Darwin Initiative – Final Report

*(To be completed with reference to the Reporting Guidance Notes for Project Leaders (http://darwin.defra.gov.uk/resources/reporting/) - it is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)*

Darwin project information

Project Reference	17027
Project Title	Market Based Scheme for Conservation in La Primavera Forest Mexico
Host country(ies)	Mexico
UK Contract Holder Institution	DICE- University of Kent
UK Partner Institution(s)	
Host Country Partner Institution(s)	ITESO, University of Twente, La Primavera Natural Protected Area, UNAM, ALICEA AC, Corazon de la Tierra, Fomento y Protección Bosque La Primavera
Darwin Grant Value	XXX
Start/End dates of Project	2009-04-01 to 2012-03-31
Project Leader Name	Dr. Jon C. Lovett
Project Website	http://celp.org.uk/projects/laprimavera/
Report Author(s) and date	Jon Lovett, Arturo Balderas Torres

1 Project Background

The research identified the potential for a local payment scheme for environmental values independent from public budget in La Primavera, Mexico, to provide resources for rural development, enhancing ecosystem services, protecting biological corridors and halting land-use change in the oak-pine forest. The project outputs were measurement of forest carbon content and sequestration potential; an estimation of willingness to pay and willingness to accept payments for carbon values; and a proposal for practical implementation of the research findings. Implementation of the proposal has commenced in the La Primavera Ejidos with support from the musicians Maná and the government of Mexico.

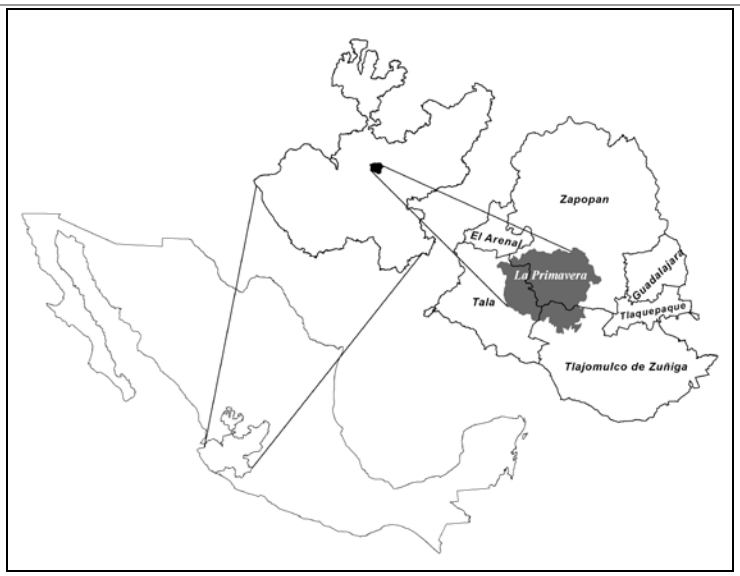

Figure 1. Map of the project location. The project research was conducted in the La Primavera Biosphere reserve and the city of Guadalajara in Mexico.

2 Project support to the Convention on Biological Diversity (CBD)

The project supported the CBD objectives by developing a practical scheme for conservation of biodiversity in the La Primavera Biosphere reserve. It achieved this through recognition of the value of ecosystem services and the role that a local market-based mechanism can play in capturing that value to enhance ecosystem quality and extend biodiversity corridors. The scheme is geared towards ensuring fair and equitable sharing of benefits arising from ecosystem service payments through agreements with low-income landowners of La Primavera. The project will make a long-term sustainable contribution to the CBD objectives. Specific immediate effects of enhanced conservation action by the La Primavera management team in relation to the CBD 2010 targets can be seen in return of the top predator (*Puma concolor*), which was previously considered to be locally extinct, and is currently classified in Appendix II (potentially threatened) in CITES. Through engagement with local ejido communities the project also contributes to the poverty alleviation component of the 2010 targets.

In terms of related programs of work, the project followed the principles of the ecosystem approach outlined in CBD decisions V/6 and VII/11 to achieve a balance between conservation, sustainable use and equitable sharing of benefits. It followed the approach to the CBD stated by the Mexican government in the National Biodiversity Strategy and contributed to halting biodiversity loss by promoting *in situ* conservation as stated in CBD Article 8. The project contributed to the strategy to protect endangered species and wildlife in oak pine forests in Mexico. This habitat covers ~20% of Mexico hosting 25% of vertebrates present nationally. In La Primavera, the project helped to conserve 23 species currently under protection and 2 endemic, and the potentially threatened Puma as already mentioned.

The project worked closely with the La Primavera management authority, which is responsible for implementing the Mexican National Biodiversity Strategy in the biosphere reserve, and built capacity for implementation of payments for ecosystem services. As part of CBD implementation, in 2000 the Mexican Government established the biodiversity strategy stating that “Protection and Conservation” of biodiversity is the first strategic line. Through support and collaboration with the La Primavera management authority the project contributed directly to the first two policies of this strategic line: Conservation *in situ*, and Rescue of Elements of Biological Diversity. The La Primavera project has also contributed to these policies through identification of additional financial sources to support conservation activities inside natural protected areas specifically targeted to landowners; and through evaluation of the best schemes by which private institutions or citizens could finance activities to recover habitat lost outside protected areas through creation of voluntary agreements. The project research findings are already being implemented through agreements with ejidos supported by the NGO Selva Negra with funding from based on a carbon off-setting scheme with the popular music group Maná and the Mexican government. Moreover, the project results are in line with Mexican government’s priorities outlined in the National Development Plan, Axis 4, Strategy 3.3 with the aim to develop local markets for the valuation of ecosystems’ services specifically forests, independent from public funds (Presidencia, 2007) and follows Mexican policy on the CBD stated by CONABIO in the section “Protection and Conservation” of the Mexican Biodiversity’s National Strategy (Presidencia, 2000).

The La Primavera management office is administratively under the Jalisco State government and implements guidelines, regulations and programs from the federal Secretariat of Environment and Natural Resources (SEMARNAT). SEMARNAT is responsible for implementation of the federal government’s plans and for monitoring and follow-up on compliance with public policies and for the powers and responsibilities of the federal government in environmental and natural resource matters, including compliance with the CBD. As such it is the primary focal point. For example, with respect to implementation of the project research with the La Primavera ejidos, SEMARNAT and the Executive Power have been in contact with Selva Negra and have received instructions from the Mexican President’s office to identify potential areas in which the federal government could engage and support the implementation project. Other CBD focal points are under SEMARNAT e.g. the National

Commission for the Knowledge and Use of Biodiversity (CONABIO) and the National Commission for Protected Natural Areas (CONANP). The National Forestry Commission (CONAFOR) is responsible for the federal government's programs and policies for the conservation, use, and sustainable management of the country's forest resources. The project contributes to the work by CONAFOR on implementation of the ejido agreements and on a range of topics associated with local markets, climate change and REDD+.

3 Project Partnerships

During the project lifetime the UK lead institution changed from the University of York to the University of Kent. This reflected the move of the project leader to the University of Twente in the Netherlands whilst holding an honorary position in the Durrell Institute for Conservation and Ecology in the University of Kent. Douglas Macmillan at Kent joined the project and contributed to development of the valuation methodology. Primary links between the project and the host country partners were with Jon Lovett and Arturo Balderas Torres. The project has been highly successful, both in terms of research output and implementation. Follow up projects with the host country partners will be formulated with Jon Lovett in his new position at the University of Leeds.

At all times the project worked closely with the host country partners - from formulation of the project proposal to implementation of the research findings. Moreover a series of workshops were held with the partners to engage the broader stakeholder community. The active and integrated nature of this relationship was the primary reason for success of the project. The project responded to the needs of the host country partners and incorporated new partnerships as the project moved towards implementation. In particular the NGO Selva Negra was instrumental in the implementation of project outputs. The pilot implementation phase was not foreseen in the project proposal and the speed with which the project outputs have been implemented exceeded our expectations. Rapid uptake of the project outputs can again be attributed to the close working relationship with the partners in the project.

Two primary challenges faced the project and its partners. The first related to personal security. Care had to be taken during fieldwork and this limited some of the activities. The second challenge arose from a major fire in La Primavera just after the closure of the DI project (April 2012). Management activities were diverted to containing and controlling the fire. Both these challenges were overcome through maintaining a strong working relationship between the partners with good communication. Flexibility in the partnerships also permitted forging new links in the later stages of the project, in particular the relationship with Selva Negra, and adapting to changes in personnel. For example, initially there was no person directly in charge of wildlife related issues in the La Primavera Management Office, but later in the project the linkage with the director of this area (Biol. Karina Aguilar) was paramount for fieldwork and project development.

The project developed excellent regional institutional involvement, which was one of the recommendations made to the project by the DI during the first year. As previously mentioned the project forged strong links with the NGO Selva Negra in the third year. Implementation of the project research outputs also required close cooperation with CONAFOR and the project was presented to the Mexican president, minister of environment, governor, and head of CONAFOR. A project partner, Margaret Skutsch, is engaged with CONAFOR, and together with Arturo Balderas, has put forward a proposal for benefit sharing in Mexico to implement PES, carbon markets and REDD+.

Bachelor students studying at ITESO participated as volunteers in project. ITESO requires its students to develop a Professional Practices Project (PPP) in order to be eligible for graduation. In the PPP the student applies part of the knowledge and skills learned to generate a technical report. Medical insurance was provided by ITESO. Students participated as volunteers in the teams for tree measurement, GIS analysis, and the application of surveys to assess the willingness to pay for forest carbon services. Collaboration with other local NGOs (ALICEA AC, Corazon de la Tierra and Fomento y Proteccion Bosque La Primavera) proved useful to facilitate the development of the project's activities and networking with relevant local stakeholders.

In 2010 Arturo Balderas, as part of ITESO, was invited to collaborate with a group of local researchers in activities coordinated by the Jalisco Ministry of Environment and the National Ecology Institute to prepare the Jalisco State Plan on Climate Change Action (PEACC in Spanish). As part of the PEACC, GHG inventories will be elaborated and mitigation strategies designed and proposed. Arturo used this opportunity to position the results of the Darwin project research into the local policymaking agenda.

Dr. Lovett arranged with Dr. Sam Wasser for M. Sc. Jennifer White from the Conservation Canines group of the Centre for Conservation Biology of the University of Washington to visit La Primavera in summer 2010. Conservation Canines is pioneering the use of non-invasive techniques to study wildlife populations. Since the focus of the Darwin Project is more oriented towards economic analysis of conservation and forest restoration with emphasis on climate change implications, there were no specific activities and resources for the empirical study of the corridors in the original project proposal. Jen White is studying jaguar populations in southeastern Mexico and included one week in Guadalajara to conduct exploratory transects in La Primavera with Scooby (the tracking dog) in the area where the puma was photographed. Samples were taken from scats found and the La Primavera managerial office provided extra resources to conduct laboratory analysis of the samples. The results were inconclusive with positive DNA identification for Bobcat, Coyote and Dog; DNA was degraded in many samples due to recent rains prior to assessing the transects. A larger and longer study is needed to produce more conclusive results, however the conservation canines work was a useful pilot and attracted a great deal of press attention and there are plans to monitor wildlife using similar methods in collaboration with local universities.

Arturo and ITESO students started collaborating with Selva Negra in late 2009 to generate the estimates of carbon emissions and shape the potential strategies to reduce the environmental impacts of a world-wide tour by the musical group Maná. Negotiations were held with the ejido of Ahuisculco located in one of the biological corridors connecting La Primavera to Sierra de Quila to create a conservation and reforestation project. The project is designed for a 10-year period and will provide the resources to conserve over 1000 ha of forest and reforest 80 ha. Selva Negra is creating an integral strategy to promote local development and not only focusing on the commodification of carbon offsets, but also working with Universidad de Guadalajara and ITESO in the area. In the locality of the ejido implementation project two environmental engineering students are working during the summer designing a community project to manage domestic wastes and wastewater, and to monitor water quality in wells and streams. Furthermore Selva Negra and Universidad de Guadalajara are discussing the possibility of opening a High School education centre in the community; at present students need to go to other cities or just quit school. The project plan entails investing an estimated 500,000 GBP in the implementation project.

The project partners have been successful (on the second application) in obtaining a research grant of Euro 522,118 from the Dutch Scientific Research council, which will expand and follow up the Darwin project work. The project title is ‘Linking local action to international climate agreements in the tropical dry forests of Mexico’. The project will be led by Margaret Skutsch together with Jon Lovett and other partners. It will fund three Mexican PhD students and contains a two-year post-doc position for Arturo Balderas, which will be available from the date of completion of the Darwin project in 2012. A kick-off meeting was held in Mexico during February 2011 for formulation of the PhD student projects.

4 Project Achievements

The project established the potential for a local market for ecosystem services in La Primavera Biosphere Reserve, Mexico. Implementation of the scheme will improve Oak-Pine habitat by creating equitable community-based incentives for conservation orientated land management though payments for carbon stocks. The aim is to create a socially, economically and environmentally sustainable scheme to enhance wildlife corridors thereby improving biodiversity links between La Primavera and other adjacent forests. The four project outputs (see Annex 1) have been used to initiate an implementation project in a local ejido by the NGO Selva Negra and the federal forestry authority, CONAFOR, in collaboration with the La Primavera management office.

The potential of a local payment scheme based on civil participation was identified based on: local potential of oak-pine forests to store and remove carbon (enhancements and reforestation); per capita yearly local emissions; determinants of valuation of carbon offsets and local co-benefits among local population; potential participation by landowners and ejidatarios depending on ownership regime, and the mix of incentives offered and opportunity costs. This potential was developed into a proposal for implementation of PES and carbon market based schemes. Areas for implementation were identified according to potential for enrolment into incentive based schemes within wildlife corridors whose location had been previously established using GIS modelling.

A major achievement of the project that was not anticipated in the initial project planning is the establishment of a 10-year implementation project based on the research outputs in one of the wildlife corridors currently unprotected. The anticipation is that this project can be replicated and offers an example of how to implement the market-based scheme as defined by the project. Moreover, the 'wildlife corridors' topic has now been included in day-to-day operation of La Primavera and is in the agenda for mitigating development of regional infrastructure (e.g. roads). The research has helped to disseminate information on this topic to the general public at the local, private and policymaking level. A particular road-building project of concern is a major arterial route planned to run around the eastern side of the forest. Negotiations have been initiated with the construction company to include biodiversity bridges/ tunnels for the wildlife corridors.

4.1 Impact: achievement of positive impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

The project impact has been in a number of different areas. Firstly, the research component of the project has demonstrated the feasibility of establishing a local market-based scheme for payments for ecosystem services with a focus on carbon storage and sequestration in wildlife corridors. This feasibility is in terms of quantifying the carbon service potential, potential for participation, the willingness to pay and willingness to accept payment. A practical scheme can be established on the basis of these results and the demonstration that people are willing to participate and pay more for local projects from which they derive co-benefits, than from more distant projects. Secondly the project has improved awareness of payments for ecosystem service schemes, both within potential implementing organisations (La Primavera Management and Ejidos) and the public at large, through project activities and dissemination of project outputs in the popular media. Thirdly, the project has enhanced institutional capacity by involving local NGOs and students from ITESO in the project activities. Fourthly the project has stimulated uptake of the project outputs in an implementation project with the support of the NGO Selva Negra, La Primavera Management and the federal forestry authority CONAFOR. The project is designed to capture environmental values and distribute the benefits equitably. The implementation project achieves this aim by working closely with an ejido and establishing a system of community-based payments based on local needs for the ecosystem services provided from the land managed by the ejido. The project thus has a positive social impact on both individuals and communities in the implementation project area.

The goal of the project is to reduce loss of biodiversity through determining conditions for establishment of a local market based-scheme that will improve wildlife habitat in wildlife corridors through equitable benefit-sharing arrangements. The project has a long-term approach to sustainable improvement of habitat conditions for biodiversity, but immediate impacts have been awareness raising and increased monitoring. During the project lifetime, presence of puma was recorded within the La Primavera reserve with camera traps; thereby justifying the wildlife corridor approach adopted by the project to improve connectivity with surrounding habitats and confirming our initial hypothesis that if the wildlife corridors remained open it was possible for pumas to be again present in La Primavera. Together with the University of Washington Conservation Canines, the project also investigated a non-invasive approach to large carnivore monitoring. Currently a male puma and female with two cubs have been recorded with camera traps.

The project approach is positioned within the national biodiversity strategy (see Section 2) and meets the Rio+20 approach on establishing a 'green economy'. Arturo Balderas is collaborating with local universities (ITESO, Universidad Autónoma de Guadalajara, Universidad de Guadalajara) and the Ministry of Environment of Jalisco in the preparation of a proposal for the Jalisco's Climate Change Action Plan. He was also invited by the La Primavera Reserve Director, together with representatives of civil society, landowners and ejidos, to make a presentation to local congressmen to stress the importance of La Primavera for Guadalajara and to show initial research results and discuss international climate mitigation efforts so that appropriate resources for the Reserve's management could be budgeted.

4.2 Outcomes: achievement of the project purpose and outcomes

The project purpose was to identify the potential for a local payment scheme for environmental values, independent from public budget, in La Primavera to provide resources for rural development, enhancing ecosystem services, protecting biological corridors and halting land-use change in the oak-pine forest. The outcomes of the project are a series of papers presented at conferences and submitted to peer-reviewed international journals, which extensively document the scientific achievements of the project and which can be used as the basis for practical implementation of the payment scheme. The project results have been presented in international, national and local meetings on forest management. At a national, regional and local level the project outputs have stimulated increased conservation action in La Primavera through attracting resources for a 10-year implementation project. We regard this as a significant and successful outcome and hope that it will pave the way to initiation of similar schemes in the other wildlife corridors identified.

4.3 Outputs (and activities)

The project had four outputs: vegetation carbon content; willingness of land owners to supply ecosystem services; potential for financing vegetation-based carbon sequestration; and proposing a project for market-based environmental service valuation and rural development.

1. Carbon content in vegetation within La Primavera and its immediate surroundings, and carbon sequestration potential for areas that can be restored by reforestation estimated.

103 plots were established following a stratified sampling design by canopy cover. Areas including different forest mixes (oak, oak-pine, oak-pine and pine) were included. Land cover analyses were done using reference images provided by the La Primavera office and CONAFOR (SPOT images from 2005) to identify areas for the forest inventory; Landsat images (1993-2011) have been also used to classify forest areas by canopy cover.

2. Implementation, transaction and opportunity costs, and landowners' willingness to conserve/supply ecosystem services in La Primavera and surrounding area assessed.

Willingness to participate by ejidatarios and to accept compensation for enrolment in PES-like projects was estimated from 161 surveys. The analysis was extended up to a distance of 80 km from La Primavera broadening the study region.

3. Local financing potential for ecosystem conservation and restoration in the Guadalajara Metropolitan Area, expressed on a per ton-CO2 basis estimated

More than 1500 surveys were applied with a range of survey methods, socioeconomic and demographic profiles and geographic locations, allowing identification of drivers of valuation of carbon offsets and forest services. The investigation of the drivers of participation in incentive based mechanisms in the private sector was also investigated (100 surveys).

4. Voluntary market-based for environmental services valuation and rural development in La Primavera and its immediate surroundings proposed.

Results from the forest inventory, GIS and surveys were used to identify the costs and benefits for the implementation of practices to maintain and enhance forest carbon services in the study area as a means of shaping the scope of a voluntary market based mechanism. The initiation of the implementation project in the wildlife corridor of La Primavera -Ahuisculco is an active development of the scheme. A proposal on how carbon markets and PES projects can be

integrated under REDD+ was put forward by Margaret Skutsch and Arturo Balderas Torres to CONAFOR, this has been published and welcomed by national authorities.

Project problems

The project encountered two main problems. In the early stages of the project surveys during 2009 the 'Mexican flu' (H1N1 influenza virus) outbreak limited possibilities for interviews and fieldwork. In the latter stages of the project, the deteriorating security situation caused by increasing violence limited fieldwork possibilities. In 2010 there was a shooting between the army and crime members close to one of the tree measurement plots in La Primavera. In another incident during summer 2010 one week after applying willingness to pay surveys in one area of Zapopan, the army closed several streets in that area for one day and there was a shooting. Precautions were always paramount when planning fieldwork activities; one of the reasons for developing parallel on-line interviews in addition to face-to-face interviews was the security problem associated with randomly selecting respondents. Fire was a potential problem, but there were no serious fires during the project period. However a major fire occurred just after the project ended and this will affect some of the implementation and continuation of research activities; the study of fire dynamics and controls is recommended as an area for future research additional to the initial assessment of potential for carbon services made here.

4.4 Project standard measures and publications

The standard measures are listed in Annex 4. Arturo Balderas Torres will submit his Ph.D. thesis in 2012 to the University of Twente based on work undertaken on the project. Arturo's PhD was also supported by a CONACYT and SEP scholarship from Mexico. We were also able to involve MSc students from Twente and Moissy Lopez (a Venezuelan national) obtained a M.Sc. degree at the University of Twente in 2012. In collaboration with Arturo Balderas Torres, she explored the potential for different incentives that may attract participation in climate change mitigation private programs. Thirteen ITESO and two Universidad de Guadalajara undergraduate students participated in fieldwork teams for a period ranging from 2 to 4 months; they received training on forestry inventory methods and socioeconomic/econometric survey application capture and basic analysis. The surveys also acted as a method of dissemination. As part of the surveys applied, environmental information was presented to the participants. Leaflets were also provided to as part of the market stall surveys (750 for distribution among neighbours). Overall 1761 surveys were applied. The surveys were applied over sessions of one hour in person; for the surveys applied on-line it took from 10 to 20 min to people to answer them. Two papers were accepted for conferences and one book chapter (Items 2, 5 and 10 in Annex 5); in addition six posters were presented at international conferences and symposia. Five conferences were attended in total. A full list of publications and papers under review and in preparation is given in Annex 5. 103 forest plots were established and these data are included in a forestry inventory database lodged with ITESO. A database was also created on the rare cactus *Mammillaria jaliscana* from information gathered during field work on the forest plots.

Local media coverage included 21 interviews and reports on research activities and findings (listed in Annex 5). Arturo Balderas Torres discussed project related issues as part of a TV interview during the second year of the project and a radio interview in the third year of the project. A press release 'Mexican rock heroes trial novel 'green trading' system' was put out on Eurekalert from the UK to coincide with the Rio +20 conference. A final workshop to present research findings to stakeholders and projects participants was held on March 2012.

The project provided substantial input into preparing a successful Dutch research council WOTRO grant for continuing research on payments for ecosystem services from Mexican dry forests (€522,118); and was heavily engaged in preparation on the implementation project (GBP 500,000, planned budget).

4.5 Technical and Scientific achievements and co-operation

The project cooperated strongly with Mexican organisations. Arturo Balderas Torres led the project in Mexico and was constantly engaged with the project partners, in particular the La Primavera management authority, ITESO and collaborating NGOs (see Section 3). The technical support included transferring techniques and information related to payments for ecosystem services and forest inventory techniques. Project outputs in the form of papers submitted to international journals are subject to peer review. Details of the peer-review publications are in Annex 5.

4.6 Capacity building

Capacity building took place in conjunction with the main project activities (see Annex 4 and Section 4.4). The Mexican project coordinator, Arturo Balderas Torres, is in the process of submitting a PhD thesis to the Unversity of Twente. The project trained thirteen ITESO and two Universidad de Guadalajara during the field survey work, and information on payments for ecosystem services. Continuation of the work on payments for ecosystem services under the Dutch Research council grant in collaboration with the project partners in CIGA-UNAM will lead to substantial institution building through training of a further three PhDs in Mexico and providing a two year post-doc for Arturo.

4.7 Sustainability and Legacy

A range of project achievements will continue to have an impact for a long period. The peer-reviewed publications in international journals are based on large data sets and make a significant contribution to the topic. They will be cited for the foreseeable future. The implementation project funded by Selva Negra and CONAFOR has a ten-year plan with the ejido; and is expected to continue long after that and stimulate further projects in the other wildlife corridors. The change in management approach towards community-based conservation and payments for ecosystem services will be long-enduring because the planning is based on the extensive survey work carried out by the project and so accurately represents the needs and demands of both the producers and consumers of the services.

During the project the team prepared a grant proposal on ecosystem services and dry forests in Mexico. The application was successful and the project has now underway at CIGA-UNAM in Morelia. Arturo Balderas Torres will be a post-doc on the project. NGOs who worked with the project continue to be active in the region. In particular, Selva Negra will be strongly engaged in the implementation project and will continue to work with the project partners. For example, ITESO students will be engaged on community waste management and water quality monitoring and wastewater treatment improvement. The team will also continue to seek funds for further development of the project goals and expand the area covered e.g. developing the corridors towards the lowlands and known areas of Jaguar habitat. The project resources consist on two laptop computers (now out-dated), which will still be used on project-related activities. The databases generated by the project will be held at ITESO for continued access. The project team developed a strong rapport and will continue to keep in touch in order to develop further activities and disseminate project results.

5 Lessons learned, dissemination and communication

The key lesson learnt is the importance of having a strong local partnership in the host country from the outset. Arturo Balderas Torres put together an excellent local network during preparation of the preliminary proposal. This network has continued to support the project throughout its lifetime and has drawn in new partners to enable the project to move directly from research to implementation. Arturo has been enormously committed to the project throughout and it is primarily through his efforts and dedication that the project achieved such a successful outcome. The second important lesson is that the project was timely. It fitted with both local and national plans at the time when they were being developed and implemented. This meant that the ‘policy door’ was open for integration of project outputs in the planning process.

A number of routes were used for dissemination of project achievements. Firstly, the project had a very close working relationship with the La Primavera management authority. Project activities and achievements were reported in the management meetings and the authority made every effort to facilitate the project and implement its findings. Secondly, the project also engaged at the State level with Jalisco for the State climate change action plan. Thirdly, some project partners were engaged in ecosystem service payment planning at both national and international level (e.g. Margaret Skutsch at CIGA-UNAM). This enabled the project achievements to be presented at national meetings and international conferences (in particular the UNFCCC conference of parties). Fourthly, the project activities were geared around undertaking high quality research, which could be the basis for implementation activities. The research outputs are now being submitted to international peer-reviewed academic journals. Fifthly, project activities and results were disseminated to a wider public audience through media articles, interviews and public lectures. The dissemination and audience for different types of information from the project is summarised in the table below.

Dissemination will continue after project completion through preparation of a final report for the La Primavera management authority that will contain all the information currently being submitted to peer-reviewed journals. Publication of articles in journals can take some time and this is currently an on-going process. A press release has recently come out in the UK and we are hoping that this will lead to further dissemination of project activities in a feature article.

Information	Dissemination/ Application	Audience
Suitable area for conservation of wildlife corridors	Implementation project	Local NGOs. Community. Public Environment Office
Results on carbon estimation, environmental valuation and potential provision and demand for carbon and other forest services, potential development of local market based schemes	Academic publications (articles in journals, posters and book chapter)	Academia. Policymakers. Project developers
Importance of biodiversity, wildlife, climate change mitigation and wildlife corridors. Communication of the research project.	Popular media. Local radio, newspapers, magazines, conferences, TV	General public

5.1 Darwin identity

The Darwin Initiative logo was used on t-shirts for the field teams, stickers on vehicles hired for field activities, on posters presented at conferences, in powerpoint presentations (for example to the presidency and CONAFOR). The project (and project number) is identified in the acknowledgements of academic papers and other publications where it is not possible to place the logo.

At all times the Darwin Initiative project was recognised as being a distinct. It did form part of a larger programme towards the end of the project as the implementation phase started with funds from other sources, but always retained its own identity.

The La Primavera management authority in particular will have a good understanding of the Darwin Initiative. For a full understanding of the Darwin Initiative at all levels it would be helpful if the results of the project were promoted as part of communication and dissemination about British programs within Mexico by the British Embassy and DEFRA.

6 Monitoring and evaluation

There were no substantial changes to the project design. A minor change was the order in which the surveys were carried out. In the initial logframe the plan was to estimate willingness to supply carbon services before estimating the demand side. For practical reasons this order was reversed and the demand estimated first. This change had no effect on the end result. There was a change in the administration of the project with transfer from York to Kent, but this did not affect project operation. The project methodology was enhanced with Douglas Macmillan of U Kent joined the project and supported application of choice modelling as a means to obtain environmental service values.

The baseline information collected was 103 carbon stock assessment plots, 1600 survey responses on demand for carbon services and 161 survey responses on supply of carbon services. Analysis of these data led to development of the implementation project proposal. The project indicators were useful for keeping the project on track and ensuring that outputs were achieved according to the timeframe. In terms of research undertaken, the project was relatively complex as it consisted of three main components: carbon stock and mapping; willingness to pay for the carbon services; and willingness to supply the carbon services. Each of these components required extensive surveys, which had to be planned and executed according to a rigorously worked out timetable. The logframe indicators were useful for maintaining the different streams of work within the project to ensure that different components were completed on time and according to the overall plan. The monitoring and evaluation system thus provided partners, the stakeholders and us with a framework for the project within which we could track our activities and outputs.

During the project period there was continual and iterative evaluation of the work by both the project team and the project partners. Throughout the project periodic meetings and presentations took place with the main stakeholders in the host country (La Primavera Office, ITESO and ALICEA AC). In these meetings the work plans were presented and discussed, particularly the activities related to access to the La Primavera protected area since entry to specific areas of the reserve is controlled. Follow up meetings were carried out to present preliminary results and relevant findings. Constant communication was in place between the project leader and the project coordinator to follow up issues related to budget lines and progress in the timetable. Monitoring and evaluation was related to the follow up on implementation of activities and creation of verifiable indicators such as the establishment of measurement plots, dissemination documents submitted and number of students participating in the project. External evaluation of quality of the research outputs is through the peer review process of international journals. This process has been very useful for improving quality of papers being prepared.

6.1 Actions taken in response to annual report reviews

The project team responded to all the issues raised by the reviews of the annual reports. Review comments on project activities were only received in Year 1. These were:

Please provide a clear statement about how you intend to ensure the project remains on schedule despite the deferment of activities from Y1 to Y2.

The project would benefit from the development and implementation of a strategy to build engagement with the following:

Potential stakeholders in pilot project implementation (e.g. conservation entities, CONAFOR, local Environment Department.

Other PES schemes, and stakeholders in REDD readiness/ implementation.

The project team response to these review comments was as follows. We decided to shift the blocks of activities (study of the potential demand and the potential supply) in order to have more information available to answer landowner's questions during the study of the supply. The focus of the research is to determine if local valuation is enough to finance conservation/ restoration projects (as oppose to solely relying on external financing e.g. federal funds, REDD income) thus the importance of assessing potential demand. If the willingness to pay for potential financing was low, then local mechanisms would be hard to develop (although still

useful for other strategies as REDD or a centralized PES program). Study of the supply and demand are two independent blocks of activities, so shifting them does not affect the overall project development. The issue was reviewed during the quarterly meetings between the project coordinator, overseas partners and local collaborating organisations to ensure full coordination.

The Mexican partners have participated in the meetings of the technical committee of REDD since 2008 (Margaret Skutsch –UNAM-, Arturo Balderas –ITESO-). Mexico is preparing REDD pilot projects in Chiapas, the State of Mexico and the coastal area of Jalisco; however the area where La Primavera is located is not within these areas. Contact has been established with CONAFOR and the local Rural Development Office of Jalisco to assess how REDD could be included in this area in further stages; however it is not within the scope of the Darwin Project to develop a REDD project given the great amount of time required to engage local actors. As part of the scientific Mexican Carbon Program local partners are in contact and communication with organizations and researchers working on PES and REDD in other parts of Mexico (mainly in the States of Chiapas, Oaxaca, State of México, Nuevo León and San Luis Potosí). The Darwin project outputs are thus feeding directly into the national strategy.

Arturo Balderas collaborated with local universities (ITESO, Universidad Autónoma de Guadalajara, Universidad de Guadalajara) and the Ministry of Environment of Jalisco in the preparation of a proposal for the Jalisco's Climate Change Action Plan. He was also invited by the La Primavera Reserve Director along with representatives of the civil society, landowners and ejidos, to make a presentation to local congressmen to stress the importance of La Primavera for Guadalajara and to show initial research results and discuss international climate mitigation efforts so that appropriate resources for the Reserve's management could be budgeted.

7 Finance and administration

7.1 Project expenditure

The project expenditure is presented on a year by year basis using the audited figures. Note: The 2009/10 budget reflects the revised budget submitted by the University of Kent in October 2009 and does not include expenditure by the University of York from April – September 2009. We do not have a final account from U York.

Current Year's Costs	2009/10 Grant (£)	2009/10 Total actual Darwin Costs (£)	Variance %	Comments (please explain any variance)
Staff costs	XXX	XXX	-0.23	
Overhead Costs	XXX	XXX		
Travel and subsistence	XXX	XXX	16.15	Fieldwork curtailed due to 'Mexican' 'flu outbreak
Operating Costs	XXX	XXX	0.05	
Capital items	XXX	XXX		
Laptops 2,668.80 Printing 565.00	XXX	XXX	-1.12	

Staff employed (Provide name and position)	Proportion of time spent on this work	Date work commenced and finished	Cost (£)
Professor D Macmillan	5%	01/09/09 to 31/03/10	XXX
Arturo Torres, Co-ordinator	100%	01/09/09 to 31/03/10	XXX
Jon Lovett	10%	01/09/09 to 31/03/10	XXX
ALICEA AC	50%	01/09/09 to 31/03/10	XXX

Current Year's Costs	2010/11 Grant (£)	2010/11 Total actual Darwin Costs (£)	Variance %	Comments (please explain any variance)
Staff costs	XXX	XXX	-0.03	
Overhead Costs	XXX	XXX		
Travel and subsistence	XXX	XXX	0.66	
Operating Costs	XXX	XXX	-1.78	
Capital items (see section 8)	XXX	XXX		
Printing costs	XXX	XXX	-0.69	

Staff employed (Provide name and position)	Date work commenced and finished in 2010/11	Proportion of this time spent on this work	Cost (£)
Douglas Macmillan	01/04/2010 to 31/03/2011	5%	XXX
Arturo Balderas – Co-ordinator	01/04/2010 to 31/03/2011	100%	XXX
Jon Lovett – bench fee	01/04/2010 to 31/03/2011		XXX
ALICEA AC	01/06/2010 to 28/02/2011		XXX

Current Year's Costs	2011/12 Grant (£)	2011/12 Total actual Darwin Costs (£)	Variance %	Comments (please explain any variance)
Staff costs	XXX	XXX	-1.90	
Overhead Costs	XXX	XXX	0	
Travel and subsistence	XXX	XXX	24.26	Field work curtailed due to security concerns
Operating Costs	XXX	XXX	0.09	
Capital items (see section 8)	XXX	XXX		
Printing costs	XXX	XXX	1.22	

Staff employed (Provide name and position)	Date work commenced and finished in 2011/12	Proportion of this time spent on this work	Cost (£)
Douglas Macmillan	01/04/11 to 31/03/12	5%	XXX
Arturo Balderas	01/04/11 to 31/03/12	100%	XXX
ALICEA AC	01/04/11 to 31/03/12	100%	XXX
Jon Lovett – bench fee	01/04/11 to 31/03/12	N/A	XXX

7.2 Additional funds or in-kind contributions secured

The project provided substantial input into preparing a successful Dutch research council WOTRO grant for continuing research on payments for ecosystem services from Mexican dry forests (€522,118) which will support a post doc for Arturo Balderas Torres and three PhD students in Mexico. The project was also strongly engaged in preparation on the implementation project (GBP 500,000, planned budget). The La Primavera management office paid for DNA analysis of scats collected by the Conservation Canines transects (15,000 Mexican Pesos). The work carried out by the Conservation Canines team (Jenn White and Scooby in the field and lab work carried out Sam Wasser's lab at the University of Washington) was a contribution in-kind for which we are very grateful.

7.3 Value of DI funding

Without the DI funding the project would not have taken place, so there would have been no research and analysis of the potential for payments for ecosystem services based on local markets. The La Primavera Management Office has a restricted budget and the project enabled the office raise its profile on ecosystem service benefits and the importance of wildlife corridors. The project also facilitated the implementation project in the biosphere reserve.

Annex 1 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements April 2009 - March 2012	Actions required/planned for next period
Goal: To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve • The conservation of biological diversity, • The sustainable use of its components, and • The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources		The project established the potential for a local market for ecosystem services in La Primavera Biosphere Reserve, Mexico. Implementation of the scheme will improve Oak-Pine habitat by creating equitable community-based incentives for conservation orientated land management though payments for carbon stocks. Project outputs have been used to initiate an implementation project in a local ejido by the La Primavera management office in collaboration with the NGO La Selva Negra and the federal forestry authority, CONAFOR.	(do not fill not applicable)
Purpose Identification of the potential of a local payment scheme for environmental values independent from public budget in La Primavera to provide resources for rural development, enhancing ecosystem services, protecting biological corridors and halting land-use change in the oak-pine forest.	Project findings detail the recommended implementation stages to develop the local market. The potential areas to work in are identified and the carbon stock and expected project costs estimated. A choice modelling experiment has revealed estimated willingness to supply carbon services by landowners and willingness to pay for them by population/organizations. The findings were presented at a series of workshops and conferences; and are being published in conference proceedings, books and peer-reviewed international journals.	Potential of a local payment scheme based on civil participation was identified based on: local potential of oak-pine forests to store and remove carbon (enhancements and reforestation); per capita yearly local emissions; determinants of valuation of carbon offsets and local co-benefits among local population; potential participation by landowners and ejidatarios depending on ownership regime, mix of incentives offered and opportunity costs; proposal for implementation of PES and carbon market based schemes. Relevance of other (pre)conditions for implementation is highlighted e.g. strengthening of land use change regulation enforcement and control/prevention of forest fires. Areas for implementation are identified according to potential for enrolment into incentive based schemes within the modelled wildlife corridors. A 10-year implementation project based on the research outputs has been established in one of the wildlife corridors currently unprotected. This project can be replicated and offers an example of how to implement the agenda defined by the project. The 'wildlife corridors' topic has been included in the day-to-day operation of La Primavera	Post-project activities continue with of publication of academic results and applied management results (e.g. Ph.D. thesis, articles in peer reviewed journals, articles in magazines, information for environmental education –leaflets/booklets- and press coverage). Academic documents have been initially produced in English, they will be translated to Spanish. A successful Dutch Research Council grant application was developed during the project and the Mexican project coordinator (ABT) will be employed as a post-doc for the next two years.

Project summary	Measurable Indicators	Progress and Achievements April 2009 - March 2012	Actions required/planned for next period
		and is now in the agenda for the mitigating development of regional infrastructure (e.g. roads). The research has helped to disseminate information on this topic to the general public at the local, private and policy making level.	
Output 1. 1. Carbon content in vegetation within La Primavera and its immediate surroundings, and carbon sequestration potential for areas that can be restored by reforestation estimated.	Maps and Satellite images showing estimated carbon content and potential sequestration for the 30,500 ha of La Primavera and the biological corridors in 30,000 ha of the surrounding area.	Two academic articles have been written and submitted to peer-reviewed international journals: Article presenting the results of the inventory to estimate carbon stocks and estimating potential carbon enhancements following a Tier 2 approach according to IPCC methodologies in arboreal biomass in oak pine forests has been/is about to be submitted to an academic journal (submitted to Global Environmental Change) A second article exploring the potential use of basal area figures to estimate and model carbon in forests at the per-hectare, rather than at a per-tree, level is under review (submitted to Forestry). When these articles are accepted the final maps of the report will be updated. Preliminary results of the forest inventory were presented in the First International Symposium of Carbon in Mexico in 2009	
1.1 Identify the biological corridors and delimit study area		Completed. The area was visited initially in spring 2009; subsequent activities have followed the roads around La Primavera to identify the corridors to Tesitán mountain range (North), Volcan de Tequila (West) and Ahuisculco and Quila (South, South West). Final GIS analyses are to be concluded as part of the academic papers and reports (currently under peer review). Suitable puma habitat was modelled using the tool Corridor-Design for GIS analysis and cartography used as part of the project.	
1.2 Classify the study area according to land-use and tree crown cover		Completed. Analyses have been done using reference images provided by the La Primavera office and CONAFOR (SPOT images from 2005) to identify areas for the forest inventory; Landsat images (1993-2011) have been also used to classify forest areas by canopy cover.	
1.3 Set carbon measuring points and field work logistics		Completed. 103 plots were established following a stratified sampling design by canopy cover. Areas including different forest mixes (oak, oak-pine, oak-pine and pine) were included. Recent reports from La Primavera indicate the unusual presence of felids; the inclusion of extra measurement plots in specific areas were felids are reported will be evaluated, with a maximum of 5 -10 more sites to be included.	
1.4 Provide training to work team		Completed. Two teams of 4 persons each participated in the fieldwork.	
1.5 Perform field work		Completed	
1.6 Data analysis to determine carbon content and sequestration potential		Completed. The results based on the forest inventories and potential carbon sequestration by tree AGB are completed. Analysis of canopy cover in satellite images has been done. The final version of the map for Output 1 will be completed as part of the writing and dissemination activities of this component and the overall report. We expect to have more information from CONAFOR regarding the national REDD+ baseline and more details arising from the UNFCCC COP 17 about specific methodological issues. The inventory data can be used to estimate carbon content and potential	

Project summary	Measurable Indicators	Progress and Achievements April 2009 - March 2012	Actions required/planned for next period
		enhancement/sequestration, the issue on how to quantify reduced emissions from degradation and deforestation is still contingent on development of national/sub-national baselines. Information on past forest fires and land use changes can be used as part of this process. These latter elements were not included in the initial project plan as our focus was on stocks and sequestration, but will be additional outputs.	
1.7 Writing and dissemination of the first part of the report		Completed. Articles have been submitted as described above.	
Output 2. 2. Implementation, transaction and opportunity costs, and landowners' willingness to conserve/supply ecosystem services in La Primavera and surrounding area assessed	Costs curves for the 30,500 ha of La Primavera and in 30,000 ha of the surrounding area, showing project's viability. 90 surveys from landowners in the 13 ejidos comprising La Primavera	Article published in Ecological Economics offers the methodology to build the cost curve of provision of carbon services based on opportunity, transaction and implementation costs. One paper based on the surveys applied to landowners and ejidatarios in the region is under review in (Ecosystem Services). This article presents the willingness to participate by ejidatarios and to accept compensation for enrolment in PES-like projects (161 surveys). The analysis was extended up to a distance of 80 km from La Primavera broadening the study region. Based on this willingness to participate, and not to participate in areas with higher opportunity costs, the potential implementation and financing required is estimated.	
2.1 Identify the strategies to conserve and enhance carbon services		Completed. Specifications for reforestation and conservation practices for the implementation project have been developed. These are based on CONAFOR best management practices and from the KTGAL and general forest inventory practices for community forest monitoring.	
2.2 Identify the technical requirements and local costs (transport, plant production, biodiversity issues labour and materials)		Completed. Requirements and resources required have been identified as part of the implementation project currently being initiated in the biological corridor.	
2.3 Identify transaction costs of the UNFCCC REDD and Voluntary Market Schemes		Completed. The costs of the Voluntary Market Schemes are identified, the costs of REDD+ are not yet defined as the policy is yet to be finalised. REDD+ will be driven at the country level so transaction costs associated with project development, registration and monitoring are still not clear. It is likely that these costs will be borne by the federal government. A REDD+ pilot project is under development in the Coastal Area of Jalisco, and one of the project partners Margaret Skutsch (CIGA) is working closely with CONAFOR in this project. Arturo Balderas is also working on these activities and in the forthcoming year the Darwin Project outputs will be presented with the objective of assessing inclusion of local valuation mechanisms as part of REDD+ activities. The values used by default for the development or projects oriented to compliance markets will be those associated with CDM reforestation/afforestation projects (values presented in the article published in Ecological Economics).	
2.4 Identify the local opportunity costs in the study area (land use and productivities)		Completed based on regional agricultural production statistics and surveys of landowners.	
2.5 Design the surveying instrument to verify local opportunity costs and willingness to supply the environmental services		Completed. A choice experiment survey was designed and tested. The survey focused on evaluation of factors that may enable landowners to join conservation projects. The effect of a PES like payment per hectare per year, the number of years in which this is received and the potential access to co-benefits (e.g. support of alternative productive projects and employment) has been assessed. After exploratory interviews were undertaken it was decided to change the approach of the survey from solely a reforestation project for carbon sequestration, to a conservation and restoration approach. This decision was reached after considering the high opportunity costs of agricultural land and ethical implications of reducing food output. If we had included payments that matched high opportunity costs, the survey designed would have presented unrealistic payments (e.g. the productivity of sugar cane plantations in the region is around $US 6,000/ha-yr).	

Project summary	Measurable Indicators	Progress and Achievements April 2009 - March 2012	Actions required/planned for next period
2.6 Define the logistics to apply the surveys/workshops		Completed. Contacts were established with the association of landowners and the ejidos of La Primavera and the Federation of Small Landowners of the State of Jalisco, for the coordination and application of surveys. The managerial office also provided support.	
2.7 Provide training to the work team		Completed. Three persons were trained for the application of surveys/interviews	
2.8 Apply the surveys to verify opportunity costs and determine willingness to supply		Completed. The 90 surveys originally planned have been applied. As well as the ejidos, surveys have also been applied to non-ejido landowners with properties inside and outside the protected area. More surveys were applied in the area of the biological corridor of Ahuisculco where the implementation project has been initiated is being considered (overall 161 surveys).	
2.9 Data analysis to determine the costs and willingness to supply		Completed. Article submitted (Ecosystem Services journal)	
2.10 Writing and dissemination of the second part of the report		Completed. Articles have been submitted as described above.	
Output 3. 3. Local financing potential for ecosystem conservation and restoration in the Guadalajara Metropolitan Area, expressed on a per ton-CO_2 basis estimated.	Financing potential from survey results and estimation for Guadalajara's Metropolitan Area following the socioeconomic and demographic profiles. 300 surveys from citizens, institutions and organizations from Guadalajara Metropolitan Area	Based on potential carbon storage and removals, the required participation in carbon based mechanisms for offsets has been identified. More than 1500 surveys were applied with a range of survey methods, socioeconomic and demographic profiles and geographic locations, allowing identification of drivers of valuation of carbon offsets and forest services. The investigation of the drivers of participation in incentive based mechanisms in the private sector was also investigated (100 surveys). The financing potential and requirements based on the results of these surveys have been described in two articles submitted to peer reviewed international scientific journals (Regional Environmental Change and Climate Policy).	
3.1 Identify the general profile of citizens, institutions and organization in GMA from official statistics		Completed. General profiles include income, academic background and geographic distribution in the city. The profiles were used to inform the survey.	
3.2 Define the subsample for each representative group		Completed. The methodology to adopted was choice modelling using a market-stall approach with representative subsamples across the metropolitan region.	
3.3 Design the surveying instrument to assess carbon footprint, financing potential and preferred scheme		Completed. The use of national income-expenditure statistics for quick carbon footprint estimations for households was presented as part of the 2nd International Symposium of Carbon. A choice experiment was designed to assess the effect of project location of the valuation of forest carbon services among citizens. Specific characteristics of the potential schemes and financial options were also included.	
3.4 Define the strategy to apply the surveys/workshops		Completed. Surveys were applied both on-line and in market stall sessions within the metropolitan area of Guadalajara. Due to the current situation in Mexico, special attention was paid to security issues. Contact was established to representatives of neighbourhood associations to safely schedule the sessions for the application of surveys.	
3.5 Provide training to work team		Completed. Five people were trained on how to conduct market stall sessions and apply choice modelling surveys.	
3.6 Apply the surveys to assess carbon footprint, financing potential and preferred scheme		Completed. A total of 350 surveys were applied in person and a further 1150 were applied on-line to test the differences between different sampling procedures. These surveys targeted citizens, including entrepreneurs from different productive sectors. The figures of the potential participation will be complemented with the results arising from the PEACC and the pilot project. Additionally 100 surveys to representatives of private firms were made to evaluate potential incentives to be offered.	
3.7 Data analysis to determine local financing potential on a per ton-CO2 basis		Completed. Estimates of the valuation of forest carbon services by citizens have been obtained.	

Project summary	Measurable Indicators	Progress and Achievements April 2009 - March 2012	Actions required/planned for next period
3.8 Writing and dissemination of the third part of the report		Completed. Articles have been submitted as described above.	
Output 4. 4. Voluntary market-based for environmental services valuation and rural development in La Primavera and its immediate surroundings proposed	Critical route for the development of the proposed scheme. Technical documents proposed for the operation and follow up of the scheme	Results from the forest inventory, GIS and surveys have been used to identify the costs and benefits for the implementation of practices to maintain and enhance forest carbon services in the study area as a means to shape the scope of a voluntary market based mechanism. The initiation of the implementation project in the wildlife corridor of La Primavera –Ahuisculco is active development of the scheme. A proposal on how carbon markets and PES projects can be integrated under REDD+ was put forward by Margaret Skutsch and Arturo Balderas Torres to CONAFOR, this has been well welcomed by national authorities. Technical documents are being generated, and practices documented, as part of the implementation project. This input will enrich the proposal to be made at the regional level.	
4.1 Define the characteristics of the proposed market-based scheme		Completed. Basic aspects related to the motivation for participation, payment vehicle, periodicity, and management were included in the WTP surveys; this information has been complemented with the findings of the PEACC surveys, the WT supply questionnaires being applied and interviews with key stakeholders.	
4.2 Identify and contact the relevant, local, regional and national actors involved in environmental incentives policymaking		Completed. CONAFOR are engaged in the implementation project.	
4.3 Consult the relevant actors involved in policymaking about feasibility of the proposed scheme		Completed. Engagement in implementation project.	
4.4 Identify the critical route for development of the proposed scheme		Completed. The implementation project has been initiated.	
4.5 Elaborate the final technical documents and training material proposed for the operation and follow up of the scheme		Completed. Most of the technical work has been submitted to academic journals. Further technical and training material will be prepared as part of on going follow up activities.	
4.6 Dissemination of the proposed scheme among relevant local stakeholders		Completed as part of the pilot project, results presented to stakeholders, Follow up documents to be disseminated after technical output publication in peer reviewed journals and translation to Spanish.	
5.1 Quarterly Report		Completed. Activities and preliminary results have been presented to the executive office of La Primavera and other participating institutions.	
5.2 Yearly Reports		Completed.	
5.2 Final Report		Completed. Follow up material will be prepared when the peer-reviewed technical papers are published.	

Annex 2 Project's final logframe, including criteria and indicators

Original Log Frame.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal: Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.			
Sub-Goal: La Primavera's Oak-Pine forest is well conserved and landowners are receiving incentives from a local environmental valuation market; new areas have been reforested inside and outside the Natural Protected Area creating biological corridors, halting habitat loss and increasing the probability of maintaining a viable habitat for cougars (*Puma concolor)*.	-Proposal for a Voluntary Market Scheme based on the results of this project, including the following: -Satellite surveys and maps indicating potential areas for reforestation/forestation. -Landowners' willingness to provide the environmental services. -Guadalajara's society willingness to pay for these services.	-Surveys hard copies and analysis. -Satellite images and data from the forest inventory of the National Forestry Commission (CONAFOR) and technical information from La Primavera Management Office. -Voluntary Market Scheme Proposal. -DI Closed Project Evaluation.	[redacted]
Purpose Identification of the potential of a local payment scheme for environmental values independent from public budget in La Primavera to provide resources for rural development, enhancing ecosystem services, protecting biological corridors and halting land-use change in the oak-pine forest.	Project findings show the recommended implementation stages to develop the local market, the potential areas to work in, the estimated carbon content and expected project's costs, the willingness to supply by landowners and willingness to pay by population/organizations.	Voluntary Market Scheme Proposal obtained as a result of this research project and surveys results.	-The environmental valuation expressed by the participants in the surveys reflect their true intentions and are enough to cover the implementation, transaction and opportunity costs of the scheme. -Local, regional and national policymakers positively receive this kind of policy instrument.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Outputs 1. Carbon content in vegetation within La Primavera and its immediate surroundings, and carbon sequestration potential for areas that can be restored by reforestation estimated.	Maps and Satellite images showing estimated carbon content and potential sequestration for the 30,500 ha of La Primavera and the biological corridors in 30,000 ha of the surrounding area.	The body of the report and a map scale 1:50,000.	Atypical massive forest fires do not occur changing the estimated carbon estimations.
2. Implementation, transaction and opportunity costs, and landowners' willingness to conserve/supply ecosystem services in La Primavera and surrounding area assessed.	Costs curves for the 30,500 ha of La Primavera and in 30,000 ha of the surrounding area, showing project's viability. 90 surveys from landowners in the 13 ejidos comprising La Primavera.	The body of the report and a map scale 1:50,000. Landowners' surveys.	Truthful participation of landowners in the surveying process.
3. Local financing potential for ecosystem conservation and restoration in the Guadalajara Metropolitan Area, expressed on a per ton-CO_2 basis estimated.	Financing potential from survey results and estimation for Guadalajara's Metropolitan Area following the socioeconomic and demographic profiles. 300 surveys from citizens, institutions and organizations from Guadalajara Metropolitan Area.	Body of the report and surveys	Truthful participation of citizens, institutions and organizations in the surveying process.
4. Voluntary market-based for environmental services valuation and rural development in La Primavera and its immediate surroundings proposed.	Critical route for the development of the proposed scheme. Technical documents proposed for the operation and follow up of the scheme.	Voluntary market-based scheme proposal.	Local, regional and national policymakers remain open to the approval of this kind of instruments.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Activities (details in workplan) 1.1 Set carbon measuring points and field work logistics 1.2 Provide training to work team 1.2 Perform field work 1.3 Data analysis to determine carbon content and sequestration potential 2.1 Identify the technical, transaction and opportunity costs 2.2 Provide training to the work team 2.3 Apply the surveys to verify opportunity costs and determine willingness to supply 2.4. Data analysis to shape the supply side of the scheme. 3.1 Identify the general profile of citizens, institutions and organization in the Metropolitan Area of Guadalajara 3.2 Provide training to work team 3.3 Apply the surveys to assess carbon footprint, financing potential and preferred scheme 3.4 Data analysis to shape the demand side of the scheme 4.1 Define the characteristics of the proposed market-based scheme 4.2 Consult the relevant actors involved in policymaking about feasibility of the proposed scheme 4.3 Identify the critical route for development of the proposed scheme 4.4 Data analysis and writing of the final report 4.5 Dissemination of results			
Monitoring activities: Quarterly, yearly and final reports including measurement of project's progress providing quantifiable follow-up and description of tasks realized, specifically progress in measuring points in the study area, surveying process (landowners, citizens, organizations and institutions), and main results obtained.			

Original Timetable.

	Activity	Months	Year 1				Year 2				Year 3			
			1	2	3	4	1	2	3	4	1	2	3	4
1.1	Identify the biological corridors and delimit study area	1	X											
1.2	Classify the study area according to land-use and tree crown	1	X											
1.3	Set carbon measuring points and field work logistics	1	X											
1.4	Provide training to work team	1	X											
1.5	Perform field work	7	X	X	X									
1.6	Data analysis to determine carbon content and sequestration potential	3			X	X								
1.7	Writing and dissemination of the first part of the report	5					X					X	X	
2.1	Identify the strategies to conserve and enhance carbon services	5		X	X	X								
2.2	Identify the technical requirements and local costs (transport, plant production, biodiversity issues labour and materials)	2		X										
2.3	Identify transaction costs of the UNFCCC REDD and Voluntary Market Schemes	1		X										
2.4	Identify the local opportunity costs in the study area (land use and productivities)	2			X									
2.5	Design the surveying instrument to verify local opportunity costs and willingness to supply the environmental services	2		X	X									
2.6	Define the logistics to apply the surveys/workshops	1			X									
2.7	Provide training to the work team	1			X									
2.8	Apply the surveys to verify opportunity costs and determine willingness to supply	6			X	X	X							
2.9	Data analysis to determine the costs and willingness to supply	4						X	X					
2.10	Writing and dissemination of the second part of the report	4							X			X	X	
3.1	Identify the general profile of citizens, institutions and organization in GMA from official statistics	1			X									
3.2	Define the subsample for each representative group	1			X									
3.3	Design the surveying instrument to assess carbon footprint, financing potential and preferred scheme	3				X								
3.4	Define the strategy to apply the surveys/workshops	1				X								
3.5	Provide training to work team	2				X								
3.6	Apply the surveys to assess carbon footprint, financing potential and preferred scheme	7				X	X	X						
3.7	Data analysis to determine local financing potential on a per ton-CO2 basis	5						X	X	X				
3.8	Writing and dissemination of the third part of the report	4								X		X	X	
4.1	Define the characteristics of the proposed market-based scheme	1						X	X	X	X			
4.2	Identify and contact the relevant, local, regional and national actors involved in environmental incentives policymaking	2		X						X				
4.3	Consult the relevant actors involved in policymaking about feasibility of the proposed scheme	5								X	X	X		
4.4	Identify the critical route for development of the proposed scheme	3								X	X			
4.5	Elaborate the final technical documents and training material proposed for the operation and	3										X	X	

	Activity	Months	Year 1				Year 2				Year 3			
			1	2	3	4	1	2	3	4	1	2	3	4
	follow up of the scheme													
4.6	Dissemination of the proposed scheme among relevant local stakeholders	3											X	X
5.1	Quarterly Report	3	X	X	X	X	X	X	X	X	X	X	X	
5.2	Yearly Reports	3			X				X				X	
5.3	Final Report	1												X

Annex 3 Project contribution to Articles under the CBD

Project Contribution to Articles under the Convention on Biological Diversity

Article No./Title	Project %	Article Description
6. General Measures for Conservation & Sustainable Use		Develop national strategies that integrate conservation and sustainable use.
7. Identification and Monitoring	10	Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities that have adverse effects; maintain and organise relevant data.
8. In-situ Conservation	20	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.
9. Ex-situ Conservation		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.
10. Sustainable Use of Components of Biological Diversity		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.
11. Incentive Measures	60	Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.
12. Research and Training		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).
13. Public Education and Awareness	10	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.
14. Impact Assessment and Minimizing Adverse Impacts		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.
15. Access to Genetic Resources		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

Article No./Title	Project %	Article Description
		and equitable way of results and benefits.
16. Access to and Transfer of Technology		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.
17. Exchange of Information		Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
19. Bio-safety Protocol		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.
Other Contribution		Smaller contributions (eg of 5%) or less should be summed and included here.
Total %	100%	Check % = total 100

Annex 4 Standard Measures

Code	Description	Totals (plus additional detail as required)
Training Measures		
1a	Number of people to submit PhD thesis	Arturo Balderas Torres will submit his Ph.D. thesis in 2012 to the University of Twente.
1b	Number of PhD qualifications obtained	
2	Number of Masters qualifications obtained	Moissy Lopez obtained an M.Sc. degree at the University of Twente in 2012; in collaboration with Arturo Balderas Torres, she explored the potential for different incentives that may attract participation in climate change mitigation private programs. The network and data of the DI project proved useful to engage with UT.
3	Number of other qualifications obtained	
4a	Number of undergraduate students receiving training	13 ITESO's and 2 Universidad de Guadalajara undergraduate students participated in fieldwork teams; they received training on forestry inventory methods and socioeconomic/econometric survey application capture and basic analysis.
4b	Number of training weeks provided to undergraduate students	Each of the above mentioned students participated for a period ranging from 2 to 4 months.

Code	Description	Totals (plus additional detail as required)
4c	Number of postgraduate students receiving training (not 1-3 above)	
4d	Number of training weeks for postgraduate students	
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification(ie not categories 1-4 above)	
6a	Number of people receiving other forms of short-term education/training (ie not categories 1-5 above)	As part of the surveys applied, environmental information was presented to the participants, leaflets were also provided to as part of the market stall surveys (750 for distribution among neighbours). Overall 1761 surveys were applied.
6b	Number of training weeks not leading to formal qualification	The surveys were applied over sessions of one hour in person; for the surveys applied on-line it took from 10 to 20 min to people to answer them.
7	Number of types of training materials produced for use by host country(s)	Material and training guidelines derived from the research are to be included in the final report to the La Primavera management office.
Research Measures		
8	Number of weeks spent by UK project staff on project work in host country(s)	2009 February 1-8 = 8 days. 2010 Nov 26 – Dec 10 = 15 days. 2011 February 21-March 3 = 10 days. 2012, February 16-29 = 13 days. 46 days = 6.6 weeks
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	Final Report will be handed to local authorities.
10	Number of formal documents produced to assist work related to species identification, classification and recording.	Final Report, section on monitoring of wildlife corridors.
11a	Number of papers published or accepted for publication in peer reviewed journals	2, Items 1 and 12 in Annex 2; 4 more have been submitted.
11b	Number of papers published or accepted for publication elsewhere	2 Papers accepted for conferences and one book chapter (Items 2, 5 and 10 in Annex 2); additionally 6 posters were presented at international conferences and symposia.
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	Forestry inventory data available (1 database)
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	Forestry inventory data available to contribute to local registries, including info on *Mammillaria jaliscana* (1 database)
13a	Number of species reference	

Code	Description	Totals (plus additional detail as required)
	collections established and handed over to host country(s)	
13b	Number of species reference collections enhanced and handed over to host country(s)	
Dissemination Measures		
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	Final workshop to present research findings to stakeholders and projects participants held on March 2012.
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	Five conferences attended, information presented corresponds to that of items 3, 4, 5, 6, 7,8,9.
15a	Number of national press releases or publicity articles in host country(s)	
15b	Number of local press releases or publicity articles in host country(s)	Local media coverage included interviews and reports on research activities and findings. Total (21) listed in Annex 5.
15c	Number of national press releases or publicity articles in UK	
15d	Number of local press releases or publicity articles in UK	A press release ‘Mexican rock heroes trial novel 'green trading' system’ was put out on Eurekalert from the UK.
16a	Number of issues of newsletters produced in the host country(s)	
16b	Estimated circulation of each newsletter in the host country(s)	
16c	Estimated circulation of each newsletter in the UK	
17a	Number of dissemination networks established	
17b	Number of dissemination networks enhanced or extended	
18a	Number of national TV programmes/features in host country(s)	(1)Arturo Balderas Torres discussed project related issues as part of a TV interview during the second year of the project.
18b	Number of national TV programme/features in the UK	
18c	Number of local TV programme/features in host country	
18d	Number of local TV programme features in the UK	
19a	Number of national radio interviews/features in host country(s)	
19b	Number of national radio interviews/features in the UK	

Code	Description	Totals (plus additional detail as required)
19c	Number of local radio interviews/features in host country (s)	(1) Arturo Balderas Torres discussed project related issues as part of a radio interview during the third year of the project.
19d	Number of local radio interviews/features in the UK	
Physical Measures		
20	Estimated value (£s) of physical assets handed over to host country(s)	
21	Number of permanent educational/training/research facilities or organisation established	
22	Number of permanent field plots established	103 forest inventory plots established.
23	Value of additional resources raised for project	Project provided useful input to raise additional resources for research (WOTRO grant €522,118) and as part of an implementation project (GBP 500,000, planned budget).
Other Measures used by the project and not currently including in DI standard measures		

Annex 5 Publications

Type * (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
1 Journal	Analysis of the carbon sequestration costs of afforestation and reforestation agroforestry practices and the use of cost curves to evaluate their potential for implementation of climate change mitigation. Arturo Balderas Torres, Rob Marchant, Jon C. Lovett, James C.R. Smart, Richard Tipper (2010).	Ecological Economics, Elsevier, Amsterdam		
2 Proceedings of the XIII World Forestry Congress.	Assessing the feasibility to link urban and rural areas through local markets for forests' carbon services and the potential for local development: a methodological proposal. Arturo Balderas Torres, Jon C. Lovett, Margaret Skutsch, (2009).	Argentina, 18-23 October 2009.		
3 Symposium Poster	Estudio de la biomasa aérea arbórea en bosques de encino-pino en el Bosque La Primavera. Resultados preliminares. Arturo Balderas Torres, Ricardo Ontiveros Enriquez, Jon C. Lovett,	I Simposio Mexicano del Carbono. Programa Mexicano del Carbono 7 al 9 de Octubre, 2009.		

	Margaret Skutsch. (2009).	Ensenada México		
4 UNFCCC Conference of the Parties. Poster	Carbon Sequestration Costs of Agroforestry Practices Under CDM and Voluntary Schemes. Arturo Balderas Torres, Rob Marchant, Jon C. Lovett, James C.R. Smart, Richard Tipper (2010).	Forest Day 3. Conference of the Parties on the United Nations Convention on Climate Change COP-15 Copenhagen, Denmark.		
5 Conference Paper	Valuation and potential demand for forest carbon sequestration services among Mexican households: the case of Guadalajara City and La Primavera Biosphere's Reserve. Balderas Torres, Arturo, Margaret Skutsch, Douglas C. MacMillan, Jon C. Lovett (2010).	*11th Biennial Conference, International Society for Ecological Economics*, "Advancing Sustainability in a Time of Crisis" Oldenburg and Bremen, Germany		-
6 UNFCCC Conference of the Parties. Poster	Valuation of Carbon Sequestration Services and the Potential for PES mechanisms and REDD+ in Mexico. Arturo Balderas Torres, Douglas C. MacMillan, Margaret Skutsch, Jon C. Lovett (2010).	Forest Day. 4. Conference of the Parties on the United Nations Convention on Climate Change COP-16 Cancún, México.		-
7 Symposium Poster	Perfil General de Emisiones de Gases de Efecto Invernadero (GEI) de los hogares en México en el 2006. Arturo Balderas Torres, Margaret Skutsch, Jon C. Lovett (2010).	*II Simposio Internacional del Carbono en México*. Programa Mexicano del Carbono, Instituto Tecnológico de Sonora, Instituto Nacional de Ecología 6 al 8 de Octubre 2010, San Carlos Nuevo Guaymas Sonora, México.		
8 Symposium Poster	Uso de las relaciones entre DAP, diámetro de copa (K) y densidad (N) para evaluar la variabilidad de la biomasa aérea arbórea (BAA) en el bosque de pino-encino de La Primavera, Jalisco México. Arturo Balderas Torres, Ricardo Ontiveros Enríquez, Margaret Skutsch, Jon C. Lovett (2010)	*II Simposio Internacional del Carbono en México. Programa Mexicano del Carbono*, Instituto Tecnológico de Sonora, Instituto Nacional de Ecología 6 al 8 de Octubre 2010, San Carlos Nuevo Guaymas Sonora, México.		
9 Symposium Poster	Determinantes de la valoración ciudadana de los servicios de captura de carbono en bosques: el caso del bosque La Primavera y Guadalajara, Jalisco México. Arturo Balderas Torres, Douglas C. MacMillan, Margaret Skutsch, Jon C. Lovett (2010)	*II Simposio Internacional del Carbono en México*. Programa Mexicano del Carbono, Instituto Tecnológico de Sonora, Instituto Nacional de Ecología 6 al 8 de Octubre 2010, San Carlos Nuevo Guaymas Sonora, México.		
10 La Selva Negra Website	Blog on UNFCCC CoP 16. Arturo Balderas Torres (2010)	http://www.selvanegra.org.mx/cop16.asp		

11 Book Chapter.	Retos para la valoración de los servicios forestales de mitigación del cambio climático. Arturo Balderas Torres, Margaret Skutsch, Jon C. Lovett in Recursos Forestales en el Occidente de México: Manejo, Producción y Aprovechamiento. Ed. Efren Hernandez Alvarez (Accepted).	Universidad de Guadalajara, México.		
12 Journal	The valuation of forest carbon services by Mexican citizens: the case of Guadalajara City and La Primavera Biosphere Reserve; Arturo Balderas Torres, Douglas C. MacMillan, Margaret Skutsch, Jon C. Lovett (Submitted).	Submitted to Regional Environmental Change, Springer, Berling/Heidelberg		
13 Journal	Using basal area to estimate aboveground carbon stocks in forests: La Primavera Biosphere Reserve, Mexico, Arturo Balderas Torres, Jon C. Lovett (Submitted).	Submitted to Forestry, Oxford Journals, Oxford UK		
14 Journal	PES and rural development: landowners' preferences and potential participation in western México. Arturo Balderas Torres, Douglas C. MacMillan, Margaret Skutsch, Jon C. Lovett, (Submitted).	Submitted to Ecosystem Services, Elsevier, Amsterdam The Netherlands.		
15 Journal	Carbon storage and potential carbon removals in biomass in La Primavera, Mexico; Arturo Balderas Torres; Ricardo Ontiveros Enríquez; Margaret Skutsch; Jon C. Lovett (Submitted).	Submitted to Global Environmental Change, Elsevier, Amsterdam The Netherlands.		
16 Journal	Public Valuation of forest offsets and co-benefits in domestic carbon markets; Arturo Balderas Torres, Douglas C. MacMillan, Margaret Skutsch, Jon C. Lovett (Submitted).	Submitted to Climate Policy, Climate Strategies, UK		

Local Press Coverage.

1. ¿Para qué sirve La Primavera? *Magis* Magazine ITESO, December 2009-January 2010 http://www.magis.iteso.mx/content/%C2%BFpara-qu%C3%A9-sirve-la-primavera (Mention to work done by ABT, description of the project and fieldwork, forest inventory).

2. En La Primavera, la vida se abre paso entre obstáculos. *Milenio* Local Newspaper, 4 July 2010 by Agustín del Castillo. http://impreso.milenio.com/node/8794151 (Mention to work done by ABT, research and study of wildlife corridors)

3. Celebran a un Encino Centenario. *Milenio* Local Newspaper, 9 July 2010 by Agustín del Castillo http://impreso.milenio.com/node/8796953. (Mention to work done by ABT, largest oak found during fieldwork)

4. Acaban con verdor. *Mural* Local Newspaper, 9 July 2010 http://portal.iteso.mx/portal/page/portal/Dependencias/Rectoria/Dependencias/Direccion_de_Relaciones_Externas/Dependencias/Oficina_de_comunicacion_social/Coordinacion_de_Prensa_y_Difusion/Iteso_en_los_medios/Historicos_prensa/2010/Julio/9_de_julio/Mural-Comunidad-p4.jpg (Mention to work done by ABT, largest tree found in fieldwork).

5. Alianza Entre Especies. *Milenio* Local Newspaper, 10 July 2010 by Agustín del Castillo http://www.milenio.com/node/484377 (Mention to work done by JW, puma monitoring, profile Jennifer White and Scooby)

6. Scooby and the Cat Scat: canine detective aids Primavera rangers. *Guadalajara Reporter*, Local English Spoken Weekly -Newspaper for the American Community in Jalisco. 19 July 2010 by John Pint. http://guadalajarareporter.com/columns-mainmenu-94/john-pint-mainmenu-48/27209-scooby-and-the-cat-scat-canine-detective-aids-primavera-rangers.html (Reference to work done by JW and ABT)

7. La Primavera, inmersa en procesos de extinción. *Milenio* Local Newspaper. 6 March 2011 by Agustín del Castillo, http://impreso.milenio.com/node/8922367 (Mention to work done by ABT, importance of wildlife corridors)

8. 'Un Mercado de carbono para salvar la Primavera'. *Milenio* Local Newspaper, 24 July 2011 by Agustín del Castillo http://jalisco.milenio.com/cdb/doc/impreso/8997422 (Mention to work done by ABT, potential for local market mechanisms to finance conservation activities and mitigate climate change in La Primavera)

9. Personaje del bosque: Arturo Balderas Torres. *Sentidos de La Primavera* Electronic Magazine of La Primavera. January-Februray 2012 by Karina Aguilar. (Mention to work done by ABT)

10. Los costos a pagar si aíslan a La Primavera. *Milenio* Local Newspaper, 5 Februrary 2012 by Agustín del Castillo http://www.milenio.com/cdb/doc/impreso/9107597 (Mention to work done by ABT, costs of biodiversity loss).

11. 'La ciudad no será exitosa si no conserva La Primavera'. *Milenio* Local Newspaper, 4th March 2012 by Agustín del Castillo, http://www.milenio.com/cdb/doc/impreso/9123428 (Interview to JCL and ABT).

Press Coverage *Post*-March 2012.

12. Corredores se apoyan en la investigación científica. *Milenio* Local Newspaper, 2 April 2012 by Agustín del Castillo, http://www.milenio.com/cdb/doc/impreso/9139951 (Mention to work done by ABT, importance of puma as flag species and wildlife corridors)

13. La SCT acepta pasos de fauna 'bien hechos'. *Milenio* Local Newspaper, 2 April 2012, by Agustín del Castillo, http://jalisco.milenio.com/cdb/doc/noticias2011/f1fc5af3444d2aacba700a78b82731aa (Selva Negra director announces plans of SCT (Communications and Transport Ministry) to include wildlife corridors as part of new road project, reference to work done by ABT and JPG).

14. La Primavera requiere tres grandes pasos de fauna. *Milenio* Local Newspaper, 23 April 2012, by Agustín del Castillo http://www.agustindelcastillo.com/2012/04/la-primavera-requiere-tres-grandes.html (Mention to work done by JW)

15. Advierten que recuperación de La Primavera tardará hasta 30 años. NOTIMEX (News Agency of the Mexican Government) 5 May 2012

http://www.notimex.com.mx/admon/twitter.php?d=1048162059&c=N (Mention to work done by ABT, impact of forest fire in La Primavera)

16. Maná, la huella de carbono y La Primavera. *Milenio* Local Newspaper, 6 May 2012 by Agustín del Castillo http://jalisco.milenio.com/cdb/doc/noticias2011/e35903082b4103dc438b012993f4a0e0 (Description of the implementation project by Selva Negra, mention to work done by ABT).

17. Incendios calientan el clima de Guadalajara. *El Universal*, National Newspaper 9 May 2012. http://www.eluniversal.com.mx/estados/85772.html (Mention to work done by ABT, impact of forest fire in La Primavera)

18. Jalisco, tercer lugar nacional en incendios forestales. *El Informador* Local Newspaper 12 May 2012 http://www.informador.com.mx/jalisco/2012/375655/6/jalisco-tercer-lugar-nacional-en-incendios-forestales.htm (Mention to work done by ABT, impact of forest fire in La Primavera)

Related Notes.

19. 6 mdd, costo ambiental de los juegos para la atmósfera. '6 million dollars the atmospheric environmental costs of the Panamerican Games'. *Milenio* Local Newspaper, 24 October 2011 by Agustín del Castillo http://jalisco.milenio.com/cdb/doc/impreso/9049320 (Description of required budget to offset carbon emissions from the Panamerican Games in 2011)

20. Macrolibramiento, la gran amenaza para La Primavera. *Milenio* Local Newspaper, 26 December 2011, by Agustín del Castillo http://www.milenio.com/cdb/doc/impreso/9085176 (Description of threats to La Primavera and wildlife corridors by new road development).

21. Familia de pumas florece en un bosque asediado. *Milenio* Local Newspaper, 22 May 2012, by Agustín del Castillo, http://jalisco.milenio.com/cdb/doc/noticias2011/6bc5ee9e737adc876bed38b816ddffb3, (report on camera trap images of puma female and two cubs).

Press release and aggregator sites of the "Mexican rock heroes trial novel 'green trading' system" press release to coincide with the Rio+20 conference

EurekAlert

http://www.eurekalert.org/pub_releases/2012-06/cp-mrh062112.php

PhysOrg

http://phys.org/wire-news/101740628/mexican-rock-heroes-trial-novel-green-trading-system.html

Science Daily

http://www.sciencenewsdaily.net/aggregator/sources/9?page=4

Bio-Medicine

http://www.bio-medicine.org/biology-news-1/Mexican-rock-heroes-trial-novel-green-trading-system-25455-1/

BioPortfolio

http://www.bioportfolio.com/news/article/1084981/Mexican-Rock-Heroes-Trial-Novel-green-Trading-System.html

Cell DNA Daily News Aggregator

http://news.cell.com/story.php?title=mexican-rock-heroes-trial-novel-green-trading-system

Times of India

http://economictimes.indiatimes.com/topic/National-Rural-Livelihoods-Project

Topix

http://www.topix.com/wire/mx/guadalajara?q=%22mexican+rock+heroes%22

Environmental sites

Greening Mexico

http://www.greeningmexico.com/

South West Climate Change

http://www.southwestclimatechange.org/news/feed/item/mexican-rock-heroes-trial-novel-green-trading-system

Green Market Opportunities

http://www.gmouk.com/gmouk/investingnews.php

Carbon Capture Report

http://ccs.carboncapturereport.org/cgi-bin//profiler_showlist?key=latin_america&pt=2&field=msmstories&sort=0&filter=&start=0

All Green to Me

http://allgreentometopics.delawareonline.com/quote/04O2g4g6kF7rh?q=Global+Warming

Blogging sites

http://juieta-nine.blogspot.co.uk/2012/06/mexican-rock-heroes-trial-novel-trading.html

http://adjudge-dall.blogspot.co.uk/2012/06/mexican-rock-heroes-trial-novel-trading.html

Other coverage

http://www.utnieuws.nl/english/ut-researchers-and-rock-band-help-protect-mexican-forest

Annex 6 Darwin Contacts

Ref No	17027
Project Title	Market Based Scheme for Conservation in La Primavera Forest Mexico
UK Leader Details	
Name	Jon Lovett
Role within Darwin Project	Project Leader
Address	The School of Geography University of Leeds Leeds LS2 9JT United Kingdom

Phone	
Fax	
Email	jonclovett@gmail.com
Other UK Contact (if relevant)	
Name	Jon King
Role within Darwin Project	Project finance and accounts
Address	Deputy Research Accounts Manager Research Services Registry University of Kent Canterbury Kent CT2 7NZ
Phone	
Fax	
Email	
Partner 1	
Name	Arturo Balderas Torres
Organisation	University of Twente/ITESO
Role within Darwin Project	Project Coordinator host country
Address	CSTM P.O. Box 217 7500 AE Enschede The Netherlands
Fax	
Email	
Partner 2 (if relevant)	
Name	José Luis Gámez Valdivia
Organisation	Bosque La Primavera Executive Office
Role within Darwin Project	Local Project Partner.
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