turned out to be the case, with those who met at the Workshop taking part and playing an active role in the network, and few other individuals joining or taking active part in the network. The implication of this observation is that for the network to expand further, face to face meetings will be necessary. Resources within this project budget are limited but the project team are looking for opportunities such as professional conferences where the budget demands of face to face meetings might be partly met.

The need for inter-agency cooperation within Malaysia and Thailand was specifically reinforced within the recommendations made to each country (see Activity 1.2) and there has been some feedback from Thailand to suggest that this is progressing (see Thailand recommendation response.pdf), but this activity is difficult to document or measure easily, as communications among agencies relating to forensic investigations are restricted.

**Output 5:** A regional network of wildlife forensic expertise for sharing protocols, samples and data.

MI: Central accessible online forum for sharing information.

MI: Electronic database of available reference samples in the region.

MV: Access and number of hits to online forum and database.

**Activity 5.1:** Network coordination: Identification of all regional stakeholders.

Timescale: months 1 to 3.

As reported in the first annual report, all key regional stakeholders with a role in enforcing CITES have been identified. Furthermore, following the 1<sup>st</sup> Workshop the project team now has personal contacts within many of the key enforcement authorities and agencies with scientific capacity.

**Activity 5.2:** Network coordination: Establishment of online networking forum.

Timescale: months 4 to 12.

This activity has progressed in time with the log frame. During the 1<sup>st</sup> Workshop, all Workshop participants were given web site log on details and shown the web site. Their contact details formed the basis of the website's secure Members Directory, which to date consists of 40 members from the ASEAN region as well as the project team. Following the Workshop, Members have been able to email each other using the Googlegroup email, and the web site continues to be available as a repository for project news and requests for information. Despite establishing this resource, it has become clear that the networking forum is currently not working as effectively as originally hoped. Very few requests/questions have been sent via the online forum; instead members appear to prefer contacting each other by email directly. While this is perfectly understandable in terms of exchanging information, it does mean that the function of the online network is reduced and it is certainly harder to measure the level of success of the wildlife forensics network as a whole.

The project team has considered a number of ways to increase activity on the online forum. The routine addition of news stories and updates, combined with emails to all group members to draw their attention to content has been considered and is being implemented to some extent. The suggestion, made by a referee of the Darwin Year 1 Annual Report, to produce an e-newsletter, has also been taken up; we have recently requested news and input from all members and are collating a newsletter for distribution in May. However, ultimately, the objective of the project was to develop a network that is operated by its members, rather a one-way flow of information from TRACE. While it would be nice to have a simple set of measurable indicators for a network, in practice, we feel that this may only be achievable if the criterion of 'measurability' has an excessive impact on the nature of the network itself. In other words, by insisting on being able to monitor and document communication among members, we are likely to stifle the very communication we are meant to be stimulating. This is particularly true for forensic practitioners, in government jobs, in separate countries, who lack confidence in their subject. Nevertheless, we entirely accept that the success of developing a network must be measurable in some way.

**Activity 5.3:** Network coordination: Project launch and interim workshops.

Timescales: Project launch workshop months 4 to 6.

As reported in the first annual report, the project launch was completed in October and November 2009 in Thailand and Malaysia respectively, on time with the log frame. It is anticipated that the interim workshop in late 2011 (log frame timescale months 22-24) might be used to move towards agreements of interagency cooperation within Malaysia and Thailand.

**Activity 5.4:** Network coordination: Regional conference on wildlife forensics

Timescale: Months 34 to 36. This activity is not yet started in line with the log frame, save for informing all stakeholders of the intent to hold this workshop in Thailand in 2012.



**Output 6:** Broad dissemination of project results.

MI: Publication of project case study and conference proceedings.

MI: Peer-reviewed research publications.

MI: National press coverage overseas and UK

**Activity 6.1:** Press and Publicity: Design of a three year publicity plan.

Months 1 to 3.

Completed – see Annual Report 1.

**Activity 6.2:** Press and Publicity: Coverage of project workshops and regional conference.

Time scale: Months 4 to 6, 21 to 24, and 34 to 36.

The timing of the press release announcing the 1<sup>st</sup> training workshop was altered to months 9 to 12 in line with the shift in the workshop timing. A joint press release between TRACE, TSEA, ASEAN-WEN PCU and Malaysia's DWNP announcing the 1<sup>st</sup> training workshop and introducing the project to the press was released prior to the first Workshop. This is attached as 'Workshop press release.doc'. Press were invited to the Opening Ceremony of the Workshop, but PERHILITAN (host organisation) would not allow them in to the main auditorium to hear the Opening Speeches. Instead, a small press conference slot was allocated during a coffee break: the issue of publicity and the press' relationship with PERHILITAN is an ongoing one, following considerable negative publicity towards Misliah Mahmoud of PERHILITAN, and is discussed further under the section Project Risks. Disappointingly, despite press attending the Opening Ceremony, there were no written articles published in local or national press following the Workshop. The Workshop coincided with the announcement of newly reviewed Wildlife Legislation in Malaysia, and it could be that column inches designated for environmental and nature issues were filled with discussions on the new law, but this is only supposition. It is more likely that press interest will increase when the project affects a live case by securing a prosecution.

In opposition to the response of the written press, a live television interview with Rob Ogden and Ross McEwing was requested by Malaysian Astro News Channel 'Astro Awani'. The twenty minute interview on the subject of wildlife forensics and the Darwin Initiative project was aired live on Wednesday 4<sup>th</sup> August 2010. Once back in the UK, the Project Manager Jen Mailley was also interviewed about the project by BBC Radio Scotland on their Good Morning programme, on Wed 15<sup>th</sup> September 2010. Both interviews can be provided in hard copy upon request, from TRACE Wildlife Forensics Network.

TRAFFIC publication: TRAFFIC Bulletin Vol 23, Issue 2, May 2011

"News from the ASEAN Wildlife Forensics Network"

Scientific output:

The Darwin project has been specifically highlighted as a standalone case-study in a peer-reviewed publication:

Ogden, R. (2010) *Forensic science, genetics and wildlife biology: getting the right mix for a wildlife forensics lab*. Forensic Sci. Med. Pathol. Published online: 1<sup>st</sup> July 2010.

**Activity 6.3:** Press and Publicity: Incidental press releases.

Timescale: Months 6 onwards.

The next press release is scheduled for the start of June 2011 to coincide with the visit of four ASEAN scientists for specialist training in the UK.

## 4.2 Progress towards project outputs

Progress towards the final project outputs is evidenced in each of the activities described in Section 4.1. Now at its midpoint, the project continues to develop well and is on track to achieve the stated outputs by its close (end of August 2012). Most activities have been performed as and when intended, therefore the broader outputs are also considered to be on schedule. The only activity that is currently delayed is the UK training of host country partners which contributes to Outputs 1, 2, 3 & 5. This key activity was postponed for administrative reasons in South East Asia, from March to June 2011. The dates are now fixed and flight tickets booked. One benefit of the delay is that there are now four participants attending, rather than the two originally intended; a scientist from Indonesia and an additional scientist from Malaysia are being funded by their respective organisations.

The output level assumptions are still largely valid. There are no concerns at present regarding Outputs 1 to 3 and the assumptions underlying Output 4 remain accurate, although as previously stated, the actions of certain individuals in government positions suggest that not all those involved in the project are necessarily committed to achieving its Goal (see 'Risk monitoring', below). The project is managing these individuals by making full use of TSEA personal relationships which to date have ensured that minor problems have not developed into serious issues.

The assumptions in relation to Output 5 (Network development) are not considered to be flawed, indeed the willingness of many network members is clear, however as discussed above (Activity 5.2) it is not certain that the tangible, measureable form of the network originally proposed (an online forum) is necessarily the most appropriate vehicle for delivering this output. At the present time we are considering how address this issue. While we remain determined to undertake the project activities (online forum and database), we are assessing how best to ensure the legacy of the project in terms of the network, given the current levels of member contribution. The principal ASEAN scientists involved in the project will be attending the UK training in June and we plan to discuss with them, in person, what they would consider the best framework for a working network. Ultimately these are the people who will responsible for its post-project continuation.

### 4.3 Standard Measures

Please note that the project application did not quantify the planned number of measures.

Code No.	Description	Year 1 Total	Year 2 Total	Total to date	Number planned for this reporting period	Total planned from application
<b>Established codes</b>						
4D	Number of training weeks provided		29 ( 1 week for 29 people)	29	N/A	N/A
6A	Number of people to receive education/ training not already covered: this refers to the Expert Lecture Series of day 1 of the 1 <sup>st</sup> Workshop		50	50	N/A	N/A
7	Number of types (not volume) or training material to be used in host country.		4 (physical kits; web based lectures; hard copy lectures; hard copy practical guides)		N/A	N/A
8	No of weeks to be spent by UK project staff in host country	13	26	39	N/A	N/A
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording: this is shared with TSEA and the 9 refers to the 9 different translations of TSEA's Species guides.		9	9	N/A	N/A
11A	Number of papers to be published in peer reviewed journals (Ogden 2010).		1	1	N/A	N/A
15A	No of press releases in host countries	1	1	2	N/A	N/A
15C	No of national press releases in UK	1	1	2	N/A	N/A

Code No.	Description	Year 1 Total	Year 2 Total	Total to date	Number planned for this reporting period	Total planned from application
17A	No of dissemination networks to be <b>established</b> (refers to ASEAN-WFN)		1	1	N/A	N/A
18A	Number of national TV programmes/features in host country(ies) (refers to Astro Arwani TV)		1	1	N/A	N/A
19B	Number of national radio interviews/features in UK (Refers to BBC Scotland Radio)		1	1	N/A	N/A
<b>New - Project specific measures</b>						
	No. of launch conferences organised and attended in host countries	2	0	2		

In Table 2, provide full details of all publications and material produced over the last year that can be publicly accessed, eg title, name of publisher, contact details, cost. Mark (\*) all publications and other material that you have included with this report.

### Publications

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
Web site			<a href="http://www.asean-wfn.org">www.asean-wfn.org</a>	Free
TRAFFIC bulletin	Vol 23(2) May 2011	TRAFFIC	<a href="http://www.traffic.org">www.traffic.org</a>	Free online
Journal publication	Ogden, R (2010)	Humana Press: online	<a href="http://www.asean-wfn.org/?p=254">http://www.asean-wfn.org/?p=254</a>	Free on project website

#### 4.4 Progress towards the project purpose and outcomes

As discussed for section 4.2 the project outputs are developing well and are still considered to be the best strategy for supporting the Purpose of the project, 'To provide the ability for host countries to undertake coordinated wildlife forensic analysis for CITES enforcement operations in the ASEAN region'. There is one issue that has risen over the past few months that may potentially threaten one of the key assumptions behind the Purpose. The ASEAN Wildlife Enforcement Network (ASEAN-WEN), a Darwin project partner and the umbrella organisation under which the forensics network fits, is ultimately funded by USAID. The decision for renewal and budgeting was due in autumn 2010 but has been repeatedly delayed and has still not been finalised. While it is extremely unlikely that funding will not be provided to support ASEAN-WEN over the next five years, the current uncertainty does pose a level of risk to the broader implementation of CITES enforcement initiatives in the ASEAN region. We will obviously keep Darwin informed of any change to this situation.

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

Since the project activities have all been completed to time or rescheduled with good reason, the extrapolation of this progress is that the project will achieve its overall goal. At this stage of the project (20 months since the start date) the outcomes and activities are building towards implementation of forensic processes, having now established the network of specialists. Impact on biodiversity via enforcement of CITES is expected to be realised much later in the project.

### 5. Monitoring, evaluation and lessons

Much of the monitoring and evaluation is already discussed above. The project team regularly reviews its progress against the project schedule and critically evaluates the effectiveness of the activities in support of outputs, purpose and goal. The project also seeks feedback from stakeholders in country. An example of this is the feedback requested and received at the end of the 1<sup>st</sup> workshop which was, on the whole, extremely positive.

An ongoing theme of the lessons learnt by the project team is the amount of time needed to complete tasks. Several stages of the training planning both in Malaysia and in the UK took longer than expected. Enabling participants to come, by writing several different letters of invitation and explanation to higher and higher levels of management was a particular problem requiring persistence and a considerable effort. Gathering enough details to enable flights to be booked (e.g. passport numbers) was a challenge, and almost half of the Malaysia workshop participants had to renew their passports before they could come to the event, so air tickets were not booked until a few days before the course.

The other recurring lesson learnt to date has been that despite providing stakeholders with almost everything they need (time, resources, money, training, access to a network) there may always be a proportion of individuals who do not actively participate or embrace the opportunity to develop their capacity. While none of the project team were naive to the difficulties of stimulating activity in ASEAN government departments, it has still been frustrating to observe the speed/lack of response in certain circumstances. These experiences are fortunately countered by the enthusiasm of many other people involved in the project.

## **6. Actions taken in response to previous reviews (if applicable)**

The first annual review was mostly positive but specifically:

1. Requested discussing the employment of Project Manager Jennifer Mailley directly with LTS (submit CV).

Response: The employment of the project manager was discussed with LTS. Jennifer Mailley's CV is attached (see Supplementary material, 'Jen Mailley CV.doc')

2. Recommend instigating a more proactive means of communication within the network such as a e-newsletter.

Response: Communications were circulated in September following the first workshop. An e-newsletter is now being prepared with contributions from the network members for distribution in May.

3. Recommend translating sections of the website to increase accessibility.

Response: This recommendation has not been taken up. While it would be possible to translate the front page of the website, the site is predominantly aimed at the scientific community who operate in English. In this respect we also take the lead of the ASEAN-WEN website, which is provided only in English: <http://www.asean-wen.org/>

## **7. Other comments on progress not covered elsewhere**

The project does not currently face significant risks. However the project team are aware of several political and resource issues which need to be handled in order for progress to continue. These are reported here for transparency and completeness.

### **Risk monitoring**

The risk posed by indifference of key personnel within host countries was highlighted in the first annual report. No overt evidence of obstruction can be put forward, but the team experienced several significant hurdles placed in their path during the planning of the 1<sup>st</sup> Training Workshop at PERHILITAN, Malaysia's national wildlife department. These hurdles included the retraction of a promise of free use of PERHILITAN's coach to transport Workshop participants from their hotel to the training facilities; last minute down-grading of the quality of rooms made available for the Workshop, and non-delivery on several practical matters. These ranged from specimens not being made available for demonstrations (e.g. tiger skins for Species identification) to repeatedly delaying meetings to finalise Workshop logistics until 5 days before the event. Individually these events had apparently plausible reasons; on aggregate they indicated a reluctance to fully support the project from the individual instigating these hurdles. Support and

participation from other PEHILITAN staff was absolute, indicating that any reluctance was by no means ubiquitous among staff. These hurdles were all overcome by a mixture of persistence, support from the TRAFFIC South East Asia office and polite refusal to be defeated. The reasons these hurdles are mentioned here are to record the issues encountered in a non-public forum; to explain the effect on the budget of the Workshop (the bus transport and taxis added significantly to overall cost) and to caution that such actions are to be expected in future.

The most effective techniques for overcoming any last minute changes (hurdles) were to politely acknowledge the legitimacy of any reason or excuse to the face of management while present at a meeting, but to then retreat, calm down and discuss alternatives with experienced staff at TRAFFIC. In many instances, formal communication (a written letter or email) expressing concern that the proposed changes would negatively impact the reputation of a department or agency, or reminders of previous written agreements, resulted in some compromise. For example, when rooms of a lesser quality were suddenly announced as the only ones available, it was agreed that at least the older and least attractive furniture was replaced with newer and more aesthetically pleasing effects. Where the availability of projectors was not 100% certain, portable whiteboards were secured as alternatives. In some instances however, no compromise was possible, and the project team simply had to accept the change in circumstances. It is important to appreciate that such situations are to some extent inevitable- wildlife crime is afforded low priority- and that perseverance is therefore a key attribute of anyone who is to be successful in driving project activities forwards. Since the next major Workshop is scheduled to be held in Thailand it is hoped that similar issues will not be encountered.

Another low but relevant risk is posed by the fact that after completion of her one year contract the Project Manager, Jen Mailley, has left TRACE WFN (to complete a PhD thesis) and has not been involved full time in the project since the start of October. Her departure was planned and the decision was taken several months before not to replace her with TRACE staff in Kuala Lumpur. The principle reason for this was that the focus of the project in Year 2 (Sep 10 – Aug 11) has shifted from analysing the current capacity and needs of the host countries and engaging with them to start the project, to the core scientific section of the project. It was therefore considered preferable to re-direct staff resources to the planning and implementation of the research activities. Both the TSEA director, Bill Schaedla, and the local project manager Noorainie Anak, remain in place and continue to push the project forward within the host countries. Ross McEwing and Rob Ogden (TRACE directors) are now more involved in the day to day running of the project from the UK end. It is possible that Jen Mailley will return part-time in Year 3, again based in Kuala Lumpur, in order to help draw together the project activities and deliver the final seminar and training workshop in 2012.

## **8. Sustainability**

At this early stage of the project it is difficult to assess the sustainability of project outcomes. Interest at the regional level is evidenced by the integration of the project in to the ASEAN-WEN PCU weekly meeting agendas and an invitation to attend the ASEAN-WEN Annual Meeting in Myanmar in April 2010 (see Agenda\_ASEAN-WEN\_Myanmar.doc). Interest and commitment at the national level is evidenced by the agreement of the Malaysian Ministry (NRE) to host the training workshop in Malaysia and to subsequently send an additional participant to the UK training at their own cost. The commitment of the Thai government is evidenced in the written response to the recommendations and invitation to UK training (see Thailand Recommendations Response.pdf)

## **9. Dissemination**

Dissemination activities are described under Actions 1.1, 2.1, and 6.1 through to 6.3.

## 10. Project Expenditure

**Table 3 project expenditure during the reporting period (1 April 2010 – 31 March 2011)**

Item	Budget (approved change request from January 2011)	Expenditure	Variance/ Comments
Staff costs J. Mailley R. McEwing  TSEA W. Schaedla N. A. Anak			
Overhead costs			
Travel and subsistence			
Operating costs			
Capital items/equipment (specify)			
Others: Consultancy			
Others (please specify)			
TOTAL			

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

I agree for LTS and the Darwin Secretariat to publish the content of this section

*Workshop, Kuala Lumpur 2010*

The Wildlife Forensics Workshop, run in August 2011 in Kuala Lumpur, was the first international wildlife DNA forensics training event to be held in the ASEAN region and proved to be a great success. Bringing together laboratory scientists and field based investigators from nine different countries, the workshop delivered training on evidence collection, sample processing, use of forensic evidence in investigations and presentation of DNA data in the courtroom. The week-long programme also provided plenty of networking opportunities, formally and informally, both among different agencies within countries and among practitioners in similar fields across South East Asia. The workshop, hosted by the Malaysian Department for Wildlife and National Parks and supported by the ASEAN Wildlife Enforcement Network, marked the first major step in the development of a regional wildlife forensics network.

[photos of training available if required, e.g. people swabbing blood from vehicles CSI-style]

*Wildlife DNA Forensics Casework, Malaysian Department of Wildlife and National Parks*

Since the completion of the August training workshop, the Malaysian wildlife DNA forensic laboratory has reported an increased caseload and is seeing samples being submitted from enforcement officers who were trained on the course. In the eight months to date since the end of the course, a total of 39 cases involving 420 samples have been submitted to the labs. This compares to 17 cases and 135 samples in the preceding eight month period. This corresponds to both an increase in laboratory capacity following training of an additional staff member and an increase in awareness and utilisation of the forensic services available within the wildlife enforcement community. Both of these are direct aims of the Darwin Initiative project and suggest that the activities undertaken so far are already having a positive effect on Malaysia's wildlife law enforcement operations.



## Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2010-2011

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2011	Actions required/planned for next period
<p><b>Goal:</b> 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. 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.</p> <p>Sub-Goal: An effective, coordinated regional network of wildlife forensic expertise exists to support enforcement of CITES regulations through a combination of quality assured investigative processes and the capacity to develop and apply new identification tools.</p>		<p><i>Needs Analysis completed.</i></p> <p><i>1<sup>st</sup> training workshop completed: received excellent feedback</i></p> <p><i>Key regional stakeholders identified, contacted and engaged with project.</i></p> <p><i>Project website established and network of regional specialists active and expanding.</i></p>	<p><i>(do not fill not applicable)</i></p>
<p><b>Purpose</b> To provide the ability for host countries to undertake coordinated wildlife forensic analysis for CITES enforcement operations in the ASEAN region.</p>	<p>Future illegal trade investigations utilise forensic techniques. Increased number of illegal wildlife trade prosecutions.</p>	<p>As above, for goal/ subgoal.</p>	<p>Advise regional nations on how best to increase forensic cooperation (share facilities). Continue to mentor and support scientists in laboratory techniques</p>
<p><b>Output 1.</b> National wildlife forensic units following approved forensic protocols.</p>	<p>Laboratory facility operational in each country with trained staff in place.</p>	<p>Progress: Laboratory facilities in each host country assessed and areas of development identified. Indicator is appropriate in long term, not applicable at this stage of the project.</p>	
<p>Activity 1.1: Capacity Building: Assessment of current facilities and staff in each country (Log frame timescale Months 1 to 6).</p>		<p>Progress: Capacity of Malay and Thai laboratories assessed. Recommendations are that both Malay and Thai authorities need to clarify roles and responsibilities of individual scientists and Divisions, in order to allow project resources (training, research, and accreditation) to be focused on the most appropriate areas.</p>	
<p>Activity 1.2: Capacity Building: Implementation of laboratory systems for supporting forensic analysis (Log frame timescale Months 7 to 30).</p>		<p>Progress: The first steps in implementing systems to support forensic analysis are to clarify roles and responsibilities, based on the recommendations from Activity 1.1 above. Next steps are to coordinate meetings in both Thailand and Malaysia to encourage this clarification.</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2011	Actions required/planned for next period
<b>Output 2.</b> Trained wildlife forensic technicians, researchers and field officers.	A minimum of 3 national wildlife staff & 3 lab staff trained in each country.	Progress: the 1 <sup>st</sup> Training Workshop trained at least 1 scientist and 2 enforcement officers from participating countries; 4 scientists were trained for Malaysia and 2 for Thailand.	
Activity 2.1: Training: Provision of specialist training in collection and identification of evidence (Revised timescale: Months 10 to 12)		Progress: 1 <sup>st</sup> training workshop delivered and excellent feedback received.	
Activity 2.2: Training: Provision of specialist training in laboratory methods		Timing, progress and next steps are as above for Activity 2.1.	
<b>Output 3.</b> A body of research highlighting regional forensic needs and delivering scientific resources for applied use.	a. The production of a needs analysis report. b. A series of forensic analysis protocols addressing key issues	Progress: Needs Assessment Completed;  Project team have prioritised actions according to the Needs Analysis. Development of specific forensic protocols being planned	
Activity 3.1: Research: Needs analysis (by species and problem) for wildlife forensic identification tools (Timescale: Months 1-9)		Progress: Needs Assessment Completed.	
Activity 3.2 Research: Development of key forensic tools to address identified priorities (Timescale: Months 7-32)		Progress: Project team have identified priority cases and problems to pursue, based on the Needs Analysis. These are now being incorporated into the UK training programme	
Activity 3.3: Research: Creation of a species reference collection of DNA samples for shared use. (Timescale: Months 7-32)		Progress: The Malaysian data base is being examined for its suitability as a possible shared data base in the ASEAN region	
<b>Output 4:</b> A framework of inter-agency cooperation for incorporating forensic analysis into illegal trade investigations.	Attendance at inter-agency seminars and development of multi-agency approaches.	Progress: project launch workshops indicated that interagency cooperation is necessary. However, formalisation of agreements is partly dependent on the outcome of activity 1.2. Attendance at inter-agency seminars is a basic indicator: the more meaningful indicator is the development of (formalised) multi-agency approaches. It is anticipated these will develop over time but require careful handling.	
Activity 4.1: Inter-Agency Cooperation: Seminar attendance and networking at key project meetings (Timescale: Months 4-6, 10-12, 34-36)		Progress: project launch workshops were attended by key agency officials. Next steps are to formalise inter-agency processes, likely to be initiated at interim workshops.	
<b>Output 5:</b> A regional network of wildlife forensic expertise for sharing protocols, samples and data.	a. Central, accessible online forum for sharing information. b. Electronic database of available reference samples in the region.	Progress: key regional experts have been identified and involved in the project. The website is ready to host the online forum and the database of reference samples. Indicators seem appropriate in the long term.	

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2011	Actions required/planned for next period
Activity 5.1: Network Coordination: Identification of all regional stakeholders (Timescale: Months 1-3)		Progress: all major stakeholders identified and all regional CITES MAs engaged with the project.	
Activity 5.2: Network Coordination: Establishment of online networking forum (Timescale: Months 4-12)		Progress: website is developed, members forum is functioning.	
Activity 5.3: Network Coordination: Project launch and interim workshops (Timescale: Months 4 to 6)		Progress: project launch workshops completed.	
<b>Output 6:</b> Broad dissemination of project results	Publication of project case study and conference proceedings. Peer-reviewed research publications. National press coverage -O/S & UK		
Activity 6.1: Press and Publicity: Design of a three year publicity plan (Timescale: Months 1-3)		Progress: publicity plan agreed with TSEA. TV appearance in Malaysia and BBC Radio Interview in the UK following the 1 <sup>st</sup> Training Workshop.	
Activity 6.2: Press and Publicity: Coverage of project workshops and regional conference (Timescale: Months 4-6)		See Activity 6.1 above.	
Activity 6.3: Press and Publicity: Incidental press releases (Timescale: Months 7 to 33)		Progress: in line with the log frame, this activity will progress dependent on identification of investigations or casework which the project is involved with.	

## Annex 2 Project's full current logframe

Project start date= 1<sup>st</sup> September 2009.

Months of activity to end of March 2011 (date of 2<sup>nd</sup> Darwin annual report) = 20 months.

Activity	Months	Year 1				Year 2				Year 3			
		1	2	3	4	1	2	3	4	1	2	3	4
1.1 Capacity Building: Assessment of current facilities and staff in each country	3												
1.2 Capacity Building: Implementation of laboratory systems for supporting forensic analysis	6												
1.3 Capacity Building: Joint preparation of funding applications for ongoing support	3												
2.1 Training: Provision of specialist training in collection & identification of evidence (Thailand)	1												
2.2 Training: Provision of specialist training in laboratory methods (Malaysia)	1												
2.3 Training: Training of host-country staff in the UK	4												
3.1 Research: Needs analysis (by species and problem) for wildlife forensic identification tools	3												
3.2 Research: Development of key forensic tools to address identified priorities	12												
3.3 Research: Creation of a species reference collection of DNA samples for shared use	12												
4.1 Inter-Agency Cooperation: Seminar attendance at key project meetings	1												
5.1 Network Coordination: Identification of all regional stakeholders	1												
5.2 Network Coordination: Establishment of online networking forum and website	2												
5.3 Network Coordination: Project launch workshop, interim workshop	2												
5.4 Network Coordination: Regional conference on wildlife forensics	1												
6.1 Press and Publicity: Design of a three year plan	0.2												
6.2 Press and Publicity: Coverage of project workshops and regional conference	1												
6.3 Press and Publicity: Incidental press releases	0.5												

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

The list below cross references the documents provided electronically to evidence progress against project activities and outcomes.

### **Activities and evidence**

#### **1.1 Capacity Building: Assessment of current facilities and staff in each country**

Needs Analysis final.doc

#### **1.2 Implementation of laboratory systems for supporting forensic analysis**

Recommendations\_Malaysia.pdf and Recommendations\_Thailand.pdf

Workshop 2010 timetable.doc

#### **2.1 Training: Provision of specialist training in collection and identification of evidence**

Workshop 2010 timetable.doc

Workshop 2010 feedback.doc

#### **3.1 Research: Needs analysis (by species and problem) for wildlife forensic identification tools**

Needs Analysis final.doc

#### **4.1 Inter-Agency Cooperation: Seminar attendance and networking at key project meetings**

Workshop attendees.doc

Thailand Recommendation Response.pdf

#### **5.2 Network Coordination: Establishment of online networking forum**

See project website at: [www.asean-wfn.org](http://www.asean-wfn.org) and screen shots above.

Membership list - ASEAN Wildlife Forensics Network.doc

#### **6.2 Press and Publicity: Coverage of project workshops and regional conference**

Workshop press release.doc

TRAFFIC Bulletin Darwin Initiative Vol23(2).pdf

Ogden (2010) FSPM.pdf

Checklist for submission

	Check
<b>Is the report less than 5MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> putting the project number in the Subject line.	
<b>Is your report more than 5MB?</b> If so, please advise <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> that the report will be send by post on CD, putting the project number in the Subject line.	
<b>Have you included means of verification?</b> You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	
<b>Do you have hard copies of material you want to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number.	
Have you involved your partners in preparation of the report and named the main contributors	
Have you completed the Project Expenditure table fully?	
Do not include claim forms or other communications with this report.	