



***Bai Tu Long Bay  
Biodiversity Awareness Project  
Final Report***



**Project Reference no. 162/10/022  
June 2004**

**Darwin Initiative for the Survival of Species**

**The Society for Environmental Exploration: 50-52 Rivington Street, London, EC2A 3QP**

# ***Darwin Initiative for the Survival of Species***

## ***Final Report***

### **1. Darwin Project Information**

Project title	Bai Tu Long Bay Biodiversity Awareness Project
Country	Vietnam
Contractor	Frontier Vietnam
Project Reference No.	162/10/022
Grant Value	£ 125,888
Starting/Finishing dates	December 2001 – March 2004

### **REPORT ACRONYMS**

BTLBBAP	Bai Tu Long Bay Biodiversity Awareness Project
DI	Darwin Initiative
EE	Environmental Education programme
DET	Department of Education and Training
FV	Frontier-Vietnam
NPA	National Park Authority
FVFRP	Frontier-Vietnam Forest Research Programme

## **2. Project Background/Rationale**

The project is based in Bai Tu Long Bay, Van Don District, Quang Ninh Province, Socialist Republic of Vietnam. Bai Tu Long Bay National Park was established in January 2001 in order to expand a protected area that was an island nature reserve of 2,000 hectares (ha) into a National Park incorporating both marine and terrestrial environments and covering 15,000ha.

One of the most serious issues facing protected areas in Vietnam is the lack of capacity for effective and sustainable environmental management. Vietnam's National Biodiversity Action Plan identifies the following as conservation priorities:

- establishment and management of protected areas, in particular integrated management of marine and coastal areas;
- improving public awareness about biodiversity conservation;
- capacity-building and training of management staff involved in biodiversity-related work;
- international co-operation, to provide practical technical training, exchange of information and financial assistance, to work together to protect and develop Vietnam's biodiversity.

The project aimed to address the lack of biodiversity awareness within Bai Tu Long National Park and in doing so capacity build the National Park authority through training and build communication channels between civil society and government through the creation of an interpretation centre and an environmental education programme.

The current conservation status of the park is worrying. Significant logging, hunting, fishing (dynamite and cyanide fishing) within the new national park boundaries continues barely opposed or regulated by existing management structures. Heavy exploitation in the post-Vietnam War period had caused a significant reduction in valuable large tree species and the local extinction of marine and terrestrial fauna, including the tiger. The formation of Bai Tu Long National Park provided the first concerted opportunity to protect a large representative area of the bay from further unsustainable exploitation.

As the park was new and a potentially divisive structure to communities living in and around Bai Tu Long Bay, an effective conservation awareness programme was an absolute necessity. All five buffer zone communes surrounding the park had traditionally exploited forest and marine products now within the park's core zone. The park's existence would potentially affect livelihoods of many households so developing effective communication links between communities and the park authority would be crucial to the park's conservation agenda. To begin initial park programmes, the authority needed to explain effectively to local communities the purpose and benefits Bai Tu Long National Park would have for the district.

Another major issue lay in the fact that all the National Park administrative staff and rangers came from district and provincial Forest Protection Departments and had almost no park management experience. They required training in a broad range of areas including law enforcement techniques, baseline biodiversity surveying and community liaison. While they had received some basic training at Forestry College, they had received no formal training in environmental education or awareness raising. They welcomed the opportunity to collaborate with the project realising that initiating an effective awareness programme would be crucial to gaining the support and understanding of the Bai Tu Long community. They have dedicated significant amounts of staff time to allow them to attend training courses. The park authority also helped the project build partnerships with other organisations such as the District Department of Education and Training (DET) and the Department of Media.

### 3. Project Summary

#### 3.1 Purpose

To raise biodiversity awareness and to facilitate conservation measures in Bai Tu Long Bay National Park, Vietnam

#### 3.2 Objectives

- To develop a Biodiversity Interpretation Centre for Bai Tu Long Bay National Park;
- To provide biodiversity awareness, identification and monitoring training to national park management staff, and Vietnamese post-graduate students in the form of four biodiversity training workshops;
- To produce four bi-lingual taxonomic field guides, specific to the national park;
- To produce biodiversity information boards, following each workshop, for permanent display in the interpretation centre.

The operational plan did require some modification due to the donation of a building for the Biodiversity Interpretation Centre falling through. This led to delays in the outputs from training workshops being immediately included in the centre displays. However workshop topics and outcomes were all considered and utilised in the preparation of the centre displays.

Training workshops were modified with a greater holistic view for training purposes for National Park staff and other workshop participants. This resulted in the creation of a greater awareness base than originally planned involving law enforcement, biodiversity monitoring, sustainable tourism, community awareness raising and multimedia technical and communication training.

Participants raised concerns that the format for the programme laid out in the original proposal was not feasible. Senior participants would not be able to attend two-week workshops and decided three days was the maximum length for management participants. Training for more junior staff could be two weeks in length provided their supervisors granted approval. Thus these considerations were built into the workshop planning.

Articles 12 and 13 of the CBD most accurately describe the project's objectives. Through the Biodiversity Interpretation Centre, Environmental Education programme, Training workshops and various media and publications the project succeeded in fulfilling criteria for Article 13. Project Materials were all disseminated widely to both international and national organisations and led to project staff being invited to present and participate at national workshops on topics such as National Action Plans for Marine Protected Areas and Marine Turtle conservation. Under Article 12, the project provided a biodiversity training programme for National Park staff with biodiversity surveying and monitoring and conservation awareness raising skills. After the training programme, NPA staff within the Conservation Department can carry out surveys in and around the national park and report their findings. They have already used these skills to support visiting scientists conducting studies in Bai Tu Long bay. The project also fulfilled criteria within Article 16 by providing relevant technology for the NPA to conduct conservation related work. This included the provision of computers and software (for report writing, data processing, and producing publishable awareness and education materials) and provided technical equipment (for field surveys).

The project has successfully met proposed objectives. Additional achievements include:

- Construction of the Biodiversity Interpretation Centre;
- Implementation of integrated, long term environmental education programme into the local school curriculum;
- Production of multimedia to biodiversity awareness raising (National Park website).

To reach community members more effectively with materials the project produced taxonomic biodiversity posters to compliment the field guides. Additions such as a website and general publicity material (such as desk calendars and posters) allowed the project to reach a wider national and international audience.

A significant amount of project time was dedicated to building the Biodiversity Interpretation Centre, including the researching, planning and overseeing the construction of the building. The original proposal aimed to use an existing building however this commitment from project associates (FIPI) was unable to be met. The complicated task of obtaining building permissions and overseeing construction caused a delay of the centre opening. It is, however, worth stating that BTLBBAP managed to create a functional centre at a time when larger conservation projects failed to establish centres in similar areas.

## **4. Scientific, Training, and Technical Assessment**

In the interest of clarity this section will be divided into three sections representing each component of the project:

1. Workshops and Training;
2. Awareness Raising and Environmental Education Programme (includes field guides);
3. Biodiversity Interpretation Centre (includes information boards).

The components of the project cannot, however be looked at in isolation as each played a role in supporting and contributing to the other. This will be evident in each section.

### **4.1 Workshops and Training**

#### **4.1.1 Planning Project Training**

In order to facilitate planning of the project, a planning meeting was held to introduce the project to Park staff and to other relevant stakeholders, and to discuss both training and awareness-raising issues. The training planning took the form of a meeting from which training requirements were identified and prioritised, and methods and opportunities for awareness-raising discussed by participants through facilitated discussion. The conclusions of the planning meeting formed the basis of planning for the project's work and activities over the next two years.

28 participants from a wide range of backgrounds attended the planning meeting and came from the following organisations and professional areas:

- National Park management staff;
- Frontier-Vietnam project and research staff;
- Provincial, District and Commune Peoples' Committees;
- Hai Phong Institute of Oceanography;
- National Institute of Oceanography;
- Institute of Ecology and Biological Resources scientists;
- National and local media.

The participants mentioned above brought different perspectives and expertise to the planning meeting which allowed for diverse ideas and viewpoints. The contributions of all participants provided the framework for the project's activities over the next two years.

Participants concluded that workshops and training should focus on four priority areas for the National Park:

- Park Law and Enforcement;
- Biodiversity Surveying and Monitoring;
- Sustainable Tourism;
- Community Environmental Awareness.

These workshop topics were modified from the original proposal however these were deemed more significant to aid the development of the National Park, since the limited capacity of the NPA would benefit from a more holistic approach rather than strict taxonomic expertise.

An outcome of this meeting concluded trainee participation decided by discussion and mutual agreement between the BTLBBAP and the NPA. Trainees chosen would be assessed on their performance in the workshops, and where relevant would also evaluate the workshop content.

#### 4.1.2 Park Law and Enforcement

In response to decisions reached by participants at the planning workshop, the project organised a management-training workshop on park law enforcement. The aim of the workshop was to assist the newly formed park authority in their efforts to effectively implement park legislation. Through a series of technical presentations given by park law experts and facilitated discussions, participants identified constraints and opportunities to implement law enforcement activities.

As the workshop pertained to park law enforcement, participants were selected from all organisations with legal jurisdiction within the national park. The bulk of participants came from National Park Forest Protection Department with representatives from District Department of Fisheries, the Border Army and the Police. Stakeholders from various buffer zone communes were also invited.

The need for improved enforcement in Bai Tu Long is a matter of immediate priority. The park is under threat from a number of damaging practices, including logging, silviculture, hunting and over-fishing. Unsustainable exploitation of the park's resources has caused significant reductions in much of the park's flora and fauna. Many of these activities continue unchecked and may result in the local extinction of a number of species within the next few years. The imminent threats to park's biodiversity was explained in detail by Mr. N. Hardiman, Frontier-Vietnam Forest Research Programme (FVFRP) Research Co-ordinator, and Mr. Van Chiem, from the Ministry of Fisheries. They covered threats to terrestrial and marine ecosystems respectively in Bai Tu Long Bay. Vietnamese expertise was drawn from IEBR, Central FPD and Xuan Son National Park with representatives giving presentations at the workshop. They assisted in outlining the legal ramifications of the national park and explained ways in which effective liaison with the community leaders and other enforcement bodies could aid park management.

After a series of discussions led by a professional facilitator and assisted by the experts, the park began to pinpoint the serious limitations to initiating an effective enforcement programme. The participants explained the financial and capacity constraints that prevent them from adequately enforcing park legislation. This included only having only one speedboat, no GPS units, no communications equipment, no outposts and no finances to provide field per diems to park rangers. These constraints prevented any co-ordinated enforcement efforts for the park and required urgent attention. Mr. Tuy, the Director of the National Park and Head of the Provincial FPD, addressed the concerns that participants raised and explained the reasons behind the financial limitations. He also ensured that the situation would improve once the park had become more established.

The equipment from the project have assisted the park to conduct more effective law enforcement with the training and use of boats, GPS units and mapping.

Please refer to the *Frontier-Vietnam Environmental Research report 27 – Bai Tu Long Law Enforcement Workshop Proceedings* for further details (**Annex A**).

#### 4.1.3 Biodiversity Surveying and Monitoring

The training was conducted over a long period of time and with two-fold participation of park staff and students (i) within the established Frontier-Vietnam Forest Research Programme and (ii) consolidation training of senior park conservation and science management staff.

The *Frontier-Vietnam Forest Research Programme* funded by the Society for Environmental Exploration conducted a year long biodiversity research programme in Bai Tu Long Bay, in partnership with IEBR and NPA.

(i) The biodiversity research programme objectives were as follows:

- To conduct baseline surveys of protected areas and Special Use Forests in North Vietnam;
- To investigate the socio-economic conditions of the human inhabitants in and immediately connected with these areas, in order to evaluate the benefits derived from the forest resources and the threats posed by human exploitation;
- To provide information on the biological values of, and threats to, these areas, and to assist in the development and execution of management plans in those areas;
- To provide training for FPD and NPA staff and Vietnamese students in biodiversity field techniques.

Students and staff participated during a year long biodiversity survey conducted within the BTLB during 2002, ten trainees participated for two weeks each. The aim was continue the survey work into 2003 and conduct morning “on the job” training during this time, however permission was denied (by the National Centre of Science and Technology) to the volunteer research assistants of Frontier-Vietnam and no full-time survey could be conducted. (Please refer to the Annual Report 2003 section 3.6 for further details.) Further training was conducted through an intensive workshop (ii) below where two UK experts (Dr. Shonil Bhagwat and Ms. Catherine Bloxam) facilitated the training and evaluation activities providing more “one on one” training which ensured that the same effort and input for training was conducted as originally planned.

Please refer to the Frontier-Vietnam Environmental Research report 26 – *Bai Tu Long National Park Biodiversity Evaluation (Annex B)*, this supersedes the interim report sent with the Annual Report 2003 and an article published in *Biodiversity 5 (2) 2004 - Innovative conservation initiatives: Bai Tu Long Bay, Viet Nam (Annex C)*.

(ii) A *Biodiversity Survey and Monitoring Consolidation Training Workshop* was for the Bai Tu Long Bay National Park staff. This very successful training workshop was planned in order to provide consolidation training to the National Park staff of essential field skills required to effectively monitor biodiversity. The training built upon initial training provided through the Frontier-Vietnam Forest Research Programme. The focus of this workshop was on forest biodiversity, particularly tree and bird diversity.

Staff members from the Science, Conservation and the Forest Protection Departments of the National Park and the Head of Conservation Department took part in the training workshop. In addition the British experts Dr. Shonil Bhagwat and Ms. Catherine Bloxam spent four weeks in Vietnam accompanied by two Vietnamese scientists, a botanist and an ornithologist. Three translators, a cook and BTLBBAP Project Manager also took part in the workshop.

The training workshop was divided into three parts – Classroom Component I (CC I), Field Component (FC) and Classroom Component II (CC II). While the focus of the workshop was on teaching field-based techniques (FC), initial introduction to the theory of biodiversity surveying and monitoring and planning was made during CC I and time was allocated for data analysis, report writing and presentation of results during CC II. Teaching methods used included PowerPoint presentation, talks with visuals, games, providing information worksheets, discussion and practical exercises. Some time was spent doing individual teaching and discussion. Performance of each of the trainees was assessed continually.

Assessment and feedback were used to ensure that the workshop and training was at an appropriate level for the trainees, teaching was appropriate and relevant, trainees were improving their knowledge, field skills and reporting ability, and the stakeholders were happy (experts, national



park directors, trainees). Methods of assessment and feedback included: an initial interview for a first impression of each trainee; worksheets to determine the level of basic skills and knowledge; observation to monitor behaviour; formal and informal questioning; performance in a management role play; standard of written work and presentation; a comprehensive individual feedback session; a final multiple choice assessment; opportunistic informal feedback; and feedback forms at the end of the course. All trainees performed well in most aspects of the training.

As a result of the training workshop the trainees learnt to prepare a survey plan; what makes good camping practice ensuring environmental good practise; theory and context of biodiversity surveying and monitoring; tree, bird and GPS survey techniques; management role-play; good data recording practice; and how to analyse data, write report and present the results.

The key reasons for the success of the workshop include: flexible and adaptable approach to teaching; focus on field-based training; use of visuals and games; and continual assessment of performance; a combination of incentives, responsibilities and high expectations; and enthusiasm and efficiency of staff, trainers and experts.

Please refer to the Frontier-Vietnam Environmental Research report 28 – *Consolidation Biodiversity survey and monitoring training: Bai Tu Long National Park* for further details (**Annex D**).

#### **4.1.4 Sustainable Tourism**

A tourism-training workshop was held to introduce the concepts of the sustainable development of tourism and to formulate an agreement among National Park stakeholders towards a sustainable tourism strategy for Bai Tu Long Bay National Park. Key stakeholders, such as national park staff, commune leaders, local developers and tourism operators, from Bai Tu Long Bay were invited to attend the series of presentations and discussions.

A British tourism expert, Dr. Emma Gardner spent 4 weeks in Vietnam, led the workshop and carried out a rapid assessment of eco-tourism potential in Bai Tu Long. The assessment, which involved participation of the NPA Department of Conservation, was used as the basis for discussion. Leading national and international experts gave presentations on current trends in tourism within the region, highlighting benefits and negative sides of the industry.

Tourism development is encouraged and welcomed throughout Bai Tu Long by all stakeholders because of economic benefits which can be derived from this industry. Stakeholders recognised the need for planning, education, community involvement and environmental protection alongside tourism development. Presentations introduced different types of sustainable tourism development, more specifically eco-tourism and community-based tourism (CBT); impacts of tourism; environmental management; tourism planning; marine and terrestrial biodiversity; sustainable development, and sustainable tourism within Vietnam. A one-day study tour was included in the workshop in order for participants to experience the tourism product and think about existing environmental impacts.

A *Tourism Strategy* was instigated based upon sustainable principles agreed by workshop participants.

Stakeholders agreed to *‘...encourage environmental regeneration and protection alongside economic and social benefits, through the sustainable development of tourism in Bai Tu Long; using eco-tourism and community based tourism as precursors for development’*.

Stakeholders suggested zoning tourism activities throughout Bai Tu Long, designating the whole of Bai Tu Long Bay National Park’s core and buffer zone as an ‘activity zone’, but within this zone

designated sanctuary, wilderness and development zones. The next steps for Bai Tu Long Bay stakeholders' to take are the establishment of a tourism project management committee, consultation, communication and the launch of a monitoring programme.

This workshop facilitated capacity building and education of BTLB stakeholders as well as the communication and exchange of ideas. It appears that before the sustainable development of tourism throughout BTLB, a provincial and BTLB stakeholder agreed strategy should be written, based on ideas generated through this workshop, as well as stringent planning and legislation to accompany any plans. In addition to a sustainable strategy, it is suggested that a tourism mediator is employed to assist communication, education, training, environmental management and monitoring issues.

Participants gave the workshop a very good evaluation, citing it was the first opportunity they had been given to discuss tourism development with all local stakeholders. They also realised many of the misconceptions they had about eco-tourism and its true definition.

Please refer to the *Frontier-Vietnam Environmental Research report 29 – Sustainable tourism: Bai Tu Long National Park* for further details (**Annex E**).

#### **4.1.5 Cuc Phuong National Park Study Tour**

As part of the training programme initiated by BTLBBAP, a three day study tour to Cuc Phuong National Park was organised. All members of the NPA Management Board attended, except Mr. Tuy, the Director. The tour provided an opportunity for the Board to observe a well established National Park with a comprehensive Awareness and Environmental Education Programme. Participants had an opportunity to meet with the management staff of Cuc Phuong National Park and learnt from their experiences developing and running the park. Other activities included a visit to the Endangered Primate Rescue Centre (EPRC) and Owstons Civet Programme (OCP). This was of particular interest due to the park's plan to implement a captive bear programme in Bai Tu Long Bay.

Upon arriving at Cuc Phuong National Park, the Bai Tu Long Bay participants met with Mr. Bich, Vice Director of the park. Mr. Bich explained the current work in Cuc Phuong and explained some of the difficulties they faced, such as the plan to build the Ho Chi Minh highway through the park. The Bai Tu Long Bay participants were particularly interested in Cuc Phuong's development of a tourism programme. The construction of a gate, visitors centre, hotel and restaurant facilities and a botanical gardens permitted Cuc Phuong to receive a high number of visitors which the Bai Tu Long Bay NPA are currently working towards.

Next on the tour, the Board were taken around Cuc Phuong Visitor Centre. Cuc Phuong was the first park in Vietnam to develop a visitor's centre. Assisted by other NGOs Education for Nature-Vietnam (ENV) and Fauna and Flora International (FFI), the park have established a series of displays describing the history and biodiversity of the park as well as issues affecting its conservation. The Board could see the value of the centre, in raising awareness among visitors to the park and helping to ensure visitors act responsibly during their visit. One problem noted of the Cuc Phuong Visitors' Centre was that it was not located at the official entrance to the park, limiting the number of visitors it received. Careful planning of the Bai Tu Long Bay Biodiversity Interpretation Centre has ensured that the centre will mark the official Minh Chau entrance to the National Park.

Due to the park's interest in developing a captive bear enclosure they were particularly keen to learn from the experiences of the EPRC. Uli Strecher, Veterinary Supervisor, gave the park officers a comprehensive tour of their facilities and fielded many questions on how they maintain the enclosures, what diet, medical care is required to house the primates.. Ms. Strecher noted their

enthusiasm and general interest in the programme.

The remaining time on the tour, the Board split into two groups. The Vice Director, and heads of the Science, Administration and Forest Protection Departments met with the Management Board of Cuc Phuong to discuss management strategies and protected area decentralisation. As Bai Tu Long Bay National Park is the first park in Vietnam to be provincially administered, they were interested learn more about Cuc Phuong's experience remaining centrally administered. The Head of Conservation, Mr Ung, and staff from BTLBBAP went on a tour of Cuc Phuong's environmental education programme. They learnt how the programme was devised for schools in the park's buffer zone communes with the help of Environment for Nature Vietnam (ENV), a Vietnamese NGO. Local partners now sustain the programme with no assistance from ENV.

Overall, the study tour was of great use to the NPA Management Board and covered a range of topics relevant to Bai Tu long National Park. In the evaluation however, The Board felt the tour was too short and would have preferred more time for each visit. As a result, BTLBBAP organised two further topic-focused visits for NPA and DET staff to learn about Cuc Phuong programmes.

#### **4.1.6 Technical Skills**

Awareness raising requires not only good conceptual understanding but also useful technical skills. Local counterparts both at the NPA and DET both lacked the necessary computer skills to produce awareness and environmental education materials such as newsletters, field guides, and website updates. Professional computer training was organised within two structured courses to give participants the necessary skills to produce publishable materials. The first course was offered to participants who lacked general computer skills. They were taught basis desktop functions including email, internet use and word packages (WINWORD). This provided the participants with the groundwork to learn more advanced desktop publisher programmes in the second course such as Microsoft Publisher and Photoshop. Course instructors evaluated participants throughout the course and evaluated their performance. Overall the trainees, received high marks and demonstrated the ability to use computers to produce quality environmental education materials for awareness and classroom activities. The DET were so impressed by the quality of the instruction that they have continued further training outside of the project in order to train more of their staff.

## **4.2 Awareness Raising and Environmental Education Programme**

The project Awareness Raising and Environmental Education Programme initially focused on the communities of the five buffer zone communes as the major target audience for activities. It became apparent, however, that information should not only flow down from the National Park to local communities, but also up to district, provincial and national levels. In order for the National Park to receive the recognition and for the authority to work and form partnerships, and ultimately to secure funding and assistance, the Awareness Raising and Environmental Education Programme widened its focus to include a more diverse target audience.

The awareness and environmental education programme had two aims:

- To enable the participation of local people by providing regular, quality information to the people of Bai Tu Long Bay;
- To raise the profile of the National Park at local, provincial and national levels.

The aims are realistic and achievable. 'Enable' is the key word. By raising people's the programme enables people to make informed choices, and thus are able to contribute to changes in attitudes and behaviour. Based on the programme aims, the following comprehensive objectives were developed in order to ensure that all components and activities remained focused:

- Build the capacity of management and staff members of the National Park by ensuring participation and partnership in all planning, decision-making and implementation stages;
- Facilitate communication between the National Park and local communities, including district departments and organisations, in order to promote consultation in planning and decision-making processes;
- Raise awareness of the National Park as a guardian of the rich and unique biodiversity of Bai Tu Long Bay at local, district, provincial and national levels;
- Increase the awareness of threats to biodiversity and their consequences;
- Increase the appreciation of the importance of local natural resources;
- Promote sustainable use of natural resources.

With these in objectives in mind, the following outputs of the BTLBBAP sought to raise awareness of a diverse target audience:

- Environmental Education Programme (including Teacher training);
- Newsletters;
- Awareness materials;
- Biodiversity taxonomic field guides;
- National Park website.

#### **4.2.1 Environmental Education Programme**

The aim of the Environmental Education programme was to provide an opportunity for Bai Tu Long National Park to invest in future attitudes and behaviour towards the National Park, the local environment, and conservation issues in the five buffer zone communes.

In order for the National Park to raise awareness of local communities in the buffer-zone communes, strategies included as wide a target audience as possible. The Environmental Education programme enables the Park to communicate directly with the younger members of the community and thus invest in their future attitudes. The DET provided an ideal existing channel of communication with professional, experienced staff, and thus planning and implementation of the programme faced few implementation difficulties.

Following meetings with the DET, it was agreed that the Environmental Education curriculum would be incorporated into the normal school curricula, forming part of the citizenship course. A Memorandum of Understanding was agreed between FV and DET. The DET had experience in HIV and traffic safety education programmes and fully supported the Environmental Education curriculum. The curriculum focused on grade 6 in the district schools and delivers one 45-minute lesson per month (an eight lesson curriculum). The National Park committed to the Environmental Education curriculum, and the conservation department participated throughout planning and implementation.

Research on existing Environmental Education programmes in National Parks throughout Vietnam was undertaken including topic lists, lesson format, structure and teaching methodology. The Van Don District Department of Education and Training (DET), the Conservation Department of the Park and the BTLBBAP formulated the curriculum. The Conservation Department and the BTLBBAP were responsible for lesson content. Lesson format and structure will be the responsibility of the district DET and the BTLBBAP. Design of lesson structure and content has been undertaken during planning meetings with the National Park and the DET.

#### *Teacher training workshop*

Training for 30 teachers, two representatives of the district DET and two National Park staff, undertaken by the BTLBBAP over a two week period, consisted of content and methodology training prior to the commencement of the curriculum at the beginning of the second semester of the current school year (February 2003). In addition a second study tour to Cuc Phuong National Park was carried for two days specifically for DET and teaching staff to investigate the education programme.

#### *Lesson Topics*

- Lesson 1: The environment-Introduction to BTLB National Park
- Lesson 2: Introduction to ecosystem-focus on terrestrial areas of BTLB
- Lesson 3: Marine ecosystem in BTLB
- Lesson 4: Biodiversity in BTLB
- Lesson 5: Food chain
- Lesson 6: Adaptation
- Lesson 7: Environment degradation/ Threats
- Lesson 8: Environment protection (what can we do?)

Please refer to the *Environmental education handbook* created through the project (provided in hard copy and on CD) (**Annex F**).

#### *Lesson plans*

The DET were responsible for selecting the group of teachers who undertook initial lesson design. Following initial lesson design, a workshop was organised for teachers to discuss and review the first four lessons of the curriculum. Following agreement of lesson design, the first four lessons were printed and distributed to the five buffer zone schools. The final phase focused on training teachers in the five buffer zone schools in preparation for piloting at the beginning of January. The first four lessons will be piloted in all five schools. Following the end of the school year, all stakeholders including participating teachers were invited to review the lessons and prepare for production of the entire curriculum, (which began in the first semester of 2003).

#### *Lesson design*

The Project organised a meeting with the National Park, the DET and teachers from Quan Lan and Ha Long commune. These teachers were responsible for lesson design and were chosen by the DET for their experience and skills. Representatives of the Park, the BTLBBAP, the DET and eight local teachers attended the meeting. Participants were presented with an introduction to the Environmental Education curriculum and teachers were given presentations on lesson content. The methodology used for lesson design uses the experience of local teachers. They were provided with content and a template and then asked to design appropriate lessons for grade 6 pupils.

The lesson plans were reviewed and edited by BTLBBAP staff, and a draft was produced for the first four lessons. The next meeting with the same participants reviewed the draft before publication of a final design.

Approximately 24 teachers are now currently teaching the Environmental Education course in all grade 6 classes in Van Don District, to approximately 1,000 students. At the end of the school year, the course was revised according to teacher and student comments before publication of a final hardcover course handbook. This handbook is used by students and then collected at the end of every year and reused in subsequent years.

The programme has been described as a case study, which will shortly be submitted for peer-review, please refer to the draft manuscript (**Annex G**).

For further detail of the effectiveness of the Environmental Education Programme please refer to

Frontier-Vietnam Environmental research report 30 – *Bai Tu Long environmental education evaluation (Annex H)*.

#### **4.2.2 Newsletters**

The production of a newsletter by the National Park provides a channel of communication between the National Park and local communities that allows for concise top-down information flows. The newsletter represents a one-way channel of communication, and thus facilitates the raising of biodiversity issues by the National Park to target audiences at local, provincial and national levels. Therefore, the newsletter acts as a tool that encourages participation through discussion and debate on important local issues concerning the National Park and its activities.

The newsletter enables the National Park to disseminate clear and concise information, and acts as a facilitator of discussion and debate between the National Park and local communities. In addition, it provides an opportunity for consultation and engagement of local communities, and aids in an overall participatory approach that seeks realistic alternatives to existing unsustainable practices.

Initially, the target audience for the newsletter consisted of the local communities of the five buffer zone communes. However, it soon became apparent that the newsletter provided a medium that had the potential to raise awareness at the district, provincial and national levels. Therefore, the newsletters are distributed to residents of the buffer zone communes, district organisations (including mass organisations such as the Women's Union and the Youth Union), provincial people's committees and departments, National Parks throughout Vietnam and various relevant institutes and organisations at the national level. In addition, an electronic version in English is distributed to environmental international non-government organisations throughout Vietnam.

The newsletter content and distribution have been taken on by the National Park and is continuing to serve a vital communication function for park management.

Please refer to **Annex I** for copies of the four newsletters in Vietnamese and English.

#### **4.2.3 Biodiversity taxonomic field guide and poster series**

A series of four biodiversity taxonomic field guides specific to Bai Tu Long Bay have been produced (**Annex J**). The field guide series provides an opportunity to transfer existing available data on the biodiversity of BTLBNP to a usable and informative medium for raising awareness and interest in the biodiversity of BTLBNP to selected target audiences and aid training of park staff. In addition, the images and information sourced for the guides have also been utilised to design a corresponding poster series. The poster series (**Annex K**) provides an opportunity to take advantage of the numerous mass organisations, which have offices, representatives and members from national to village level. In addition, the guides and posters act as valuable teaching aids to the school component as with the BTLNP newsletter, the guide/poster series has been distributed to district organisations (including mass organisations such as the Women's Union and the Youth Union), provincial people's committees and departments, National Parks throughout Vietnam and various relevant institutes and organisations at the national level. Moreover, they are distributed in large numbers to schools throughout Van Don district and have proved to be valuable teaching resources. Rather than focus on local environmental issues in isolation, the guide/poster series aims at interpreting recent survey data into an accessible format that includes images while providing an overview of current situations as well as species descriptions and characteristics of each biodiversity focus.

#### **4.2.4 Website**

The aim of the website is to provide BTLBNP with a means to disseminate and share information with national and international government and non-government organisations, other national parks at home and abroad, and interested individuals with access to the internet.

BTLNP is a new national park, having been in existence for less than three years. It is, therefore, extremely important that the park has the means to offer detailed and concise information on both its unique geographical characteristics and planned and current activities, in order to attract interest and investment from both national and international organisations. Furthermore, a website provides a tool for sharing experiences with other National Parks that currently maintain websites, and aid in the sharing of ideas, skills and the promotion of co-operation. In addition, with the rapid spread of internet access that is now available to a proportion of the population, including residents of the buffer zone communes, the BTLNP website has the potential to reach increasing numbers of all identified target audiences.

[www.baitulongnp.com](http://www.baitulongnp.com)

Web pages are saved on CD and hard copies of pages are included in **Annex L**.

The website is currently being updated and will include the field guides, posters and newsletters available for download. These are also available for download from the Frontier website:

[www.frontier.ac.uk](http://www.frontier.ac.uk)

### **4.3 Biodiversity Interpretation Centre**

The Biodiversity Interpretation Centre was developed in three stages:

- Feasibility and Funding;
- Planning, Permission and Construction;
- Display Development and Centre Management Training.

#### **4.3.1 Feasibility and Funding**

In light of the broken agreement from Forestry Inventory and Planning Institute (FIPI) of a building to convert into the Biodiversity Interpretation Centre, no building was provided for project use. Thus the construction of the centre became an additional objective of the project.

Extensively research into the feasibility of constructing a centre was conducted, discussing the matter with local counterparts and other organisations with experience in centre building. Meetings with local officials and construction companies allowed staff to understand the legal hurdles as well obtain construction and time estimates for the centre. Draft plans were drawn for accurate estimates and potential centre locations were visited. The information formed the basis of for a proposal to the British Embassy Hanoi Environment Fund. The proposal was successful and the project received sufficient funds to cover the construction costs for the centre, an addition to the original project proposal.

#### **4.3.2 Planning, Permission, and Construction**

##### *Design and Planning*

The centre has been designed to act as base for conservation awareness raising activities among buffer zone communes and visitors to the park. In doing so, it will fulfil the following objectives:

- Provide an educational facility for community and school environmental activities as well as visitors to the park;

- To hold a series of displays describing the flora, fauna and conservation value of Bai Tu Long Bay;
- Provide a base for park-related community forums and training workshops;
- Provide an ecologically sensitive model for other buildings in the area to follow.

#### *Target Audiences*

- Local school children will use the centre as part of the pilot curriculum currently being planned for one class in all buffer zone secondary schools. Organised weekends of activities will be held for the pupils at the centre covering a variety of environmental and National Park related topics. The Centre will also hold displays and games for local children to use and learn from.
- Community groups will find informative displays and exhibits as well as a venue for meetings and seminars to discuss and learn about the park.
- The National Park Authority will use the centre as a future base for awareness raising activities in Bai Tu Long Bay outer communes.
- Visitors to the park will find a wide range of displays and resources to better inform them about Bai Tu Long Bay. It will also be a place where guided tours around the park and admission tickets can be purchased.

#### *Site Selection*

A site for the centre was selected in Minh Chau Commune, Quan Lan Island. It is located within the main commune village, just off the main road and only a short walk from one of the best beaches in Bai Tu Long Bay. The site is sufficiently sheltered from storms by a large grove of trees and set approximately 100 metres back from the high tide mark. The border from the National Park runs north of the centre site and close enough for the building to act as a stopping point for visitors to the park as well as a location to charge entrance fees. The sites close proximity to commune residents will also make it easily accessible for community use. Land for the centre has been leased from the local landowners who were compensated according to government rates.

#### *Building Design*

The Centre has been built in the style of a traditional Minh Chau family house. The long pillared design with a large veranda and main door resembles other houses on the island dating back to the 17<sup>th</sup> Century. This design will enable the building to blend well with other commune houses and should be easily constructed by local labourers. A ceramic tiled roof has also been selected for this reason as well as for its durability and ecological sensitivity. Materials were chosen of minimal ecological impact with an emphasis on durability in a coastal environment. Due consideration had to been given due to the limited funds available and some compromises have been made.

The interior of building is divided into four rooms. The main room is a display and meeting area, measuring 108 sq metres. Adjacent to this is an office for centre staff to work and store materials. The other two rooms are a bedroom (twin beds or bunks) and adjacent bathroom. All walls are painted white with well-sized windows in all rooms. All floors are covered with durable joint venture ceramic tiles in consideration of the high foot traffic the centre may expect and the wetness and sand which visitors might bring in from the beach.





Figure 1: Building in progress



Figure 2: Building freshly painted

### *Energy Consumption*

As Minh Chau does not have electricity, the centre will depend initially upon generators. Energy efficient equipment will be used, and low tech will be the priority for all centre activities. Electricity will need to be sufficient to run a computer, fans and strip lighting. A cooker will run on gas. A very open and airy design coupled with generally breezy conditions will hopefully counteract the need for fans.

### *Water Consumption*

Water is limited in Minh Chau so the Centre will seek to be as self-sufficient as possible. Rainwater is collected on the roof through a water tank and guttering. A low flush toilet has been used with a septic tank. A well has also been dug on the grounds for watering the garden.

### *Building Permission*

Building permission was the most time-consuming and difficult part of the Centre construction process. Staff had initially informed by our counterparts that it would be a relatively fast and easy process as the centre was to be government property. However, the enormous bureaucracy associated with construction and land tenure, resulted in unpredicted and costly delays to the project schedule. Numerous documents had to be submitted to various departments at commune, district and provincial levels just to obtain permission to pursue construction. After three months, the documents were all submitted to the provincial chairman's office where they remained delayed for a further month. Only with the direct intervention of the British Ambassador, was permission granted by the chairman to proceed. Lengthy delays are standard practice for even government construction projects and the centre received permission relatively quickly. The NPA, for example, waited over two years to begin construction of their HQ office.

Even after the Centre had received permission from the chairman, construction planning and land leasing permission was still required. Working in collaboration with the construction company, BTLBBAP and NPA drew up building plans and submitted them to the various involved departments. This process took over six months to complete and centre construction was finally able to begin in May 2003.

### *Construction*

Building the centre took 3 months in all. Activities were monitored by BTLBBAP staff and by an independent construction expert. A construction team of eight from both Minh Chau commune and other provincial communes worked continually on the building. No significant delays or problems resulted in this process although Minh Chau experienced a tropical storm during construction.

#### 4.3.4 Display Design and Management Training

##### *Display and Exhibit Development*

The overall aim of the displays is to give both visitors and community member a broad understanding of the history, ecology and conservation needs of Bai Tu Long Bay National Park. Displays emphasise the interconnected nature of biodiversity and the role society plays in affecting this relationship. Displays and exhibits were developed in collaboration between BTLBBAP, NPA and the DET. They cover a host of park topics and are tailored towards a broad spectrum of ages, community members and park visitors. Specific exhibits and displays have been made for children in a separate section of the centre.



Figure 3: Virtual centre plan



Figure 4: Virtual interior design

The general theme for centre displays is the ecology and conservation of Bai Tu Long. This broad topic will be divided into four sections:

- The History of Bai Tu Long;
- The Ecology of Bai Tu Long;
- Threats to the Park;
- Meeting Conservation Challenges.

Each section categorises information and act as a guideline for Centre visitors. Information is presented in a multimedia format varying according to the particular needs of the section. A combination of wall mounted displays, 3-D models, interactive and hands-on exhibits are used throughout the different display sections. Curving organic and continuous display designs have been prioritised to give a more natural, flowing feel to exhibits rather than the more typical square formats. Each section holds four or more separate displays

Each section features one display specifically exploring one current topic in BTLB. This display will be considered temporary and should be changed annually or seasonally. Topics such as coral spawning, bird migration, turtles in BTLB or tourism development are a few examples of topics that could be singled out for specific attention. It is important that the Centre has evolving displays and reflects the natural and manmade changes that constantly impact and alter the park.



Figure 5: Centre display: wildlife trade



Figure 6: Centre display: Dos and Dots

*Training*

To prepare NPA staff for managing the centre, a short course was held in Cuc Phuong National Park Visitors Centre. The NPA staff and members of the Minh Chau Youth Union learnt the principles of the centre maintenance and management in a two day course lead by expert staff from the Cuc Phuong centre.

*Centre Opening*

The Biodiversity interpretation centre was officially opened 5<sup>th</sup> March 2004, with representatives of the National Park Authority, Ministry of Agriculture and Rural Development, Forest Protection Department, the British Embassy, Frontier-Vietnam and community members.



Figure 7: Opening meeting



Figure 8: British Embassy representative cutting the ribbon

**5. Project Impacts**

The project purpose *to raise biodiversity awareness and to facilitate conservation measures in Bai Tu Long Bat National Park* has been accomplished through the range and variety of project achievements. The biodiversity interpretation centre provides a focal point and a major project achievement with displays planned and constructed and the centre in use by the NPA and community members.

A range of trainees participated within the training workshops relating to law enforcement, biodiversity survey and monitoring, environmental education and eco-tourism. Trainees were staff of the NPA, FPD, DET and students. Evidence of trainee participation and progress are within the accompanying documents in Annexes A, B, D, E and H.

The project has managed to strengthen links between the DET and NPA of Bai Tu Long Bay National Park, via the production of the environmental education programme and handbook. Civil society and NPA have a channel of communication through the park newsletter, a medium through information can be shared and disseminated. The NPA are continuing with the newsletter production, having had further technical skills training to ensure the NPA has the means and know how to produce the newsletters. Channels of communication have been opened and exploited that did not previously exist before the project.

Beneficiaries of the project include NPA and FPD staff and students of Bai Tu Long Bay, 1,000 plus school children from buffer zone commune schools over 30 staff and teachers of the DET and community members from 5 buffer zone communes of the national park over 3,000 households.

### **Exceeding Expectations**

The project can claim to have succeeded in raising biodiversity awareness not only in Bai Tu Long but also provincially and nationally in Vietnam. By combining local oriented awareness programmes such as environmental education, community forums, newsletters and the centre with mass media methods such as a website, email newsletters and TV coverage, BTLBBAP reached a very wide audience.

One of the most positive impacts has been with the DET and the Environmental Education programme. It was the DET that suggested we expand the programme district-wide rather than the planned 5 buffer zone communes. The programme was able to teach all grade 6 classes in Van Don District and has had a number of knock-on effects. Notably, a number of school children from the course developed their own green clubs with their teachers.

The centre will become a valuable social resource for the Bai Tu Long Bay community, particularly in Minh Chau. It is only tourism information centre in the district and will attract visitors to Minh Chau who might not have ordinarily come. It should also positively impact their attitudes and behaviour to National Park and help foster a more sustainable relationship between tourists and the park. The centre will also be used by local schools for their green club and has already been used to host community forums to discuss park related issues.

BTLBBAP project objectives have also assisted the NPA and Vietnam towards meeting their obligations to the CBD. The project enabled local counterparts towards meeting Article 12 and 13. By focusing on propagating the conservation of Bai Tu Long Bay through a specifically targeted media awareness campaign, the project made significant progress towards Article 13's obligations. Aside from raising much needed awareness amongst communities in Bai Tu Long Bay, through TV, radio, newspapers and the internet, BTLBBAP has helped to initiate national awareness of Bai Tu Long Bay National Park. This has helped bring considerable attention to the National Park and recognition within the government of the issues the park faces. The park staff have shown evidence of recognising the importance of awareness raising and even initiated their own workshop to discuss sea turtle conservation with the local community.

The workshop training provided also assisted counterparts towards meeting Article 12. Biodiversity monitoring training enabled park science and conservation staff to undertake simple research tasks within the field and write concise focused reports on their studies. They were able to employ these skills when scientists from the Forestry Inventory and Planning Department conducted surveys for updating the park management plan. The visiting scientists were impressed by their field skills and their knowledge to the park's terrestrial flora and fauna. Further training in law enforcement, eco-tourism and desktop publishing has also contributed to the park authorities abilities to carry out a range of conservation tasks. For example, the park now have the technical capacity to publish awareness materials such as newsletters, assess tourism investments in the buffer zones, and co-ordinate enforcement efforts with other agencies working in Bai Tu Long.

Article 12 has also been addressed through capacity building within the DET. After planning and implementing a District-wide Environmental Education programme with BTLBBAP assistance, the

DET now run the classes with no further aid. Their teacher trainers have the capacity to train further teachers and develop new lesson ideas for the course curriculum. The programme has been particularly successful in forming a collaborative relationship between the NPA and DET. Both institutions normally do not work together but through the Environmental Education programme they fostered working relationship which continue to support and inform the curriculum. Further collaboration will also extend to the management of the centre through another partnership with the Minh Chau Youth Union.

## 6. Project Outputs

All project outputs are listed in Appendix II.

To fulfil the project's aim, a number of additional outputs were generated.

### **Environmental Education Course/ handbook**

The environmental education course and handbook (**Annex F**) was not a determined output of the project but due to the enthusiasm of the DET, BTLBBAP decided it was an excellent opportunity. This led to the publication of the environmental education student handbook.

### **The design and construction of an Interpretation Centre**

Without the allocation of building for the Centre, the design and construction of the Centre became another additional output. As a result the building could be purpose-built and located at an optimal site.

### **Taxonomic poster series**

To complement the awareness raising ability of the field guides, matching posters were also produced. These contained the same information as the field guide but displayed in large (A0) format. They proved to be a very useful tool for the Environmental Education course.

### **Website**

The BTLBBAP also assisted the development of a National Park website. This enable the NPA and BTLBBAP to disseminate park information to a very wide potential audience. The park have also been trained to update the website with new information and reports.

The project had planned to implement a *loud speaker* system to disseminate information to buffer communes as outlined in the Annual Report 2003 and had secured the necessary funds c \$3,000 US from the FCO through the British Embassy Hanoi. However at the planning stage prior to implementation the progress was halted as in order to gain the necessary permission to install the system a large "fee" was requested. Project and organisational policy is not to pay bribes, thus this initiative could unfortunately not continue. At this stage funds had not been released from the British Embassy Hanoi and were re-allocated.

### *Information dissemination*

All reports and outputs have been disseminated widely to other organisations and individuals working in or within conservation of terrestrial and marine protected areas. Planning documents for workshops, centre and Environmental Education activities were sent to organisations such as WWF, FFI, Birdlife, ENV (Environment for Nature Vietnam) as well as Vietnamese Ministries such as the Ministry of Agriculture and Rural Development, Institute of Ecology and Biological Resources, Institute of Oceanography (Hai Phong), and the Ministry of Fisheries. Documents were discussed in meeting or through email and plans were often adapted by comments from peer review. Outputs such as newsletters, field guides and posters were either mailed or sent electronically. Future dissemination of information will be the responsibility of the NPA and DET who have distribution lists for all outputs and over the course of the project, they have developed a network of organisations interested in the future progress of activities in Bai Tu Long Bay. All published outputs, reports, articles, papers, field guides, posters and environmental education handbook will be posted on the new Frontier website due to be launched by October 2004.

## 7. Project Expenditure

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Item	Budget (£)	Expenditure (£)
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Expenditure has largely been in line with that budgeted.

## 8. Project Operation and Partnerships

The project had three local partners and two national level partnerships at the organisational rather than project level, as stated below.

### *Local partners – project level*

#### **National Park Authority (NPA)**

The NPA were the main project partner. All activities involved consultation and planning with the NPA management board and their personnel were targeted in all training. Typically before any activity began, a consultative meeting was held between BTLBBAP staff and the NPA board. Plans were discussed and agreed. Modifications were frequently made after meetings and are evident in the structure of the training programme which incorporate many topics relevant to the parks needs. At the outset of the project, we had conceived a more active partnership with NPA, unfortunately, as their skill level was extremely low, basic training was initiated to further engage the park with project activities. Key individuals within the NPA responded well training and took initiative, particularly within the park's conservation and science departments. As a result, the National Park now has a number of competent science and awareness officers with a variety of useful research, education and technical skills.

#### **District Department of Education and Training (DET)**

The DET was not a planned partner with the project but their enthusiasm for Environmental Education lead to a strong and productive relationship. Through regular planning and training, the DET were able to implement the Environmental Education programme in less than one year. They took an active role in developing programme and keenly attended all training and discussion meetings. The DET's influential and respected standing in the district greatly assisted BTLBBAP's work not only on aspects of Environmental Education course, but the project in general.

#### **Commune and District Authorities**

The project worked closely with the District and Commune People's Committees on a range of activities. Their assistance particularly with implementation of the Environmental Education programme and the centre was vital to their success and future sustainability. They also attended a variety of workshops and gave a valuable local perspective to park-related issues. This was most evident at the Tourism Planning Workshop where they frankly discussed the potential impacts tourism may have on the National Park.

### *National partners – Organisational level*

#### **Institute of Oceanography (IoO)**

Frontier/ Society for Environmental Exploration has had long term links with IoO and has been working in collaboration through a Memorandum of Understanding since 1999. With reference to this project IoO have participated in the planning and implementation of project activities.

#### **Institute of Ecology and Biological Resources (IEBR)**

Frontier/ Society for Environmental Exploration has had long term links with IEBR and has been working in collaboration through Memoranda of Understanding since 1996. With reference to this project IEBR have participated in the planning and implementation of project activities.

In addition project collaboration extended and existed with similar projects and organisations working in Vietnam, as outlined below.

#### **Flora Fauna International Coastal Support Project**

BTLBBAP found a number of ways to collaborate FFI's Coastal Support Project in neighbouring Ha Long Bay. As both projects focused primarily on awareness raising, ideas, methodologies and



materials were shared. Representatives from FFI presented at the tourism workshop and we assisted their efforts developing an Environmental Education course for the Cat Ba and Ha Long area.

### **WWF Indochina**

The BTLBBAP has kept a close relationship with the WWF Indochina particularly with their coastal programme. With their interest in sea turtle and dugong conservation, we have helped them raise local awareness through our newsletter and centre displays. BTLBBAP staff have also assisted WWF with their project developed a participatory Environmental Education curriculum at the Xuan Son School of Forestry.

### **Netherlands Development Organisation (SNV)**

With SNV's programme focused on community-based and sustainable tourism, they provided invaluable assistance at the tourism planning workshop.

### **IUCN – Hon Mun Marine Protected Area Pilot Project**

IUCN's Hon Mun project and BTLBBAP regularly exchanged materials and reports. Project staff were also invited to present at a Marine Protected Area Discussion workshop hosted by IUCN and to participate in a Sea Turtle Conservation Strategy Workshop.

### **Central Forest Protection Department (FPD)**

The FPD Central can be considered the Biodiversity Strategy office for Vietnam. We were able to directly collaborate with them on law enforcement workshop where the former Director of the Department presented on law enforcement strategies for Bai Tu Long Bay.

Since the end of the project the DET have organised a District-wide Environmental Education festival, which was attended by project staff. The NPA and District officials also attended. The NPA and Minh Chau Authorities have also been active forming a partnership to manage the centre and are also working closely to effectively plan for tourism developments proposed in the commune. Equipment and training in awareness raising is being already being employed by NPA officers and DET staff. They hope to produce their first publications very shortly and they are already using the interpretation centre for community meetings.

## 9. Monitoring and Evaluation, Lesson learning

Project monitoring was conducted by London-based management staff of SEE who conducted project visits to Vietnam to assess project progress, to evaluate activities and forward planning and to provide feedback to staff in-country. These visits were conducted on an annual basis. In addition to the standard project evaluation specific evaluations were conducted to determine the effectiveness of certain project components, as outlined below.

### Environmental Education Programme Evaluation

Research carried out Ruth Mumby, UK expertise for Environmental Education, analysed the philosophy of Environmental Education (EE) that Frontier-Vietnam (FV) promotes and why and to what extent the existing structure within the Vietnamese formal educational system opposes or enhances the adoption of EE.

BTLBBAP Environmental Education programme has been assimilated into the Vietnamese formal educational system, as it does not challenge existing political, economic or social systems, two issues were highlighted: -

- The teachers find the Environmental Education activities difficult to undertake, due to the current dominant didactic and structured methods of teaching in Vietnam.
- Limited critical reflection within the Environmental Education programme hinders the participants from developing new ways of thinking that offer alternatives and possibilities for a sustainable future.

The adoption of Environmental Education is intrinsically linked with Vietnam's wider educational development in terms of promoting objective and subjective dimensions of knowing to encourage a more holistic education. The Ministry of Education and Training (Ministry of Education and Training, 2001) do acknowledge this need and hope to promote a more balanced curriculum, which, with teacher training, should aid the adoption of stronger Environmental Education in the future.

For further detail of the effectiveness of the Environmental Education Programme please refer to Frontier-Vietnam Environmental research report 30 – *Bai Tu Long environmental education evaluation (Annex H)*.

### Awareness Programme Monitoring and Evaluation

BTLBBAP staff and NPA constantly monitored the awareness programme. Regular checks were made with local communities to ensure communities received awareness materials and that they were being distributed properly. Evaluation of the materials quality relevance was discussed at regular community forums. Both international and national experts reviewed all field guides, posters and Environmental Education course material. They verified data and general content to ensure accuracy and relevance to the targeted audience.

### Training

All training was monitored and evaluated. BTLBBAP staff attended all training and monitored participants' progress through observation and mentoring, depending on the nature of the training. During structured training, participants were assessed on course material both through written and oral exercises. Results were written by the trainer into a report and submitted to participant's supervisor, typically the National Park Vice-Director. Participants evaluated the course through evaluation forms, which were collected and reviewed for future training.

### Biodiversity Interpretation Centre

As the centre was only completed at the end of the project, the impact has yet to be monitored and

evaluated. The design and construction was completed through direct collaboration between the project and NPA. All displays and design concepts were collaboratively discussed and planned before implementation. This included consultation with organisations and individuals with significant experience in centre development. The first year the Centre is open, Hoang Lan Huong (ex BTLBBAP staff member) will monitor the progress and evaluate the impact it has upon visitors and local community. She will employ KAPP surveying techniques to analyse the centre's impact upon Knowledge, Attitudes, Perceptions and Practices of users to Bai Tu Long National. Centre officers will also conduct a questionnaire with visitors to see what suggestions they have for improving the centre.

### *Key Lessons*

#### **Consultation is key to Participation**

The project set out to directly design and plan all activities with project counterparts and found the key to securing their participation was through careful consultation at the conception of an idea with this discussion forming the groundwork for future planning. This inclusive approach helped foster a greater sense of ownership towards project activities and outputs and was employed effectively in the implementation of the Environmental Education programme. The course followed existing teaching methodologies to integrate easily into the school curriculum and current teacher practices. We noted too many Environmental Education approaches in Vietnam have adopted methodologies which are difficult to transfer to teachers. Following familiar teaching methods, teachers quickly adopted the Environmental Education programme and it was easily integrated into the curriculum.

#### **Centre Location**

The lack of a Centre building caused a great deal of challenges for BTLBBAP staff, however. If a building had been provided, it would almost certainly have been in an inappropriate location as well as unsuitable in dimension for an interpretation centre. As BTLBBAP were able to choose the site and purpose-build, the building location could be optimised. Based upon our experiences, it would not be recommended to fund an interpretation centre project that did not have a verifiable building in an optimal site. A number of other projects have been witnessed in Vietnam struggling to build centres only to build it in the wrong location.

## 10. Darwin Identity

All workshops, events, meetings and publications prominently displayed the Darwin Initiative logo. It was featured on national television on many occasions and as well as both in newspapers and the radio. Darwin Initiative identity has also been promoted via the internet both on the National Park and Frontier's websites. Project staff have also represented the Darwin Initiative by giving presentations both at national and international workshops.

In Round 10, four projects in Vietnam were funded through the Darwin Initiative including BTLBBAP. The other three being: Training of Vietnamese scientists in tree seed science and technology University of Reading 10/029; Preservation, rehabilitation and utilisation of Vietnamese montane forests Royal Botanic Garden Edinburgh 10/017; Community-based conservation of Hoang Lien mountain ecosystem Flora & Fauna International 10/011. Recognition of the initiative is almost certainly high. While we have no quantifiable evidence as Darwin Initiative recognition, the fact that representatives from most international organisations and national Vietnamese institutions are often familiar with the Darwin Initiative's aims and objectives (anecdotal information from project meetings) testifies to this.

As BTLBBAP was the only international project directly working in Bai Tu Long Bay, promotion clearly identified the project, the Darwin Initiative and organisational parties.

## 11. Leverage

### **BEH Funding for Biodiversity Interpretation Centre and Radio Programme**

The British Embassy Hanoi provided funding for the construction of the Biodiversity Interpretation Centre through FCO funding. They also provided funding for a planned radio tannoy system programme for buffer zone communes. Unfortunately, the funds had to be returned the District Department of requested additional fees which were out of the funding scope.

### **Smithsonian Institute**

The Smithsonian Institute held an International workshop in Applied Environmental Education and Eco-tourism at the Khao Kheow Open Zoo, Chonburi, Thailand from the 15<sup>th</sup> July to 4<sup>th</sup> August 2003. Hoang Lan Huong, BTLBBAP Environmental Education Officer, was awarded a 1200USD scholarship to attend the one month course. **Annex M** is an article written by Hoang Lan Huong regarding her participation in the workshop. The award recognised the outstanding contribution she was making to project and her commitment to a career in conservation and environmental education.

The NPA were interested in building a animal rescue and rehabilitation centre which would initially house five Asiatic black bears, confiscated from the wildlife trade. To assist them in their efforts, BTLBBAP organised two trips for the NPA management to visit a captive civet research and breeding programme and the EPRC (Endangered Primate Rescue Centre). They had the opportunity to learn first hand how to run a captive programme and ask questions to the programme directors. BTLBBAP also facilitated meetings and communications between Animals Asia Foundation, a British Hong Kong-based organisation who specialise in Asiatic Black Bear rescue and rehabilitation programme. The support BTLBBAP gave the NPA enabled them to write a funding proposal to the Central Forest Protection Department. The NPA have subsequently received funds and plan development of the centre in late 2004.

## **12. Sustainability and Legacy**

### **Environmental Education Programme**

Through careful planning and excellent participation from the DET, the environmental education will continue long after the project. BTLBBAP have provided enough materials and training for the course to continue indefinitely. Progress will be monitored by Huong Lan Huong, BTLBBAP's Environmental Education Officer. With her new role as Communications Co-ordinator for Flora and Fauna International, she will be responsible for overseeing and assisting the DET in this new capacity. This will ensure the project will maintain communication links with our DET counterparts.

### **Biodiversity Interpretation Centre**

The Centre is a resource that will continue to benefit and serve the park and the Bai Tu Long Bay community. Both National Park personnel and members of the Minh Chau Youth Union have been provided with training to run the centre as well as initial resources to generate income to support the Centre. Haong Lan Huong who is now employed by FFI will also be monitoring the progress of the Centre and allocating further resources when and where required. The district authorities have also pledged support for the centre and the community support its function and the benefits it will potentially bring to the commune.

### **Active National Park Biodiversity Surveying and Monitoring**

BTLBBAP provided comprehensive training to the NPA in biodiversity monitoring and surveying. The project also supplied the NPA with sufficient science and field equipment including the provision of a speedboat to undertake short terrestrial biodiversity surveying expeditions. This training and equipment has already been put to use in surveys carried out by the Forest Inventory and Planning Department with support from the NPA.

Given the practical nature of the project, all project conclusions and outputs have been widely applied. Plans and materials for all outputs have been reviewed by national and international experts. The legacy could have been improved if a pre-existing forum for discussing Environmental Education work already existed in Vietnam. This would have made disseminating information about the project as well as collaborating with other Environmental Education projects more effective and facilitating greater application of project conclusions to other areas in Vietnam.

**13. Post-Project Follow up Activities** (max. 300 words)

n/a

**14. Value for money**

BTLBBAP can be considered excellent value for money. The project leaves Bai Tu Long National Park with a functioning awareness programme, an Environmental Education programme which teaches a 1000 students a year, and a brand new Biodiversity Interpretation Centre to benefit the community and the many future visitors. Given that two years ago Bai Tu Long Bay was a brand new National Park with no assets and no programmes, this represents substantial progress. BTLBBAP has also raised the profile of the National Park at the provincial and national levels through the media and participation at various events, conferences and workshops. This has helped stimulate considerable interest in Bai Tu Long Bay. The NPA received additional support from WWF and FFI as well as higher priority for funding from national and provincial authorities.

**Author(s) / Date**

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August 2004

## 15. Appendix I: Project Contribution to Articles under the Convention on Biological Diversity (CBD)

Please complete the table below to show the extent of project contribution to the different measures for biodiversity conservation defined in the CBD Articles. This will enable us to tie Darwin projects more directly into CBD areas and to see if the underlying objective of the Darwin Initiative has been met. We have focused on CBD Articles that are most relevant to biodiversity conservation initiatives by small projects in developing countries. However, certain Articles have been omitted where they apply across the board. Where there is overlap between measures described by two different Articles, allocate the % to the most appropriate one.

<b>Project Contribution to Articles under the Convention on Biological Diversity</b>		
<b>Article No./Title</b>	<b>Project %</b>	<b>Article Description</b>
<b>6. General Measures for Conservation &amp; Sustainable Use</b>		Develop national strategies, which integrate conservation and sustainable use.
<b>7. Identification and Monitoring</b>	5	Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities, which have adverse effects; maintain and organise relevant data.
<b>8. In-situ Conservation</b>		Establish systems of protected areas with guidelines for selection and management; regulate biological resources, promote protection of habitats; manage areas adjacent to protected areas; restore degraded ecosystems and recovery of threatened species; control risks associated with organisms modified by biotechnology; control spread of alien species; ensure compatibility between sustainable use of resources and their conservation; protect traditional lifestyles and knowledge on biological resources.
<b>9. Ex-situ Conservation</b>		Adopt ex-situ measures to conserve and research components of biological diversity, preferably in country of origin; facilitate recovery of threatened species; regulate and manage collection of biological resources.
<b>10. Sustainable Use of Components of Biological Diversity</b>		Integrate conservation and sustainable use in national decisions; protect sustainable customary uses; support local populations to implement remedial actions; encourage co-operation between governments and the private sector.
<b>11. Incentive Measures</b>		Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.
<b>12. Research and Training</b>	25	Establish programmes for scientific and technical education in identification, conservation and sustainable use of biodiversity components; promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries (in accordance with SBSTTA recommendations).
<b>13. Public Education and Awareness</b>	70	Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
<b>14. Impact Assessment and Minimizing Adverse Impacts</b>		Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on impacts beyond State boundaries and work to reduce hazards; promote emergency responses to hazards; examine



		mechanisms for re-dress of international damage.
<b>15. Access to Genetic Resources</b>		Whilst governments control access to their genetic resources they should also facilitate access of environmentally sound uses on mutually agreed terms; scientific research based on a country's genetic resources should ensure sharing in a fair and equitable way of results and benefits.
<b>16. Access to and Transfer of Technology</b>		Countries shall ensure access to technologies relevant to conservation and sustainable use of biodiversity under fair and most favourable terms to the source countries (subject to patents and intellectual property rights) and ensure the private sector facilitates such assess and joint development of technologies.
<b>17. Exchange of Information</b>		Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
<b>19. Bio-safety Protocol</b>		Countries shall take legislative, administrative or policy measures to provide for the effective participation in biotechnological research activities and to ensure all practicable measures to promote and advance priority access on a fair and equitable basis, especially where they provide the genetic resources for such research.
<b>Total %</b>	<b>100%</b>	<b>Check % = total 100</b>

## Appendix II Outputs

Please quantify and briefly describe all project outputs using the coding and format of the Darwin Initiative Standard Output Measures.

Code	Total to date (reduce box)	Detail (← expand box)
<b>Training Outputs</b>		
1a	Number of people to submit PhD thesis	
1b	Number of PhD qualifications obtained	
2	Number of Masters qualifications obtained	
3	Number of other qualifications obtained	
4a	Number of undergraduate students receiving training	
4b	Number of training weeks provided to undergraduate students	
4c	Number of postgraduate students receiving training (not 1-3 above)	10
4d	Number of training weeks for postgraduate students	20 man weeks
5	Number of people receiving other forms of <b>long-term</b> (>1yr) training not leading to formal qualification( i.e not categories 1-4 above)	1 - Hoang Lan Huong: Environmental Education Officer: BTLBBAP
6a	Number of people receiving other forms of <b>short-term</b> education/training (i.e not categories 1-5 above)	<b>National Park</b> Management Board 5 Conservation Dep. 3 Science Dep. 3 Forest Protection Dep 15  <b>DET</b> Management/trainers 8 Course teachers 30  <b>Other</b> District/Commune 13 Total = 77
6b	Number of training weeks not leading to formal qualification	144 man weeks
7	Number of types of training materials produced for use by host country(s)	4 posters biodiversity interpretation boards
<b>Research Outputs</b>		
8	Number of weeks spent by UK project staff on project work in host country(s)	216 man weeks This includes Vietnam-based Project Manager, Environmental Education Co-ordinator. 24 man weeks Experts: Shonil Bhagwat, Catherine Bloxam, Emma Gardner, Ruth Mumby Internal monitoring: Elizabeth Humphreys, Nicola Beharrell
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	
10	Number of formal documents produced to assist work related to species identification, classification and recording.	4 – Field guides: plants, birds, butterflies, mammals
11a	Number of papers published or accepted for publication in peer reviewed journals	1 – Biodiversity 5 (2) 2004 pp 3-11
11b	Number of papers published or accepted for publication elsewhere	

Code	Total to date (reduce box)	Detail (← expand box)
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	
13a	Number of species reference collections established and handed over to host country(s)	
13b	Number of species reference collections enhanced and handed over to host country(s)	1 Specimens collected through the Frontier-Vietnam Forest Research programme, deposited and catalogued at IEBR
<b>Dissemination Outputs</b>		
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	4 Workshops held throughout project life
14b	Number of conferences/seminars/ workshops <b>attended</b> at which findings from Darwin project work will be presented/ disseminated.	2 (i) National Marine Protected Area Workshop (ii) Smithsonian Environmental Education workshop in Bangkok: Hoang Lan Huong
15a	Number of national press releases or publicity articles in host country(s)	2 articles in Vietnam News a national daily newspaper
15b	Number of local press releases or publicity articles in host country(s)	
15c	Number of national press releases or publicity articles in UK	4
15d	Number of local press releases or publicity articles in UK	
16a	Number of issues of newsletters produced in the host country(s)	4 newsletters distributed in park buffer zone communes and wider NGO community in electronic format
16b	Estimated circulation of each newsletter in the host country(s)	<ul style="list-style-type: none"> <li>• x1000 hard copy x100 digital – total 4,400</li> <li>• Hardcopies to communes and related Vietnamese organisations and all other parks in Vietnam</li> <li>• Digital English additions International organisations</li> </ul>
16c	Estimated circulation of each newsletter in the UK	UK website – 7,000 hits per month
17a	Number of dissemination networks established	1 - Flora and Fauna International, SNV, (Netherlands Development Agency), and WWF Indochina – Established network to discuss tourism planning and development for BTLB NP
17b	Number of dissemination networks enhanced or extended	
18a	Number of national TV programmes/features in host country(s)	2 programmes on VTV. <ul style="list-style-type: none"> <li>• A short 15 minute documentary of Frontier-Vietnam's work in Bai Tu Long which has aired as many as 10 times on National TV</li> <li>• Coverage of the centre opening to air in March 2004</li> </ul>
18b	Number of national TV programme/features in the UK	

<b>Code</b>	<b>Total to date (reduce box)</b>	<b>Detail (← expand box)</b>
18c	Number of local TV programme/features in host country	2 programmes <ul style="list-style-type: none"> <li>• Coverage of the law enforcement workshop and footage from Vietnam TV's documentary</li> <li>• Coverage of the tourism planning workshop in all Northern coastal provinces</li> </ul>
18d	Number of local TV programme features in the UK	
19a	Number of national radio interviews/features in host country(s)	1 Voice of Vietnam, the National radio carrier, did a spot on the workshop planning meeting and of the Frontier-Vietnam Forest Research Programme
19b	Number of national radio interviews/features in the UK	
19c	Number of local radio interviews/features in host country (s)	
19d	Number of local radio interviews/features in the UK	
<b>Physical Outputs</b>		
20	Estimated value (£s) of physical assets handed over to host country(s)	£ 15,160
21	Number of permanent educational/training/research facilities or organisation established	1- The Biodiversity Interpretation Centre
22	Number of permanent field plots established	14 vegetation plots within the National Park (FVER 26)
23	Value of additional resources raised for project	\$10,000 US – British Embassy Hanoi to build the Centre.  £25,659 matched funding from SEE, from running the forest research programme

### 17. Appendix III: Publications

Provide full details of all publications and material that can be publicly accessed. Details will be recorded on the Darwin Monitoring Website Publications Database.

Mark (\*) all publications and other material that you have included with this report

Type * (e.g. journal paper, book, manual, CD)	Detail (e.g. title, authors, journal, year, pages)	Publishers (name, city)	Available from (e.g. contact address, email address, website)	Co:
Newsletter 1	Bai Tu Long National Park Newsletter Issue 1: National Park Opened	BTLBBAP Frontier-Vietnam	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a>	
Newsletter 2	Bai Tu Long National Park Newsletter Issue 2: Law enforcement workshop	BTLBBAP Frontier-Vietnam	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a>	
Newsletter 3	Bai Tu Long National Park Newsletter Issue 3: Environmental Education Programme launched	BTLBBAP Frontier-Vietnam	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a>	
Newsletter 4	Bai Tu Long National Park Newsletter Issue 4: Planing for National Park Development	BTLBBAP Frontier-Vietnam	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a>	
Field guide 1	An introduction to the flora of Bai Tu Long National Park	BTLBBAP Frontier-Vietnam	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a>	
Field guide 2	An introduction to the birdlife of Bai Tu Long National Park	BTLBBAP Frontier-Vietnam	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a>	
Field guide 3	An introduction to the butterflies of Bai Tu Long National Park	BTLBBAP Frontier-Vietnam	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a>	
Field guide 4	An introduction to the mammals of Bai Tu Long National Park	BTLBBAP Frontier-Vietnam	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a>	
Poster 1	An introduction to the flora of Bai Tu Long National Park	BTLBBAP Frontier-Vietnam	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a>	
Poster 2	An introduction to the birdlife of Bai Tu Long National Park	BTLBBAP Frontier-Vietnam	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a>	

Poster 3	<i>An introduction to the butterflies of Bai Tu Long National Park</i>	BTLBBAP Frontier-Vietnam	<a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a> Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a>
Poster 4	<i>An introduction to the mammals of Bai Tu Long National Park</i>	BTLBBAP Frontier-Vietnam	<a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a> Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a>
Handbook	<i>Environmental Education handbook: Bai Tu Long</i>	BTLBBAP	<a href="http://www.Baitulongnp.com">www.Baitulongnp.com</a> Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a>
Report	<i>Frontier-Vietnam (2004) Bai Tu Long Bay National Park: Biodiversity and conservation evaluation. Hardiman, N., Le Xuan Canh &amp; Fanning, E. (eds) Frontier-Vietnam Environmental Report 26. Society for Environmental Exploration, UK and Institute of Ecology and Biological Resources, Vietnam. ISSN 1479-117X</i>	Frontier/ Society for Environmental Exploration	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.frontier.ac.uk">www.frontier.ac.uk</a>
Report	<i>Frontier-Vietnam (2004) Lae in Bai Tu Long Bay National Park: identification, implementation and enforcement. Bottrill, L &amp; Fanning, E. (eds) Frontier-Vietnam Environmental Report 27. Society for Environmental Exploration, UK and Institute of Ecology and Biological Resources, Vietnam and Darwin Initiative, UK Government. ISSN 1479-117X</i>	Frontier/ Society for Environmental Exploration	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.frontier.ac.uk">www.frontier.ac.uk</a>
Report	<i>Frontier-Vietnam (2004) Biodiversity survey and monitoring training: Bai Tu Long Bay. Bhagwat, S Bloxam, C. &amp; Fanning, E. (eds) Frontier-Vietnam Environmental Report 28. Society for Environmental Exploration, UK and Institute of Ecology and Biological Resources, Vietnam and Darwin Initiative, UK Government.. ISSN 1479-117X</i>	Frontier/ Society for Environmental Exploration	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.frontier.ac.uk">www.frontier.ac.uk</a>
Report	<i>Frontier-Vietnam (2004) Sustainable Tourism In Bai Tu Long Bay National Park. Gardner, E. &amp; Fanning, E. (eds) Frontier-Vietnam Environmental Report 29. Society for Environmental Exploration, UK and Institute of Ecology and Biological Resources, Vietnam and Darwin Initiative, UK Government. ISSN 1479-117X</i>	Frontier/ Society for Environmental Exploration	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.frontier.ac.uk">www.frontier.ac.uk</a>
Report	<i>Frontier-Vietnam (2004) An evaluation of the Bi Tu Long Bay Biodiversity Environmental Education Secondary School Programme. Mumby, R &amp; Fanning, E. (eds) Frontier-Vietnam Environmental Report 30. Society for Environmental Exploration, UK and Institute of Ecology and Biological Resources, Vietnam and Darwin Initiative, UK Government. ISSN</i>	Frontier/ Society for Environmental Exploration	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a> <a href="http://www.frontier.ac.uk">www.frontier.ac.uk</a>

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Paper	1479-117X Innovative conservation initiatives: Bai Tu Long Bay, Viet Nam. Beharrell, N & Ryder, S. (2004) Biodiversity 5 (2) Pg 3-11	Tropical Conservancy Ontario, Canada	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a>
Paper	Environmental education: a case study in Bai Tu Long Bay, Viet Nam. Burns, D & Hoang Lan Huong	To be decided	Frontier, 50-52 Rivington Street, London EC2A 3QP. <a href="mailto:Info@frontier.ac.uk">Info@frontier.ac.uk</a>

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## 18. Appendix IV: Darwin Contacts

To assist us with future evaluation work and feedback on your report, please provide contact details below.

<b>Project Title</b>	Bai Tu Long Biodiversity Awareness Project
<b>Ref. No.</b>	162/10/022
<b>UK Leader Details</b>	
Name	Nicola Beharrell
Role within Darwin Project	Co-Project Leader
Address	50-52 Rivington Street, London, EC2A 3QP
Phone	
Fax	
Email	
<b>Other UK Contact (if relevant)</b>	
Name	Matt Willson
Role within Darwin Project	Co-Project Leader
Address	50-52 Rivington Street, London, EC2A 3QP
Phone	
Fax	
Email	
<b>Partner 1</b>	
Name	Mr. Pham Tuan Hung
Organisation	National Park Authority: Bai Tu Long
Website address	N/a
Role within Darwin Project	Project partner Representative
Address	Cai Rong Town, Vang Dong, Quang Ninh
Fax	
Email	
<b>Partner 2 (if relevant)</b>	
Name	
Organisation	
Role within Darwin Project	
Address	
Fax	
Email	