

# *SCAPES Leader with Associates Cooperative Agreement*

*EM-A-00-09-00006-00*

## *Eastern Cordillera Real Landscape Work Plan*

*10/01/2012 - 09/30/2013*

*for*

# World Wildlife Fund

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### Acronyms

ACT	Amazon Conservation Team
ACTO	Amazon Cooperation Treaty Organization
AFIWNP	Alto Fragua Indiwasi National Park
ALA	Local Water Authority
APECT	Tabaconas Association of Ecological Producers
APROCASSI	San Ignacio Association of Small Coffee Growers
BATS	Biodiversity Analysis and Technical Support
BioCAF	Environmental Unit of the Andean Development Corporation
BNDES	Brazilian National Development Bank
CAF	Andean Development Corporation
CAN	Andean Community of Nations
CARE Peru	CARE Peru is a partner in the ECR SCAPES program
CC	Climate Change
CENFROCAFE	Coffee Growers Cooperative
CIAT	International Center for Tropical Agriculture
CONDESAN	Consortium for the Sustainable Development of the Andean Ecoregion
CORPOAMAZONIA	Regional Office of the Minister of the Environment for the Amazon Region of Colombia
CRiSTAL	Community-based Risk Screening Tool – Adaptation and Livelihoods
CPO	Colombia Program Office
CVCA	Climate Vulnerability and Capacity Analysis
ECR	Eastern Cordillera Real
EMAPAST	Empresa de Agua Potable del Puyo
EU	European Union
GBIF	Global Biodiversity Information Facility
GIS	Geographic Information System
GORE Cajamarca	Cajamarca Regional Government
GRIDE	Regional Disaster Risk Reduction and Environment Steering Committee (Cajamarca)
IDB	Inter-American Development Bank
IIRSA	Initiative for Regional Infrastructure Integration in South America
InVEST	Integrated Valuation of Ecosystem Services and Tradeoffs
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
LAI	Living Amazon Initiative
MCLCP	Provincial Roundtable to Combat Poverty of San Ignacio Province
MEPSI	Environmental Provincial Municipality of San Ignacio
MOU	Memorandum of Understanding
NGO	Non-Governmental Organization
NP	National Park
PA	Protected Area
PPO	Peru Program Office
REDD	Reduced Emissions from Deforestation and Degradation
REDPARQUES	Latin American Network for Technical Cooperation for National Parks, Other Protected Areas and Wild Flora and Fauna

SCAPES	Sustainable Conservation Approaches in Priority Ecosystems
SEA	Strategic Environmental Assessment
SENAGUA	National Water Secretariat (Ecuador)
SENAMHI	National Service of Meteorology and Hydrology Information
SNTN	Tabaconas – Namballe National Sanctuary
UGEL	Local Unity of Education Management
US	United States of America
USAID	United States Agency for International Development
WWF	World Wildlife Fund

## *Amazon* Eastern Cordillera Real Landscape

### *Project Overview*

#### *Landscape Description*

At the crossroads of the Amazon, Andes and Pacific, the Eastern Cordillera Real (ECR) spans more than nine million hectares of the western arc of the Amazon basin, from southern Colombia to the Huancabamba depression in northern Peru (see Map 1). The ECR's complex topography, highly variable climatic conditions and bio-geographic history have created 29 different ecosystems from mountain glaciers (Cotopaxi, Cayambe and Chimborazo), mountain grasslands (*páramos*) and cloud forests, to lowland forests. This complex landscape harbors the greatest biological diversity in South America with more than 140 species of amphibians (61 endemic), 1,145 birds (117 endemic), 250 mammals and 7,000 flowering plants. The ecoregion maintains large expanses of unbroken forests, which are critical for the survival of vulnerable species, such as hemispheric and regional migrants, and threatened, endangered and endemic species.<sup>1</sup>

In addition to this immense biodiversity, these montane ecosystems are strategically important for the provision of key environmental services for more than one million people of Colombia, Ecuador and Peru, in the form of drinking water, irrigation and hydroelectric generation for indigenous communities, rural settlements and small to medium sized urban centers. The *páramos* and cloud forests of the Amazonian slopes contribute to the hydrological regulation of major tributaries of the Amazon (Caquetá, Putumayo, Pastaza, Napo, Ucayali, Santiago, Chinchipe and Marañón), and therefore play a crucial role in the maintenance of the ecological dynamics of the Amazon biome.

#### *Threats Analysis and Program Response*

As a result of the inaccessibility of the ECR, 75 percent of its natural cover is still intact. However, it is poised for a potentially dramatic transformation in the coming years from multiple pressures ranging from large-scale infrastructure projects to mining and petroleum development and ill-planned agricultural projects that will likely increase current rates of ecosystem loss and fragmentation (see Figure 1). Development projects such as these are also expected to lead to new colonization and settlement, bringing with it further loss of forest cover. Together, these transformative forces will reduce the current ecological integrity of the region and, in so doing, reduce its resiliency to the expected manifestations of climate change, while potentially exacerbating regional climate changes, the number one threat facing the region (Table 1).

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<sup>1</sup> Regional migrants include the golden-plumed parakeet (*Leptosittaca branickii*), a creature adapted to regional migrations over a wide altitudinal range. Species such as the red-bellied grackle (*Hypopyrrhus pyrohypogaster*) are threatened and endemic to the region. Large blocks of forest and páramo of the Amazonian slopes of the ECR provide critical habitat for endangered and emblematic species such as the Andean bear (*Tremarctos ornatus*) and the mountain tapir (*Tapirus pinchaque*).

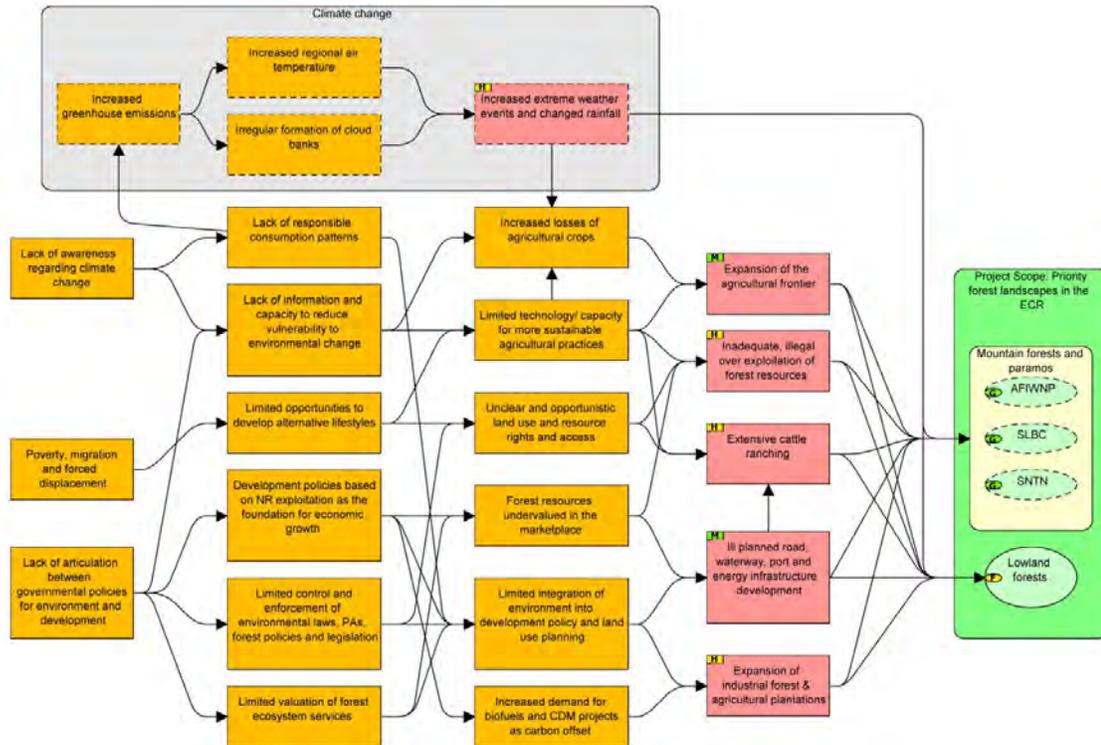


Figure 1. Conceptual Model for the Eastern Cordillera Real

A description of the most important threats to the ECR follows.

1. Over-exploitation of forest resources

Since the first roads opened the ECR to colonization in the 1960s, over-exploitation of forest resources and unregulated extraction of natural resources have represented a serious threat to biodiversity. Poor timber extraction practices (both legal and illegal) degrade forests facilitating conversion of harvested areas to agriculture or pasture. Intensive logging leads to clear-cutting or deforestation, and is directly linked to biodiversity loss. These practices also decrease livelihood opportunities for forest based communities, increase carbon emissions, induce changes in hydrological dynamics, and further compound the impacts of climate change.

2. Large scale infrastructure development

Large scale infrastructure development, cattle ranching, industrial forest and agricultural plantations, and unsustainable small scale agricultural practices further compound impacts on biodiversity of the three top-ranked threats described. The extensive and growing pressure from cattle ranching is of high concern and a threat that needs to be addressed. Both the expansion of cattle herds and of industrial forest and agricultural plantations are driven by national and regional economic development. Of slightly less importance are unsustainable small scale agricultural practices. This threat can be quite significant, as subsistence agriculture can be important for indigenous communities living in the ECR as it provides food security needs for the region and an opportunity to promote conservation friendly production systems.

Road, waterway and port development aim to enable greater economic integration across the Andes, Amazon and Pacific, especially as part of the Initiative for Regional Infrastructure Integration in South America (IIRSA). Further compounding these threats to biodiversity is increased development of mining and oil exploitation in some areas, driven by increased demand for commodities and energy. Ecosystem fragmentation and biodiversity loss is likely to directly result from this development, while increased access from road, waterway and port development generates indirect impacts such as colonization and expansion of the agricultural frontier. Forest loss and fragmentation would limit the capacity of ecological communities to adapt to new climate regimes, potentially resulting in cascading effects of unprecedented magnitude.

3. Increased frequency and intensity of extreme weather events.

In 2008, WWF and Fundación Natura completed a climate change vulnerability analysis for the ECR. The study revealed that significant shifts in precipitation and temperature are expected within the next 30-50 years, and these changes are likely to affect the distribution of habitats throughout the ecoregion, along with the plant and animal composition inhabiting them, and further compromising the ecological integrity of the target ecosystems and impairing environmental flows of critical importance for the Amazon biome. The indirect threats related to climate change are also expected to have an impact on land use patterns in the region as the promotion of carbon offset projects increases and the local settlers try to cope with the alteration of ecosystem services available due to environmental change. According to analyses, three sites - Alto Fragua Indiwasi National Park (AFIWNP) in Colombia, the Sangay – Llanganates biological corridor in Ecuador, and the Tabaconas Namballe Sanctuary in Peru) and their buffer zones were identified as among the most vulnerable, and adaptation measures are needed for their effective management.

Table 1: Threat Ranking for the Eastern Cordillera Real

Threat	AFIWNP	Lowlands	SLBC	SNTN	Overall
Increased extreme weather events and changed rainfall	High	High	High	High	High
Ill planned road, waterway, port and energy infrastructure	Medium	High	Medium	Medium	Medium
Inadequate, illegal over exploitation of forest resources	Low	High	Medium	High	High
Extensive cattle ranching	Low	High	Medium	High	High
Expansion of industrial forest & agricultural plantations	Low	Very High	Low	Low	High
Expansion of the agricultural frontier	Medium	Medium	Medium	Medium	Medium
Summary Target Ratings:	Medium	Very High	Medium	High	Overall Project Rating: High

The key actors in the landscape are outlined below:

1. **Colombia National Parks Authority.** The National Parks Unit is the national environmental authority responsible for the management of protected areas in Colombia. Over the past eight years, WWF and the National Parks Unit have established a strong partnership for the development of conservation actions in the Andean-Amazon piedmont and have developed innovative schemes to engage civil society, especially indigenous peoples, in the effective management of protected areas.
2. **CORPOAMAZONIA, the regional environmental authority,** is responsible for the regional conservation agenda in the Colombian Amazon. In 2008, this governmental organization signed an inter-institutional alliance with the National Parks Unit and WWF, and is part of the permanent roundtable for the Upper Putumayo Caquetá organized in the framework of the WWF projects funded by the MacArthur Foundation and the EU in 2006. CORPOAMAZONIA will help to ensure that the proposed actions have institutional support and will be framed in the governmental environmental plans for the region.
3. The **Colombian Municipalities of San José del Fragua and Belén de los Andaquíes** are important institutional stakeholders for the implementation of this project as part of the AFIWNP is within their jurisdiction. Both municipalities participate in the permanent roundtable for the development of conservation actions in the upper Caquetá watershed.
4. The **Ecuadorian Ministry of Environment** is the national environmental authority in this country and is responsible for the orientation of biodiversity conservation initiatives and climate change related issues. Fundación Natura cooperates with the ministry on both and collaborates in the development of specific projects dealing with capacity building, protected areas and climate change adaptation, among others.
5. The **National Water Secretariat of Ecuador (SENAGUA,** after its Spanish name), was created as a public institution to orient the management of water resources in Ecuador and therefore plays an important role for the implementation of programs and projects dealing with the management of river basins.
6. The **Ecuadorian Municipalities of Baños (Tungurahua Province), Mera (Pastaza Province) and Palora (Morona Santiago Province)** have been working with Fundación Natura since 2001 in the implementation of the management plan for the Sangay-Llanganates Corridor, which includes water management and other conservation activities which will be continued within the framework of the SCAPES project.
7. The **Agro-ecological Producers Association of Agoyán** was created in the area of the Sangay-Llanganates corridor in 2002, to improve agricultural systems and marketing of produce. This organization plays an important role in strengthening the capacities of local stakeholders and developing innovative schemes of sustainable agricultural production.
8. In Northern Peru, the **Tabaconas Namballe National Sanctuary Administration** has worked with WWF Peru since 2001, seeking the effective management of the protected area, and engagement and commitment of the local communities in the region. Over the past two years, the Sanctuary has been a key stakeholder for the design of a local plan of adaptation to climate change.
9. The **regional government of Cajamarca** has helped WWF and the environmental authority to coordinate the implementation of conservation projects since 2004 and more recently, the design of compensation schemes for environmental services provided by the Tabaconas sanctuary and its buffer zone. CARE Peru has been

working with the regional government since 2005, in order to strengthen its capacity on decentralized management, especially regarding water and sewage matters. The regional government is, by law, in charge of the development of the Regional Strategy on Climate Change, to which our provincial strategy would adhere.

10. The **Peruvian Municipalities** of San Ignacio and Tabaconas districts have been engaged in the development of conservation initiatives in support of the management plan for the Tabaconas-Namballe Sanctuary since 2004, including the restoration and reforestation of priority watersheds tributary to the Chinchipe River. The San Ignacio Province Municipality would be also a key stakeholder, especially in the formulation of the Adaptation to Climate Change Strategy for the provincial level.
11. The **Tabaconas Association of Ecological Producers** (APECT, after its Spanish name) and the **San Ignacio Association of small Coffee Growers** (APROCASSI, after its Spanish name), have been engaged in the restoration of degraded landscapes within the buffer zone of the Tabaconas-Namballe Sanctuary over the past three years, and are key to convene local stakeholders around the development of sustainable production systems. Both organizations participated in the preliminary design of a climate change adaptation plan led by WWF.
12. The **Provincial Roundtable to Combat Poverty of San Ignacio Province** (MCLCP – SI, after its Spanish name) is a local partner. Every development project to be implemented in the Province area has to be coordinated with the Roundtable in order to promote synergies and avoid duplication of efforts. The Provincial Roundtable also has seven District Roundtables, one in each district; and their actions are connected to the Regional and National Roundtable.

### ***Program Objectives and Goals***

The overall goal of the program is to maintain the ecological resilience of three select mountain and lowland forest landscapes of the Eastern Cordillera Real (ECR; namely, the AFIWNP in Colombia, the Sangay-Llanganates Biological Corridor in Ecuador and the Tabaconas Namballe Sanctuary in Peru). With the increasing impacts of climate variability and climate change compounding the effects of other threats such as unsustainable agricultural and forestry practices, extensive ranching and infrastructure development, we aim to strengthen the capacity of communities, local, regional, and national institutions, and policies to respond to these threats and thereby protect livelihoods, ecosystem services and biodiversity values within the landscape.

To achieve this goal, we employ conservation strategies that combine strengthening a policy and institutional framework that influences the drivers of environmental change with adaptation options that target ecosystems and seek to reduce the negative synergies of major threats on local biodiversity and livelihoods. Our conservation strategies aim to address indirect threats such as the lack of integration of environmental considerations in governmental development policies, limited control and law enforcement related to natural resources and protected areas, and limited capacity to prevent, manage and mitigate impacts of environmental change and reduce ecosystem and community vulnerability.

The project objectives will be achieved by working at multiple scales. WWF has chosen three areas for site-specific actions that are located in some of the most vulnerable watersheds of the ECR, according to the 2008 assessment carried out by WWF/Fundación Natura (Caquetá, Pastaza and Chinchipe river basins). Although these three areas are not transboundary or

contiguous, WWF actions on the ground at these particularly vulnerable sites will be magnified by policy work at the national and regional level and will contribute significantly to conservation of the ECR ecoregion as a whole. Actions in Objectives 1 and 2 will help local institutions and stakeholders develop and implement adaptation strategies that promote a mosaic of land uses where fragmentation is minimized and connectivity is maximized. This type of development mosaic will offer an alternative paradigm based on maintaining forest cover, encouraging the adaptation of existing protected areas to climate change, and promoting land uses that are less vulnerable to climate variability (e.g., intercropping<sup>2</sup>, soil management and silvopastoral<sup>3</sup> systems). Objective 2 will integrate ecosystem-scale considerations into community adaptation plans and build capacity for proactive adaptation, building resilience, curtailing maladaptation and reducing potential new threats to biodiversity. It will broaden the impact of project actions through dissemination among a community of conservation practitioners through participatory stakeholder engagement processes that will build capacity for effective adaptation to environmental change.

Objectives 3 and 4 target policy and institutional interventions at regional, national and international scales to promote the formulation and implementation of climate smart development policies. These actions seek to ensure that site-specific actions have a broader impact and that lessons learned are applied in other priority regions, reinforced through policy action. This will be achieved by working with key institutions at the national level in Colombia, Ecuador and Peru (national environmental authorities, National Parks and the National Institutes of Hydrology and Meteorology) as well as regional financial institutions and the Community of Andean Nations (CAN). At the same time, we will work within each site to build capacity to influence decision making processes and land use planning as described in Objective 2.

The activities for this project are focused on three critical focal areas:

1. Alto Fragua Indiwasi National Park (AFIWNP) in Colombia
2. Sangay – Llanganates biological corridor (SLBC) in Ecuador
3. Tabaconas Namballe Sanctuary (SNTN) in Peru

1. **AFIWNP in Colombia.** In 2001, the indigenous communities of Alto Fragua, in partnership with the National Parks Agency of Colombia and the Amazon Conservation Team (ACT) established this area to protect 68,000 ha of mountain ecosystems important for biodiversity conservation, the maintenance of ecosystem services, and the preservation of the cultural patrimony of indigenous peoples. Since 2007, WWF Colombia has worked with local partners and the Park to provide training and technical assistance to peasant families for the establishment of sustainable food production systems in the buffer zone and the improved effectiveness of the protected area management plan.
2. **SLBC in Ecuador** was established by the municipalities of Palora, Mera and Baños to improve the connectivity between the Llanganates National Park (220,000 ha) and the Sangay National Park (518,000 ha). This corridor protects the upper Pastaza River watershed and contributes to the provision of key environmental services for a vast

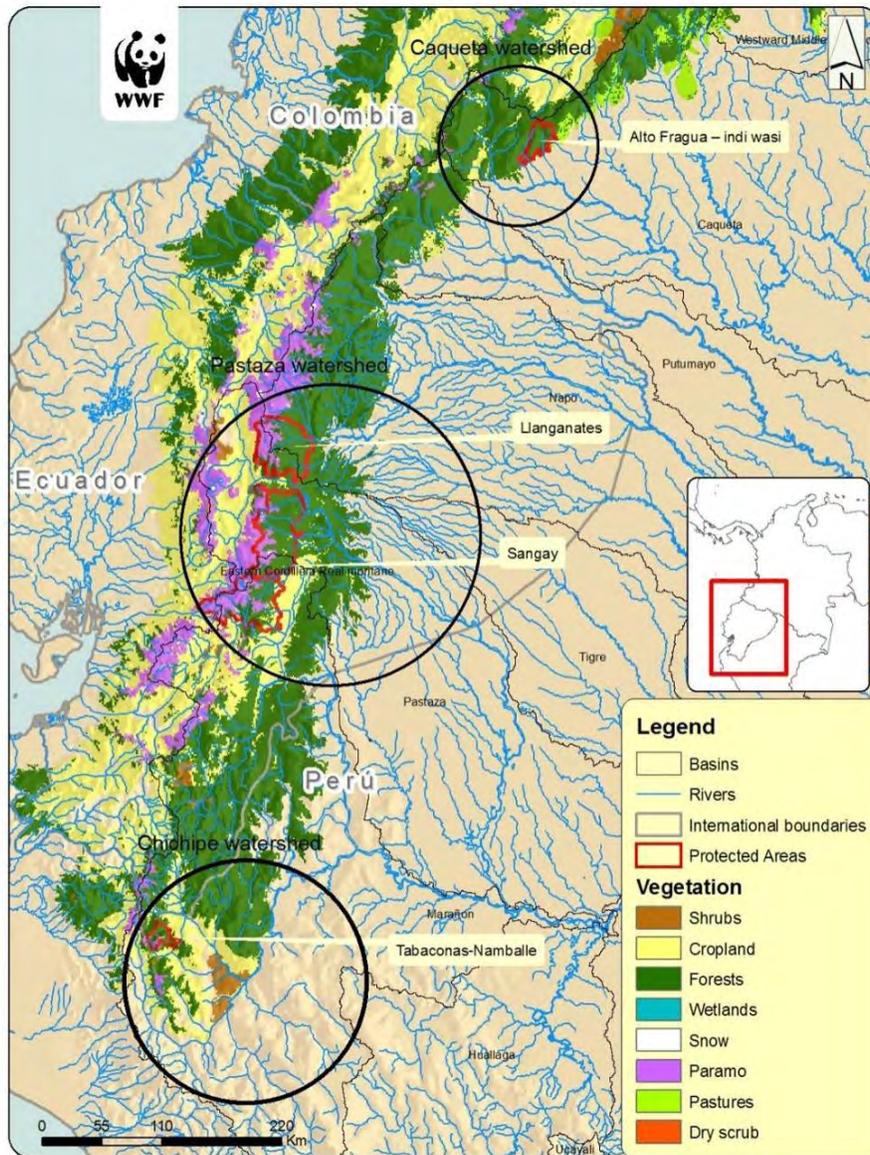
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<sup>2</sup> Intercropping: simultaneous farming of two or more crops in the same space within the same growing season.

<sup>3</sup> Silvopasture: practice of combining forestry and grazing in a mutually beneficial way. If done well, silvopasture can help enhance soil protection and increase long-term income resulting from the simultaneous production of trees and grazing animals.

region. The municipalities in the region and Fundación Natura have been working together to implement a management plan for the corridor over the past six years.

3. **SNTN in Peru** is located in the upper watershed of the Chinchipe River, close to the border between Ecuador and Peru (29,000 ha). The sanctuary is surrounded by a matrix of severely disturbed mountain ecosystems where WWF Peru has been working since 2004 with local authorities and local communities to secure the restoration of ecological functions and strengthen the management of the protected area.



Map 1: Project Areas in the Eastern Cordillera Real

**Program Level of Effort**

**Total Program Level of Effort: \$602,592 (USAID: \$370,790; WWF Match: \$231,802)**

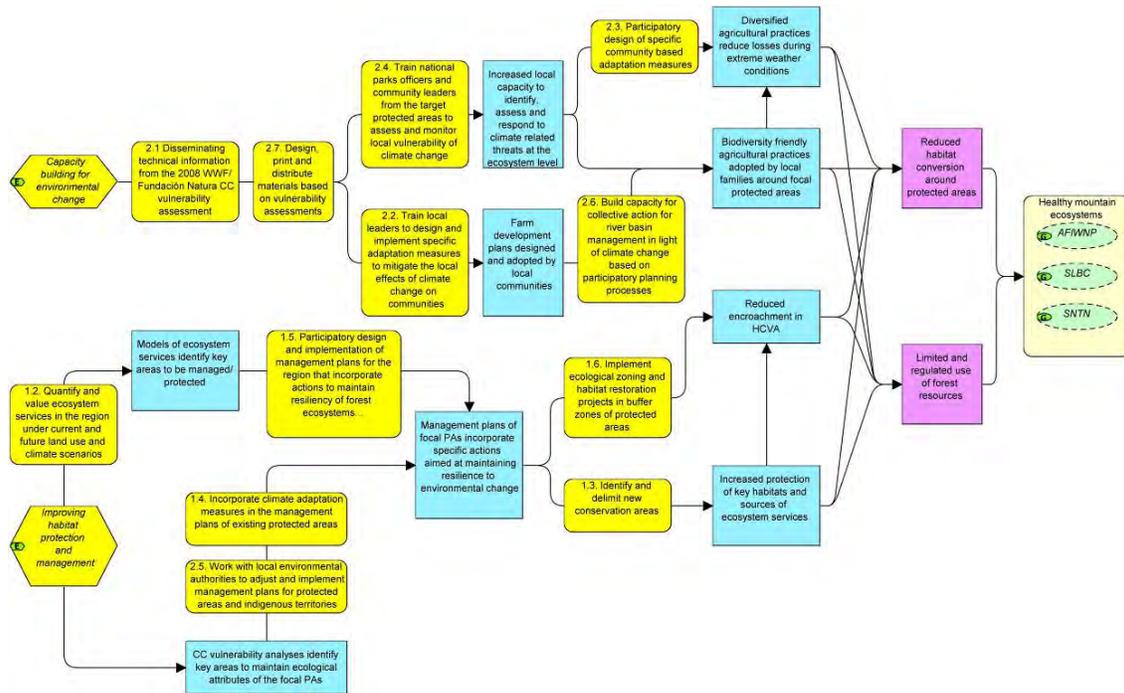
**Objectives and Activities**

**Objectives**

**Objective 1: Ensure protection of key landscapes and ecosystem services to reduce vulnerability to environmental change.**

The extraordinary biodiversity riches of the mountain ecosystems of the ECR are largely attributable to the presence in this region of large tracts of contiguous forests. Connectivity of forest patches along altitudinal gradients is essential for enabling wildlife mobility and plant dispersal, as well as for regulating the hydrology and the continued provision of freshwater-based ecosystem services, a necessity that has been acknowledged by the environmental authorities of Colombia, Ecuador and Peru with the creation of several protected areas in the region.

Despite these efforts, ongoing pressures on the resource base outside protected areas are threatening their capacity to maintain their ecological integrity. For this reason, WWF is developing, together with institutional partners and indigenous communities, site-specific actions around the AFIWNP, the SLBC and the SNTN, seeking to increase the capacity of these protected areas to deliver biodiversity conservation in the short term and to develop adaptive measures to maintain ecosystem resilience in the long term (Figure 2).



**Figure 2. Results chain for increasing habitat protection and capacity building for adaptation.**

These actions are complemented with capacity building processes focusing on local communities surrounding the protected areas (see Objective 2 below), and include technical analyses to identify key areas to maintain ecological attributes and the provision of ecosystem services, the development of specific recommendations to strengthen the management plans

of the protected areas with the inclusion of considerations of climate vulnerability, and the development of land zoning processes to increase the protection of vulnerable ecosystems and reduce human encroachment in high conservation value areas.

### *Activities*

#### ***In FY13 WWF will:***

#### **Activity 1.1: Downscale climate vulnerability analyses after identifying and testing new variables to be included in the analyses.**

Completed during FY12. We carried out vulnerability assessments at different scales for two of the three focal areas (AFIWNP and SNTN) and have shared technical information with environmental authorities and other institutions in charge of this kind of assessments in the three countries. This work made possible the establishment/ reinforcement of working alliances to address climate change in the ECR.

#### **Activity 1.2: Quantify and value ecosystem services in the region under current and future land use and climate scenarios.**

After initial training of the field teams and partners for the three countries during FY10 and FY11, we used the Natural Capital Project InVEST tool to value ecosystem services, and collect data to run analyses of ecosystem services. Initial analyses based on secondary information were carried out for Colombia in FY11, and during FY12, a similar exercise was conducted for Ecuador for hydrological variables. In FY13, we will refine the analyses including biodiversity variables that will allow the use of the results for conservation planning in the SLBC.

In FY12, partner organization ACT failed to set a protocol to collect primary data on hydrology and forest carbon to assess ecosystem services in the buffer zone of the AFIWNP. For this reason, WWF partnered with National Parks and the municipalities of San José del Fragua and Belén de los Andaquíes to establish in FY13 a hydro - meteorological station in the Fragua Chorroso watershed to initiate the collection of information for future use by the environmental authorities and to incorporate results of these analyses into decisions regarding use and management of natural resources. In Peru, the SCAPES team will review existing information to determine the feasibility of carrying out the analysis for the area of influence of the SNTN.

#### **Activity 1.3: Identify and delimit new conservation areas.**

Despite some progress over the second and third year of implementation, when we compiled secondary information on biodiversity targets for the upper Caquetá watershed in Colombia and used it to set conservation priorities in late 2011, this activity took longer than expected and only in FY12 we refined a methodology to identify climate refuges and carried out preliminary analyses. The final steps of these analyses will be taken before the end of the fiscal year and in FY13, we will disseminate the results of the analyses among environmental authorities and other governmental agencies to promote their inclusion in existing networks of conservation areas.

**Activity 1.4: Incorporate climate adaptation measures in the management plans of existing protected areas.**

During the first two years of implementation of the project, WWF worked with the national parks authorities in Colombia and Peru in the identification of priority measures to increase the adaptive capacity of the AFIWNP and the SNTN, including habitat improvement to increase connectivity in the vicinity of these protected areas. In FY11 we worked with the park managers to incorporate the results of a local vulnerability analysis and ecosystem services modeling exercise into a check list for updating the AFIWNP management plan, and in FY12, staff from the park used the checklist to begin updating the management plan and prioritizing activities in the most sensitive areas. We expect that the updated plan for this protected area will be completed by the environmental authorities before the end of the year and its implementation will begin in FY13, including specific actions aimed at increasing ecosystem resilience. In Ecuador, we compiled and collated biophysical information for the SLBC corridor and its area of influence and made this information available to the inter-institutional team in charge of formulating the adjustment of the management plan. In Peru WWF facilitated a participatory exercise with representatives from the SNTN, SERNANP and GIZ, aimed at the formulation of an agenda to integrate the management plan for the protected area into the adaptation plan for the San Ignacio Province. The implementation of this agenda is expected to be completed towards the end of the second quarter of FY13.

**Activity 1.5: Participatory design and implementation of management plans for the region that incorporate actions to maintain resiliency of forest ecosystems likely to be affected by climate change.**

Given that the development of management plans for the buffer zones of the three focal areas that incorporate actions to maintain resiliency of forest ecosystems likely to be affected by climate change necessarily implies increasing the adaptive capacity of local communities in the buffer zones of these protected areas as proposed in Activity 1.6 below, and considering that the expected outcomes for Activity 1.4 and Activity 1.5 are similar, during the second year of implementation of the project we found it necessary to merge both activities.

**Activity 1.6: Increase the adaptive capacity of local communities in the buffer zones of the AFIWNP (Colombia) and SNTN (Peru).**

Seeking to promote greater adaptive capacity for communities and resilience of their livelihoods in the face of a changing climate while preventing further loss of ecosystem integrity and/or restoring and increasing connectivity among vulnerable areas, in FY11 and FY12 we supported the implementation of farm development plans for 40 families of small farmers living around the AFIWNP, including agroforestry measures aimed at increasing connectivity and reducing the pressure on the natural resource base. These families are also engaged in monitoring the performance of the alternative agricultural systems and the improvement of the biophysical conditions of lands set aside for conservation and restoration.

In Peru, WWF has promoted the reforestation of degraded lands in the buffer zone of the SNTN in collaboration with groups of local farmers and the Mesa Regional de San Ignacio, seeking to increase the protection of the water sources and to reduce soil erosion as precautionary measures to face extreme weather events, as identified during the preliminary CVCA carried out in FY11.

In FY13 we will continue the development of these activities in Peru and Colombia as they are essential for the success of conservation actions aimed at reducing the pressure on the protected areas and improving land management in their buffer zones.

### ***Expected Outputs/ Expected Results***

- The conservation portfolio of the environmental authorities in the upper Caquetá watershed integrates potential climate refugia. (Output 1.3.2).
- 30 ha of connectivity corridors around the AFIWNP under restoration (Output 1.4.1).
- At least one funding proposal formulated with local stakeholders and submitted to donors (Output 1.4.4).
- 10 ha of connectivity corridors around the AFIWNP under restoration (Output 1.6.1).
- 42 families around the AFIWNP reduce their pressure on local biodiversity through the development of 14 sustainable agroforestry plots (Output 1.6.1).
- 2 ha reforested within the buffer zone of the TNNS in collaboration with rangers of the protected area (Output 1.6.2).

***Level of effort for Objective 1: \$194,918 (USAID: \$134,649; WWF Match: \$60,268)***

### **Objective 2: Build local knowledge and capacity needed to respond proactively in the face of climate change.**

The logic behind this objective is that if community leaders and managers of protected areas are more aware of the negative impacts of large scale development on local and regional biodiversity and are given the tools and technical guidance to prevent and minimize them, they will incorporate adaptation measures into the management plans of existing protected areas and indigenous territories. Building local capacity to assess and monitor local vulnerability to environmental change and to identify adaptation measures (see Figure 2 above) will help maintain the ecological integrity of *páramos*, cloud forests and lowland forests, thus contributing to biodiversity conservation throughout the ECR.

Once trained to monitor and respond to the impacts of climate change and landscape transformation, park rangers and community leaders will be more inclined to enforce environmental regulations, to promote clear and equitable community access to land and resource use in the protected areas and buffer zones (which will contribute to increased stability of land tenure and access to resources), and to encourage local communities to adopt sustainable agricultural/natural resource extraction practices. When local communities have secure access to land and resources and secure livelihoods from sustainable agricultural and natural resource extraction practices, they will not be forced to colonize new areas, expand the agricultural frontier, or extract natural resources unsustainably, thus reducing fragmentation and degradation of the biodiversity targets.

We expect that through increasing communities' awareness of their vulnerability to environmental change, and their access to information and training to prevent, manage, and mitigate impacts and reduce vulnerability, we can facilitate the participatory development of community-based adaptation plans. These adaptation options outlined in these plans will lead to reduced losses of agricultural crops and increased access to sustainable agricultural

production systems. Their implementation of sustainable agricultural practices will increase community/family food security and reduce their crop loss, thus reducing their need to convert more forest to agriculture, or to extract natural resources from the protected areas. Reduction of these threats will increase the viability of our biodiversity targets.

CARE's approach to climate change adaptation is grounded in community empowerment and increasing communities' capacity to adapt to and mitigate risks from climate change. Communities analyze their vulnerability to climate variability and change and then decide on what adaptation measures are needed. By combining local knowledge and scientific data, the process builds stakeholders' understanding about climate risks and adaptation strategies. It provides a framework for dialogue within communities as well as between communities and other stakeholders. The results provide a solid foundation of practical strategies to facilitate community-based adaptation to climate change. Part of this process is to collect information to develop a gender analysis.

### *Activities*

#### *In FY13 WWF will:*

#### **Activity 2.1: Disseminate to institutional stakeholders in the ECR technical information from the 2008 WWF/Fundación Natura climate change vulnerability assessment.**

Using funds provided by the EU, the MacArthur Foundation and WWF, during FY10 Fundación Natura and WWF printed a technical publication containing the results of the vulnerability assessment they carried out in 2009 with the hydrology and meteorology institutes of the three countries, as well as guidelines for adaptation strategies and plans. This publication has been disseminated by WWF among environmental and municipal authorities, local NGOs and grassroots organizations over the past three years, as part of the educational materials used for capacity building, and also to promote the integration of adaptation thinking among institutional stakeholders. In FY12, this technical information was used to initiate the discussions of a virtual forum on climate change adaptation in the Andean – Amazon region, and in FY13 will be used again, combined with the proceedings of the forum, as a reference to guide the design of adaptation plans.

#### **Activity 2.2: Carry out, with leadership from CARE, training workshops in the Cajamarca Region of Peru to strengthen the capacity of local leaders to design and implement specific adaptation measures to reduce the local effects of climate change on communities by building resilience and promoting adaptation as needed.**

During the first year of implementation of the project, WWF and CARE designed a training program and carried out a Climate Vulnerability and Capacity Analysis (CVCA) for the San Ignacio Province, focusing on cacao and coffee crops. The implementation of the results of the CVCA analysis and training of leaders of farmer associations started in FY12, giving the participants a broad view of ecosystem and social change due to climate change, and promoting the design of actions to reduce the risk of maladaptation and accelerated biodiversity loss. Training will continue during FY13, seeking to consolidate a local cadre of leaders capable of replicating lessons learned that will improve local livelihoods and will prepare communities around the SNTN to face climate change and reduce their impact on the fragile biodiversity of this focal area.

**Activity 2.3: Design community based adaptation measures.** In FY11, CARE led a participatory process to apply the CVCA tool<sup>4</sup> and to introduce elements of adaptation to climate variability and change within ongoing development interventions using the CRiSTAL tool. The results of this analysis, carried out in FY11 in four communities and four districts, were shared with the institutional stakeholders currently working on the San Ignacio Climate Change Adaptation Strategy and during FY12 the SCAPES team promoted the inclusion of the CVCA results in the strategy in order to ensure that the SCAPES activities are not causing maladaptation or reducing communities' capacities to adapt. In FY13, the SCAPES team will replicate the application of these tools to gather more detailed information at different sites around the province that will help to build local plans responding to specific threats and opportunities.

**Activity 2.4: Train national parks officers and community leaders from the target protected areas to assess and monitor local vulnerability to climate change and the impact adaptation measures can have in coping with climate change.** Implementation of this activity began during FY10 with the development of the water quality monitoring program for the upper Pastaza River site in Ecuador, continued through FY11 and FY12, and extending into the last two years of the project. This monitoring program is implemented in close coordination with SENAGUA, a governmental institution working in the Pastaza river basin that is building synergies with several actors to complete information for all river basins. In the Tungurahua province, SENAGUA is working with the Water Fund for Tungurahua, GIZ, the SCAPES team and local stakeholders.

In Colombia, WWF provided technical inputs and helped to facilitate working sessions convened by the manager of the AFIWNP in FY12, seeking to ensure that our recommendations relating to tracking climate change impacts and maintaining ecosystem resilience are followed in the implementation of the monitoring plan for the park. During these sessions, participants identified the need to establish a hydro – meteorological station to monitor climate variation and document changes in water provision and regulation. WWF made an agreement with National Parks and the municipalities of San José del Fragua and Belén de los Andaquíes to install this station, a task that will be carried out in FY13.

**Activity 2.5: Working with local environmental authorities in the San Ignacio province of Peru, WWF and CARE will formulate local climate change adaptation plans for the San Ignacio Province.**

During FY12, the SCAPES team continued its participation in the Climate Change Adaptation Technical Team for the San Ignacio Province, ensuring that the results of the CVCA were incorporated into the adaptation plan designed by this group, and that greater landscape-level processes are contemplated in the design of the plan based on the results of the 2008 ECR vulnerability analysis carried out by Fundación Natura and WWF. This plan seeks to minimize the potential negative impacts of local livelihoods on the biodiversity of the SNTN, especially in its buffer zone, through the promotion of agroforestry systems associated with coffee cultivation practices that not only increase habitat quality and connectivity for biodiversity but also increase the resilience of coffee production to variability in temperature and rainfall likely to occur with climate change. In FY13, WWF

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<sup>4</sup> CVCA is an Analysis tool that will lead to a participatory identification of adaptation measures to adapt to climate change.

and CARE Peru will provide support and advice to the CAM in the district for the formulation of adaptation plans and will validate the local adaptation plan for the San Ignacio Province with the Regional Government and the Ministry of Environment.

**Activity 2.6: Build capacity for collective action for river basin management in light of climate change based on participatory planning processes and use of legal and policy tools.**

During FY11, WWF Colombia pooled resources (technical and financial) from several projects in the Andean – Amazon Piedmont of Colombia in which river basins are used as biodiversity conservation planning units, to develop a training program and educational materials that can be used throughout the region. Having tested the educational protocol and materials in August 2011, during FY12, we carried out 12 training workshops with local leaders and staff of the AFIWNP, increasing local capacity to carry out collective action for conservation and adaptation. This activity will continue in FY13, to consolidate a cadre of local leaders capable of replicating learning throughout the buffer zone of this protected area.

A similar process was followed by the SCAPES team in Peru in FY12, and training activities with local farmers is helping them to develop collective action to lessen their vulnerability and improve their capacity to respond to climate-related risks. This activity will continue in FY13.

In Ecuador, we expected to convene local workshops for the participatory formulation of adaptation plans for the middle and lower portions of the Pastaza watershed in FY12, but this activity is pending until the vulnerability analysis for the watershed is completed by the MAE. We expect this to happen in FY13, and in the meantime we are planning to carry out participatory exercises to identify adaptation measures for the SLBC, including at least one local agreement for biodiversity conservation is developed for the upper Pastaza watershed.

**Activity 2.7: Design, print and distribute educational and communications materials based on climate change vulnerability assessments to regional environmental authorities, municipalities, indigenous authorities, local schools, NGOs, and media, and organize local discussion groups to analyze local and regional climate change and vulnerability issues.**

In FY11, WWF Colombia designed educational materials to be used in training exercises with local stakeholders, which were tested in a preliminary exercise with a small group of local leaders. We expected to print and disseminate these materials in FY12 after the SCAPES teams in Ecuador and Peru adjusted the contents to the local language and context, but this process took longer than expected as the training workshops where these adjustments were to be made are still in progress. Therefore, printing and disseminating the introductory booklet on climate change and adaptation in and around the focal areas was re – scheduled for FY13.

***Expected Outputs/ Expected Results***

- The results of the ECR climate change vulnerability analysis published in 2010 by WWF and Fundación Natura are disseminated among institutional stakeholders in Peru and are used in the three countries for the design of action plans and adaptation strategies at the local and national levels (Output 2.1.1).

- At least 5 local leaders by district government trained to develop adaptation measures (Output 2.2.1).
- At least 20 local leaders of civil society and small producers associations trained to develop adaptation measures (Output 2.2.2).
- One local agreement for biodiversity conservation is developed for the upper Pastaza watershed (Output 2.5.4)
- At least 100 local leaders (including governmental officers) trained to develop collective actions for natural resource management and respond to climate risks at the ecosystem level in and around the AFIWNP (Output 2.6.1)
- At least 40 local leaders around the TNNS trained to identify, assess and respond to climate related threats at the ecosystem level (Output 2.6.2)
- One local Adaptation Plan designed for a high priority area in the SLBC (Output 2.6.3)
- An introductory booklet on climate change and adaptation printed and disseminated in and around the focal areas (Output 2.7.1).

*Level of Effort for Objective 2: \$299,342 (USAID \$164,897; WWF Match \$134,445)*

**Objective 3: Develop principles and criteria with national governmental agencies and economic sectors to address drivers of environmental change and biodiversity loss.**

The focus on influencing key economic sectors is a key foundation for addressing the drivers of environmental change. Development pressures stress ecosystems and make them more vulnerable to large scale threats as those derived from climate change leading to potentially devastating impacts on local and regional biodiversity, on the provision of environmental services, and on local livelihoods. Increased frequency and intensity of extreme weather events that are already taking place are likely to proceed at a pace that exceeds the capacity of natural systems to respond, and more so as additional pressures are placed on these ecosystems. Therefore, WWF considers it urgent to collaborate with governmental and economic sectors to prevent and minimize the environmental impacts of development projects, to prevent further loss of ecosystem resilience (Figure 3). These actions are coupled with promoting the adoption of sound governance systems to ensure the maintenance of ecosystem resilience to environmental change (see Objective 4 below). Throughout the life of the project, we seek to maintain our engagement with these sectors through agreements with the Ministries of Environment, Territorial Planning, Transportation and agriculture, national park authorities and economic sectors (infrastructure, mining and agriculture) to address drivers of environmental change affecting the ECR.

*Activities*

*In FY13 WWF will:*

**Activity 3.2: Develop and strengthen planning tools for economic sectors, including a methodological proposal for the inclusion of climate change vulnerability criteria in the strategic environmental assessments, the early warning systems and the compensation schemes of infrastructure, mining and agriculture sectors.**

As indicated in the FY11 annual report, we found it necessary to merge this activity into Activity 4.4. Proposed actions for FY12 will be detailed under Activity 4.4.

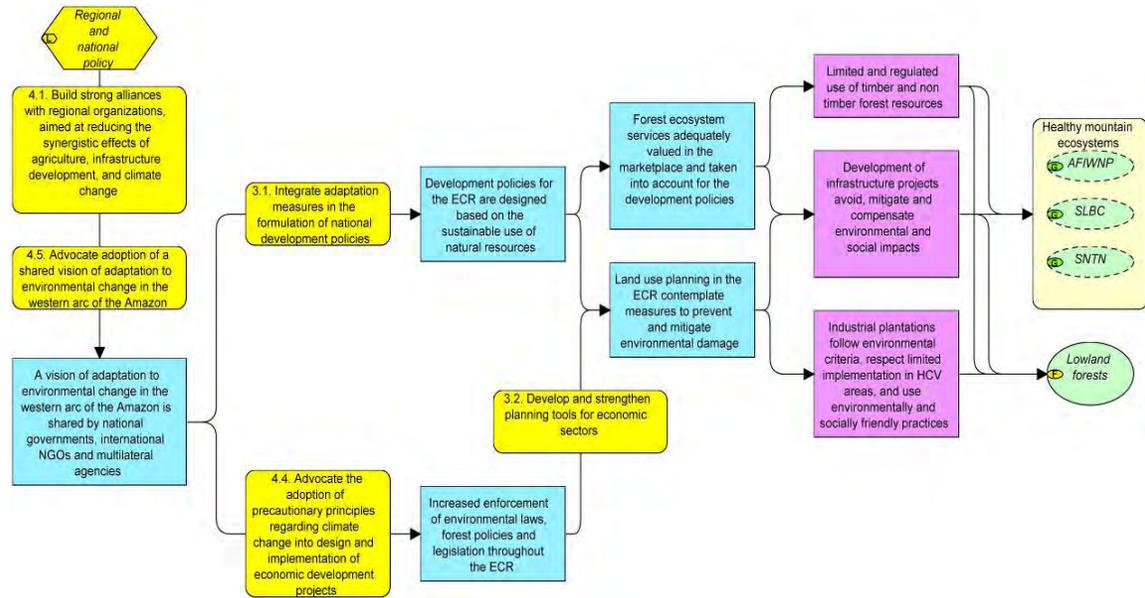


Figure 3. Results chain for regional and national development policy frameworks.

**Activity 3.3: Facilitate the adoption of a shared vision through the translation of technical information on climate change vulnerability and related impacts on environmental services to make it accessible to local stakeholders for decision making purposes and facilitate its inclusion in national regulations and policy framework to guide economic development in the different countries.**

The application of the InVEST tool in Colombia in FY11 and Ecuador in FY12 provided valuable information that, made available to institutional stakeholders participating in the development of conservation work in the AFIWNP and the SLBC, will make it possible to integrate considerations on ecosystem services in the development of local adaptation plans. In Colombia, the integration of primary data to the InVEST analyses during FY13 will help CORPOAMAZONIA and the National Parks Unit to prioritize actions aimed at maintain the provision of ecosystem services and in Ecuador, the incorporation of biodiversity in the InVEST analyses will provide information that will be used for conservation planning processes aimed at improving the management of the SLBC.

#### ***Expected Outputs/ Expected Results***

- Results of the InVEST analyses integrated into conservation planning processes led by National parks and CORPOAMAZONIA.
- Results of the InVEST analyses disseminated among institutional stakeholders engaged in the management of the SLBC and taken into account for the formulation of an updated management plan for the corridor.

***Level of effort for Objective 3: \$21,692 (USAID: \$17,056; WWF Match: \$4,636)***

**Objective 4: Orient economic development in the western arc of the Amazon toward the adoption of sound governance systems and the maintenance of ecosystem resilience to environmental change.**

The threats and drivers of environmental change and biodiversity loss in the ECR (expanded infrastructure development, agro-industry and forest plantations and inadequate and illegal timber extraction and commercialization), are the result of economic investment and growth in the region exacerbated by emerging economic issues represented by an increased emphasis on mining (coal, gold and other precious metals), which is explosive and promises to grow rapidly especially in Colombia. To address these challenges, environmental sustainability and the equitable distribution of any benefits derived from the use of environmental goods and services must be at the center of economic development policy and practice to contribute to the well-being of local communities and the creation of wealth. Strengthening governance of natural resources and the use and occupation of territories are fundamental aspects of distributed wealth creation.

Within this framework, WWF is well poised to address these growing threats. From FY08-10, an early warning system and compensation scheme for infrastructure, hydrocarbon, and mining mega projects in Colombia was developed in partnership with the Ministry of Environment, TNC and CI. This policy framework will help to guide the analysis of social and environmental impact of large-scale projects at a national level. Linked to the above, WWF engaged and influenced the development of a specific infrastructure project in the Amazon Piedmont by facilitating and promoting a more constructive engagement between civil society, government and international donors (IDB) and ensuring that local social and environmental concerns are central to the Pasto-Mocoa road planning and building processes, part of the Initiative for Regional Infrastructure Integration in South America (IIRSA).

Policy work is central to strongly advocate for the continuous adoption of social and environmental responsibility and principles and criteria in development policies. WWF works with multiple government and public institutions from local, regional, trans-border and international institutions, and WWF's work at the policy level has resulted in concrete technical inputs for national legal and policy frameworks and international agreements that will have a lasting impact on conservation efforts at the national and international level.

Working together with environmental authorities and National Parks of the three countries, WWF is seeking to influence the inclusion of climate change considerations into regional development policy frameworks (see Figure 3 above). Specifically, we are aiming at influencing land use planning processes (e.g., at the municipal planning level), the National Payment for Environmental Services Strategy, and the Andean National Community's (CAN) Climate Change Regional Strategy and Action Plan and the Amazon Regional Action Plan of the ACTO. This latter plan is crucial as it will guide development decisions made by the countries over the next decade and will set forth guidelines that take into consideration the impact of development projects on biodiversity, as well as how climate change might be mitigated through preserving forests and other such activities.

## Activities

### *In FY13, WWF will:*

**Activity 4.1: Strengthen alliances with regional organizations such as the Community of Andean Nations (CAN), the Amazonian Cooperation Treaty Organization (ACTO), and the Andean Development Corporation (CAF), IDB, aimed at reducing the synergistic effects of agriculture, infrastructure development and climate change.**

In the FY11 work plan, we scheduled the dissemination of the InVEST preliminary results among multilateral organizations such as ATCO, CAN and CAF seeking the integration of this information into their environmental agendas. This action was delayed and thus was part of the groundwork for the regional forum on climate change convened with the CAN in FY12 (see activity 4.2 below).

**Activity 4.2: Support implementation of policy recommendations for the 2006 – 2010 Climate Change Agenda of the CAN.**

Work carried out within the SCAPES framework during the first year of implementation was supportive of the policy recommendations of the 2006-2010 climate agenda of the CAN, although we have not had direct opportunity to influence the national government of the three countries for the implementation of any of its specific actions. However, we engaged CAN in a collaborative effort to promote the adoption of a shared vision for adaptation throughout the region, as during the first quarter of FY12, WWF and CARE, with the support of CAN and the Consortium for the Sustainable Development of the Andean Ecoregion (CONDESAN), convened a regional virtual forum to launch the regional strategy, discuss the progress in the development of adaptation strategies at national level and identify opportunity for collaboration and implementation of the regional strategy.

This event set the stage for national events that will be convened, at the latest, during the first quarter of FY13, in which we will promote the adoption of the guidelines for climate change adaptation in the ECR produced in a participatory exercise led by WWF and Fundación Natura in 2009, especially those aiming at reducing major threats to ecological integrity in the region as a way to maintain ecosystem resilience to climate change. In the workshops that we will hold during the next few months, we expect that governmental organizations of the three countries agree to develop collaborative frameworks to abate major threats to biodiversity conservation in the region and to address sustainable economic development.

**Activity 4.3: Working in collaboration with CARE, develop and disseminate a bi-national environmental education strategy along the border of Ecuador and Peru, incorporating specific measures of adaptation to climate change.**

As informed in the FY11 Annual Report, we suggested the cancellation of this activity. However, taking advantage of progress made with the development of a climate adaptation plan for the San Ignacio Province, CARE Peru has scheduled for FY13 the implementation of a working agreement with local schools and the municipalities for the development of educational activities with children aimed at increasing public awareness of climate change.

**Activity 4.4: Advocate the adoption of precautionary principles regarding climate change into design and implementation of economic development projects in the western arc of the Amazon.**

Between FY10 and FY11, WWF Colombia formulated a methodological proposal for the inclusion of climate change vulnerability criteria in strategic environmental assessments, early warning systems and compensation schemes of infrastructure, mining and agriculture sectors is developed (originally planned under Activity 3.2). This draft has been used as an input for discussion with national governments, international NGOs and multilateral agencies such as the Amazonian Cooperation Treaty Organization (ACTO), the Andean Community of Nations (CAN, after its Spanish name), the CAF (in particular, CAF's Environmental Unit called BioCAF), and the Inter-American Development Bank (IDB) in the framework of the Living Amazon Initiative led by WWF, seeking support for their adoption in the development of new large scale economic development projects in the region.

In FY12 we hired a consultant to conduct an assessment of the process of inclusion of climate change issues in the strategic environmental assessments led by the Colombian Ministry of Environment. The consultancy included a review of the strategic environmental assessment for the proposed Pasto – Mocoa highway and specific recommendations to integrate adaptation measures among the actions proposed to remediate expected impacts of this infrastructure development. In FY13, we will develop a proposal to implement these recommendations.

**Activity 4.5: Advocate the adoption of a shared vision of adaptation to environmental change in the western arc of the Amazon through the negotiation of an MOU among key institutional stakeholders including national governments, international NGOs and multilateral agencies.**

As the expected outcomes for Activity 4.1 and Activity 4.5 are similar, we find it necessary to merge this activity into Activity 4.1. Proposed actions for FY12 are detailed under Activity 4.1.

***Expected Outputs/ Expected Results***

- National workshops on CC Adaptation in the ECR (Output 4.2.3).
- Pilot analysis of the inclusion of climate change vulnerability criteria in the SEA (Output 4.4.1).
- At least one policy proposal for the inclusion of CC vulnerability criteria in the strategic environmental assessments, the early warning systems and the compensation schemes of economic sectors formulated and submitted to the Ministry of Environment of Colombia (Output 4.4.3).

***Level of Effort for Objective 4: \$67,582 (USAID \$35,130; WWF Match \$32,452)***

**Objective 5: Promote learning and sharing for improved biodiversity conservation and climate change adaptation across SCAPES landscapes and beyond.**

WWF and CARE, together with partners, are developing new approaches and improved guidance on tools for climate adaptation at both landscape and local levels, with a particular focus on integration of ecosystem and human adaptation. We are building the capacity of

conservation practitioners to integrate sound adaptation approaches into their conservation plans and activities, and to monitor results and manage adaptively as climate change advances. Through work in SCAPES landscapes, and more widely with partners, we are building capacity in the development sector to integrate ecosystem approaches into livelihoods approaches to adaptation. Successful approaches and tools will be widely promoted among the conservation and development communities. We promote climate adaptation practices that:

- build resilience in a more sustainable way for some of the most vulnerable species, ecosystems and people in many parts of the developing world
- enable better use of ecosystem services in human adaptation
- reduce the risk of maladaptation that may bring benefits in the short term, but exerts undue pressure on species and ecosystems, and ultimately is damaging for human adaptation.

*In FY13, WWF will*

**Activity 5.1: Develop and pilot a climate change adaptation toolbox for practitioners.**

This activity was completed and reported on in FY12.

**Activity 5.2: Participate in a review of adaptation monitoring.** This activity was completed and reported on in FY12.

**Activity 5.3: Contribute to the Ecosystems and Livelihoods Adaptation Network.** This activity was completed and reported on in FY12.

**Activity 5.4: Improve integration of ecosystems and livelihoods approaches to adaptation.** In FY13, WWF-US will release the next iteration of its vulnerability assessment methodology based on Flowing Forward and components WWF Project and Program Management Standards. This iteration will be based on lessons learned from implementation across WWF's portfolio including the Eastern Himalayas, the Amazon, and Coastal East Africa. WWF will continue to consult with CARE in integrating people and livelihood components in our ecosystem based adaptation work.

*Expected results:*

Conservation and development practitioners have greater awareness of integrated ecosystem and livelihoods approaches in climate adaptation and begin to use them in their own adaptation practices.

**Activity 5.5: Integrate climate change adaptation in to the WWF Standards.** This activity was completed and reported on in FY11.

**Activity 5.6: Fifth International Conference on Community-based Adaptation to Climate Change.** We expect to send up to three SCAPES staff to participate in the Community based Adaptation conference in Dhaka, Bangladesh in April 2012. WWF will participate along with colleagues from across our Network. We do expect to share our experiences in implementing our integrated approaches learned through SCAPES implementation and other work across our landscapes.

*Expected Outputs/Results (5.4-5.6)*

Conservation and development practitioners have greater awareness of integrated ecosystem

and livelihoods approaches in climate adaptation and begin to use them in their own community based adaptation practices.

**Activity 5.7: Produce WWF SCAPES communications materials.** This activity was completed and reported on in FY11.

**Activity 5.8: Develop an online site for communicating and sharing across WWF's SCAPES partners.** This activity was completed and reported on in FY12.

**Activity 5.9: Adaptation Training.** WWF-US has developed a successful adaptation fundamentals workshop for its staff and partners that lays the foundation for successful climate-smart conservation and development work. While employing easy to understand explanations of key adaptation concepts that are often misunderstood and misapplied, our workshops encourage participants to develop solutions that no longer use the past as a model, but that anticipate future change and uncertainty. To date, the workshop has been conducted 17 times on 5 continents collectively training over 900 people from WWF, partner organizations such as CARE and TNC, local and national government officials, as well as representatives from USAID, the World Bank, and UNEP. In October 2012, WWF will conduct a train the trainers course in Zambia, with separate funds, for Africans from seven countries to adapt and deliver this workshop for local audiences. Three SCAPES staff from our Mozambique country office will attend and learn how to train others on adaptation and adapt the training to local needs.

***Expected results:***

Greater capacity for climate change adaptation leadership in Africa and among our SCAPES Mozambique team.

***Level of Effort for Objective 5: \$19,058 (USAID \$19,058; WWF Match \$0)***

***List of Key Staff Involved***

The following will be involved in implementing this plan in FY11:

***WWF Colombia Program Office***

- Dr. Luis German Naranjo, Eastern Cordillera Real Coordinator
- Ms. Ximena Barrera, Public and Sector Policy Director
- Mr. Cesar Suarez, GIS Team Coordinator
- Ms. Sofía Rincón, Mining and Infrastructure Officer
- Ms. Ilvia Niño, Andean-Amazon Officer

***WWF Peru Program Office***

- Ms. Cecilia Alvarez Vega, Project Coordinator
- Ms. Lilly Castañeda, Program Manager

***WWF-US***

- Dr. Meg Symington, Managing Director, Amazon
- Ms. Kimberley Marchant, Director, Field Programs
- Mr. Shaun Martin, Managing Director, Climate Adaptation and Capacity Building

**WWF Ecuador Program Office**

- Mr. Jorge Rivas, Senior Conservation Officer
- Ms. Jissela Bedoya, Program Manager

**CARE (Peru)**

- Ms. Carolina de la Rosa Tincopa, Climate Change & Advocacy Advisor
- Ms. Amparo Gonzaga, Project Coordinator
- Ms. Yover Diaz, SCAPES Project Specialist

**Activity Timeline**

Activity		Sub-activities		Y3 Quarters	Y4 Quarters			
				4	1	2	3	4
1.1	Downscale climate vulnerability analyses	1.1.1	Identify and test new variables to be included in the vulnerability analyses	COMPLETED				
		1.1.2	Collect and collate data to downscale climate change models	COMPLETED				
1.2	Quantify and value ecosystem services in the region under current and future land use and climate scenarios	1.2.1	Train local teams to use the Natural Capital Project InVEST tools to value ecosystem services	COMPLETED				
		1.2.2	Collect data to run analyses of ecosystem services for the Alto Fragua Indiwasi National Park					
1.3	Identify and delimit new conservation areas	1.3.1	Identify climate refugia in the ECR					
		1.3.2	Define new conservation areas based on their potential to resist/adapt to climate change					
1.4	Incorporate climate adaptation measures in the management plans of existing protected areas	1.4.1	Include climate change adaptation measures in the management plan of the Alto Fragua Indiwasi NP, within the framework of developing connectivity corridors					
		1.4.2	Update the management plan of the Sangay-Llanganates working together with the Municipalities, the Ministry of Environment and other key stakeholders					
		1.4.3	Review the management plan of the Tabaconas Namballe Sanctuary to include measures of adaptation to climate change					
		1.4.4	Fund the implementation, by local stakeholders, of priority actions of the new management plans					

		1.4.5	Evaluate management effectiveness of two protected areas						
1.5	Participatory design and implementation of management plans for the region's protected areas that incorporate actions to maintain resiliency of forest ecosystems likely to be affected by climate change	1.5.1	Develop actions to increase the connectivity of forest remnants in the buffer zone of the Alto Fragua Indi-Wasi NP						
		1.5.2	Improve plant cover in the coffee growing farms of the buffer zone of the Tabaconas-Namballe Sanctuary						
1.6	Increase the adaptive capacity of local communities in the buffer zones of the AFIWNP (Colombia) and SNTN (Peru)	1.6.1	Diversify the agricultural systems in the buffer zone of the AFIWNP to increase the adaptive capacity of local communities						
		1.6.2	Develop agroforestry systems in collaboration with the coffee growing associations (APROCASSI and Mesa Regional de San Ignacio)						
2.1	Disseminating technical information from the 2008 WWF/ Fundación Natura climate change vulnerability assessment	2.1.1	Design communications materials based on the ECR vulnerability analysis						
		2.1.2	Disseminate results of the vulnerability analysis among key stakeholders						
2.2	Train local leaders, with leadership from CARE, in the Cajamarca Department of Peru to design and implement specific adaptation measures to mitigate the local effects of climate change on communities	2.2.1	Carry out training workshop						
		2.2.2	Carry out training workshop						
2.3	Participatory design of specific community based adaptation measures, through the application of the Climate Vulnerability and Capacity Analysis – CVCA tool (by CARE) or the introduction of adaptation to climate change aspects within ongoing development interventions (through CRiSTAL tool)	2.3.1	Design and prepare CVCA study (define scope, adapt tools, identify key stakeholders)	COMPLETED					
		2.3.2	Review available secondary information	COMPLETED					
		2.3.3	Field work to compile available information at the local scale						
		2.3.4	Incorporate adaptation measures into local planning exercises						

2.4	Train national parks officers and community leaders from the target protected areas to assess and monitor local vulnerability of climate change and the impact adaptation measures can have in coping with climate change	2.4.1	Establish a participatory water monitoring system	COMPLETED				
		2.4.2	Produce biannual reports on the status of water resources	COMPLETED				
		2.4.3	Design and implement climate change monitoring plan for the AFIWNP					
2.5	Work with local environmental authorities to adjust and implement management plans for protected areas and indigenous territories	2.5.1	Negotiate with key institutional stakeholders a regulatory framework for water resources in the upper watershed of the San Pedro River					
		2.5.2	Adjust and implement (WWF-CARE) the CC adaptation plans at the local scales in the San Ignacio province (second quarter)					
		2.5.3	Develop a local agenda on CC adaptation					
		2.5.4	Participatory design and negotiation of a proposal of water policy, including norms and regulations, at the local level					
		2.5.5	Track the progress of implementation of infrastructure projects affecting protected areas					
2.6	Build capacity for collective action for river basin management in light of climate change based on participatory planning processes and use of legal and policy tools	2.6.1	Formulate and implement a capacity building plan with environmental authorities, municipalities and community leaders					
		2.6.2	Formulate and implement a capacity building plan with the negotiation roundtable of the San Ignacio province					
		2.6.3	Design local adaptation plans for specific communities within the Sangay-Llanganates corridor					
2.7	Design, print and distribute materials based on vulnerability assessments to regional environmental authorities,	2.7.1	Design and produce educational and communications materials on CC vulnerability and adaptation					
		2.7.2	Distribute educational and communications materials					

	municipalities, indigenous authorities, local schools, NGOs, and media	2.7.3	Organize local fora to analyze current issues related to climate change and vulnerability					
2.8	Participate in cross-site visit in Coastal East Africa region	2.8.1	Learn current practices and share experiences on community-based and ecosystem-based adaptation	COMPLETED				
3.1	Integrate adaptation measures into the development of national policies including the implementation of the Decade Environmental Plan of Colombia, the development of the chapter on Biodiversity and Climate Change for Colombia, and the construction of the Ecuadorian national climate change strategy	3.1.1	Follow up on the developments of the national development plan for the decade and other planning exercises (e.g. CONPES) to integrate measures and criteria for adaptation	COMPLETED				
		3.1.2	Incorporate the ECR adaptation experiences into the three second national climate change communications	COMPLETED				
3.3	Facilitate the adoption of a shared vision through the translation of technical information on climate change vulnerability and related impacts on environmental services to make it accessible to local stakeholders for decision making purposes and facilitate its inclusion in national regulations and policy framework to guide economic development in the different countries	3.3.1	Design and produce communications materials aimed to inform decision makers on issues related to CC vulnerability and climate related impacts on ecosystem services	COMPLETED				
		3.3.2	Participate in the formulation of the Ecuadorian Climate Agenda	COMPLETED				
		3.3.3	Assess the implementation of the Ecuadorian Climate Agenda	COMPLETED				
4.1	Build strong alliances with regional organizations such as the Community of Andean Nations (CAN), the Amazonian Cooperation Treaty Organization (ACTO), and the Andean Development Corporation (CAF), IDB, aimed at reducing the synergistic effects of agriculture,	4.1.1	Establish preliminary contacts to develop working alliances with ACTO, CAN, CAF and IDB	COMPLETED				
		4.1.2	Integrate the project into the framework of the LAI	COMPLETED				
		4.1.3 (formerly 4.5.1)	Negotiation of MOUs among key institutional stakeholders in the western arc of the Amazon	COMPLETED				

	infrastructure development, and climate change								
4.2	Support implementation of policy recommendations for the 2006 – 2010 Climate Change Agenda of the CAN	4.2.1	Share all documents on the ECR climate change regional adaptation strategy with the CAN	COMPLETED					
		4.2.3	Organize with the CAN regional launch of the ECR climate change adaptation strategy	COMPLETED					
4.3	Working in collaboration with CARE, develop and disseminate a bi-national environmental education strategy along the border of Ecuador and Peru, incorporating specific measures of adaptation to climate change	4.3.1	Design (CARE - Natura) a plan to integrate issues related to climate change in formal educational curricula						
4.4	Advocate the adoption of precautionary principles regarding climate change into design and implementation of economic development projects in the western arc of the Amazon	4.4.1	Develop a methodology to integrate CC vulnerability considerations into strategic environmental assessments for infrastructure development						
		4.4.2 (merged with 3.2.2)	Follow up on the development of new large scale economic development projects in the region	COMPLETED					
		4.4.3 (formerly 3.2.1)	Prepare policy proposal for the inclusion of CC vulnerability criteria in the strategic environmental assessments, the early warning systems and the compensation schemes of infrastructure, mining and agriculture sectors, and submit it to the Ministry of Environment, Housing, and Territorial Development	COMPLETED					
5.1	Develop/pilot climate change adaptation toolbox for practitioners			COMPLETED					

5.2	Participate in adaptation monitoring review		COMPLETED				
5.3	Contribute to ELAN		COMPLETED				
5.4	Improve integration of ecosystems and livelihoods approaches to adaptation						
5.6	Participate in the 7th Intl CBA Conference						
5.8	Develop an online site for sharing among WWF's SCAPES partners		CANCELLED				
5.9	Adaptation Training						

### ***Adaptive management (including M&E)***

WWF, together with its partners, will continue monitoring project implementation according to the Performance Management Plan submitted to USAID during FY10. This process includes three types of analysis: 1) quarterly, semi-annual and annual progress in the implementation of specific activities against the annual work plan; 2) annual monitoring of effectiveness of results (based on the workplan), based on a combination of qualitative and quantitative data collection against a set of progress indicators; and 3) capture of oral/visual/written stories as a way to communicate results on the ground at our focal sites.

### ***Sustainability (financial, economic, and ecological)***

WWF's presence in the ECR dates back to the beginning of the Northern Andes Ecoregional Program in 1999. Since then, WWF has worked in collaboration with the Ecuadorian NGO Fundación Natura (FN) and multiple local and national partners across the landscape to develop and implement a number of conservation initiatives, including the establishment of protected areas, biological corridors and indigenous territories; technical support for effective management of existing protected areas; capacity building for local territorial planning, citizen participation and governance; geographic analyses of major threats to biodiversity conservation; promotion of sustainable agricultural practices; and more recently, the participatory design of a climate change adaptation strategy linked to the sustainable use of forest and agricultural resources.

This project builds upon the foundation of work already underway in the region, and is building and strengthening a number of key elements of longer term social, ecological, and

financial sustainability. The project seeks to enhance and build capacity in local governance structures as means of confronting threats to biodiversity and human wellbeing. Together with extant partner organizations, we are expanding the network of participating stakeholders, and to improve the conditions needed to make their own long-term conservation and adaptation decisions and commitments. Based on this previous work, three committees are in place to support protected areas management effectiveness that include the participation of the environmental authorities and local organizations to decide programme implementation. The project focus on encouraging the equitable participation of all members of society, including women and underprivileged groups such as indigenous peoples that have been displaced from their ancestral lands.

WWF, Fundación Natura and CARE's work is based on the principles of partnership and collective action. Our historical commitment to the ECR and the results obtained to date give us the credibility to leverage additional funds and support beyond the SCAPES program and to influence national and regional policies. All three organizations recognize the importance of building a strong, sustainable base of local capacity and long-term financing mechanisms. The project builds capacity to train, develop skills and devolve management to institutions, such as environmental authorities (national parks and regional authorities) and communities who will have ultimate responsibility for adaptation measures implementation. Priority targets include local settlers within and around the protected areas targeted by the project, institutions and grassroots organizations engaged in the implementation of agro-forestry and sustainable agriculture systems in the buffer zones of the protected areas, and indigenous organizations developing conservation actions within their territories. CARE's approach to adaptation to climate change is community based adaptation, and it enables the participation of the communities in the assessment and designing of adaptation measures within the scope of their communities, including an overall assessment at national, regional, local and household levels.

Actions developed under this project provide an essential foundation for the development of schemes of payment for environmental services, thus leading to the financial sustainability of longer-term adaptation measures. WWF also expects to sustain results by promoting policy changes and building local capacity, thereby creating legal mechanisms and informed constituencies to advocate for and implement solutions to these issues. For this reason, we pay particular attention to opportunities for including adaptation management criteria into regulations for valuing environmental goods and services, particularly those valuing standing natural forest ecosystems.

### *Scaling up*

WWF aims to scale-up from the field sites in order to have an impact on forest and water resource management at the national and region level. This involves keeping careful records of project results, dissemination of lessons learned from the focal field sites, capacity building to replicate these models, policy work to mainstream innovative approaches in government practice and to promote policy change, and environmental education and awareness rising among key decision-makers. For example, CARE supports local activities in Cajamarca (Peru) but also work at the regional level in the border areas between Peru and Ecuador.

This project combines on the ground efforts with the engagement of local stakeholders, such as municipalities, community based organizations and environmental authorities in regional

watershed planning processes and conservation in three discrete landscapes identified to be among the most vulnerable, and builds on existing actions that can be scaled up to adjacent areas and regionally. Our actions build on previous experiences at the site, landscape and regional level that generate lessons that can be taken to the policy arena, either by helping to enforce existing regulations or by promoting that key gaps be addressed. We give particular attention to opportunities for including adaptation management criteria into regulations valuing environmental goods and services. We also seek to leverage these policy efforts at the international level if possible, through the endorsement of key social and environmental criteria by regional investors (e.g., IDB, CAF) and regional government bodies or multi-lateral institutions (e.g., OTCA and CAN) to reduce threats to the integrity of the ECR, as well as through collaboration with the national governments and the Latin American Network of National Parks and Protected Areas for the development of an integrated conservation framework for the Amazon basin/biome.

### *Travel*

Current estimate of international travel is for the following trips in FY12:

<b>WHO</b>	<b>FROM</b>	<b>TO</b>	<b># TRIPS</b>	<b>PURPOSE</b>
Luis Germán Naranjo, Eastern Cordillera Real Coordinator	Cali	Quito	2	Regional coordination
	Cali	Lima	2	Regional coordination
	Cali	Washington	2	Project management; learning/sharing
Ilvia Niño, WWF Program Officer	Mocoa	Lima	1	Project management
Jorge Rivas, WWF Program Officer	Quito	Lima	1	Project management
CARE Peru field operator	Cajamarca	Lima	1	Project management
Meg Symington or Zach Feris	Washington	ECR Landscape	2	Project management
SCAPES Director/Manager	Washington	ECR landscape	2	Project management; strategic planning