ALTO MAYO CONSERVATION INITIATIVE MONITORING & IMPLEMENTATION N^{O}3 (2014-2016)

Document Prepared By Conservation International-Peru

Project Title	Alto Mayo Conservation Initiative [Iniciativa de Conservación Alto Mayo]
Version	01.1
Report ID	n/a
Date of Issue	12 August 2016
Project ID	944
Monitoring Period	15 June 2014 to 14 June 2016
Prepared By	Conservation International-Peru
Contact	Av. Alfredo Benavides 1238, Dpto 203, Miraflores, Lima, Peru Tel: +51 1 610 0300 Email: l.espinel@conservation.org Website: www.conservation.org/sites/peru/

CCBS SUMMARY PAGE - ENGLISH

i. **Project Name:** Alto Mayo Conservation Initiative

ii. **Project Location:** Peru, San Martin Department

iii. **Project Proponent:** Conservation International – Peru
Luis Espinel – email: l.espinel@conservation.org
Av. Alfredo Benavides 1238, Dpto 203, Miraflores, Lima, Peru
phone: +51 (1) 610 0300

iv. **Auditor**: AENOR, Spanish Association for Standardization and Certification
Luis Robles Olmos – email: robles@aenor.es
Genova 6, 28004, Madrid, Spain
phone: (+34) 91432 60 00

v. **Project Start Date**: June 15, 2008 and **GHG accounting period and project lifetime:** 20 years from project start date

vi. **Project implementation period covered:** From June 15, 2014 to June 14, 2016

vii. **History of CCBS status:** PD was validated and the 2008-2012 monitoring period verified in December 12, 2012. Second verification (2012-2014) achieved in January 15, 2015

viii. **CCBS edition:** second edition

ix. **Project's Climate, Community and biodiversity benefits**: Over the last two years, the project has made great progress and achieved important, measurable and meaningful impacts. These impacts range from improved living conditions of local populations to a significant reduction in the rate of deforestation, demonstrating the breadth of benefits the AMPF project has on the people, ecosystems and biodiversity of the project area. In summary:

- GHG emissions reduced: In the 2014-2016 monitoring period, the project was able to avoid 3,158 ha of forest loss, corresponding to the avoided emissions of 1,364,191 tCO_2 (and over 6.2 M tCO_2 since the project start date in 2008);

- Habitat conserved: The integrity and connectivity of the 132,842 ha of forest was maintained and or improved with the restoration of almost 1,000 ha;

- Awareness increased: The project maintained a conservation program at schools and promoted nearly 80 environmental education events, with the attendance of over 3,300 participants. As a result, 97% of the AMPF population recognizes the importance of the forest for their livelihood and well-being;

- AMPF governance strengthened: The AMPF staff has grown from 10 in 2008 to 103, of which 90 are paid for by the project. In addition to the construction of a new office in Rioja and the improvement of the control check points, the project has strengthened the

governance by providing technical and management training, which resulted in a more effective and accountable operation;

- Sustainable production promoted: Coffee is still the major driver of deforestation in the protected area; however, through the conservation agreements, the settlers are changing their agricultural practices to a sustainable production aligned with the conservation objectives of the AMPF. Currently, 848 settlers have signed the conservation agreements, an increase of 117 agreements since 2014. This figure represents approximately 60% of the total population settled in the AMPF. More subscribers are also reinvesting their revenues in organic production (65% in 2016 compared to 19% in 2014), showing initial trends of financial sustainability;

- Organic coffee certified: Aiming to increase economic incentives and link production to specialty markets, a coffee cooperative, COOPBAM, was created. In the first year of operation, the cooperative exported a total of 325 qq (or 15,000 kg) of organic coffee to buyers in Denmark. This was a groundbreaking moment for two reasons: the selling and certification of this coffee had the approval and endorsement from SERNANP, and this was the first certified coffee produced in a protected area;

- Living conditions improved: During the monitoring period, a positive impact in the generation of economic alternatives is noticeable. Nearly 1,900 wages were generated for conducting primate monitoring activities and nursery and reforestation work, totaling approximately US $11,000 and benefiting 358 people. Up to date, 187 fuel-efficient cook stoves were delivered and access to education and health care has been enhanced significantly;

- Social management supported: A strategy was created to work cross sectorially and promote social management and support conflict resolution. Outcomes included the formation of four women's committee within the COOPBAM; the implementation of 10 medical campaigns; the implementation of solar panels; and the establishment of an education complex through integrated management with the local population.

x. **Golden Level criteria:** The project is opting for Exceptional Biodiversity Benefits: AMPF has been identified in many conservation priority analyses as being of exceptional importance for the protection of global biodiversity. Over 1,200 species of plants distributed over 118 family and 378 genera have been identified in the Alto Mayo forests. This number includes 59 species of orchids, among them is the endemic to Alto Mayo orchid (*Phragmipedium peruvianum*). The project area is also habitat of 25 species categorized by the International Union for Conservation of Nature (IUCN) as Critically Endangered (CR) and Endangered (EN), and other 20 categorized as Vulnerable.

xi. **MIR developed by:** Conservation International, Version: 1.0 completed on June 14, 2016

CCBS SUMMARY PAGE - ESPAÑOL

i. **Nombre del proyecto:** Iniciativa de Conservación del Bosque de Protección Alto Mayo

ii. **Ubicación del proyecto:** Departamento de San Martín, Peru

iii. **Proponente del proyecto:** Conservación Internacional – Peru
Luis Espinel – email: l.espinel@conservation.org
Av. Alfredo Benavides 1238, Dpto 203, Miraflores, Lima, Peru
Teléfono: +51 (1) 610 0300

iv. **Auditor**: AENOR, Spanish Association for Standardization and Certification
Luis Robles Olmos – email: robles@aenor.es
Genova 6, 28004, Madrid, Spain
phone: (+34) 91432 60 00

v. **Fecha de inicio del proyecto**: 15 de Junio del 2008 y Periodo de contabilidad de GEI y Duración del Proyecto**:** 20 años desde la fecha de inicio.

vi. **Periodo de reporte de implementación del proyecto:** Desde 15 de junio del 2014 al 14 de Junio del 2016

vii. **Historia del estado de CCBS:** PD fue validado y verificado para el periodo de reporte 2008-2012 el 12 de Diciembre del 2012. Segunda verificación (2012-2014) lograda en 15 de enero 2015

viii. **Edición del CCBS:** Segunda edición

ix. **Beneficios del proyecto sobre el Clima, la Comunidad y la Biodiversidad:** Beneficios de Clima, Comunidad y Biodiversidad del Proyecto: En los últimos dos años, el proyecto ha tenido grandes progresos y ha alcanzado impactos importantes, medibles y significativos. Estos van desde la mejora de las condiciones de vida de poblaciones locales hasta la reducción significativa de la tasa de deforestación, demostrando la amplitud de beneficios que el proyecto tiene sobre las personas, ecosistemas y biodiversidad en el BPAM.

- Reducción de GEI: En el periodo de monitoreo 2014 – 2016, el proyecto logró evitar la pérdida de 3,158 ha de bosque, lo que corresponde a 1,364,191 tCO_2 emisiones evitadas (y más de 6.2 M tCO_2 desde que el proyecto iniciara en el 2008);

- Conservación de hábitat: La integridad y conectividad de las 132,842 ha de bosque ha sido mantenida o mejorada con la restauración de casi 1,000 ha;

- Sensibilización: El proyecto ha seguido trabajando en los colegios promoviendo alrededor de 80 eventos de educación ambiental, que contaron con la participación de 3300 personas entre niños, jóvenes y profesores. Como resultado, el 97% de la población del BPAM reconoce la importancia del bosque para sus medios de vida y bienestar;

- Fortalecimiento de la gobernanza del BPAM: El personal del área protegida ha crecido de

10 personas en el 2008 a 103, de las cuales, 90 son son pagadas por el proyecto. Además de la construcción de la nueva oficina en Rioja y la mejora de todos los puestos de control, el proyecto ha fortalecido la gobernanza a través del fortalecimiento de capacidades técnicas y de gestión, lo que ha resultado en una operación más efectiva y confiable;

- Promoción de la producción sostenible: El cultivo de café es todavía el principal agente de deforestación en el área protegida. Sin embargo, a través de los acuerdos de conservación, los pobladores están cambiando sus prácticas agrícolas hacia una producción sostenible, alineada con los objetivos de conservación del BPAM. Actualmente, 848 pobladores han firmado acuerdos de conservación, un incremento de 117 acuerdos desde 2014. Este número representa aproximadamente 60% del total de la población asentada en el BPAM. Adicionalmente, un mayor número de suscriptores están reinvirtiendo sus ganancias en producción orgánica (65% en 2016 en comparación con un 19% en 2014), mostrando tendencias iniciales hacia la sostenibilidad financiera;

- Certificación orgánica de café: Con el objetivo de incrementar los incentivos económicos y vincular su producción a mercados especiales, se creó la cooperativa COOPBAM. En el primer año de operación, la cooperativa exportó un total de 325 qq (o 15,000 Kg) de café orgánico a compradores en Dinamarca. La venta y la certificación orgánica de este café tuvo la aprobación y ratificación del SERNANP, siendo la primera en su género, por ser el primer café certificado producido en un área natural protegida;

- Mejora de las condiciones de vida: Durante el periodo de monitoreo, destaca un impacto positivo en la generación de ingresos alternativos. Así casi 1,900 salarios han sido generados por realizar actividades de monitoreo de primates, trabajo en viveros y reforestación, alcanzando un total aproximado de US$ 11,000 y beneficiando a 358 personas. A la fecha, 187 cocinas mejoradas han sido instaladas y se ha mejorado significativamente el acceso a servicios de salud y educación;

- Apoyo a la gestión social: Se ha diseñado una estrategia para trabajar de manera inter-sectorial, promover la gestión social y apoyar la resolución de conflictos. Como resultado, se formaron 4 comités de mujeres dentro de la COOPBAM, se implementaron 10 campañas médicas, se instalaron paneles solares y se estableció un complejo educativo a través de un trabajo conjunto con la población.

x. **Criterio del Nivel Oro:** El proyecto está optando por los Beneficios Excepcionales de Biodiversidad: El BPAM ha sido identificado en varios análisis de prioridades de conservación como una zona de alta importancia para la protección de la biodiversidad mundial. Más de 1,200 especies de flora distribuidas en 118 familias y 378 géneros han sido identificados ne los bosques del Alto Mayo. Estos números incluyen 59 especies de orquídeas, entre ellas figura la Phragmipedium peruvianum como endémica del Alto Mayo. El área del proyecto es hábitat de 25 especies categorizadas por la Unión Internacional para la Conservación de la Naturaleza (IUCN en inglés) como Críticamente Amenazadas (CR) y Amenazadas (EN), además 21 especies adicionales están categorizadas en situación Vulnerable (VU).

xi. **PIR desarrollado por:** Conservación Internacional, Versión: 1.0 completado el 14 de Junio del 2016.

Table of Contents

CCBS Summary Page - English **2**

CCBS Summary Page - EspaÑol **4**

1 General **8**

1.1 Summary Description of the Project (G3) 8

1.2 Project Location (G1 & G3) 9

1.3 Project Proponent (G4) 11

1.4 Other Entities Involved in the Project (G4) 11

1.5 Project Start Date (G3) 16

1.6 Project Crediting Period (G3) 16

2 Implementation of Design **19**

2.1 Sectoral Scope and Project Type 19

2.2 Description of the Project Activity (G3) 19

2.3 Management of Risks to Project Benefits (G3) 27

2.4 Measures to Maintain High Conservation Values (G3) 31

2.5 Project Financing (G3 & G4) 32

2.6 Employment Opportunities and Worker Safety (G4) 33

2.7 Stakeholders (G3) 35

3 LEGAL Status **39**

3.1 Compliance with Laws, Statues, Property Rights and Regulatory Frameworks (G4 & G5) 39

3.2 Evidence of Right of Use (G5) 39

3.3 Emissions Trading Programs and Other Binding Limits (CL1) 39

3.4 Participation under Other GHG Programs (CL1) 39

3.5 Other Forms of Environmental Credit (CL1) 39

3.6 Projects Rejected by Other GHG Programs (CL1) 40

3.7 Respect for Rights and No Involuntary Relocation (G5) 40

3.8 Illegal Activities and Project Benefits (G5) 40

4 Application of Methodology **41**

4.1 Title and Reference of Methodology 41

4.2 Deviations from the Monitoring Plan 41

4.3 Project Boundary (G1) 45

4.4 Baseline Scenario (G2) 45

4.5 Additionality (G2) 46
5 Monitoring Data and Parameters 46
5.1 Description of the Monitoring Plan (CL3, CM3 & B3) 46
5.2 Data and Parameters Available at Validation (CL3) 51
5.3 Data and Parameters Monitored (CL3, CM3 & B3) 51
6 Quantification of GHG Emission Reductions and Removals (CLIMATE) 58
6.1 Baseline Emissions (G2) 58
6.2 Project Emissions 59
6.3 Leakage 60
6.4 Summary of GHG Emission Reductions and Removals (CL1 & CL2) 64
6.5 Climate Change Adaptation Benefits (GL1) 66
7 Community 66
7.1 Net Positive Community Impacts (CM1) 66
7.2 Negative Offsite Stakeholder impacts (CM2) 75
7.3 Exceptional Community Benefits (GL2) 76
8 Biodiversity 76
8.1 Net Positive Biodiversity Impacts (B1) 76
8.2 Negative Offsite Biodiversity Impacts (B2) 85
8.3 Exceptional Biodiversity Benefits (GL3) 86
9 Additional Information 89

1 GENERAL

1.1 Summary Description of the Project (G3)

The Alto Mayo Protected Forest (AMPF) covers approximately 182,000 ha of land in the Peruvian Amazon of extremely high value for biodiversity conservation and watershed protection. Conserving the Alto Mayo forests is critical for mitigating global climate change, conserving biodiversity, and ensuring the provision of ecosystem services to the local population.

The Alto Mayo Forest Carbon Project helps to conserve the ecologically rich AMPF, which provides vital fresh water supplies to downstream communities, and is home to many threatened and endemic plant and animal species, such as the yellow-tailed woolly monkey (*Oreonax flavicauda*)

The AMPF was established as a protected area in 1987; however, even with this important designation, the protected area faces intense deforestation pressure from unsustainable farming practices. In 2000, the AMPF was ranked as having the second largest area of deforestation among Peruvian Natural Protected Areas.

In response, Conservation International and its allies in the region designed the Alto Mayo Conservation Initiative (AMCI), whose main goal is to promote the sustainable management of the AMPF and its ecosystem services for the benefit of the local populations and the global climate. To meet these goals the project developed six strategies:

- S1 - Improve the governance and enforcement capabilities of the AMPF local Head Office;
- S2 - Promote sustainable land use practices that will reduce deforestation and forest degradation within and beyond the AMPF's boundaries through the signing of Conservation Agreements with local communities;
- S3 - Promote change in the perception of the local population towards the importance of the AMPF by increasing its environmental awareness and involvement in the conservation of the Protected Area;
- S4 - Ensure the long-term sustainability of the AMCI by creating long-term financial mechanisms through carbon financing and other PES schemes;
- S5 - Integrate the AMPF in the broader policy agenda at the local, regional and national level, and more recently;
- S6 - Strengthen the relationship and consolidate the processes and mechanisms of participative management and conflict resolution with the communities in the project zone under a social management strategy.

For further details please refer to Section 1.8 of the VCS PD.

1.2 Project Location (G1 & G3)

The project area corresponds to the Alto Mayo Protected Forest (AMPF), an area of 182,000 ha in the northern Peruvian Amazon situated in the department of San Martin, between coordinates 5° 23' 21" S, and 77° 43' 18" W upper left corner and 6° 10' 56" S and 77° 12' 17" W lower right corner. While the AMPF comprises 182,000 ha of land, the VCS defines the project area as the forested area within the AMPF at the project start date, or 153,929 ha of forest.

The leakage belt, as described in detail in Section 2.3 of VCS PD, was estimated as the most probable areas where activities carried out by individuals and communities affected by the project could be displaced to. The leakage belt has a total area of 47,428 ha, and it will be monitored as described in the Section 5.

The CCBS' project zone includes the communities adjacent to the project that has a direct influence of forest resources of the AMPF, and could potentially be affected by the REDD+ project. The project has developed strategies to integrate them into the conservation initiatives, and provide benefits, while minimizing the pressure on the forest, this includes but not limited to establishment of conservation agreements, environmental education and participative management.

Although is not part of the VCS or CCBS project boundaries, it is important to include the AMPF buffer zone covers, which area is 247,656 ha, and its boundaries are delineated according to the master plan as: the north and west by the boundaries of the watersheds that originate in the AMPF (see Sup.Inf_nprt_12). In the east it is delineated by the Fernando Belaunde Terry highway, the main access road to the Upper Mayo River Basin. Figure 1 illustrates the location of the project area and zone and the GIS files of the project boundaries were sent to the verifiers.

Geology and soils

The AMPF borders the Alto Mayo geological depression, a tectonic syncline located between the Sub-Andean belt to the northeast that has a large number of faults (such as the Cahuapanas Mountains), and an isolated branch that extends to the northwest of the Oriental Mountains (Cordillera Oriental) called the Ventilla Mountains or Piscohuañuna Mountains. The AMPF (the middle and southwest portion of the Cordillera Oriental) is formed by a sequence of pure marine gray limestone from the Triassic and Jurassic periods (250 to 145 million years BC) with extensive structural deformation and deeply dissected and integrated with sedimentary materials of sandstone quartz, gray clay sedimentary rock (shale), clay containing calcium and dark gray limestone.

The landscape is mountainous, as is the eastern part of the Cordillera Oriental that covers approximately 61% of the total area of the Alto Mayo basin. There are two predominant sub-landscapes that are directly related to the slope of the land, namely piedmont, which is characterized by slopes ranging from 20 to 30%, and mountains, which are characterized by slopes greater than 70%. The slope determines the extent to which the area is susceptible to erosion.

Much of the area is distinguished by residual soils that are the most predominant soil type in large hills and mountainous terrain with slopes exceeding 50%. The soil quality is related to the physiography of the area. Generally, soils are moderately deep to shallow, have low fertility and are at risk of erosion by rains. Given the mountainous conditions and the nature of the rocks and structural flaws in the area, there are

diverse rocky outcrops and natural landslides which occur in addition to the landslides caused by the lack of natural vegetation.

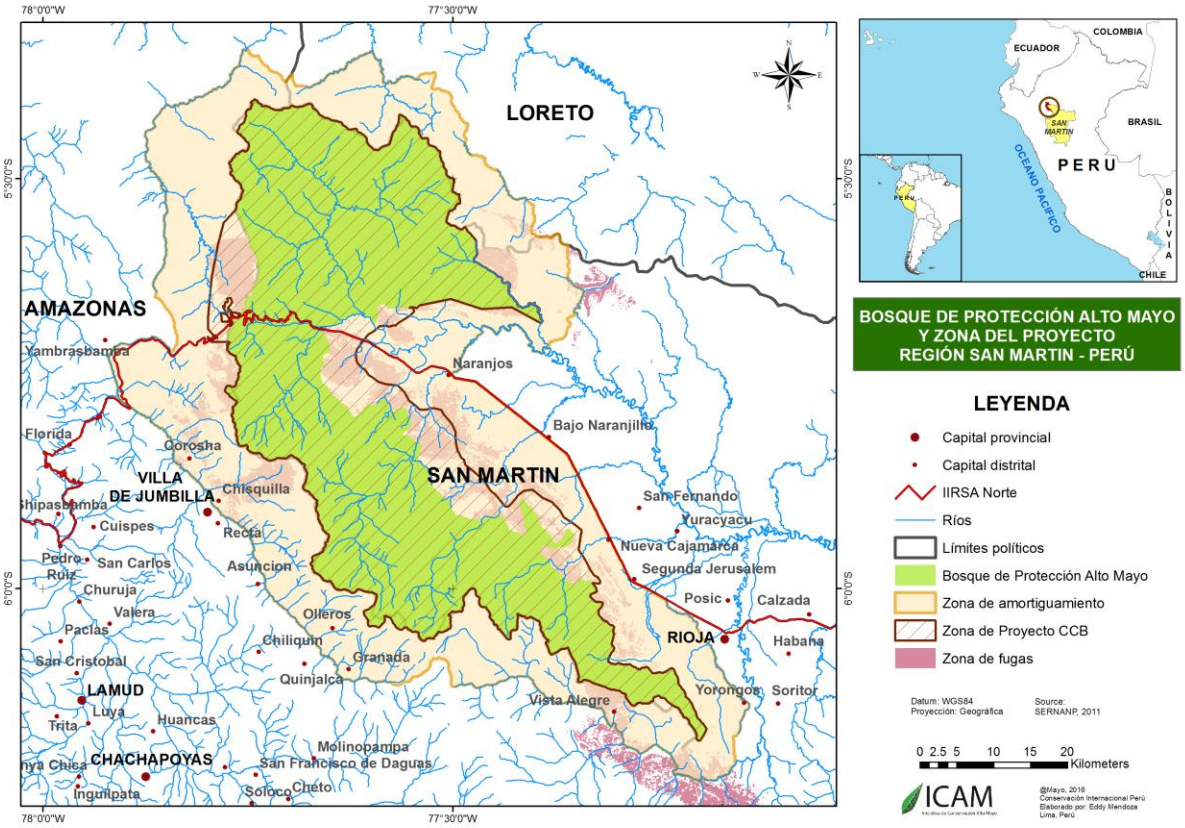


Figure 1- Location of the Alto Mayo Protected Forest and project boundaries

Climate

The altitudinal gradient of the AMPF provides for a variety of climates that are characterized by fluctuations in average temperature, varying between 12°C and 25°C depending on the altitude. Annual rainfall ranges from 1,200 mm in the lower areas to more than 3,000 mm at altitudes of 1,200 meters above sea level. Rainfall is likely to exceed these levels at altitudes around 2,000 meters above sea level. There are two rainy seasons per year, the first being between September and December and the second occurring between February and April. In areas with permanent cloud cover, there is a unique microclimate with high saturation of humidity. Increased precipitation can be observed from Moyobamba to the headwaters of the Alto Mayo watershed on the Serranoyacu River. Peak rainfall is observed in March and October.

Hydrography

The Alto Mayo watershed extends over 794,000 ha. The upper reaches of the watershed, located in the far west where the Mayo River is formed, make up the AMPF. The Mayo River is the main river in the

region and forms the central axis of the watershed. It flows from northwest to southwest and has a length of 300 km, 200 km of which fall within the AMPF forming several sub-watersheds.

1.3 Project Proponent (G4)

The project proponent is Conservation International Foundation (CI) through its Peru office (CI-Peru). CI-Peru is responsible for the implementation of the conservation strategies and has overall control and responsibility of the project. As per the Administration Contract, CI-Peru co-manages the AMPF together with the local Head Office of the National Service of Natural Protected Areas by the State (SERNANP) (see Sup.Inf_nprt_02a). CI-Peru has the right of use of any greenhouse gas (GHG) emission reductions and/or removals arising during the contract period in connection with its performance of environmental services that generate GHG emission reductions and/or removals in the AMPF.

Contact information:
Luis Espinel, Country Director, Conservation International Peru
Email: l.espinel@conservation.org
Telephone: +51 1 610 0300
Av. Alfredo Benavides 1238, Dpto 203, Miraflores, Lima, Peru
Website: www.conservation.org/sites/peru/

1.4 Other Entities Involved in the Project (G4)

The complexity of the project requires a multidisciplinary team, with expertise and skills in AFOLU/REDD project design and implementation; carbon accounting and reporting; spatial analysis and remote sensing; surveillance and monitoring; agroforestry and agronomy; law and public policy; communication; economy; social affairs, conservation, and project management. In order to fulfill these expertise and skills, Conservation International developed partnership with several entities, as listed below:

Servicio Nacional de Áreas Naturales Protegidas por el Estado (SERNANP)

The National Service for Natural Protected Areas Protected by the State (SERNANP) is the government agency responsible for establishing the technical and administrative criteria for the creation and protection of National Protected Areas in Peru. It manages Peru's National System of Natural Protected Areas (SINANPE, or *Sistema Nacional de Áreas Nacionales Protegidas por el Estado*) of which the AMPF is part of. SERNANP has a diverse array of conservation professionals with a wide range of areas of expertise that together make up the basis from which it manages the vast expanse of protected areas at the national level.

SERNANP participates in the project through the AMPF Head Office (*Jefatura*) which is its decentralized branch in charge of managing and protecting the AMPF in the field in accordance with an approved Master Plan. The AMPF Head Office is responsible for signing and monitoring Conservation Agreements with the local population, and is the ultimate authority within the AMPF.

SERNANP also supports the AMCI through its headquarters in Lima. For this project, the headquarters office has been particularly important for establishing the guidelines and legal framework for implementing Conservation Agreements within a Protected Area. It has also signed an Administration Agreement with CI-Peru which transfers the legal rights to CI to co-manage the area together with the AMPF Head Office through an Administration Contract. SERNANP is also interested institutionally in the possibility of the AMCI project becoming a model for financing the long-term management of an NPA through the valuation of its environmental services.

Contact information
Pedro Gamboa, Head of SERNANP
Email: pgamboa@sernanp.gob.pe
Telephone: +51 1 717 7529
Address: Calle Diecisiete Nro. 355, Urb. El Palomar, San Isidro, Lima
Website: www.sernanp.gob.pe

Asociación Ecosistemas Andinos (ECOAN)

The Association for Andean Ecosystems (ECOAN) is a Peruvian NGO with more than ten years of experience in implementing conservation projects and conducting research on flora and endangered bird species in Peru. In addition, ECOAN operates ecotourism initiatives and implements community development projects. These projects are located in six regions across Peru, several of which focus on sustainable forestry and forest conservation initiatives. ECOAN manages the Lechucita Bigotona biological station in the buffer zone of the AMPF and has ample experience working with communities living in and around its boundaries. Supported by the AMCI field staff and the AMPF Head Office, it will be responsible for working directly with local settlers to design and implement Conservation Agreements in the field. Since 2016, ECOAN provides support for the implementation of conservation agreements strategies, social management, communications and control and surveillance carried out within the framework of the Management Agreement.

Contact information
Constantino Aucca Chutas
Email: caucca@ecoanperu.org
Telephone: +51 8 422 7988

Address: Pasaje Los Pino D-1-B; Urb. La Florida, Wanchaq, Cusco
Website: www.ecoanperu.org

Fundación Peruana para la Conservación de la Naturaleza (ProNaturaleza)

The Fundación Peruana para la Conservación de la Naturaleza – ProNaturaleza was created in 1984 in order to implement sustainable management actions of renewable natural resources, ensuring the conservation of protected natural areas and the processes related to the conservation of biodiversity in Peru.

ProNaturaleza, within the framework of the Administration Agreement, has supported the implementation of strategies for conservation agreements, social management, communications and control and surveillance, developing proposals concerning social management. ProNaturaleza provided support from July 2014 to December 2015.

Contact information
Michael de la Cadena Goering
Email: mdelacadena@pronaturaleza.org
Telephone: +51 271-2662
Address: Calle Doña Juana 137, Santiago de Surco, Lima
Website: www.pronaturaleza.org

Proyecto Mono Tocón (PMT)

Proyecto Mono Tocón is a local NGO with more than seven years of experience in primate conservation, with emphasis on the endangered and endemic primates in San Martin. PMT works all over San Martin and has implemented several projects to protect and preserve the habitat of the three Peruvian endemic primates, promoted the creation of "*Morro Calzada*" and "*El Hombre de Piedra*" Private Conservation Areas, and supported an extensive environmental awareness program. PMT has been implementing the primate monitoring since 2011 in all the watersheds where the Conservation Agreements are implemented.

Contact information
Alexander Amasifuén Pérez
Email: comunicacion@monotocon.org
Telephone: +51 4 256 4462

Address: Jr Reyes Guerra 430. Moyobamba. San Martín
Website: www.monotocon.org

Cooperativa Multiservicios Bosques del Alto Mayo Limitada (COOPBAM)

Created in late 2014, the COOPBAM is the AMPF subscribers cooperative. It associates 208 active subscribers from conservation agreements. It is considered a one of a kind cooperative since their partners are in alliance with the SERNANP to which they request the approval of their activities, such as the processes to obtain the organic and Fairtrade certifications and the marketing of their products. The COOPBAM is the entity responsible of channeling the marketing of coffee produced under conservation agreements.

Contact information
Elí Vargas Cóndor
Email: coopbamaltomayo@gmail.com
Telephone: +51 971 880 540
Address: Centro Poblado Menor Aguas Verdes. Pardo Miguel Naranjos. Rioja. San Martín
Website: www.facebook.com/Coopbam-Ltda-125556521116264/

Additional stakeholders

The AMPF management committee was formally recognized in 2005 through Departmental Resolution N° 007-2005-INRENA-IANP, and since that date some modifications have occurred to guarantee the participation of local stakeholders in the management of the protected area. It currently consists of 82 representatives (23 additional representatives since 2012) from local governments and population centers, regional government, public and private sector institutions, and other organizations with an interest in the management of the Protected Area.

In the last two years the profile of the Management Committee was adapted to better represent the social complexity of the AMPF. The new advisors and structure have resulted in a stronger and more active Committee, with better engagement with the rural associations (*rondas campesinas)*. Among others, the major contributions of the new Management Committee to the AMPF management are:

- Active participation in the settlement of Aguas Verdes, by promoting a technical roundtable and supporting the AMPF Head Office in the general meeting with *rondas campesinas* to prevent the social conflicts;

- Establishment of dialogue opportunities with key political leaders in Alto Mayo and local authorities, contributing significantly to the awareness and positioning of the AMPF regarding their rights and obligations;

- Cooperation between the AMPF Head Office and the Administration Contract executor on the promotion and implementation of a government services hub (or functional hub) in Aguas Verdes;

- Leadership on community engagement process, including with key *rondas campesinas* leaders (through individual meetings and participation at their Regional, Provincial and District Assemblies);

- Active participation in the Monitoring Committee of the Administration Contract, under which the scope of the contract is assessed and new modalities are proposed so as to better achieve its objectives and the overall management of the AMPF.

In addition, the project recognizes that individual settlers that sign Conservation Agreements with the AMPF Head Office also represent key stakeholders in the AMCI initiative. Currently 848 Conservation Agreements have been signed with individual settlers.

As described above, the size and complexity of the project requires collaboration among a broad range of partners and local actors with different roles and responsibilities within the project. Figure 2 illustrates the institutional structure of the AMCI REDD project identifying the Project Proponent, its main partners, and the key stakeholders involved. Note that as the ultimate authority responsible for the management of NPAs in Peru, SERNANP and the AMPF Park Service are identified as both a Project Participant and a key Project Stakeholder.

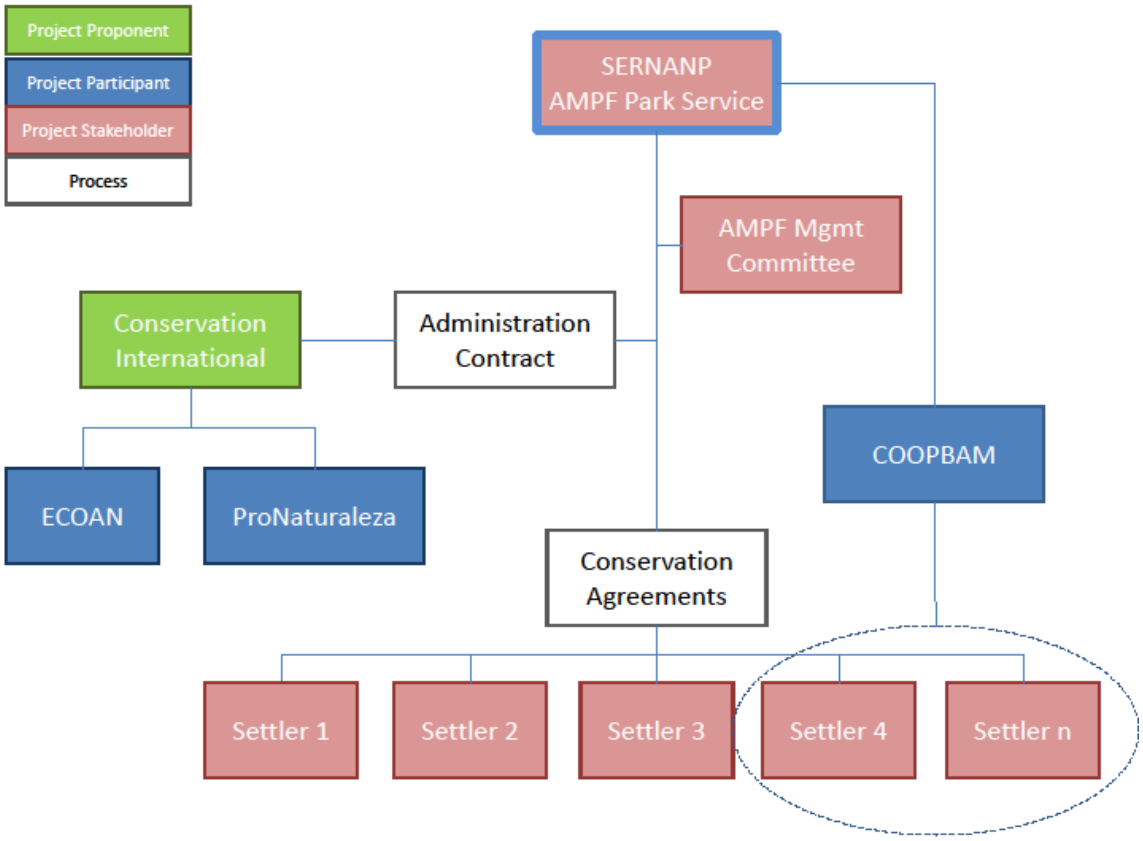


Figure 2 - Institutional Structure of the Alto Mayo project

For a detailed description of the experience of the management team, please refer to the supportive information (Sup.Inf_nprt_01).

1.5 Project Start Date (G3)

The start date of the project was June 15, 2008. This monitoring period started on June 15, 2014 and ended on June 14, 2016

.

1.6 Project Crediting Period (G3)

The start and end date of the project crediting period are, respectively: June 15, 2008 to June 14, 2028, for a total of 20 years. The project crediting is subject to renewals. Project lifetime coincides with the dates of the project crediting period.

The project was validated and underwent its first verification under the VCS and CCBS standards in 2012. The second verification was finalized in 2015. The project aims to have verifications every two years and will update the baseline in 2018. Table 1 shows the implementation schedule.

Table 1 - Project implementation schedule 2008-2028

Strategy / Activity	Year																				
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Strategy 1: Improve governance and enforcement capabilities of the AMPF local Head Office																					
Strengthening operational capacity of AMPF local Head Office																					
Control and surveillance	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hiring additional staff				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Capacity building		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Communication			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Donation of field equipment , computers and vehicle			X	X					X					X			X			X	
Construction of infrastructure			X		X	X	X	X	X	X											
Strengthening the Management Committee																					
Support to assemblies and meetings		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Capacity building			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Strengthening operational management			X	X	X	X	X	X	X	X											

Strategy / Activity	Year																				
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Administration Contract																					
Preparation of technical proposal					X					X					X					X	
Signature (renewal) of Administration Contract					X					X					X					X	
Implementation of Administration Contract					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Master Plan																					
General update									X					X					X		
Zoning update									X					X					X		
Strategy 2 : Promote sustainable use practices aligned with AMPF objectives																					
Conservation Agreements																					
Guideline development			X	X																	
Development, implementation and monitoring	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Renewal					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Restoration of degraded ecosystems																					
Agroforestry systems SAF				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Restoration of grassland with SAF						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Reforestation of critical areas					X	X	X	X	X	X											
Strategy 3: Establishment of long-term funding mechanism to ensure the sustainability of AMPF management																					
Carbon (REDD)																					
Forest inventories , preparation of PDDs	X	X	X	X	X																
Validation					X																
Registry					X																
Monitoring (VCS & CCBS)					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Verification					X		X		X		X		X		X		X		X		X
Baseline revision											X										X
Other ecosystem services																					
Ecosystem services mapping				X	X																
PSH pilot project Feasibility analysis					X	X	X	X	X												
Implementation of PSH in one sub watershed									X	X	X	X	X	X	X	X	X	X	X	X	X
Strategy 4: Communications and public awareness strategy																					
Communications																					
Institutional positioning AMPF			X	X	X																

Strategy / Activity	Year																				
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Coordination of AMPF with local population		X	X	X	X	X	X		X		X		X		X		X		X		X
Environmental campaigns					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
School communicators				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Network of environmental journalists				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Strategy 5 : Integrate AMPF in regional policies and processes																					
Recognition of AMPF as a model of developing health and sustainable economies																					
Promotion of production models promoted by the project				X	X	X	X	X	X	X											
Promotion of AMPF as development model in Alto Mayo basin					X	X	X	X	X	X	X	X									
Implement regional policies in favor of the AMPF							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Strategy 6. Implementing AMPF social management strategy																					
Development of conflict management protocol						X	X														
Development, implementation and monitoring of mgmt. conflict						X	X	X	X	X	X	X	X								
Protocol community engagement						X	X														
Design, implementation and monitoring of community engagement protocol						X	X	X	X	X	X	X	X								
Advocacy and contribution to the implementation of Aguas Verdes functional hub							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Technical support to the development of stakeholder-based projects							X	X	X	X	X	X	X	X	X	X	X				
Management activities for the development of the BPAM buffer zone							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

2 IMPLEMENTATION OF DESIGN

The project has fully implemented its climate, community and biodiversity activities as described in the PDD and project monitoring plan. A description of the implementation of activities is detailed below.

2.1 Sectoral Scope and Project Type

The Alto Mayo Conservation Initiative (AMCI) promotes activities to reduce emissions from deforestation in the Alto Mayo Protected Forest (AMPF) of the Peruvian Amazon. Therefore, it falls within the *Avoided Unplanned Deforestation and/or Degradation* (*AUDD*) VCS sectorial scope 14: AFOLU (Agriculture, Forestry and Other Land Uses) category. The AMPF meets the most current definition of frontier configuration, as deforestation occurs in fronts along the routes and rivers in the region that provide access to the forest. The project is not a grouped project

2.2 Description of the Project Activity (G3)

Implementation Status of the Project Activity

In order to achieve the project's goal to promote the sustainable management of the AMPF and its ecosystem services for the benefit of the local populations and the global climate, specific activities were implemented for each of the project strategies. The implementation status of the project activity is reported in the sub-sections below.

The progress and impact of the activities in the project area and zone are monitored according to the monitoring plan. The project developed and tracks over 100 socio-economic impact metrics, in addition to the GHG emissions variables (see Section 4 of VCS PD). The specific results are detailed in the Sup.Inf_MIR_01 and summarized in the Sections 6, 7 and 8 of this report. The results are also based on the responses given by 169 Conservation Agreement participants and 188 non-participants that were surveyed in March 2016. The overall impact of the project is summarized in the Box 1.

Box 1 – Overall impact of the ICAM project

Over the last two years, the project has made great progress and achieved important, measurable and meaningful impacts. These impacts range from improved living conditions to a significant reduction in the rate of deforestation, demonstrating the breadth of impacts the AMPF project has on the people, ecosystems and biodiversity of the project area. In summary:

Deforestation reduced

In the 2014-2016 monitoring period, the project was able to avoid 3,158 ha of forest loss and over 14,509 ha since the project start date in 2008, which corresponds to 6.2 M tCO_2 secured in the forests of AMPF. The integrity and connectivity of the 132,842 ha of forest was maintained and or improved with the restoration of almost 1,000 ha.

Governance and staff strengthened

Due to the technical and management training that has been implemented with the Head Office and its personnel, there is the recognition of the Head Office and its authority in the protected area. Before the project, the Head Office AMPF had limited presence and was rarely accounted for in the decision making process. The current recognition stems not only from the local settlers but also from the local and regional government, who now request technical advice from the Head Office on projects that could affect the protected area. In the last two years, 175 requests for technical advice were received.

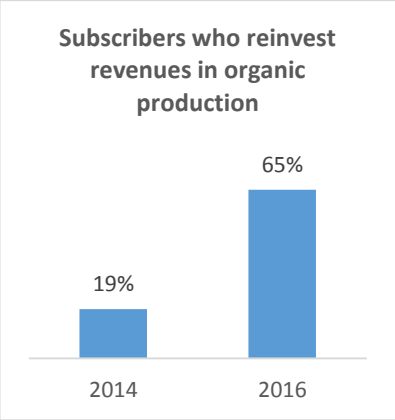
97%
of the AMPF population now recognizes the importance of the forest and the services it provides

The AMPF staff has grown from 10 in 2008 to 103, of which 90 are paid for by the project. In addition to a new office in Rioja, the project has improved working conditions by providing equipment and trainings and improving the control check points, including the implementation of a new check point in Juan Velasco to halt illegal timber extraction.

Sustainable Production promoted

The significant reduction in deforestation is due in part to promoting changes in behavior through capacity and knowledge building trainings and workshops. In the business as usual scenario, the settler used to convert the forest to coffee plantations and would abandon them once productivity started to decrease. As outcomes of the project, during the 2014-2016 monitoring period, 169 training practices were held on the sustainable improvement of coffee with 3,564 attendees – 14% of them women – and over 4,000 hours of technical assistance provided. Currently, 848 settlers have signed the conservation agreements, an increase of 117 agreements since 2014. This figure represents approximately 60% of the total population settled in the AMPF. More subscribers are also reinvesting their revenues in organic production (65% in 2016 compared to 19% in 2014) showing initial trends of financial sustainability.

Furthermore, in order to increase the economic incentives provided to farmers it is necessary to create the links with specialty markets. At the end of 2014, the project assisted with the creation of a coffee cooperative, COOPBAM. In the first year of operation, the cooperative exported a total of 325qq (or 15,000 kg) of organic coffee to buyers in Denmark. This was a groundbreaking moment, as the selling and certification of this coffee had the approval and endorsement from SERNANP, and was the first certified coffee production from a protected area.



The project has also been building environmental awareness with local communities and has maintained a conservation program at schools both inside and outside the AMPF. As a result, approximately 97% of the AMPF population recognizes the importance of the forest. In addition, the promotion of sustainable practices and improvement of governance and enforcement capabilities of the AMPF Head Office has directly protected 144,478 ha of forest and avoided 3,158 ha of habitat loss of vulnerable species.

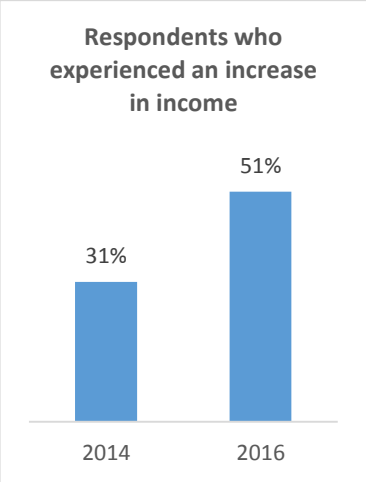
Living conditions improved

Through Conservation Agreements, subscribers have been given opportunities to pursue economic

alternatives to logging and unsustainable farming. Activities range from producing dragon fruit to ecotourism (e.g., bird watching and orchid viewing).

During the monitoring period, a positive impact in the generation of economic alternatives and wages is noticeable. As a result of promoting economic alternatives through conservation actions, 1,856 wages were generated for developing primates monitoring activities, nursery and reforestation work, totaling S/. 37,110 (approximately $11,000 USD, benefiting 358 people, including subscribers and their families.

Along with promoting the use of fuel-efficient cook stoves and improving access to education and health care, overall living conditions have been enhanced significantly.



S1. Strengthening of the governance and enforcement capabilities of the AMPF Head Office

In the last two years, the AMPF Head Office has significantly strengthened its management; 45 professionals, including rangers, specialists and administrative personnel perform their duties within the framework of the Head Office powers. This represents an increase of 09 professionals compared to 2014, and 37 professionals when compared to the first verification.

This strengthening in the Head Office management has also been recognized by SERNANP. As a result, the AMPF Head Office has been assigned as the Single Window for the formalization of small-scale and artisanal miners in the Amazon region. Likewise, both the Environmental Coordinator and the Regional Manager of San Martin PNAs are based in the AMPF. On the other hand, in the process of building capacity in SERNANP, and within the framework of the administration agreement, the payment of a specialist in this field – who is based in the Head Office – is being covered by the project.

In the same vein, to strengthen the comprehensive capabilities of both SERNANP and the AMPF Head Office, a grant agreement between SERNANP and CI Peru is being implemented. By this agreement, CI Peru transfers funds to SERNANP to hire rangers and specialists to work for the PNA Head Office. This agreement also includes amounts for the operation of control and surveillance strategies, inter-institutional incidence and administrative expenses of the AMPF Head Office. Around three million soles will be invested throughout this agreement which Fifth Amendment will be in effect until the end of 2016.

Increasing the staff definitely involved a substantial investment in training for the AMPF Head Office. Fifty five training programs have been implemented for this Office. A wide variety of themes have been developed. They have been focused on priority needs for the effective implementation of the office. The technical-legal aspects of conflict management have been the main issue in this period.

This has been complemented by the development of 3 additional documents on management, making a total of 21 management tools developed by AMCI to strengthen the management of the AMPF Head Office. The documents that stand out and respond to the adaptive management model are: 1) social management strategy (including protocols for conflict management and community relations), 2) social baseline of sustainable management hubs, 3) training plan 2016, and 4) proposals for the management of

natural resources and research. It is worth mentioning that all these documents will be included in the Master Plan which updating process is being strongly supported by AMCI.

The AMPF management has received 116 goods, including equipment and furniture. This complements the new office built in Rioja, positioning the AMPF Head Office as one of the PNAs with better infrastructure condition. The design of this new office involves the implementation of the Integrated Data System - SID, a metadata manager to enhance the management of information generated by the AMPF administration in order to hasten decision making and refining management strategies. The SID is being developed to adopt technological tools for the daily management of the AMPF. To date, they have got a drone and 13 tablets to gather information in the field, reducing operating costs and reducing human error in data collection. This technological adoption implemented by the AMPF is considered groundbreaking in the management of PNAs in Peru.

The technological power that is being implemented facilitates and complements the monitoring and surveillance work. The team of official rangers is regularly supplemented by volunteer rangers whose work is entirety funded by the AMCI. To date, about 10 official rangers have supported the management of the PNA in this reporting period. This staff performs its work in five checkpoints strategically located, one is found in the town of Juan Velasco, established in 2015 to curb illegal extraction of timber from the area of Candamito. This has been a great success for the AMPF management. There have been nearly 200 patrols during the reporting period. Although this number is lower than the ones reported in previous years, these patrols have generated greater impact to curb environmental crimes and their implementation has been focused on priority sectors of the AMPF.

S2. Promoting sustainable land use practices through Conservation Agreements

Since the last verification, 117 new conservation agreements have been signed. This totals 848 to date; 568 of these remain active and are being implemented in 53 subsectors in 8 AMPF sub-basins. Unfortunately the strong economic impact suffered by subscribers due to the rust of their products between 2012/2013 lead to the defection of several subscribers who abandoned their possessions in the AMPF to go out looking for better options.

The progress of active agreements which benefited coffee resulted in the formation of the first cooperative of subscribers in a PNA. The COOPBAM, managed to export the first 325 quintals of high quality coffee to the Danish market. In order to achieve this, 208 subscribers became partners of the COOPBAM and processed the permits at SERNANP to obtain organic and fair trade certifications. This involved a major investment by the project in order to improve the post-harvest phase; a phase which is crucial to obtain quality coffees. To date, more than 30 integrated farms have been implemented and more than 120 subscribers have implemented humid benefit modules, solar tents and residual coffee water treatment. At the same time, the search for importers of specialty coffee has been the main focus in these two years. From the special markets that were contacted, we have to mention Joffrey's (importer from the Disney theme parks) and Red Fox (major global buyer of quality coffee); both visited the project area and sampled the subscribers' coffee. We hope that the COOBPAM could place some of the 2016 production with any of these two importers.

Within the framework of promoting sustainable economic activities, 47 *pitajaya* pilots have been implemented. *Pitajaya* is a native fruit found at the AMPF which has high acceptance in the local market

and a growing demand in gourmet cuisine. Subscribers who chose these pilots are reporting significant income to supplement their main economic activity. Likewise, four pilots on tourism, two on birds, and two on orchids are being implemented. The pilots on birds are currently articulated to international markets and lead a growing record of visitors who are directly contributing to the subscribers for their conservation efforts.

Production in the nine nurseries of AMCI has overcome the barrier of 140 thousand seedlings between 2014 and 2016; totaling to date nearly 220,000 seedlings produced since 2012. More than 90% of this production has already been set up in agroforestry plots and other landscape restoration initiatives. Also, during the reporting date, more than 240 tons of organic fertilizers (25% more than the previous verification) have been added.

Technical assistance has been fundamental in this period, about 50,000 hours of technical assistance have been given to subscribers and partners of COOPBAM by the technical staff of conservation agreements. Also, the staff for this strategy has been highly trained, reinforcing the training program received in 2012 and incorporating new themes about cooperativeness, coffee certification processes, post-harvest and coffee marketing.

Undoubtedly, after five years of constant effort in the field, conservation agreements have proven to be the best strategy to build up trust between the local population and the AMPF Head Office, achieve tangible improvements in the conservation and restoration of ecosystems and generate human welfare.

S3. Increasing the environmental awareness and involvement of the local population

Communication has been a fundamental strategy for the improvement of the AMPF management at this stage. Beyond the thousands of materials designed, printed and distributed, the impact that this has generated in and outside the management team is admirable.

The creation of the new AMPF logo in mid-2014 was the turning point for the communications strategy as it created a new identity for anyone working for the AMPF management and the permanent motivation of valuing the great effort made in favor of the AMPF conservation and the human welfare of its allied population.

The most outstanding campaigns there have been in this regard are:

- "*Hinchas de la Conservación*" (Conservation Fans): is an answer to the national campaign launched by the SERNANP. The AMPF was the first PNA to perform it in its area. The main supporter here was the Governor of San Martin, Dr Victor Noriega and the principal regional and national actors were Engineer Manuel Rios, senior professor at the Universidad Nacional Agraria La Molina and founding partner of Pronaturaleza; Vivian Baella, national volleyball player; Frank Machuca, Amazon muralist, and others. The dissemination of this campaign is done regionally and replicated through the AMPF, SERNANP and CI Peru Facebook profiles.

- FestiAMPF: There have been two editions of this great event in which all personnel from the AMPF management works together to make this festival in the capital of the region. During the

festival, the interaction with the audience is permanent and the importance of the PNA, and the various actions taken to manage it, are spread.

- TiNi: Environmental education methodology developed by the NGO ANIA. Their initiative "Tierra de Niños y Niñas" (Children's Land) is a space for interaction and cooperation among the people of a sector where conservation issues are sensitized by youngsters. TiNi is being implemented in the sector of Nuevo Eden. A nursery, tambos (places where locals have access to various services), a puppets workshop and various other activities are being implemented to join efforts with the Regional Directorate of Education.

- The PNAs take the schools: replica of a national campaign by SERNANP. The AMPF has conducted several workshops with schools located in and around major areas of the AMPF. In these workshops, students are informed of the importance of the AMPF through playful activities.

On the other hand, internal communications activities were a priority in this strategy. Therefore, more than 12 events to promote fellowship in the management team were made. These helped the more than 80 professionals who are based in Rioja to interact with each other in spaces not related to work. The award Carlos Vergaray was created to honor the memory of a fellow ranger who died years ago. Likewise, there have been special acknowledgements to professionals whose work is of high significance for the management of the AMPF.

Finally, as part of the adaptive management of the project, it was decided that the communications strategy be led by SERNANP. Therefore, the post of specialist in communications was created within the organizational structure of the AMPF Head Office. Support was provided by three communications assistants hired through our partners. Starting 2016, and based on the progress made, it was decided to work in order to better position the environmental education activities and, as with communications, consider this a new strategy. The documents for the management of this new strategy are being developed. These two strategies are operationally supported by SERNANP, CI Peru and CI HQ.

S4. Ensuring the long term financial sustainability of the AMPF

As a result of the second verification of REDD+ mechanism, 2012-2014, 1.5 million carbon credits were generated. These add up to those of the first verification totaling more than 4.4 million credits generated from June 2008 to June 2014. About 2.8 million of these credits have been commercialized until April 2016. Funds collected by this operation finance almost all the management of the AMPF.

On the other hand, more than 17 million soles have been invested from November 2012 to December 31, 2015 within the framework of the Administration Agreement. In the first three years of the Agreement, almost all that had been committed in the financial technical proposal was invested. This investment was needed to achieve progress in the management of the AMPF. According to the planning for 2016, an investment of more than 7 million is expected this year. This would represent a total investment of more than 24 million soles in four years of the Administration Agreement.

In addition to the marketing of carbon credits, CI Peru has raised funds from the Ensemble Foundation and the Conservation Stewardship Program to implement the conservation agreements within the AMPF and in the neighboring community of Awajun in Alto Mayo. At the same time, under the vision of

landscape, CI Peru is implementing several projects aimed at generating a model of healthy and sustainable society. This has been possible thanks to the support of the following donors:

- Embassy of Finland: complementary funding research related to the Implementation of payment for water services in Yuracyacu; ends in 2017.

- USAID: assisting the Implementation of public-private partnerships for the development of a green economy model in the upper Mayo landscape; ends in 2016.

- IUCN, SWFIT and WISE: focus their investment in generating a model of indigenous governance in the Awajún community in Shampuyacu; articulated with the strengthening of the Awajún Indigenous Regional Federation - FERIAAM and seek synergies with the National Forest Conservation Program.

Likewise, a mechanism of compensation for water services is being promoted in three micro-watersheds in Rioja located in the AMPF Buffer Zone that supply drinking water to the city of Rioja and several settlements in the lower area. This is done in partnership with the Management Committee of SUNASS - the National Superintendence of Sanitation Services-, the Provincial Municipality of Rioja and EMAPA - the Municipal Water Company- in Rioja.

S5. Integrating the AMPF into broader development and political processes

Undoubtedly, this strategy has been the biggest advance in the past two years, mainly due to the significant improvement in management skills of the AMPF Head Office and the continuing support of the Management Committee and CI Peru.

The activities of this strategy have been focused on including the AMPF into various local and regional policies; particularly, in boosting the Aguas Verdes Functional Hub (a sort of community facility center that provides basic services). This is a regional policy that concentrates public investment in a village in order to reduce the pressure on priority conservation areas without affecting the provision of basic services and the development of local populations. So far, the combined management team, in its effort to promote the Functional Hub, has achieved the following:

- The Functional Hub is about to become officially created by Regional Ordinance.

- The level of health service in the settlement of Aguas Verdes has increased. The profile for the technical file is being prepared with the support of the CI Peru project and financed by USAID. The infrastructure and operability of the health center will be financed with public funds.

- The secondary education program has been approved for the school in Juan Velasco. The profile is being prepared by the Regional Directorate of Education. The current building is located within the AMPF and will be moved 500 meters to the Buffer Zone where the regional government will build and condition a new building.

- Electrification of El Afluente and Jorge Chavez villages. This is being done with the support of the Municipality of Rioja. The project is being developed so that these villages, located within the AMPF, in the area of special use, may be benefited by this service.

Several meetings with regional and national public bodies which functions directly impact on the management of the AMPF have been held. The most outstanding were the meetings with the Autoridad Nacional de la Fiscalía Especializada en Materia Ambiental (National Authority of the Special Prosecutor for Environmental Matters), a body that prosecutes the environmental crimes occurred in the AMPF. Likewise, several multi-ministerial meetings have been held to define the compatibility of some national programs that can help the allied populations in the management of the PNA. The National Program for Rural Electrification of the Ministry of Energy has been articulated thanks to these meetings. This program gave out solar panels in seven sectors within the AMPF and there is a second delivery coming.

S6. Implementing AMPF social management strategy

Creating a social management strategy has been one of the best choices of the adaptive management model for the AMPF. Since it was created and the team formed, the contribution of this management has cross-cut all other strategies.

The management team has received several training sessions on this strategy. This has produced more and better mechanisms to interact with the local population and public authorities, and has helped to handle social conflicts more properly, especially in Aguas Verdes. However, one of the main contributions of this strategy was the creation of the sustainable management hub (NGS from its acronym in Spanish), an internal management policy of the AMPF that defined five sectors within the AMPF which, due to their strategic location and social context, require all the effort from the other strategies to stabilize the area. The five centers of social management are: a) El Afluente, b) Nuevo Eden, c) El Triunfo, d) El Paraíso and e) Juan Velazco.

More than 10 medical campaigns have been implemented within the framework of the NGS in coordination with the Rioja and Naranjos Health Network. Likewise, it has been achieved that the Unidad de Gestión de Educación Local –UGEL- (Local Education Management Unit) of Rioja be in charge of the payment of teachers in the areas of Nuevo Eden, El Carmen and Nueva Jordania, where parents used to be in charge of these payments. This is a temporary situation until the Aguas Verdes Functional Hub is implemented.

Also, this strategy has a strong component for strengthening the COOPBAM, supporting the subscribers in the creation of women's committees. Four of them have already been created in 2016: a) El Afluente, b) Nuevo Eden, c) Juan Velazco and d) Alto Valle. Training on local crafts issues has already started for these committees in El Afluente. In the same vein, the social management team actively participates in the meetings of the COOPAM committees, training them in the importance of strengthening the cooperative relationship with SERNANP and the advantages of being an allied to the AMPF management.

Finally, this strategy is responsible for the relationship between the AMPF management and the different instances of *rondas campesinas*, from the foundations laid in the AMPF to the national presidency. This implies a great effort to influence and sensitize the leaders of this social organization and to maintain the dialogue to combine joint efforts for the conservation of the PNA and the development of local people, all this under the principle of authority and rule of law.

2.3 Management of Risks to Project Benefits (G3)

Since most of the AMPF biodiversity threat is habitat loss due to change of land use, many of these risks and mitigation activities also apply to benefits generated by the project on biodiversity. The risks are summarized in Table 2, and for more details on the risk assessment, see "Non-Permanence Risk Analysis – Report 4".

Table 2 – Factors analyzed in the Non-Permanence Risk Assessment

Non-Permanence Risks		
Internal	**External**	**Natural**
Project Management	Land Tenure	Torrential flows and flood
Financial viability	Community Engagement	Landslides
Opportunity costs	Political support	Geological risks
Project longevity (permanence)		Pest, disease outbreaks
		Forest fires and droughts
		Extreme weather

Additional risks that could prevent the expected benefits regarding Community and Biodiversity aspects were identified. Among them are risks posed by the coffee diseases, such as coffee rust (*Hemileia vastatrix*); lack of livelihood alternatives, particularly the dependence on coffee as the sole source of income; the long-term sustainability of technical assistance, social conflicts, and effects of climate change. For each of these risks we have identified specific actions, described below, that will be developed and implemented in a participatory manner with project beneficiaries to increase their level of resilience to these potential risks.

Diseases to coffee, (coffee rust *Hemileia vastatrix* and chicken's eye *Mycena citricolor*)

During the period of 2014-2016, even though in much less intensity than the last monitoring period, coffee rust still represents a risk to the production. The precautionary measures adopted in the conservation agreements since early 2012, help resist the rust attack.

Although there was some loss in production, the subscribers of conservation agreements were able to maintain and control outbreaks of the disease. The implementation of good agricultural practices was the best way to control the disease. These practices include:

- Production and use of organic fertilizers;
- Introduction of rust resistant varieties, such as Castillo and Gran Colombia;
- Preventive and curative control of rust and chicken's eye;
- Introduction of forest species in coffee plantations (shaded agroforestry system), combined with pruning shade, moisture and aeration control;
- Identification of rust fungus;
- Preparation and use of Bokashi for soil restoration.

Coffee plantations located in degraded soils that did not use the best agricultural practices were the most affected areas. In addition to the mitigation measures described above, the following practices are being incorporated and intensified to prevent further loss in the event of future outbreaks:

- Identification of non-sensitive coffee seedlings resistant to coffee rust outbreak; especially varieties of higher quality, such as Nacional Tipica, Caturra, Borbon, and others. This natural selection of coffee trees helps to obtain genetic material naturally adapted to withstand future outbreaks and ensure good quality coffee;
- Replication of rust resistant coffee varieties to ensure the preservation of coffee production for subscribers, generating income to support their families, even in the event of future rust outbreaks;
- Increased production of Bokashi and incorporation of trees to provide organic matter and a higher percentage of nitrogen to the soil, in order to accelerate the process of soil restoration;
- Maintenance and renovation of rust resistant coffee varieties, provided by the project and of the species of coffee trees that survived the plague;

Lack of alternative livelihoods

Dependence on monoculture of coffee and rust attack on coffee plantations forced many families to leave the region in search of other income opportunities. According to the local population, most of these families migrated to coastal cities or moved within their areas of origin in hope of finding work. A minor part remained in the region and worked on coffee plantations in indigenous communities or in Stevia crops managed by Stevia One, one of the leading producers of *Stevia rebaudiana* and manufacturer of sugar substitutes.

The project continues to provide additional benefits to coffee, giving opportunities to all subscribers, which are distributed by wages in agroforestry nurseries, monitoring checkpoints, internal inspections for organic certification and guidance to the rangers staff which benefits the subscribers and their families.

We have also implemented additional pilot agreements to coffee in order to diversify their income:

- Pitajaya crops
- Bird watching tourism pilot project
- Family bio-gardens

- Post-harvest benefits (solar tents, soaking tanks, residual coffee water treatment)

The Alto Mayo Forests Multiservice Cooperative – COOPBAM was finally formed in 2014. It is formed only by subscribers of conservation agreements who have already got the organic certification and are in the process of obtaining the fair trade certification. It should be noted that this is the first experience of its kind in Peru where the certification has been obtained within a Protected Natural Area with the authorization of SERNANP. Their first sale to a foreign market was made in 2015 which has generated more interest to further improve their crops following environmental sustainable practices.

The Long-term Sustainability of Technical Assistance

The capacities of all the AMPF management personnel have been strengthened in order to increase their competitiveness and professionalism; making them more visible to other organizations and projects. This is reflected in the increased demand for labor. Undoubtedly, the possible departure of key personnel could affect the planning process. Therefore, considerable effort has been put in generating attractive working conditions for the staff. At the same time, the specific capacities of their possible substitutes are being built. In addition, all management strategies are being socialized with those responsible for each strategy in order to provide them with technical possibilities and to promote concrete synergies that lead to a global integration of all strategies.

The SERNANP authorization for the certification of coffee of conservation agreements and the first sale abroad are the first steps towards market articulation which reflects on the economy of the COOPBAM partners. It is expected that by 2020, the COOPBAM will be self-sustained and promoting the welfare of the families subscribing conservation agreements in the AMPF.

Consolidation of financial sustainability

The project is financially dependent on the sale of carbon credits; this implies that a possible reduction in the price of carbon credits or a significant demand for offsets would affect the projected financial sustainability.

Under this framework, the project is generating strategies to consolidate the relationship with buyers, such as Disney, that could ensure significant purchases for the following years. At the same time, the mechanism of financial sustainability for the AMPF is being identified together with SERNANP. This would be the first protected natural area (PNA) to develop and implement these mechanisms.

Continuity of the Administration Contract

For the project to continue operating normally, the Administration Contract would need to be renewed in 2017, yet it is envisioned that in the long term the AMPF would eventually be managed by a local organization as capacities increase over time. The achievements of this first five-year period of the contract will greatly help in the negotiations for its renewal. In addition, CI is investing in capacity building on project management to local stakeholders that in the long term would implement the strategies and

activities on the ground even without the renewal of the administration contract (see Sup.Inf_nprt_02a and b).

Social conflicts

The AMPF was created in 1987; however, it was not until early 2001 that the State appointed the first Chief of Head Office. Later, around 2005, this Head Office, with the support of donations, obtained the necessary funds for minimum operation within the area. Unfortunately, this state of neglect led to the settlement of people inside the AMPF and the incursion of land and timber dealers that generated a front of opposition to authority and thus, to the preservation of the area.

The attempts to restore the principles of authority and conservation produced, as expected, reactions from the population settled in the AMPF that led to various social conflicts. The conflicts that occurred in Naciente de Río Negro in 2010 and in Aguas Verdes in 2011 were the ones which had the greatest negative impact on management effectiveness. They were both generated by the illegal construction of cart tracks in the AMPF.

The implementation of several actions in the AMPF to minimize and avoid social conflicts is producing positive results. Through the joint efforts of the project team and the AMPF Head Office staff, disagreement situations in Aguas Verdes were successfully diffused, and dialogue was established between the *rondas campesinas* and various public institutions, and local, regional, and national political actors. In addition, the project was able to restore the technical committee for conflict resolution of Aguas Verdes. Lastly, the project is working on the implementation of a Government services hub in Aguas Verdes. Protected area legislation restricted the provision of services within the AMPF boundaries; therefore the project began the negotiation with the Government of San Martin and the respective agencies to assure the implementation of a functional hub in the town of Aguas Verdes to meet health and short-term education needs. The town is located in the AMPF buffer zone and should bring a resolution of this social conflict

Other regions with potential risks regarding social conflicts were identified by the project, and the activities to mitigate them are summarized below. Further details are described in the Social Management Strategy document.

- Land speculation in Candamo: The sector Candamo is located at the headwaters of the Rio Mayo in the north-central part of the AMPF. This region has been speculated by land trafficking as the majority of the population settled in this region was deceived by land dealers who illegally sold the land. Thus the local population is still reluctant to hold open dialogue with the AMPF Head Office or implement activities in coordination with the project. There are still some dealers that intimidate the locals and avoid contact with the State. As a consequence, the project is working towards minimizing this risk by strengthening the relationship with the *rondas campesinas* in Candamo; intensifying the surveillance and control strategy; improving the coordination among institutions and local authorities, and political actors; and, seeking support from others state agencies to implement joint operations in the area.

- Establishment of a trail in Villa Hermosa: The sector of Villa Hermosa is located in the buffer zone in the region of Amazonas, and a group of illegal land traders promoted the construction of an

illegal trail from the Fernando Belaunde Road to the village of Villa Hermosa. Although the trail was opened in 2012 in the buffer area of the AMPF, it was confirmed with locals that the intention was to enter into the AMPF core zone and attract more people to the region. Therefore, since 2013 actions have been carried out in collaboration with various authorities in the region that aim to avoid the continuation of the construction of the illegal trail. Additionally the project is implementing special patrols in the region whose observations confirmed the settlement of a few families in Villa Hermosa. The special patrol units are expected to maintain the monitoring of land trafficking in that sector and coordinate with the relevant authorities to prevent possible illegal activities within the AMPF.

Effects of climate change

Risks of climate change will be present throughout the project lifetime. Changes in rainfall patterns were observed in this monitoring period and could be considered an example of the effects of climate change. The intensity of rainfall above the expected levels for the region, separated by intense sunny days, was the perfect combination for the outbreak and breeding of coffee rust, and generated conditions for the occurrence of other pests such as ojo de pollo *(Mycena citricolor)* and poma (*Phoma spp.)*

Several technical actions to mitigate the risks associated with the effects of climate change on coffee production are being implemented in the field and are described in above subsections. Furthermore, the permanent presence of project staff in the field and the constant monitoring of the demonstration plots ensure that actions would be taken immediately after the observation of any disease outbreak and avoid significant losses. In addition, the technical staff responsible for the implementation of Conservation Agreements is skilled in developing and performing preventive and curative actions to avoid outbreaks of new coffee diseases.

2.4 Measures to Maintain High Conservation Values (G3)

With the implementation of the Administration Contract, three strategies were developed with the aim of preserving High Conservation Values areas within the AMPF: a) Control and Surveillance, b) Conservation Agreements c) Communications and environmental education. These strategies are being implemented in locations that were selected using the results from the established baseline and first monitoring of primates done by *Proyecto Mono Tocón*. There are three endemic species of primates in the AMPF: yellow-tailed woolly monkey (*Oreonax flaviculada)*, the titi monkey (*Callicebus oenanthe)* and the night monkey (*Aotus miconax)* (see Table 7).

Patrols were also concentrated in areas of greatest threat to the forests of the AMPF. Estimation of effort and impact of the patrolling is described in Section 8 of this report. The control and surveillance strategy was complemented by the expansion of different benefits from the Conservation Agreements and the implementation of awareness-raising and environmental education activities. This joint effort has succeeded in reducing the threats in the southern watershed and in some northern parts of the AMPF.

Additionally, the strategy of Tourism Use in the AMPF is prioritizing activities (i.e. development of pilot Conservation Agreements for eco-tourism), with a focus on the avifauna, orchids and butterfly tourism. Additionally, the strategy of Tourism Use in the AMPF is prioritizing activities (i.e. development of pilot

Conservation Agreements for eco-tourism), with a focus on avifauna, orchids and butterfly tourism. To date, two avifauna tourism pilots are being implemented; both are currently articulated to the international market and have a strong investment from the subscriber. One of them (Norbil Becerra) is one of the best experiences for observing partridges in South America. On the other hand, two orchid tourism pilots within the conservation agreement framework and a butterfly tourism pilot in the Buffer Zone are being implemented through a local association in the sector of Palestina.

Likewise, rangers have been trained on avifauna and orchids at Venceremos ranger station where hummingbirds' drinkers have been placed. The observation of these birds is free of charge at the moment. It is worth mentioning that the process of updating the Tourism Use Plan is being supported. This important management document is being evaluated by SERNANP now.

2.5 Project Financing (G3 & G4)

Upon the signature of the Administration Contract in 2012, CI-Peru was allowed to commercialize carbon credits derived from the conservation of the AMPF, and it has been the main source of funding. The technical and financial proposal approved extends the Administration Contract for 5 years and requires a minimal investment of S/17 million by the project for the implementation of the following objectives:

- Objective 1: Reduce the current rate of deforestation in the AMPF by at least 20% during the Administration Contract period;
- Objective 2: Promote, regulate and normalize the activities regarding the of use of renewable natural resources within the AMPF, reducing the negative impacts to the NPA considering zoning established in the Master Plan;
- Objective 3: Formalize the tourist activity, generating a net positive economic flow for the AMPF management and extending the benefits to local people;
- Objective 4: The AMPF will become a nationally recognized place for research with the capacity to provide basic services and infrastructures for researchers;
- Objective 5: Conservation Agreements are signed with people located within the AMPF and its buffer zone;
- Objective 6: Promote the implementation of at least one mechanism of payment for environmental services to contribute to the financial sustainability of the AMPF;
- Objective 7: Update the AMPF Master Plan;
- Objective 8: Management and monitoring of the Administration Contract.

Details of project financing are described in the financial analysis of the Non-Permanence Risk Report N°4 and its annexes, which includes project revenue and costs associated with its implementation. The financial health of CI and other related documents are made available to the verifiers upon request.

In order to minimize the pressure on natural resources in the buffer zone, and therefore, contribute to the objectives of the AMPF, Conservation International has been intensively working to obtain additional funds to implement sustainable development projects in the Upper Mayo watershed. The objective of these projects is to establish a comprehensive landscape management plan and the promotion of green economies.

2.6 Employment Opportunities and Worker Safety (G4)

The hiring of new staff for the AMPF Head Office and for the various partners of the Administration Contract, as well as for CI-Peru followed the guidelines established and described in the CCBS PD and verification report for 2008-2012. Therefore, employment opportunities have been generated considering only the capabilities of the candidates for the required skills and knowledge to perform the job without any exclusion or discrimination.

Induction Protocol

All new staff of the AMPF, regardless of the organization that hires them, receives an induction orientation from their supervisor. This orientation aims to contextualize the new employee on the AMPF management, the current context, and the expected contribution from the professional as well as their rights and obligations. Where necessary, and depending on the degree of responsibility of the position, the AMPF Chief of Head Office or Administration Contract Manager (or both) will conduct further dialogue with the new staff in order to reinforce the high importance of their responsibilities within the management area.

Training Plan

Conservation Agreements Technical Team

In 2012, a training plan on the strategy of Conservation Agreements was developed and started its implemention by the technical team. This plan reached the professionals involved in the implementation of the strategy and a group of promoters who were considered the best conservation agreement subscribers. Based on the achievements obtained and lessons learnt – as part of the adaptive management of the project - this plan was revised to consider the COOPBAM as the main objective of capacity strengthening. The delegates of each of COOPBAM's committees were trained on issues related to market articulation, post-harvest handling and coffee quality, cooperativism, marketing and organic certification. A total of of 19 training sessions, encompassing theory and practice were conducted by Pronaturaleza in partnership with CI.

Monitoring and Surveillance Technical Team

The dynamics of the threats to the AMPF led to the strengthening of the capacities of the forest rangers staff on conflict management and community relations; in addition, we continued with the technical training related to field team management, mapping, on field survival, protected natural areas and others. In total, 33 training sessions on monitoring and surveillance were offered to the staff in 2014 and 2015. In addition to the training plan, the project has also funded the travel expenses of forest rangers to be trained in events sponsored by the SERNANP and other bodies on topics related to the management of protected natural areas. This includes the training in unmanned aerial vehicles (drones) at Virginia Tech University in the USA.

Likewise, the legal adviser to the AMPF, funded by the project, has undergone ongoing training on the implementation of legal tools of protected natural areas and administrative procedures for the AMPF. These trainings have been provided at the request of the AMPF Chief of Head Office and those responsible for the monitoring and surveillance strategy.

The AMPF Head Office

The dynamics of the management of the area led to an increase in the size of the staff team, including park rangers and technical team. They are paid for by the project, but many of them report directly to the AMPF Head Office and also access the training from SERNANP. For instance, SERNANP is developing a certification program on Strategic Management for various heads of PNAs, which included the AMPF Chief of Head Office. This systematic strengthening of the capacities of the AMPF Chief of Head Office greatly helps to improve his management skills and be more in accordance with the current context of the AMPF. Moreover, the Chief of the Head Office and the Administration Contract manager are receiving personalized coaching since October 2015.

A proposal for the training of all the staff has been made as part of the agreement with Pronaturaleza. The proposal is under review by the Head Office.

Security protocol

The security protocol has remained unchanged from the previous monitoring period and its implementation remains as planned.

To date, the risks in the development of the work of the management team have been minimized thanks to the implementation of the security protocol. The major risks still remain the same: risks of natural disasters, of accident and illness, and from violent situations (see Section G4.6 of the CCBS PD for further details). The action to maximize worker's safety includes: at least two rangers in each patrol, avoiding verbal or physical confrontation, avoiding trekking at night, carrying survival kits and antivenom in the first aid kits, defensive driving, and following evacuation and emergencies protocols.

2.7 Stakeholders (G3)

This report was uploaded into the Climate, Community and Biodiversity Alliance's website for public comments. The public comment period will be at least 30 days. The project informed the stakeholders with internet access of the website and the opportunity to comment of the document. For people living in the project zone without internet access, information regarding the content of the document was communicated through the Management Committee, park rangers, and Conservation Agreement technicians with information on how to submit their comments. Hard copies of the document were available for public viewing and comment during the public comment period at the AMPF Head Office as well as at Conservation International's offices in Rioja, allowing local, regional and national stakeholders to provide feedback on the document

In addition, key information about the project and the main results of the monitoring report was translated into Spanish and organized in a poster to facilitate the comprehension of local population. The poster was displayed in various parts of the AMPF and major towns in the project zone.

Although the project has taken specific actions to disseminate the results of the PIR and facilitate the submission of comments to CCBA, the engagement with stakeholders happened throughout the monitoring period. The last two years of the project have marked a milestone in the management of the AMPF. The first socio-economic record of the population living within the protected area was conducted in the previous period. This has revealed, to a greater extent, the real situation of the forest. It has also been a very important source of information to arouse the interest and get the support of the political authorities at local and regional level. Throughout the reporting period the project has engaged with the following key stakeholders:

Rondas Campesinas

Most of the population living in the AMPF is organized in *rondas campesinas*, a type of social organization protected by Law No. 27908 and its regulations. None of these patrol groups settled in the AMPF is officially registered with the *Superintendencia Nacional de Registros Públicos* (the national entity that holds public records in Peru) - SUNARP (from its acronym in Spanish). All *rondas campesinas* groups should be registered with SUNARP in order to comply with the law. However, in practice, these rounds omit this essential step from their actions, and even then, they are supported by the various levels of organization that establish this mechanism. This means that the district, provincial, regional and national patrols acknowledge and support the *rondas campesinas* settled in the AMPF even without complying with the formality of law.

In order to defuse and resolve the socio-environmental conflicts produced by the invasions carried out in the area, the AMPF Head Office started a coordinated work with the *rondas campesinas* which led to the signing of an agreement between the AMPF Chief of Head Office and two *rondas campesinas* which included 19 of the 26 villages settled in the AMPF. This agreement demonstrates the good willingness and disposition of the *rondas* who have listened to the proposals and suggested solutions in favor of the population and the protected natural area they live in.

The groups of *rondas campesinas* who signed the agreement with the AMPF Head Office are being benefited by individual Conservation Agreements, and by other benefits at the village level. These help

improve the living conditions of the local population, such as the improvement of schools, the payment of teachers and other benefits that aim at fixing the alliance between the State and the local people in order to achieve the socio-economic and environmental development of these villages. In addition to the installation of solar panels and the generation of projects for rural electrification, access to health by means of frequent medical campaigns in strategic sectors of the AMPF is also promoted.

The groups of *rondas campesinas* who did not sign the agreement are located in the area of Candamo where land trafficking and deforestation has concentrated in the past two years. Although the AMPF Head Office has visited and spoken to these peoples, they are very reluctant to accept government authority and are implementing actions that are contrary to the conservation of forests in the area of the AMPF. The firm position of the AMPF Head Office is to exhaust all mechanisms to maintain the dialogue with these populations, establishing actions to prevent the deforestation of this highly important area (the source of the Mayo River) and in turn, avoid worsening this socio-environmental problem.

Technical Advisory Group (Mesa técnica)

Due to the construction of an illegal trail that runs from the town of Aguas Verdes (buffer zone) to El Triunfo (within the AMPF), the population organized and created the *Frente de Defensa de los Intereses de los Poblados de Aguas Verdes* (Front for the Defense of the Interests of the Villages of Aguas Verdes) which, as in the case of the *rondas campesinas*, has not been registered with SUNARP either. However, the AMPF Head Office has been coordinating with this front for more than two years in search of solutions to their proposals, which are contrary to the regulations of NPAs and the wholesomeness of AMPF.

The Technical Advisory Group for the resolution of this conflict was created as a result of the dialogue with the Front for the Defense and with the *rondas campesinas* settled in the AMPF. The Technical Advisory Group is a body that brings together not only these actors and the AMPF Head Office, but also representatives of the Regional Government of San Martín, the local governments of Miguel Pardo Naranjos, Rioja and Moyobamba, the Ombudsman Office, Conservation International and others.

The Advisory Group is the highest instance for dialogue between local people and the State. All the complaints from the local population are brought there, but also their aspirations for development, generating proposals that meet these aspirations without reducing the AMPF.

One of the main achievements of this group was the implementation of the Aguas Verdes Functional Hub. This is a political strategy from the Regional Government aimed at concentrating the multi-sectorial investment in a strategic point in the buffer zone where health and education services will be provided to generate competitive capabilities in the young generations of the population living within the AMPF. Furthermore, this strategy implies that the population fulfils the conservation commitments assumed with the AMPF Head Office, generating a suitable mechanism for the final solution of this social conflict, a mechanism which is necessary to consolidate the management of the area.

This instance is strongly supported by the project. It is understood that this is the most representative inter-institutional platform ever created to address issues related to the management of the AMPF; in that sense, the project impacts are entirely positive and endorsed by the regional Government of San Martín.

Subscribers and promoters

Conservation Agreements have significantly increased in the past two years. This implies that this group of stakeholders is the main actors from the local communities with whom we work as a project and as a comprehensive management for the AMPF.

Since its inception, technical staff is constantly maintained in different sectors where these agreements are implemented. This facilitates the flow of communication between the population and the technicians who serve as spokesmen for the concerns, disagreements, and suggestions of the subscribers. Any complaints are answered immediately, and are assumed by the head responsible of the implementation in the field in support of a specialist from the AMPF Head Office. In specific situations, meetings between subscribers, the AMPF Chief of Head Office and the Manager of the Administration Contract are encouraged in order to promote transparency and to solve the most critical complaints from the subscribers.

It is noteworthy that the team formed by the person responsible for the implementation of Conservation Agreements and the specialist from the AMPF Head Office promote and participate in meetings with the subscribers in each of the sectors. They are constantly providing feedback to the management team on the advances made under the strategy and any issues or problems arising from the subscribers.

The promoters of Conservation Agreements have made great contributions which are worth mentioning. Even though their primary role is purely technical, they function (at their own initiative) as conciliators and communicators of the AMPF management. They retransmit any question that local people may have (be they subscribers or not) to the technician or to any personnel from the management team. This relationship was strengthened with the creation of the COOPBAM.

Meetings with local people

The meetings with local people were identified as the best mechanism for the collection of complaints regarding the activities of the project and the management in general. The mechanism proposed during the first verification was also maintained. In this regard, most of the local population avoids making complaints in writing. However this does not mean they are fearful about the mechanism, it is not common practice of the population to make written complaints. In order to adapt to this cultural nuance, it was decided to promote meetings with various communities settled in the AMPF.

Over the past two years, the AMPF management team has held more than 120 field meetings with the local population from the AMPF. This was achieved thanks to its various strategies: communications, Conservation Agreements, community engagement, monitoring and surveillance, and institutional impact.

The Administration Contract, which encompasses all the components of the project, has been explained in all the villages during the initial meetings. Additionally, all sort of institutional individualization of the management of the AMPF is avoided. Therefore, the presentation of professionals always claims to be part of the management team of the area.

Most complaints about the project request for an increase in Conservation Agreements benefits. Details of the benefits package mechanisms and budgetary constraints have been explained to the villagers who

seem to understand this context. However, the project has been able to generate savings and raise small funds to implement supplemental benefits to coffee in response to the request of the subscribers as well as to increase the benefits package of coffee in some cases.

Awajún Indigenous Communities

As identified in the first and second verification, it has been confirmed in the last two years that the project does not generate any negative impact on Awajún indigenous communities since they do not maintain traditional use of resources or territory within the AMPF.

It is noteworthy that the ongoing projects with some Awajún indigenous communities are considered a plus in the intervention strategy of CI-Peru. The periodicity in the implementation of these projects helps to socialize the intervention in the AMPF and to be aware of any comments that may arise on the part of the indigenous communities about any concern or benefit attributable to the project. To date, the technical staff of the project in in Awajún communities have not received or heard of any adverse comment about the AMPF management.

In addition, any complaint or grievance received by the project during this monitoring period was addressed following the requirements from the CCBS. The project has developed and implemented a conflict resolution mechanism that is described in detail in the section G3.10 of the CCBS PD. The mechanism has not changed during this monitoring period and has the following steps: 1) reception of complaints/grievances by the AMPF Head Office; 2) Identification of stakeholders and interested parts in the conflict; 3) Discussion and agreement; 4) Monitoring of resolution; 5) Documentation and archiving. The grievance process has been publicized to communities and stakeholders, and project responses have been given within 30 days. The process is supported by *Defensoria de Pueblo*, a third party organization.

As part of the national process of designing the national REDD+ program, the Peruvian government has assumed the commitment of developing a complaint mechanism for its donors. CI Peru has been identifying ways in which the complaint mechanism of the AMCI project can contribute to the mechanism to be established at national level so that queries, requests or complaints that may occur within the framework of the AMCI project can also be recorded in the future safeguards information system that Peru designs.

3 LEGAL STATUS

3.1 Compliance with Laws, Statues, Property Rights and Other Regulatory Frameworks (G4 & G5)

An extensive analysis of laws, statutes and regulations that are applicable to the project, including worker's rights, was done and is described in detail in the Section 1.11 of the VCS PD and Sections G4.5 and G5.1-2 of the CCBS PD. Since the last monitoring period, there were no changes in the laws and statues listed in the PDs.

3.2 Evidence of Right of Use (G5)

In November 8, 2012 CI-Peru signed the Administration Contract with SERNANP. The Administration Contract gives CI-Peru co-management authority over the AMPF and vests CI with the right of use over any greenhouse gas emission reductions or removals within the AMPF, in order to support the effective implementation of the PA's Master Plan. The regulation (RP. 26-2014-SERNANP), provides a specific legal framework to obtain the right from SERNANP to commercialize carbon certificates generated within a natural protected area. Evidences of the procedures followed by CI-Peru to obtain this right in accordance with the resolution enacted by SERNANP were made available to the verifiers (see Sup.Inf_MIR_02).

3.3 Emissions Trading Programs and Other Binding Limits (CL1)

Peru does not currently have any binding commitments and/or obligations to reduce GHG emissions from the Land Use, Land Use Change and Forestry (LULUCF) sector.

3.4 Participation under Other GHG Programs (CL1)

The project has not been registered and is not seeking registration under any other GHG program.

3.5 Other Forms of Environmental Credit (CL1)

The project has not and does not intend to generate any other form of GHG-related environmental credit for GHG emissions reductions or removals claimed under the VCS Program. The only GHG-related environmental credit generated by the project will be under the VCS.

3.6 Projects Rejected by Other GHG Programs (CL1)

The project has not been rejected under any other GHG program.

3.7 Respect for Rights and No Involuntary Relocation (G5)

The legal and related contexts explained in the previous verification are kept up to date. The project area remains the same as when it was validated. Also there is no variation in the Peruvian or international legislation which requires a re-evaluation of this issue, including the encroachment of private, community, or governmental properties (see section G5.3 of CCBS PDD for further details). In addition, in late 2015 SERNANP an in-situ assessment of the AMPF limits, in order to analyze any potential conflict with adjacent properties and identify areas that require a physical demarcation. Only 20% of the AMPF perimeter is naturally delineated by natural features (e.g. topography) and does not required any field demarcation. If any inconsistency or potential overlap with other land or use rights holders is identified in the final report, then a conflict resolution mechanism will be set to reconciled and find a commonly agreed solution. This conflict resolution process will be framed in the corresponding Peruvian normative.

The project does not intend to involuntarily reallocate people or the activities important for the livelihoods and culture of the communities. It is worth mentioning that the basic needs and the development projection of the local population living in the AMPF are impossible to implement within this NPA because they are officially considered illegal by the State. However, the project is aware that the natural evolution of the management of the AMPF involves creating opportunities for these populations. As explained in Section 2.7, the project supports the technical advisory groups as a platform for dialogue and to solve the socio-environmental conflicts, which ultimately is facilitating access to basic services such as health, education to the local communities, by bringing such services to the buffer zone.

At the same time, the management of the AMPF, with the support of the project, is implementing social benefits aimed at improving the living conditions of the people who have voluntarily committed to become allies of the AMPF management. As a result of the various inter-agency coordination, the AMPF Head Office, the Management Committee and CI Peru have made agreements with several institutions; for instance: The Local Education Management (payment of teachers), Regional Directorate of Education (secondary education program), Health Network (medical campaigns), Regional Health Directorate (health center improvement), Regional Government of San Martin (creation of Aguas Verdes Functional Hub), Provincial Municipality of Rioja (electrification in the settlements in the Buffer Zone), and the Ministry of Energy (implementation of the National Program for Rural Electrification).The objective of these pilots is to generate family management models compatible with their environment ensuring improvements in living conditions.

3.8 Illegal Activities and Project Benefits (G5)

No project benefits are derived from any illegal activity. The project has been working closely with the AMPF Head Office to control and halt any illegal action might that occur in the project area. The most common illegal activities inside the AMPF are the deforestation due to coffee plantation, poaching,

butterfly and orchids extraction and land trafficking. These illegal activities have a direct influence on the project's climate, community, and biodiversity impact. Deforestation not only leads to GHG emissions but also causes forest fragmentation, species habitat isolation, and depletion of environmental services important for the surrounded communities. Fauna and flora extraction, including poaching, affects the quality of the habitat, can reduce the quantity of pollinate and seed dispersers vectors.

Between 2014 and April 2016, more than 280 ranger patrols have been implemented to prevent and mitigate illegal activities (mainly deforestation and fauna and flora extraction); this is a significant increase compared with the last verification period and reflects the adaptive management processes set in place. As example, due to the establishment of the new ranger station in Juan Velasco, illegal logging in Candamito sector has stopped and deforestation rate has decreased. Based on the patrol results, the AMPF is leading 45 prosecutions (33 for deforestation findings).

In addition, all the AMPF strategies supported by the project contribute to reduce these activities and provide livelihood alternatives to the settlers. The Conservation Agreements, for instance, provide tangible benefits while explicitly mention that no illegal activities are accepted. Further details of each project strategy and results are described in section 2.2.

4 APPLICATION OF METHODOLOGY

4.1 Title and Reference of Methodology

The project applies the "Methodology for Avoided Unplanned Deforestation" (VM0015, Version 1.0) approved by the VCS on July 12, 2011.

4.2 Deviations from the Monitoring Plan

Few deviations from the project description have occurred in the first and second monitoring period and were repeated here.

More specifically, following the requirement of VM0015, an uncertainty discount was applied to the total carbon stock of forest classes, and post-deforestation class. The final carbon stocks, after the discount applied, are smaller and therefore the baseline is more conservative. The carbon stocks are an input in the VM Table 15a-c, and VM Tables 29a-c. These tables are recalculated at each monitoring period to discount the areas covered by cloud during the reporting period. This correction does not affect the applicability of the methodology, aaditionality or appropriateness of the baseline. As reference only, the above cited tables are reproduced here.

Table 15.a. Baseline carbon stock change in pre-deforestation (forest) classes

Project year *t*	Carbon stock changes in initial (pre-deforestation) forest classes in the project area	Total carbon stock change in initial forest classes

	ID_{icl}	= pre-montane	ID_{icl}	= cloud	ID_{icl}	= dwarf	annual	cumulative
	$ABSLPA_{icl,t}$	$Ctot_{icl,t}$	$ABSLPA_{icl,t}$	$Ctot_{icl,t}$	$ABSLPA_{icl,t}$	$Ctot_{icl,t}$	$\Delta CBSLPAi_t$	$\Delta CBSLPAi$
	ha	tCO_2-e ha^{-1}	ha	tCO_2-e ha^{-1}	ha	tCO_2-e ha^{-1}	tCO_2-e	tCO_2-e
2009	21	399	2,456	520	0	88	1,284,780	1,284,780
2010	9	399	2,359	520	0	88	1,229,353	2,514,133
2011	3	399	2,217	520	0	88	1,153,079	3,667,211
2012	1	399	2,154	520	0	88	1,119,680	4,786,892
2013	2	399	2,147	520	0	88	1,116,212	5,903,104
2014	2	399	1,964	520	0	88	1,021,238	6,924,341
2015	1	399	1,902	520	0	88	988,849	7,913,190
2016	1	399	1,917	520	0	88	996,173	8,909,363
2017	0	399	1,884	520	0	88	979,018	9,888,381
2018	0	399	1,801	520	0	88	936,035	10,824,417

Table 15.b. Baseline carbon stock change in pos-deforestation (non-forest) classes

Project year *t*	**Carbon stock changes in final (post-deforestation) non-forest classes in the project area**		**Total carbon stock change in final non-forest classes**	
	ID_{fcl}	= 1	annual	cumulative
	$ABSLPA_{fcl,t}$	$Ctot_{fcl,t}$	$\Delta CBSLPAf_t$	$\Delta CBSLPAf$
	ha	tCO_2-e ha^{-1}	tCO_2-e	tCO_2-e
2009	2,478	93	231,144	231,144
2010	2,368	93	220,917	452,062
2011	2,220	93	207,105	659,167
2012	2,155	93	201,060	860,227
2013	2,149	93	200,447	1,060,674
2014	1,966	93	183,402	1,244,076
2015	1,903	93	177,575	1,421,651
2016	1,917	93	178,877	1,600,528
2017	1,884	93	175,787	1,776,315
2018	1,802	93	168,104	1,944,419

Table 15.c. Total net baseline carbon stock change in the project area

Project year *t*	**Total carbon stock change in initial forest classes**	**Total carbon stock change in final non-forest classes**	**Total baseline carbon stock change in the project area**

	annual	cumulative	annual	cumulative	annual	cumulative
	$\square CBSLPAi_t$	$\square CBSLPAi$	$\square CBSLPAf_t$	$\square CBSLPAf$	$\square CBSLPA_t$	$\square CBSLPA$
	tCO_2-e	tCO_2-e	tCO_2-e	tCO_2-e	tCO_2-e	tCO_2-e
2009	1,284,780	1,284,780	231,144	231,144	1,053,635	1,053,635
2010	1,229,353	2,514,133	220,917	452,062	1,008,436	2,062,071
2011	1,153,079	3,667,211	207,105	659,167	945,973	3,008,045
2012	1,119,680	4,786,892	201,060	860,227	918,620	3,926,665
2013	1,116,212	5,903,104	200,447	1,060,674	915,765	4,842,430
2014	1,021,238	6,924,341	183,402	1,244,076	837,835	5,680,265
2015	988,849	7,913,190	177,575	1,421,651	811,273	6,491,539
2016	996,173	8,909,363	178,877	1,600,528	817,296	7,308,835
2017	979,018	9,888,381	175,787	1,776,315	803,232	8,112,067
2018	936,035	10,824,417	168,104	1,944,419	767,931	8,879,998

Table 29.a. Baseline carbon stock change in initial (pre-deforestation) forest classes in the leakage belt

Project year *t*	**Carbon stock changes in initial (pre-deforestation) forest classes in the leakage belt**						**Total carbon stock change in initial forest classes**	
	ID_{icl} pre-montane		ID_{icl} = cloud		ID_{icl} = dwarf		annual	cumulative
	$ABSLLK_{icl,t}$	$Ctot_{icl,t}$	$ABSLLK_{icl,t}$	$Ctot_{icl,t}$	$ABSLLK_{icl,t}$	$Ctot_{icl,t}$	$\square CBSLLKi_t$	$\square CBSLLKi$
	ha	tCO_2-e ha^{-1}	ha	tCO_2-e ha^{-1}	ha	tCO_2-e ha^{-1}	tCO_2-e	tCO_2-e
2009	0	399	1,111	520	0	88	577,395	577,395
2010	0	399	1,088	520	0	88	565,423	1,142,818
2011	0	399	1,082	520	0	88	562,438	1,705,257
2012	0	399	1,203	520	1	88	625,337	2,330,594
2013	0	399	1,290	520	6	88	670,925	3,001,519
2014	0	399	1,281	520	11	88	666,661	3,668,180
2015	0	399	1,491	520	27	88	776,993	4,445,173
2016	0	399	1,596	520	41	88	833,109	5,278,282
2017	0	399	1,715	520	58	88	895,993	6,174,275
2018	0	399	1,700	520	63	88	888,768	7,063,043

Table 29.b. Baseline carbon stock change in final (post-deforestation) non-forest classes in the leakage belt

Project year *t*	Carbon stock changes in final (post-deforestation) non-forest classes on the leakage belt		Total carbon stock change in final non-forest classes	
	ID_{fcl}	= 1	annual	cumulative
	$ABSLLK_{fcl,t}$	$Ctot_{fcl,t}$	$\Delta CBSLLKf_t$	$\Delta CBSLLKf$
	ha	tCO_2-e ha^{-1}	tCO_2-e	tCO_2-e
2009	1,318	93	122,957	122,957
2010	1,332	93	124,241	247,198
2011	1,348	93	125,719	372,917
2012	1,371	93	127,894	500,811
2013	1,332	93	124,241	625,052
2014	1,514	93	141,261	766,313
2015	1,574	93	146,878	913,191
2016	1,487	93	138,708	1,051,900
2017	1,490	93	138,960	1,190,860
2018	1,516	93	141,387	1,332,247

Table 29.c. Total net baseline carbon stock change in the leakage belt

Project year *t*	Total carbon stock change in initial forest classes		Total carbon stock change in final non-forest classes		Total baseline carbon stock change	
	annual	cumulative	annual	cumulative	annual	cumulative
	$\Delta CBSLLKi_t$	$\Delta CBSLLKi$	$\Delta CBSLLKf_t$	$\Delta CBSLLKf$	$\Delta CBSLLK_t$	$\Delta CBSLLK$
	tCO_2-e	tCO_2-e	tCO_2-e	tCO_2-e	tCO_2-e	tCO_2-e
2009	577,395	577,395	122,957	122,957	454,438	454,438
2010	565,423	1,142,818	124,241	247,198	441,182	895,620
2011	562,438	1,705,257	125,719	372,917	436,719	1,332,340
2012	625,337	2,330,594	127,894	500,811	497,443	1,829,783
2013	670,925	3,001,519	124,241	625,052	546,684	2,376,466
2014	666,661	3,668,180	141,261	766,313	525,400	2,901,866
2015	776,993	4,445,173	146,878	913,191	630,115	3,531,981
2016	833,109	5,278,282	138,708	1,051,900	694,401	4,226,382
2017	895,993	6,174,275	138,960	1,190,860	757,033	4,983,415
2018	888,768	7,063,043	141,387	1,332,247	747,381	5,730,797

The historical land cover and land use change analysis (1996-2001), which was used to estimate the forest benchmark, was performed by Conservation International as an effort to map forest loss in the Andean and non-Brazilian Amazonian region. The forest cover and loss was classified using mid-resolution (30 m) Landsat imagery. The final product classification was filtered to a Minimum Mapping Unit (MMU) of 2 hectares, eliminating small patches of forest, and improving the overall classification accuracy. This processing can also be considered more conservative as only patches of forest bigger than 2 hectares was considered in the forest benchmark and therefore as project area.

Version 1.1 of the methodology, approved on December 03, 2012, changed the MMU requirement to a minimum of 1 hectare, irrespective of forest definition. Even though the MMU used by the project does not currently meet the new requirement, it is likely to be more conservative than the 1 ha MMU suggested by the methodology, as changes smaller than 2 ha will not be counted as deforestation in the baseline.

The frequency and abundance of primates (indicator 7a and b of the Biodiversity Protocol) was initially set to be monitored trimesterly, considering that a participatory monitoring system would be implemented; however, due to the great need of environmental awareness building, the participatory monitoring system is being implemented gradually. Meanwhile, *Proyecto Mono Tocón* is monitoring this indicator biannually.

There were no deviations from the project description during this monitoring period, or from the monitoring plan, except the methodology used to estimate the poverty index (see Section 5.3). The expected positive and negative impacts of the project and the indicators are the same as presented in the last monitoring report. However, based on the principle of adaptive management, few new metrics were added to better qualify the indicators, while other metrics will be reported next monitoring period due to the lack of information available for this monitoring period (2014-2016). The metrics measured in this monitoring report are enough to demonstrate the expected impact generated by the project, and therefore is not affecting the integrity of the monitoring system. Please refer to the Sup.Inf_MIR_01 for a full list of metrics and the results for each of them.

4.3 Project Boundary (G1)

The project boundary, including spatial, temporal, carbon pools, and sources of GHG emissions, did not change since the validation. The same carbon pools and GHG sources were considered in the baseline and project scenario, and only include above- and below-ground biomass. Refer to Section 2.3 of the validated VCS PD for full description.

4.4 Baseline Scenario (G2)

The most likely land use scenario in the absence of the project is the continuation of deforestation through forest conversion to other uses, mainly coffee and pasture. This scenario has been identified through a participatory consultation process and followed the steps of the VCS methodology (see Section 2.4 of the VCS PD and Steps 4-5 of the Methodological Annex). The justification and description of the range of potential scenarios of land use are shown in the analysis of additionality (see Section G.2.2 of the CCBS PD). The analysis of the direct causes of GHG emissions is included in the report: "Analysis of

agents, direct causes and underlying causes of deforestation in the Forest of Alto Mayo Protection" (see Step 3 of Annex Methodological the VCS PD and Sup.Inf_nprt_03).

The deforestation likely to occur in the baseline scenario will have severe consequences for the well-being of communities within the project zone as well as to biodiversity. Since the last monitoring period, there was no major change in the causes and agents of land use change in the project, and therefore the baseline analysis remains valid. The effects of the baseline scenario on the communities and biodiversity are detailed in Sections G2.1-5 of the CCBS PD.

4.5 Additionality (G2)

The project activities are highly additional since the benefits for climate change mitigation, biodiversity conservation, and the sustainable development of local communities would not have occurred without the project. In addition, the project offers the only realistic solution to overcoming the barriers that have prevented the success of prior initiatives in reducing deforestation in the AMPF. The project used the VCS Tool VT0001 “Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities” (Version 1.0) in order to demonstrate the additionality of the project.

In the absence of the REDD project, the major barriers (lack of sustainable investment from Peruvian government to improve protected area management capacity, lack of skills and knowledge on production of organic coffee) will continue to prevent effective reductions in the deforestation rate in the AMPF. The project combines improving the governance of the AMPF, promoting sustainable agriculture practices, improving environmental awareness, and consolidating participatory management mechanisms, while integrating AMPF policies into regional process and establishing a long-term financial mechanism through carbon credits

5 MONITORING DATA AND PARAMETERS

5.1 Description of the Monitoring Plan (CL3, CM3 & B3)

A full description of the monitoring plan is detailed in the biodiversity and socio-economic protocols as part of the CCBS PD, and in the Section 4.3 of VCS PD. Below is a description of the implementation of the protocols for this monitoring period, and in the Sections 8 and 9 are the descriptions of the results.

The results of the monitoring period were widely publicized in the local language to the communities and other stakeholders, and comments received were incorporated in the report. In addition the Project Implementation Report was submitted to CCBA for a 30-day public comment period, and any relevant observation will be addressed.

Climate

Since the date of validation and verification, no regional, national, or jurisdictional monitoring system of land-use and land-cover change was in place. In the UNFCCC Conference of Parties in Paris, the government of Peru has presented the forest reference emission level (FREL) for the amazon region, with subsequent submission to the secretariat for assessment. The FREL was defined based on the historical deforestation trend from 2001 to 2014 and currently does not provide information of the spatial distribution of the deforestation rates post 2014, nor define the rules for grandfathering projects (see Sup.Inf_MIR_3a and Sup.Inf_MIR_3b).

Therefore, the project proponent was responsible for implementing the land-use and land-cover change component of the monitoring plan for the project area and leakage belt. The analysis covered the monitoring of forest land converted to non-forest. In order to assure consistence and high quality analysis the monitoring plan closely followed the methods, rules, and procedures used in the last monitoring period and specified in Conservation International's standard change detection methodology (see Sup.Inf_Meth_03a-c).

1. The land cover and change maps were produced following the technical steps described below and detailed in Sup.Inf_Meth_03a-c, including quality assurance procedures. Accuracy assessment as described in Steps 2.4 and 2.5 of Part 2 of the AMCI Methodological Annex was performed, and the results are detailed in the Sup.Inf_GIS03_LC061416_Validation_Report AMPF. Landsat images with minimal cloud cover were acquired online from the United States Geographical Survey website. Multiple images were used in the verification to fill areas obscured by clouds, as listed in MR Table 1.a:

MR Table 1.a. Data used for monitoring LU/LC change analysis

Vector (Satellite or airplane)	Sensor	Resolution		Coverage	Acquisition date	Scene or point identifier	
		Spatial	Spectral	(km^2)	(DD/MM/YY)	Path / Latitude	Row / Longitude
Landsat 8	OLI/TIRS	30m	0.43 - 12.5 µm	170 x 183 km	23-Jan-16	8	64
Landsat 8	OLI/TIRS	30m	0.43 - 12.5 µm	170 x 183 km	17-Sept-15	8	64
Landsat 8	OLI/TIRS	30m	0.43 – 12.5 µm	170 x 183 km	7-Aug-15	9	64
Landsat 8	OLI/TIRS	30m	0.43 - 12.5 µm	170 x 183 km	13-Dec-15	9	64
Landsat 8	OLI/TIRS	30m	0.43 – 12.5 µm	170 x 183 km	23-Aug-15	9	64

2. All of the images used in the analysis were cloud masked and orthorectified.

3. The images were classified in two-date image stacks (2014/2016) using decision tree analysis (RandomForest), using the following sub-steps;

    a. Map classes include: 1=forest, 2=non-forest, 4=water, and 5=cloud.

b. Training sites were selected to represent both change and non-change areas.

c. Training sites included numerous sub-classes for each land-cover and change class, to incorporate the full range of spectral variability within the image.

4. The final classification was filtered in ERDAS using a neighborhood majority filter 3x3. Then the map product was processed using Clump and 0.5-hectare Eliminate.

5. Areas of change from forest to non-forest were extracted from the final 2014-2016 land-cover change map and overlaid on the forested area from the original 2014 classification to create the updated 2016 land-cover map. Thereby minimizing the amount of erroneous transitions and reducing the map agreement error.

6. Areas of cloud in the 2014 land cover map were updating using a two-date images stack form 2006-2016, and then updated following the same methods described in steps 3-5. Areas that were obscured by clouds in 2016 were excluded and will be updated in future monitoring periods.

As no high resolution images circa 2016 (i.e. spatial resolution of 5m or higher) and cloud free in the project area and leakage belt were available, the final product was validated with ground-surveyed points. Data collected on deforestation by the park rangers in 2015 and 2016 were compiled and overlaid to the classification map. This process was used to measure the omissions from the final forest cover/change map. In order to assess the commissions or false alarms (i.e. areas deforested in the classification, but nor in the field), 100 points were distributed over the observed 2014-2016 deforestation in the satellite images and checked on the ground. These points were allocated randomly using a GIS tool. Park rangers visited the location of these points and made notes regarding the actual land cover class. Some points were not able to verify due to the accessibility. The result of the error matrix (or confusion matrix) was above the required 80% accuracy from the VM0015 methodology. The estimated overall accuracy of the final 2014-2016 classification was 84%, above the minimum accepted accuracy of 80%. See Table 3 for the confusion matrix. In addition, the accuracy of commission (or false alarms) was 100% (47 out of 47 points) and omission accuracy (or misses) was 77% (47 out of 61).

Table 3 - Overall accuracy of land change (2012-2014) matrix (confusion matrix).

	LC Classes – GROUND		LC Classes Ground total	User's Accuracy
LC Classes – MAP	**Forest**	**Non-forest**		
Forest	27	14	41	66%
Non-Forest	0	47	47	100%
LC Classes Map total	27	61	88	
Producer's accuracy	100%	82%	**Overall Accuracy of Land Change Map (74/88)% = 84%**	

Biodiversity

The methodological framework used to estimate the net positive impact of the project on biodiversity is detailed in the *Protocolo de Monitoreo de la Biodiversidad*. The indicators were designed to measure the

positive and negative impact inside and outside the project zone. The Table 4 summarizes the expected impacts on the biodiversity.

During the monitoring period of this report 2014-2016, there was no deviation in the data analysis from the methods and procedures described in the *Protocolo de Monitoreo de la Biodiversidad.* Most of the information was collected in the field through patrolling and biodiversity transects, complemented by GIS and remote sensing analysis. The technician of the AMPF Head Office collects and systematizes the data gathered by the park rangers during the monthly patrolling. Every trimester, *Proyecto Mono Tocón* reports the results from the monitoring of primates to CI's ecosystem services coordinator, who analyzes and approves the report. The results of each indicator are described in the Section 8 of this report.

Table 4 - List of impact on biodiversity inside and outside the project

	Expected Impacts on Biodiversity	
	Positives	Negatives
Inside Project Zone	1. The habitat of high importance species for the biodiversity of the AMPF in conserved. 2. Habitat fragmentation of high importance species for the biodiversity of the AMPF is avoided. 3. High Conservation Value Areas of the AMPF is maintained and/or enhanced. 4. Populations of endemic and threatened species above its critical level are maintained and / or recovered. 5. Pressure reduced to ecosystems of the AMPF through the promotion of sustainable use practices by local people. 6. Operational capacity of the AMPF Head Office is strengthened and the response to the pressures on the area is improved. 7. Degraded ecosystems of the AMPF are restored through the implementation of reforestation and agroforestry systems. 8. Biodiversity and ecosystem services of the AMPF are recognized and valued by locals, who become allies in the conservation. 9. Illegal extraction of wildlife in the AMPF is reduced.	N/A
Outside	1. Connectivity of the Conservation Corridor Abiseo-Cóndor-Kutukú – CCACK is maintained. 2. Ecosystem services of the AMPF (water and soil) are maintained and improved for the benefit of	1. Deforestation of the habitat of the species of high importance for biodiversity is displaced to in the leakage belt. 2. Illegal extraction of flora and fauna is

	population outside project zone. 3. Biodiversity and ecosystem services by AMPF natural resources stocks outside project zone are recognized and valued. 4. Technology is transferred to improve coffee production systems outside project zone. 5. New projects for the conservation of biodiversity in the Alto Mayo are leveraged.	displaced to out of the project area creating additional pressure on forests in the buffer zone.

Community

The methodological framework used to estimate the net positive impact of the project on communities is detailed in the *Protocolo de Monitoreo Socioeconomico* and are based on the results chain analysis of the project strategies. The indicators were designed to measure the positive and negative impact inside and outside the project zone. Table 5 summarizes the expected impacts on the communities.

During the monitoring period of this report 2014-2016, there was no deviation in the data analysis from the methods and procedures described in the *Protocolo de Monitoreo Socioeconomico*. Most of the information was collected in the field through patrolling and survey, complemented by GIS and remote sensing analysis. The technician of the AMPF Head Office collects and systematizes the data gathered by the park rangers during the monthly patrolling. The socio-economic survey is applied at every verification event and the data is organized and analyzed by CI's socio-economic coordinator.

Table 5 - List of impact on community inside and outside the project

	Expected Socioeconomics Impacts	
	Positives	Negatives
Inside Project Zone	1. Governance of the AMPF is strengthened. 2. Production systems of the local population are improved and coffee associations in connection to special markets are promoted. 3. Capacity building and knowledge is generated among local people for sustainable management of their production systems. 4. Living conditions of the local population in harmony with the objectives of the AMPF are improved. 5. Economic alternatives for the population are generated through conservation actions aligned with AMPF management. 6. Ecosystem services of the AMPF (water and soil) are maintained and improved for the benefit of population in the project zone.	1. Decrease economic opportunities from illegal activities 2. Decrease provision of basic services within the AMPF 3. Improved control over the expansion of the agricultural frontier 4. Less support from land holders to their families in the area of origin

	7. Natural resources within the BPAM are sustainably managed by the local population. 8. The partnership between the local population and the AMPF Head Office are empowered for conservation.	
Outside Project Zone	1. Ecosystem services of the AMPF (water and soil) are maintained and improved for the benefit of the population outside the project zone. 2. Technology is transferred to improve coffee production systems outside project zone. 3. New projects for sustainable development of the Alto Mayo watershed are leverage.	1. Demand for conventional coffee practices are displaced to native communities increasing unsustainable land use in areas rented by them. 2. Customary uses of the native communities are affected by increased surveillance and control program of the PNA.

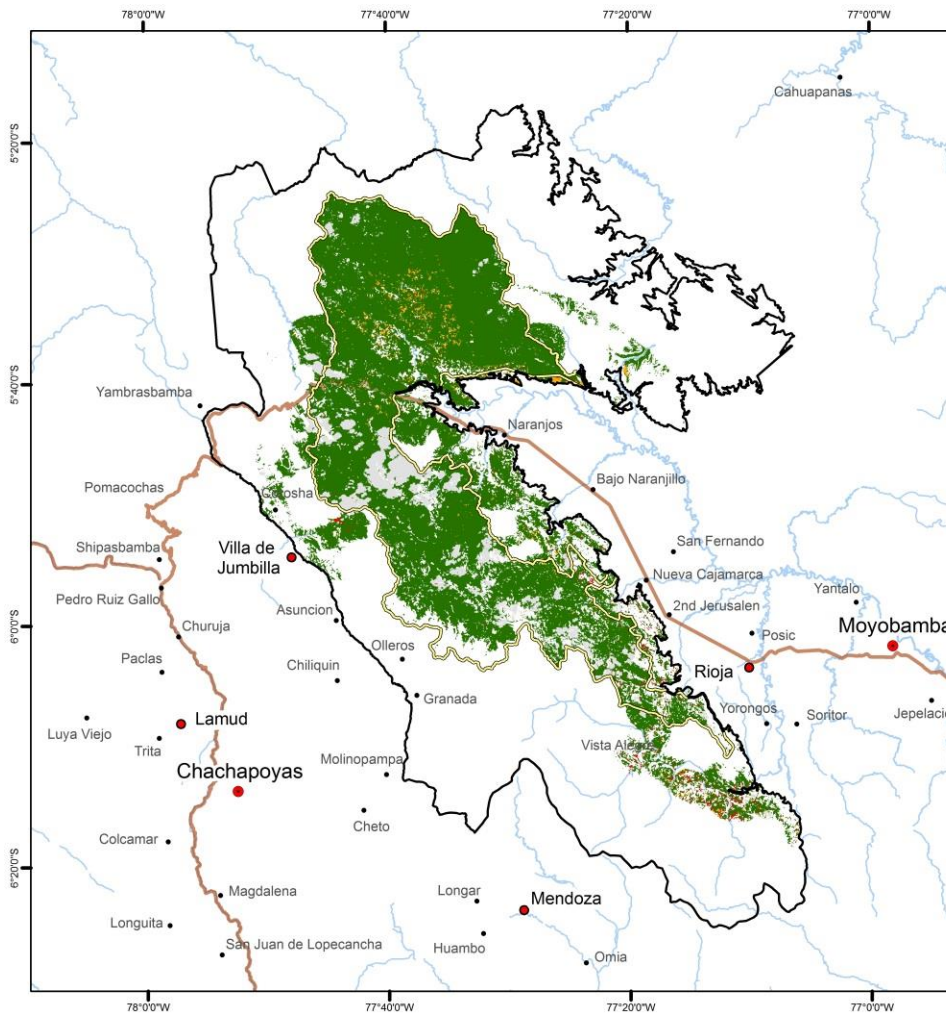
5.2 Data and Parameters Available at Validation (CL3)

No changes were made to the data and parameters presented to the validators during the validation process. Please refer to the VCS PD Section 4.1 for the list of data and parameters, also publicly available at the VCS website.

5.3 Data and Parameters Monitored (CL3, CM3 & B3)

Climate

Data Unit / Parameter:	Forest Cover and Change Map (2014-2016)
Data unit:	Map
Description:	Digital map of forest cover in 2016 and change 2014-2016 in the project area and leakage belt (

	 Figure 3 and Figure 4)
Source of data:	Landsat (MR Table 01.a.)
Description of measurement methods and procedures to be applied:	Satellite imagery-based forest cover change classification using decision tree and see5 methods.
Frequency of monitoring/recording:	At every verification period
Value applied:	0.5 ha of forest patch as minimum threshold

Monitoring equipment:	ERDAS 10.0 and ArcGIS 10.2
QA/QC procedures to be applied:	Quality Control and Assurance procedures are detailed in the Methodological Annex. The overall map accuracy is above the 80% required by the VM0015
Calculation method:	n/a
Any comment:	Raster format – 30m resolution – projection system UTM zone 18S – datum WGS84. GIS files provided to the verifier.

Data Unit / Parameter:	ABSLPAi,t
Data unit:	ha yr^{-1}
Description:	Annual area of observed deforestation in the project area for the period 2014-2016
Source of data:	GIS processing
Description of measurement methods and procedures to be applied:	Results of overlaying the forest cover map with the project area boundaries
Frequency of monitoring/recording:	At every verification period
Value applied:	GIS files of the project boundary
Monitoring equipment:	Computer and ArcGIS 10.0 software
QA/QC procedures to be applied:	Projection system and datum was kept consistent. Clear and detailed documentation and independent desk review to assure consistency and accuracy of the GIS procedures
Calculation method:	Spatial Analysis tool (tabulate area in zonal statistics toolbox)
Any comment:	n/a

Data Unit / Parameter:	ABSLLKi,t
Data unit:	ha yr^{-1}
Description:	Annual area of observed deforestation in the leakage belt for the period 2009-2012

Source of data:	GIS processing
Description of measurement methods and procedures to be applied:	Results of overlaying the forest cover map with the leakage belt boundaries
Frequency of monitoring/recording:	At every verification period
Value applied:	GIS file of the leakage belt
Monitoring equipment:	Computer and ArcGIS 10.0 software
QA/QC procedures to be applied:	Projection system and datum was kept consistent. Clear and detailed documentation and independent desk review to assure consistency and accuracy of the GIS procedures
Calculation method:	Spatial Analysis tool (tabulate area in zonal statistics toolbox)
Any comment:	n/a

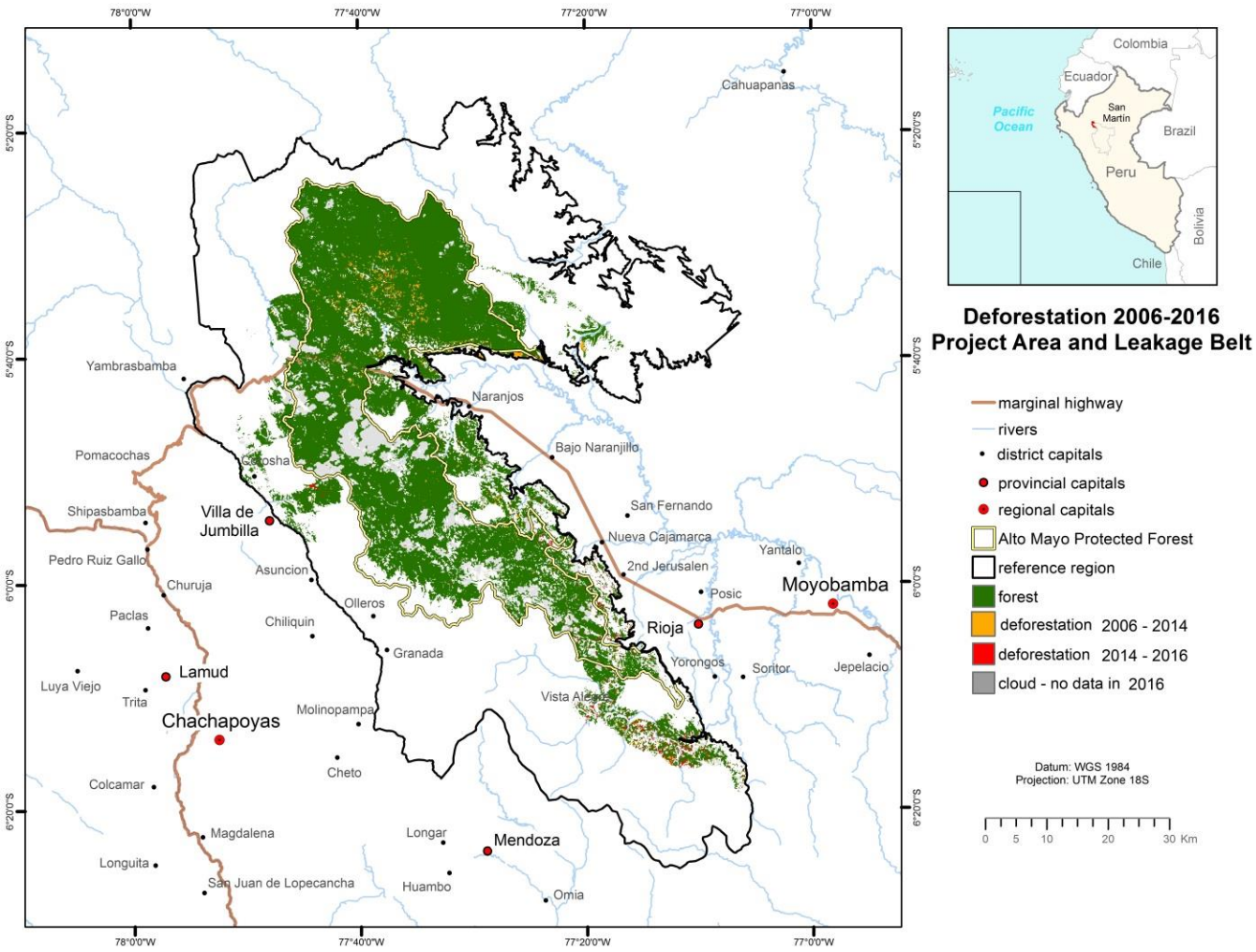


Figure 3 - Deforestation map 2006-2016. It shows the observed changes between forest and non-forest classes within the project area and leakage belt.

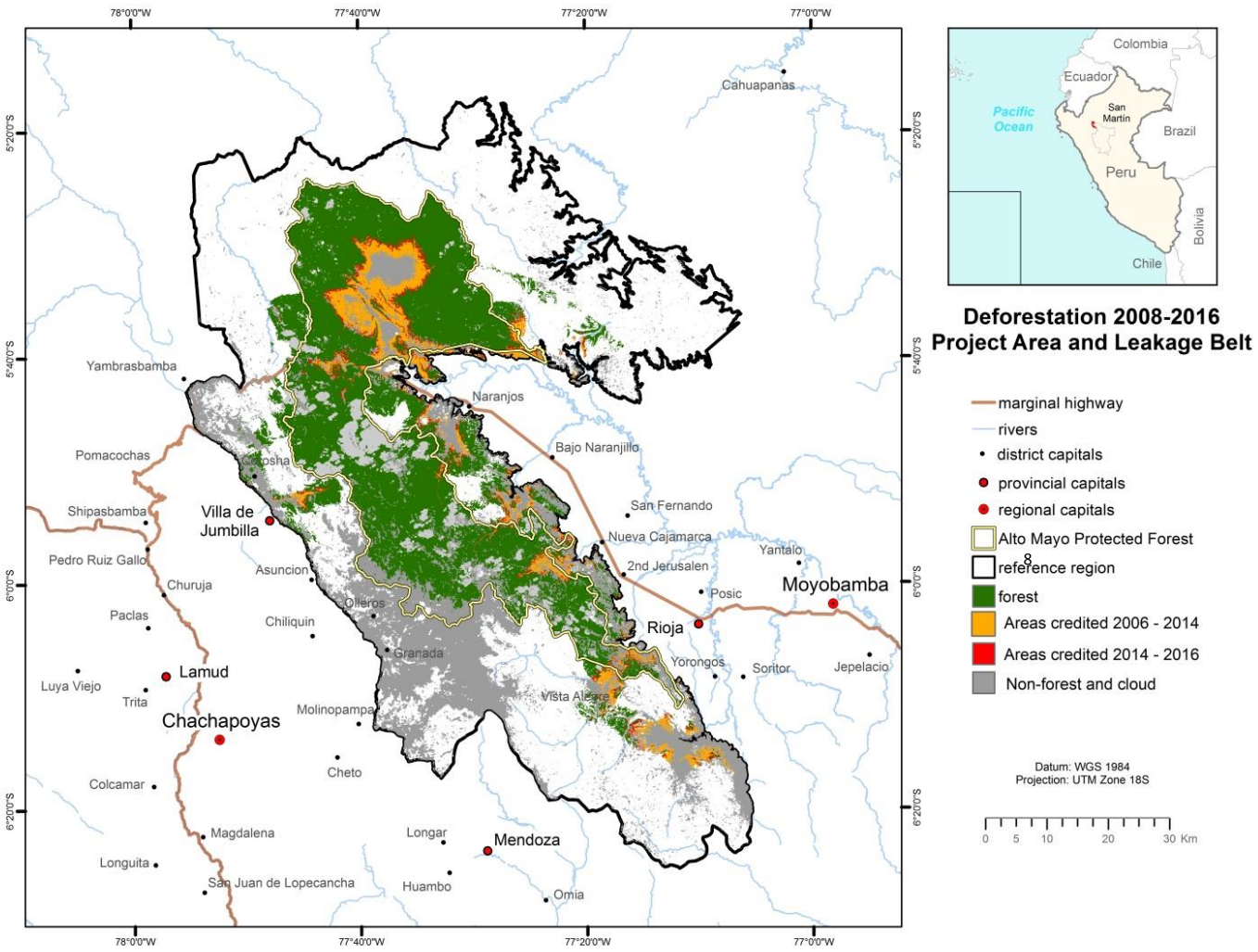


Figure 4 - Map of cumulative areas credited for the 2014-2016 monitoring period

Biodiversity

Please refer to the Biodiversity Protocol for a full description of the data and parameters monitored. The table below reports only the parameters that have changed. The frequency and abundance of primates (indicator 7a and b of the Biodiversity Protocol) was initially set to be monitored trimesterly, considering that a participatory monitoring system would be implemented; however, due to the great need of environmental awareness building, the participatory monitoring system is being implemented gradually. Meanwhile, *Proyecto Mono Tocón* is monitoring this indicator biannually.

Data Unit / Parameter:	Frequency and abundance of primates
Data unit:	Number of species, number of individuals per species

Description:	Number of individuals and species of primates reported and encountered within each sub-watershed of AMPF
Source of data:	Surveys and field observations
Description of measurement methods and procedures to be applied:	Interviews of local population; execute transects and paths for later identification of species based on visual observations and vocalization analyses
Frequency of monitoring/recording:	Biannual
Value applied:	-
Monitoring equipment:	Photographic camera, reflex and zoom lenses, digital video camera, GPS units, tripod, binoculars 10x42
QA/QC procedures to be applied:	Revision of reports by the coordinator of ecosystem services
Calculation method:	-
Any comment:	-

Community

Please refer to the *Protocolo de Monitoreo Socioeconomico* for a full description of the data and parameters monitored. The tables below report only the parameters that have changed. More specifically, the poverty index was previously estimated based on the USAID parameter, which establishes a global dollar value earned per household as the threshold of poverty. The project is measuring the poverty according to the Progress of Poverty Index (PPI)[1] that uses the Peruvian definition of poverty and therefore is more accurate. In addition, the Conservation International is applying the PPI in the other livelihood projects and therefore the project can measure the progress against a control sample.

Data Unit / Parameter:	Poverty Index
Data unit:	% of total population
Description:	Percentage of the population that is below the line of poverty according to the Peruvian definition of poverty

[1] http://www.progressoutofpoverty.org/

Source of data:	Field survey
Description of measurement methods and procedures to be applied:	Ten standardize questions from the Progress of Poverty Index (PPI) approach will be applied to the beneficiaries with the socio-economic survey. Results will be systematized according the PPI metrics and the index will be established
Frequency of monitoring/recording:	At every verification period
Value applied:	N/A
Monitoring equipment:	Computer, tablets and iForm Builder form
QA/QC procedures to be applied:	Surveyors are trained according CI's protocol at each verification event. Data will be collected using tablets to avoid error of data transfer.
Calculation method:	Spatial Analysis tool (tabulate area in zonal statistics toolbox)
Any comment:	Further information http://www.progressoutofpoverty.org/

6 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS (CLIMATE)

6.1 Baseline Emissions (G2)

The baseline carbon stock changes in the initial (pre-deforestation) forest classes in the project area during the monitoring period are shown in MR Table 02.a. The baseline carbon stock changes in the single final (post-deforestation) non-forest class considered by the project during the monitoring period are shown in MR Table 02.b. The total baseline carbon stock changes in the project area during the monitoring period are shown in MR Table 02.c. Note that, areas covered by clouds in the 2016 land cover map have been temporarily excluded from this monitoring report and therefore the numbers in the MR Tables 02.a, b and c differ from those shown in VM Tables 15.a, b, and c, respectively.

MR Table 02.a. Baseline carbon stock changes in pre-deforestation (forest) classes in the project area during the monitoring period (2016 cloud free)

Project year *t*	**Baseline carbon stock changes in initial (pre-deforestation) forest classes in the project area**						**Total baseline carbon stock changes in initial forest classes in the project area**	
	ID_{icl}	premont	ID_{icl}	cloud	ID_{icl}	dwarf	annual	cumulative

	$ABSLPA_{icl,t}$ ha	$Ctot_{icl,t}$ tCO_2-e ha^{-1}	$ABSLPA_{icl,t}$ ha	$Ctot_{icl,t}$ tCO_2-e ha^{-1}	$ABSLPA_{icl,t}$ ha	$Ctot_{icl,t}$ tCO_2-e ha^{-1}	$\Delta CBSLPAi_t$ tCO_2-e	$\Delta CBSLPAi$ tCO_2-e
2015	1	399	1,879	520	0	88	976,971	976,971
2016	1	399	1,889	520	0	88	981,817	1,958,787

MR Table 02.b. Baseline carbon stock changes in post-deforestation (non-forest) classes in the project area during the monitoring period (2016 cloud free)

Project year *t*	Baseline carbon stock changes in final (post-deforestation) non-forest classes in the project area ID_{fcl} = non-forest		Total baseline carbon stock changes in final non-forest classes in the project area	
			annual	cumulative
	$ABSLPA_{fcl,t}$ ha	$Ctot_{fcl,t}$ tCO_2-e ha^{-1}	$\Delta CBSLPAf_t$ tCO_2-e	$\Delta CBSLPAf$ tCO_2-e
2015	1,881	93	175,443	175,443
2016	1,890	93	176,299	351,742

MR Table 02.c. Total baseline carbon stock changes in the project area during the monitoring period (2016 cloud free)

Project year *t*	Total baseline carbon stock changes in initial forest classes		Total baseline carbon stock changes in final non-forest classes		Total baseline carbon stock changes in the project area	
	annual	cumulative	annual	cumulative	annual	cumulative
	$CBSLPAi_t$ tCO_2-e	$CBSLPAi$ tCO_2-e	$CBSLPAf_t$ tCO_2-e	$CBSLPAf$ tCO_2-e	$\Delta CBSLPA_t$ tCO_2-e	$\Delta CBSLPA$ tCO_2-e
2015	976,971	976,971	175,443	175,443	801,528	801,528
2016	981,817	1,958,787	176,299	351,742	805,518	1,607,046

6.2 Project Emissions

The ex-post actual carbon stock changes in the initial (pre-deforestation) forest classes in the project area during the monitoring period are shown in MR Table 03.a. The ex-post actual carbon stock changes in the single final (post-deforestation) non-forest class considered by the project during the monitoring period are shown in MR Table 03.b. The total ex-post actual carbon stock changes in the project area during the monitoring period are shown in MR Table 03.c. In addition areas that were temporarily excluded from the previous monitoring period (2006-2012 or 2012-2014) but observed in 2016 were included in this report, and any deforestation observed was attributed to this monitoring period. The observed deforestation for the monitoring period was assumed to be equally distributed per year.

MR Table 03.a. Ex-post actual carbon stock changes in pre-deforestation (forest) classes in the project area during the monitoring period (2016 cloud free)

Project year *t*	Ex-post actual carbon stock changes in initial (pre-deforestation) forest classes in the project area						Total ex-post carbon stock changes in initial forest classes in the project area	
	ID_{icl} premont		ID_{icl} cloud		ID_{icl} dwarf		annual	cumulative
	$APSPA_{icl,t}$ ha	$Ctot_{icl,t}$ tCO_2-e ha^{-1}	$APSPA_{icl,t}$ ha	$Ctot_{icl,t}$ tCO_2-e ha^{-1}	$APSPA_{icl,t}$ ha	$Ctot_{icl,t}$ tCO_2-e ha^{-1}	$\Delta CPSPAi_t$ tCO_2-e	$\Delta CPSPAi$ tCO_2-e
2015	1	399	284	520	21	88	149,979	149,979
2016	1	399	284	520	21	88	149,979	299,958

MR Table 03.b. Ex-post carbon stock change in post-deforestation (non-forest) classes in the project area during the monitoring period (2016 cloud free)

Project year *t*	Ex-post actual carbon stock changes in final (post-deforestation) non-forest classes in the project area		Total ex-post carbon stock changes in final non-forest classes in the project area	
	ID_{fcl} = non-forest		annual	cumulative
	$APSPA_{fcl,t}$ ha	$Ctot_{fcl,t}$ tCO_2-e ha^{-1}	$\Delta CPSPAf_t$ tCO_2-e	$\Delta CPSPAf$ tCO_2-e
2015	306	93	28,552	28,552
2016	306	93	28,552	57,104

MR Table 03.c. Total ex-post carbon stock change in the project area during the monitoring period (2016 cloud free)

Project year *t*	Total ex-post carbon stock changes in initial forest classes		Total ex-post carbon stock changes in final non-forest classes		Total ex-post carbon stock changes in the project area	
	annual	cumulative	annual	cumulative	annual	cumulative
	$\Delta CPSPAi_t$ tCO_2-e	$\Delta CPSPAi$ tCO_2-e	$\Delta CPSPAf_t$ tCO_2-e	$\Delta CPSPAf$ tCO_2-e	$\Delta CPSPA_t$ tCO_2-e	$\Delta CPSPA$ tCO_2-e
2015	149,979	149,979	28,552	28,552	121,427	121,427
2016	149,979	299,958	28,552	57,104	121,427	242,855

6.3 Leakage

The total baseline carbon stock changes in the leakage belt during the monitoring period (2016 cloud free) are shown in MR Tables 04.a, b, and c. In addition areas that were temporarily excluded from the previous monitoring period (2006-2012 or 2012-2014) but observed in 2016 were included in this report, and any deforestation observed was attributed to this monitoring period. The observed deforestation for the monitoring period was assumed to be equally distributed per year.

MR Table 04.a. Baseline carbon stock changes in initial (pre-deforestation) forest classes in the leakage belt during the monitoring period (2016 cloud free)

Project year *t*	Baseline carbon stock changes in initial (pre-deforestation) forest classes in the leakage belt						Total baseline carbon stock changes in initial forest classes in the leakage belt	
	ID_{icl} premont		ID_{icl} cloud		ID_{icl} dwarf		annual	cumulative
	$ABSLLK_{icl,t}$ ha	$Ctot_{icl,t}$ tCO_2-e ha^{-1}	$ABSLLK_{icl,t}$ ha	$Ctot_{icl,t}$ tCO_2-e ha^{-1}	$ABSLLK_{icl,t}$ ha	$Ctot_{icl,t}$ tCO_2-e ha^{-1}	$\Delta CBSLLKi_t$ tCO_2-e	$\Delta CBSLLKi$ tCO_2-e
2015	0	399	1,345	520	41	88	702,176	702,176
2016	0	399	1,272	520	44	88	664,918	1,367,094

MR Table 04.b. Baseline carbon stock changes in final (post-deforestation) non-forest classes in the leakage belt during the monitoring period (2016 cloud free)

Project year *t*	Baseline carbon stock changes in final (post-deforestation) non-forest classes in the leakage belt		Total baseline carbon stock changes in final non-forest classes in the leakage belt	
	ID_{fcl} = non-forest		annual	cumulative
	$ABSLLK_{fcl,t}$ ha	$Ctot_{fcl,t}$ tCO_2-e ha^{-1}	$\Delta CBSLLKf_t$ tCO_2-e	$\Delta CBSLLKf$ tCO_2-e
2015	1,385	93	129,212	129,212
2016	1,316	93	122,780	251,992

MR Table 04.c. Total net baseline carbon stock change in the leakage belt during the monitoring period (2016 cloud free)

Project year *t*	Total baseline carbon stock changes in initial forest classes		Total baseline carbon stock changes in final non-forest classes		Total baseline carbon stock changes in the leakage belt	
	annual	cumulative	annual	cumulative	annual	cumulative
	$\Delta CBSLLKi_t$ tCO_2-e	$\Delta CBSLLKi$ tCO_2-e	$\Delta CBSLLKf_t$ tCO_2-e	$\Delta CBSLLKf$ tCO_2-e	$\Delta CBSLLK_t$ tCO_2-e	$\Delta CBSLLK$ tCO_2-e
2015	702,176	702,176	129,212	129,212	572,964	572,964
2016	664,918	1,367,094	122,780	251,992	542,138	1,115,102

The total ex-post actual carbon stock changes in the leakage belt during the monitoring period (2016 cloud free) are shown in MR Tables 05.a, b, and c.

MR Table 05.a. Ex-post carbon stock changes in initial (pre-deforestation) forest classes in the leakage belt during the monitoring period (2016 cloud free)

Project year *t*	Ex-post actual carbon stock changes in initial (pre-deforestation) forest classes in the leakage belt						Total ex-post carbon stock changes in initial forest classes in the leakage belt	
	ID_{icl} premont		ID_{icl} cloud		ID_{icl} dwarf		annual	cumulative
	$APSLK_{icl,t}$ ha	$Ctot_{icl,t}$ tCO_2-e ha^{-1}	$APSLK_{icl,t}$ ha	$Ctot_{icl,t}$ tCO_2-e ha^{-1}	$APSLK_{icl,t}$ ha	$Ctot_{icl,t}$ tCO_2-e ha^{-1}	$\Delta CPSLKi_t$ tCO_2-e	$\Delta CPSLKi$ tCO_2-e
2015	0	399	716	520	37	88	375,236	375,236
2016	0	399	716	520	37	88	375,236	750,472

MR Table 05.b. Ex-post actual carbon stock changes in final (post-deforestation) non-forest classes in the leakage belt during the monitoring period (2016 cloud free)

Project year *t*	Ex-post actual carbon stock changes in final (post-deforestation) non-forest classes in the leakage belt		Total ex-post actual carbon stock changes in final non-forest classes	
	ID_{fcl} = non-forest		annual	cumulative
	$APSLK_{fcl,t}$ ha	$Ctot_{fcl,t}$ tCO_2-e ha^{-1}	$\Delta CPSLKf_t$ tCO_2-e	$\Delta CPSLKf$ tCO_2-e
2015	753	93	70,232	70,232
2016	753	93	70,232	140,463

MR Table 05.c. Total ex-post actual carbon stock changes in the leakage belt during the monitoring period (2016 cloud free)

Project year *t*	Total ex-post actual carbon stock changes in initial forest classes		Total ex-post actual carbon stock changes in final non-forest classes		Total ex-post actual carbon stock changes in the leakage belt	
	annual	cumulative	annual	cumulative	annual	cumulative
	$\Delta CPSLKi_t$ tCO_2-e	$\Delta CPSLKi$ tCO_2-e	$\Delta CPSLKf_t$ tCO_2-e	$\Delta CPSLKf$ tCO_2-e	$\Delta CPSLK_t$ tCO_2-e	$\Delta CPSLK$ tCO_2-e
2015	375,236	375,236	70,232	70,232	305,004	305,004
2016	375,236	750,472	70,232	140,463	305,004	610,009

The total ex-post actual net carbon stock changes in (i.e. above the baseline) in the leakage belt during the monitoring period are shown in MR Table 06. According to the methodology, if the cumulative sum of ΔCLKt within a fixed baseline period is > 0, ΔCLKt shall be set to zero. Therefore no credits were discounted due to leakage during this monitoring period.

MR Table 06. Total net carbon stock changes in the leakage belt in the project scenario above the baseline during the monitoring period (2014 cloud free)

Project year *t*	**Total baseline carbon stock changes in the leakage belt**		**Total ex-post actual carbon stock changes in the leakage belt**		**Total ex-post actual net carbon stock changes in the leakage belt**	
	annual	cumulative	annual	cumulative	annual	cumulative
	$\Delta CBSLLK_t$	$\Delta CBSLLK$	$\Delta CPSLK_t$	$\Delta CPSLK$	ΔCLK_t	ΔCLK
	tCO_2-e	tCO_2-e	tCO_2-e	tCO_2-e	tCO_2-e	tCO_2-e
2015	572,964	572,964	305,004	305,004	267,960	267,960
2016	542,138	1,115,102	305,004	610,009	237,134	505,093

6.4 Summary of GHG Emission Reductions and Removals (CL1 & CL2)

The ex-post estimated net anthropogenic GHG emission reductions were estimated similarly to the ex-ante calculation using the equation below (adapted from Equation 23 of the VM0015 methodology):

$\Delta REDDt = (\Delta CBSLPAt) - (\Delta CPSPAt) - (\Delta CLKt + ELKt)$ Eq (23). Where:

$\Delta REDD_t$	*Ex-post* estimated net anthropogenic GHG emission reduction attributable to the project activity at year *t*; tCO_2e
$\Delta CBSLPA_t$	Sum of baseline carbon stock changes in the project area at year *t*; tCO_2e
$\Delta CPSPA_t$	Sum of *ex post* estimated actual carbon stock changes in the project area at year *t*; tCO_2e
ΔCLK_t	Sum of *ex post* estimated leakage net carbon stock changes at year *t*; tCO_2e
ELK_t	Sum of *ex post* estimated leakage emissions at year *t*; tCO_2e
t	1, 2, 3 … *T,* a year of the proposed crediting period; dimensionless

The ex-post estimation of total net GHG emissions reductions generated by the project and the calculation of ex-post Verified Carbon Units (VCUs) generated in the monitoring period of 2014-2016 are summarized in MR Table 07a. All emission reductions from this reporting period will be issued with the vintage dates of 15 June 2014 – 15 June 2016 (MR Table 07b).

MR Table 07a. Annual ex post estimated net anthropogenic GHG emission reductions ($\Delta REDD_t$) and Voluntary Carbon Units (VCU_t)

	Baseline carbon stock changes		***Ex post* project carbon stock changes**		***Ex post* net carbon stock changes**		***Ex post* leakage carbon stock changes**		***Ex post* net anthropogenic GHG emission reductions**		***Ex post buffer credits****		***Ex post* VCUs tradable**	
	annual	cumulative	annual	cumulative	annual	cumulative	ann.	cum.	annual	cumulative	annual	cumulative	annual	cumulative
Project year *t*	$\Delta CBSLPA_t$ tCO_2-e	$\Delta CBSLPA$ tCO_2-e	$\Delta CPSPA_t$ tCO_2-e	$\Delta CPSPA$ tCO_2-e	$\Delta CPSPA_t$ tCO_2-e	$\Delta CPSPA$ tCO_2-e	ΔCLK_t tCO_2	ΔCLK tCO_2	$\Delta REDD_t$ tCO_2-e	$\Delta REDD$ tCO_2-e	VBC_t tCO_2-e	VBC tCO_2-e	VCU_t tCO_2-e	VCU tCO_2-e
2015	801,528	801,528	121,427	121,427	680,101	680,101	0	0	680,101	680,101	68,011	68,011	612,090	612,090
2016	805,518	1,607,046	121,427	242,855	684,090	1,364,191	0	0	684,090	1,364,191	68,410	136,421	615,680	1,227,770

*Ex-post buffer credits are calculated based on a 10% Risk Factor (RF) attributed to the project based on the VCS non-permanence risk tool

MR Table 07b. Ex post estimated net anthropogenic GHG emission reductions ($\Delta REDD_t$) and Voluntary Carbon Units (VCU_t) for the reporting period

Project year *t*	**Baseline carbon stock changes** total *ΔCBSLPA* tCO_2-e	***Ex post* project carbon stock changes** total *ΔCPSPA* tCO_2-e	***Ex post* net carbon stock changes** total *ΔCPSPA* tCO_2-e	***Ex post* leakage carbon stock changes** total *ΔCLK* tCO_2	***Ex post* net anthropogenic GHG emission reductions** total *ΔREDD* tCO_2-e	***Ex post buffer credits**** total *VBC* tCO_2-e	***Ex post* VCUs tradable** total *VCU* tCO_2-e
2014-2016	1,607,046	242,855	1,364,191	0	1,364,191	136,421	1,227,770

6.5 Climate Change Adaptation Benefits (GL1)

Not applicable. The project did not include the optional climate change adaptation benefits criterion in the project description.

7 COMMUNITY

The project strategies aim not only to promote the sustainable management of the AMPF and thus avoid deforestation and protect this important ecosystem, but also to deliver tangible benefits to the communities, which includes the mitigation of social conflict. The results of the impacts are described below and are based on the information collected in the socio-economic survey, data reported by rangers, and partner organization and other documents.

Data of over 100 metrics was analyzed and aggregated in several indicators (see Sup.Inf_MIR_01) for a complete list of indicators and data collected. It is important to mention that one indicator might contribute to one or more biodiversity and community impact, as all the activities and strategies are integrated.

7.1 Net Positive Community Impacts (CM1)

Expected socio-economic positive impacts in the project area

Impact 1: Governance of the AMPF is strengthened

One of the main project's strategies to reduce the deforestation rates is to strengthen the capacity of AMPF to effectively manage the protected area. Therefore an ample effort and budget has been devoted to this strategy. Several outputs and activities were accomplished during this monitoring period as described in the section 2.2 and in the Sup.Inf_MIR_01, and as result a great impact was observed, highlighting:

Due to the technical and management training that has been implemented with the Head Office and its personnel, there is the recognition of the Head Office as the authority in the protected area. This recognition is not only from the local settlers but also from the local and regional government, who now request technical advice from the Head Office on projects that could affect the protected area. In the last two years 175 requests for advice were made.

The AMPF started with 10 staff in 2008 and currently have 103 professionals - of whom 90 are paid by the project, and a new office was built in Rioja to accommodate the staff. In addition, the project keep improving the work conditions by providing equipment, trainings and improving the control check points, including the implementation of a new check point in Juan Velasco to specifically control the illegal timber extraction.

To ensure the long-term management capacity over 21 management documents were prepared, including safety plan, touristic land use plan, community engagement protocol, implementation protocol for conservation agreements. These documents describe important protocols, plans and strategies to be

implemented and followed by the AMPF employees, and ensure consistency independently of any staff turnover.

Furthermore, since the last monitoring period, the AMPF management committee has been strengthened and is still an important stakeholder for the project. The management committee consists of 82 representatives from local and regional governments to public and private sector institutions, which is organized in thematic groups. It is responsible to promote and facilitate the dialogue among the Head Office, local communities and public agencies. The success of the implementation of the functional hub in Aguas Verdes and the mechanism of payment for ecosystem services in Rioja, for example, was due to active participation of the management committee.

As stated in the AMPF administration contract, Conservation International as co-manager of the protected area has the commitment of fundraising S./ 17 million by 2017. CI successfully raised these funds by 2015, and continues to obtain new investments (see Sup.Inf_MIR_01)

Impact 2: Production systems of the local population are improved and coffee associations in connection to special markets are promoted.

Another key project strategy to effectively mitigate the driver of deforestation is to increase the productivity and income without displacing the coffee farms to new areas or increasing their cropland area at the cost of deforestation to sustain their families. This is being achieved through the conservation agreements, which establishes benefits (e.g. technical assistance, agriculture inputs etc.) and obligations (to conserve the forests, avoid use of inorganic fertilizer, commitment to attend to training events etc.). Currently, 848 settlers have signed the conservation agreements, which are an increment of 117 agreements since 2014 and represents approximately 60% of the total population settled in the AMPF. The constant technical support on the ground has increased the productivity of approximately 8qq/ha as perceived by the subscribers, compared with conventional production.

The project perceived that in order to increase the economic incentive it was necessary to create the articulation with special markets. Therefore a coffee cooperative, COOPBAM, was created in December of 2014 with 208 members from 15 different sections of the AMPF. The major objective of the COOPBAM was to organize the producers and facilitate the commercialization of the organic coffee for a fair price. In the first year of operation, the cooperative gathered and exported a total of 325qq (or 15,000 kg) to special buyers in Denmark.

The coffee sold by COOPBAM was also organically certified by Biolatina, and in 2016 COOPBAM started the process for fair trade certification. It represents a groundbreaking moment, as the selling and certification process had the approval and endorsement from SERNANP, and it was the first certified coffee production from a protected area.

COOPBAM expects to export 1,200qq (or 57,000 kg) in 2016, which represents over 3 times the volume exported in 2015, and aims to increase exportation to 10 containers by 2019, therefore achieving financial sustainability.

In addition, an internal and annual competition was launched last year to award the best quality coffee and thus creating incentives to improve practices. The winners were selected to export to high quality importers.

The project recognizes the risk of a heavy dependency on coffee and the vulnerability of market prices, and in order to minimize the risk, the project has been promoting alternative crops. The subscribers have been receiving training on economic alternatives and sustainable pilot parcels to increase and diversify their income sources. The activities range from production of dragon fruit, bird watching and orchid tourism, to setting up small coffee shops). From the survey, it was observed that 51% of the subscribers have noticed an increase in their income, a higher number than last monitoring period when only 31% had perceived an increase. The majority of the settlers (73%) attribute this increment to the conservation agreements.

Impact 3: Capacity building and knowledge is generated among local people for sustainable management of their production systems.

A great effort and budget of the project is devoted to the capacity building on sustainable practices, as these are considered a core strategy to change behavior and mitigate the deforestation. During 2014-2016 period there have been 169 training practices on the sustainable improvement of coffee with 3,564 attendees – 14% of them were women – and over 4,000 hours of technical assistance in the same period (see

Figure 5).

As result, 98% of subscribers mention that they practiced at least 2 organic management techniques in their farms (e.g. organic fertilization, organic control of pests and diseases, pruning and post-harvesting management), and 96% of subscribers mentioned they learned this sustainable practice from the conservation agreements. The subscribers are also reinvesting their revenues in organic production – the proportion of subscribers has increased from 19% in 2014 to 65% in 2016. The average amount invested by each subscriber was S/. 607.

Moreover the project observed an increase in adopting best practices compared with the previous monitoring period in several metrics, including: use of solar tents for drying their coffee, production and selling of organic coffee, implementation of agroforestry systems, decrease or termination in the use of chemicals (see Sup.Inf_MIR_01 for further details)

Regarding sales, in 2016 conventional coffee was sold for an average of S/.273/qq. Some improvement was observed compared to 2014 when the price was S/.241/qq. Organic coffee sold for a value-added price of S/.342/qq.

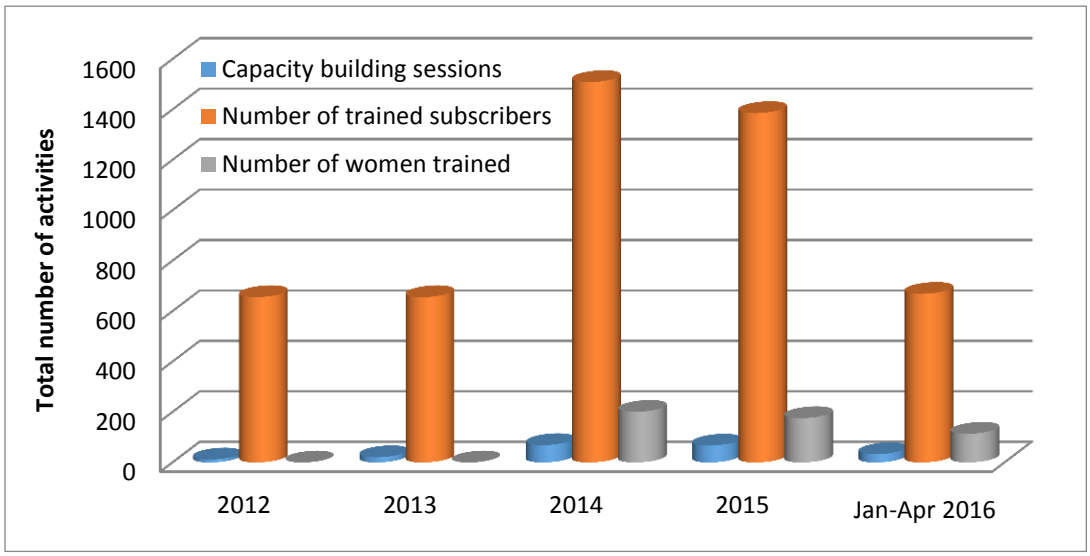


Figure 5 - Annual number of technical training, producers trained, and women trained since 2012

Impact 4: Living conditions of the local population in harmony with the objectives of the AMPF are improved.

Since the first monitoring period, a positive impact in improving the living conditions of the local population has been observed. Previously, the project measured this impact based on the USAID poverty index, which showed a decrease from 64% of the population living below the poverty line in 2012 to 62% in 2014. Beginning with this monitoring period, the projected decided to use the Progress out Poverty Index (PPI)[2] to quantify the improvement of living conditions in the AMPF settlers. The 2016 index shows that 39% of the population is below the poverty line. As explained in the deviation section, this percentage cannot be compared to the USAID index as the methodologies use different thresholds. The PPI is the methodology applied by CI's livelihood projects in the Alto Mayo watershed, and therefore will assist with the comparison with other initiatives in the region.

Furthermore the results explained in the other positive impacts also contributed directly to the improvement of living conditions (e.g. promotion of fuel efficient cooks stoves, implementation of alternative livelihoods opportunities, improved access to education and health).

Impact 5: Economic alternatives for the population are generated through conservation actions aligned with AMPF management.

During the monitoring period, a positive impact in the generation of economic alternatives and wages is noticeable. As a result of promoting economic alternatives through conservation actions 1,856 wages

[2] Further information about the Progress out of Poverty Index is available at http://www.progressoutofpoverty.org/

were generated and S/. 37,110 were paid, benefiting 358 people, including subscribers and their families (see Table 6). Compared to 2014, there has been an increase of 60% in the number of beneficiaries. These numbers does not reflect the income generated through the increase of productivity due to the implementation of best practices from the conservation agreements.

Table 6 - Number of Beneficiaries and the income generated from economic alternatives

Year	Number of beneficiaries	Number of Wages	Total Income (S/.)
2014 (Apr – Dec)	162	899	17,975
2015 (Jan – Dec)	137	710	14,205
2016 (Jan – Apr)	59	247	4,930
Total	**358**	**1856**	**37,110**

Impact 6: Ecosystem services of the AMPF (water and soil) are maintained and improved for the benefit of population in the project zone.

According to the 2014-2016 socio-economic survey, settlers have pointed out that fresh air, water, firewood, medicinal plants, and bush meat are the 5 most used ecosystem services provided by the AMPF. The wood for housing was dropped from the 2012-2014 list of ecosystem services and it might be as a result of the increasing environmental awareness and knowledge on the protected area regulations. The vast majority (98%) of the local population stated that the forests of AMPF are very important for their livelihoods and development. Moreover it is expected that avoiding forest loss and minimizing the impact of agricultural production inside the AMPF will contribute to the maintenance of the ecosystem services.

Impact 7: Natural resources within the BPAM are sustainably managed by the local population.

The population settled in the AMPF still depends on natural resources to meet their housing and cooking needs. Wooden houses are used by 100% of subscribers and 99% of non-subscribers. Firewood is used for cooking by 99% of subscribers and 91% of non-subscribers.

This reporting period, the Head Office has received and evaluated 26 requests for timber use of fallen trees for housing restoration purposes. Six of these requests were approved. The others were rejected because the applicant couldn't demonstrate that the use of this resource was for self-consumption but for marketing purposes. Timber trade within the AMPF, is prohibited by law.

As observed in the field, firewood that is collected comes mainly from fallen trees, remnants of coffee plantations that are being restored or have been abandoned due to rust, or from remnants from agroforestry systems pruning. During the validation process, the project estimated the impact of wood

collection as forest degradation and concluded that it is not significant. Moreover, the project has implemented 187 improved cook stoves, these stoves reduce firewood use by up to 52%.

Impact 8: The partnership between the local population and the AMPF Head Office are empowered for conservation

During this monitoring period, the raising awareness and environmental education activities have continued in and outside the project area. These cover aspects such as the importance of the AMPF, the management of natural protected areas and their applicable legislation, the water cycle and the importance forests have on it, soils, biodiversity, etc. It is intended that people understand the direct relationship there is between their welfare and the level of conservation of the AMPF, and thus adopt sustainable use practices.

Considering that it was necessary to achieve a progressive involvement of a wider range of stakeholders to ensure the sustainability of conservation actions, awareness activities were carried out in the main urban centers of the basin: the cities of Rioja and Moyobamba. The involvement of political authorities and the private sector is also needed in order to implement a sustainable landscape in which the AMPF plays a fundamental role as the supplier of ecosystem services. Within the framework of a partnership, the Regional Government participated in the awareness campaign "*Hinchas de la Conservación*" (Conservation Fans) of SERNANP, which included radio and television spots. The Governor himself made an appearance in one of the spots.

This way, the management of the AMPF is increasing in positive feedback from the people. The most important population centers in the basin have been included in the awareness program so that they get to know the importance of the PNA as a source of ecosystem services necessary for their economic and social development.

Expected socio-economic negative impacts in the project area

Impact 1: Economic opportunities arising from illegal activities are decreased

By 2016, the trend of 2014 is maintained since it is evident that subscribers are reducing their illegal economic activities such as hunting, wood loader and chainsaw operating. It is also observed that activities such as coffee and livestock day laborer have also decreased. The field survey has revealed that 19% of the population that used to hunt has discontinue this activity, while 15% have stopped operating wood loaders, and 13% are no longer chainsaw operators.

Impact 2: Provision of basic services within the AMPF is decreased

It was assumed that with the enforcement of current legislation and regulations regarding the protected areas, some of the basic services initially provided to settlers inside the AMPF would decrease with the implementation of the project. However, Conservation International and the AMPF Head Office understand the potential social conflicts that the reduction in the provision of the services may cause.

Therefore the project has been working to increase the access to the basic services mainly in areas designated by the legislation.

Complementary activities to help meet the basic needs of the population are being performed; mainly related to education, health and access to electrical energy as well as to advocate for the implementation of the Aguas Verdes Functional Hub. This is done in sectors where conservation agreements are being implemented and the commitment to preserve the AMPF is notorious. During the period 2014-2016 results have been achieved in the following areas:

- Education: The Head Office has facilitated the temporary implementation of secondary education in the sector of Nuevo Eden. It has dealt as well with the corresponding paperwork before the Regional Directorate of Education and the Local Education Management Unit - Rioja for the payment of teachers; given that during 2014 the project assumed the payment of 2 primary teachers in the same sector. It has also risen the interest of the Regional Government of San Martin so that, through the implementation of the Aguas Verdes Functional Hub, the project profiles for the construction of an educational complex in Juan Velasco (elementary, primary and secondary education) and an Alternative Basic Education Centre – CEBA in Aguas Verdes are prepared to give opportunity and access to education to a greater number of people.

- Energy: The Head Office has advocated, before the Ministry of Energy, for 17 sectors to be included in the rural electrification program, 7 of which have had photovoltaic systems installed for home use. The systems will be installed in the other sectors this year. Alliances with the Provincial Municipality of Rioja and the Regional Directorate of Energy and Mines have also been made for the development of the project profile for the electrification of El Afluente and Jorge Chavez settlements (settlements that had been acknowledged before the creation of the AMPF).

- Health: Alliances with the Regional Health Directorate, the Rioja Health Network and the Naranjos Health Micro network have been made to execute medical campaigns in the AMPF. Fifteen medical campaigns have been made from November 2014 to April 2016 (there are 12 campaigns programmed for 2016). This benefits almost the entire population with services such as: general medicine, dentistry, psychology, gynecology obstetrics, child health, immunization, and delivery of medicines as well as with the registration at the Seguro Integral de Salud – SIS (Comprehensive Health Insurance). Additionally, thanks to the advocacy for the implementation of the Aguas Verdes Functional Hub, it has been possible to upgrade the health center of Aguas Verdes from A1-1 to A1-3. The project profile for the construction of a new health center is being developed within the project.

Impact 3: Control over the expansion of the agricultural frontier is improved

The number of conservation agreements with settlers has increased to 60% and, therefore, the number of obligations has also increased. The enforcement of obligations (including the obligation of not deforesting primary forests) is assisted by the coffee technicians.

Patrolling, performed by forest rangers, is another way to monitor deforestation. As shown by patrol reports, there have been 93 entries from 2014 to 2016; most of them refer to small areas of primary forests and others in areas in primary forests where crops have been abandoned. Patrolling during this

period covered an area of 154,750 hectares. A new process using unmanned aerial vehicles (drones) is being experienced to monitor deforestation in real time.

Impact 4: Families located in their area of origin receive less support from AMPF settlers

It was assumed that illegal activities were going to diminish due to the strengthening of the Head Office, the control and the surveillance. This was also supposed to affect the household income and the remittances to families. However, with the increase of conservation agreements and the alignment with the AMPF objectives, illegal activities were reduced, but the income was maintained or even increased. As observed in the field survey, over 51% of settlers perceived an improvement in their income coming from legal activities.

Expected socio-economic positive impacts outside the project area

Impact 1: Ecosystem services of the AMPF (water and soil) are maintained and improved for the benefit of the population outside the project zone.

AMPF basins provide important ecosystem services to local communities, including water and genetic resources; and to the global population through climate stabilization. Run-off from the Alto Mayo forests provides clean and plentiful water for local communities and the development of the various economic activities in the watershed of the Mayo River. The project were able to avoid 3,158 ha of forest loss in 2014-2016 and over 14,509 ha since the project start date in 2008, which corresponds to 6.2 M tCO_2 secured in the forests of AMPF.

The compensation mechanism for water service in three watersheds located in the Buffer Zone is being implemented as a result of the increased proactivity and restructuring of the Management Committee, and the work done together by CI Peru, SUNASS -the National Superintendence of Sanitation Services-, the Provincial Municipality of Rioja and EMAPA -the Municipal Water Company- in Rioja. This initiative will ensure the conservation of forest cover where the three watersheds that supply water to the main settlements of Rioja are born. This complements the conservation efforts and the provision of this ecosystem service of the AMPF.

Impact 2: Technology is transferred to improve coffee production systems outside project zone.

After nearly five years of continuous work with subscribers of conservation agreements, more than 20% of active subscribers are replicating, in and outside the project area, the good farming practices learned without the technical or economic support given for the implementation of demonstration plots. Also, they transfer their knowledge to other coffee growers in the area, not only at the level of management of coffee plantations, but also for the production and spreading of native forest species that will help, in some way, to recover the Alto Mayo Valley forest cover.

During this monitoring period, the range of populations where technology is being directly transferred has expanded significantly. The interventions that are supported by the project include demonstration

activities with key stakeholder groups in the Alto Mayo basin in order to contribute to building a sustainable landscape.

- Indigenous communities: An Agriculture Field School (ECA for its acronym in Spanish) was implemented in the Shampuyacu Native Community in 2015. This was composed of 08 thematic modules, where participants are taught the best practices of growing coffee using the technical package implemented in the AMPF. Emphasis has been put on replacing chemical weed control by mechanical methods, because the use of herbicides is widespread due to its availability and low cost. The Field School also included two internships: one in the demonstration plot of one of the subscribers, and the other in the city of San Ignacio (Cajamarca). During the last quarter of 2015, activities designed to replicate the experience gained in the Shampuyacu Native Community regarding the good practices of growing coffee and restoration of forest cover started. This replica will take place during the next monitoring period.

- Coffee and cocoa farmers:Work is being done with producers of coffee and cocoa in the districts of Jepelacio, Habana, Calzada, and Elijah Soplín Vargas in order to strengthen their productive and organizational capacities. In that sense, Farmer Field Schools are being implemented on issues such as: business management, partnership, best agricultural and processing practices. Direct technical assistance is provided to more than 400 families. Also, in 2015, a producer organization was formed.

- Rice farmers: A model of production diversification is being experimented in the district of Soritor where some parts of the rice fields of 25 families are being turned into ponds for growing giant Malaysian prawns (*Macrobrachium rosembergii*). Training is given on growing, harvesting and postharvest handling of shrimp, as well as on the technique of intermittent irrigation for growing rice. The irrigation system also reduces de GHG emissions in 50% compared with business as usual scenario.

- Farmers settled in Conservation and Recovery Areas of Ecosystems (ZoCRE from its acronym in Spanish): There have been training workshops in three ZoCRE populations. The workshops were on practical methods of raising native bees as an alternative to diversify production and to raise awareness among farmers about the potential economic value of local biodiversity. Also, an ecological restoration pilot, which includes the training of population on various areas such as the installation of home gardens, started in January 2016 in the Alto Mayo ZoCRE wetland.

Impact 3: New projects for sustainable development of the Alto Mayo watershed are leverage

CI Peru is implementing a portfolio of seven projects outside the PNA with a total investment of more than $ 8 million to complement the investment made within the AMPF. The design of these projects are aligned with the REDD objectives and complement the actions taken to effectively reduce the drivers of deforestation. They provide a sustainable path for the development of the region increasing human welfare, and strengthening land management and the development of a mini conservation corridor in the Alto Mayo basin. A brief description of these projects is summarized in the Community Engagement section of the Non-Permanence Risk Report.

The main beneficiaries are indigenous communities, the populations in the wetlands, the coffee growers settled outside the PNA in areas of high priority for the provision of ecosystem services, and the rice farmers located in the lower part of the Alto Mayo basin. The governance actions are aimed at strengthening the capacity of the Awajun leaderships and indigenous federations located in the basin, and the various directorates and managements of the Regional Government of San Martin.

7.2 Negative Offsite Stakeholder impacts (CM2)

No negative impacts on the areas of community-related HCVs were observed. On the contrary, the strategies of project have been designed and implemented to ensure the achievement of the conservation objectives of the AMPF while delivering benefits to the communities. The strategies and activities implemented to mitigate the potential negative impact are described in details in section 2.2.

Expected socio-economic negative impacts outside the project area

Impact 1: Demand for conventional coffee practices are displaced to native communities increasing unsustainable land use in areas rented by them.

It is not possible to establish a consistent method to quantify this impact. During 2015, in partnership with the Shampuyacu Native Community, land tenants were identified within their communal territory. This included their place of origin, and the extent of the rented areas. The results indicated that less than 25% of the tenants were fully identified, so it is not feasible to establish if there has been a shift from conventional management of coffee from the AMPF to this community which is immediately adjacent to the project area.

Although this impact is not possible to be determined, measures to mitigate the risk of increasing conventional activities in native communities are being worked on. This is done so, by transferring technology to improve coffee production systems, in addition to the conservation agreements that were signed by 60% of the settlers of the AMPF. The great adherence to the best agricultural practices demonstrated the effectiveness in mitigating this potential negative impact.

Impact 2: Customary uses of the native communities are affected by increased surveillance and control program of the PNA

There are no actions concerning this indicator. Generally, the Native Communities are performing their usual activities in their territory and there is no evidence that they are affecting the AMPF. During this monitoring period, there have been no recorded conflicts between settlers of Native Communities and staff of the AMPF due to customary practices within the protected area.

CI Peru, with the support of CSP, has been implementing the project "Strengthening Governance and Capacities of Awajún Indigenous Communities to Develop Partnerships for Sustainable Product Sourcing in the Alto Mayo Basin" in the Awajún community located in the Buffer Zone in Alto Mayo. The project's main objective is to achieve a suitable level of indigenous governance in this community to contribute to the conservation of remnant plant cover and the implementation of sustainable practices that improve

production in deforested areas. This is done through the conservation agreements model that capitalizes the great experience gained within the PNA and the projects that CI Peru implements in the community of Awajún Shampuyacu.

The primary actions of this project are based on strengthening the relationship between the AMPF Head Office and the indigenous community, where community surveillance actions, implementation of good agricultural practices and restoration of degraded ecosystems are being implemented.

7.3 Exceptional Community Benefits (GL2)

Not applicable as the project did not include the optional exceptional community benefits criterion in the project description.

8 BIODIVERSITY

The project strategies aim not only to promote the sustainable management of the AMPF and thus avoid deforestation and protect this important ecosystem, but also aim to deliver tangible benefits to the communities, which includes the mitigation of social conflicts. The results of the impacts are described below and are based on the information collected in the socio-economic survey, data reported by rangers, and partner organization and other documents.

Data of over 100 metrics was analyzed and aggregate in several indicators (see Sup.Inf_MIR_01) for a complete list of indicators and data collected. It is important to mention that one indicator might contribute to one or more biodiversity and community impact, as all the activities and strategies are integrated.

8.1 Net Positive Biodiversity Impacts (B1)

Positive expected impacts on biodiversity in the project zone

Impact 1: The habitat of high importance species for the biodiversity of the AMPF in conserved.

The ultimate goal of the project is to reduce the deforestation, while providing tangible benefits to local populations and improving the biodiversity. During the last monitoring period, the project was able to reduce substantially the deforestation inside the AMPF when compared with the baseline. Some impact is also observed comparing the actual (project scenario) deforestation rates. The observed deforestation slightly increased from the previous monitoring period from 507 ha to 612 ha for 2014-2016 period, however, the annual rate is lower than for the first monitoring period (Figure 6), demonstrating the effectives of the project's strategies. In 2016, 132,842 ha of forest were successfully protected in the AMPF. Note that this number can be higher as 18,421ha were obscured by clouds, and the deforestation rate can be less as any area obscured by clouds in 2012 or 2014 but revealed in 2016 as forest loss was accounted in the 2014-2016 period.

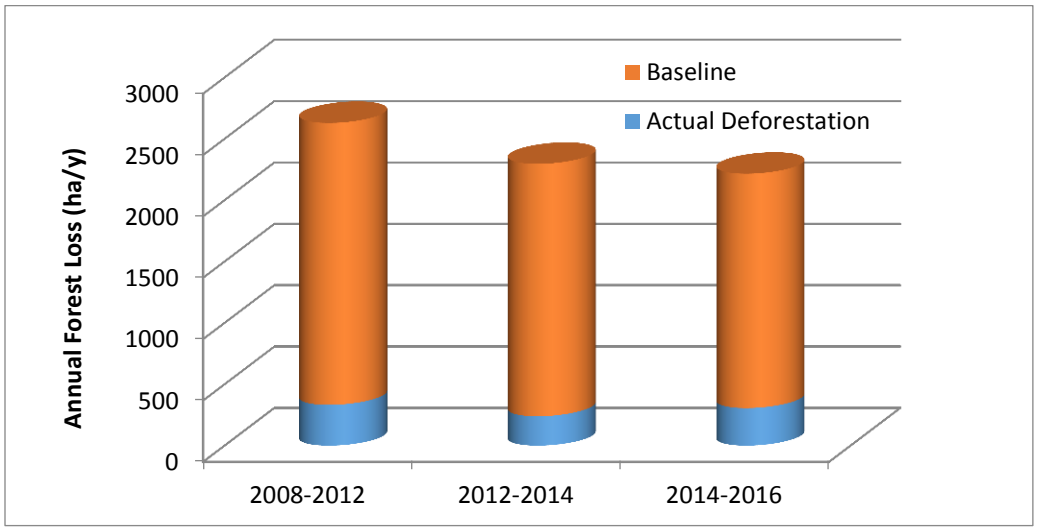


Figure 6 - Annual actual and projected deforestation per monitoring period

Impact 2: Habitat fragmentation of high importance species for the biodiversity of the AMPF is avoided.

Unlike conservation indicators of forest cover, we found none or a slight improvement in the case of forest fragmentation between the baseline scenario and the present (with project). This is because the AMPF still acts as a large block of forest where, despite a high rate of deforestation, it is adjacent to its edges and consequently there is a low rate of fragmentation inside. However, we have seen that with the project the edge effect increases slightly (7% of the forest habitat of the AMPF is found within 100 m of a non-habitat edge in the project scenario while without the project this holds at 5%). This is due to the difference between the distributions of deforestation in the spatial projection model vs current deforestation. While the spatial model has a low stochasticity and therefore most of the deforestation "expands" from non-forest areas with high probability of deforestation, current deforestation (observed) is more sporadically distributed within these areas, occurring in isolated patches within areas of high probability of deforestation and thus generating a greater edge effect compared to the scenario without the project.

In the without project scenario, the proportion of forest habitat in the AMPF found in patches of less than 100 km^2, or in forest fragments which are too small to support suitable habitat for biodiversity, is slightly higher (1%) compared to the current project scenario (2%). Although fragmentation in the AMPF is not a current threat to the habitat of important species for the conservation of biodiversity, we will continue to monitor these indicators of forest fragmentation due to the importance of maintaining continuous areas of forest for endemic and endangered species such as the yellow-tailed woolly monkey.

Impact 3: High Conservation Value Areas of the AMPF is maintained and/or enhanced.

The effectiveness of the project strategies to maintain or improve these High Conservation Values is evaluated by monitoring deforestation in the Strict Protection Area within the AMPF – which includes areas with species or ecosystems that are unique, rare or fragile, and require a high level of protection

and isolation to stay pristine – and within the habitats for species of greatest importance for the conservation of biodiversity in the AMPF, such as the yellow-tailed woolly monkey, the night monkey endemic to San Martin, the titi monkey, and the spectacled bear.

Table 7 summarizes the results on the habitat of species of high biodiversity significance and show that the projection activities to mitigate deforestation have managed to retain high value forests for biodiversity conservation. The results were obtained by superimposing the important areas of habitat for these species according to Rondinini et al. (2011) and the NatureServe maps on changes in forest cover. The subset of priority species has been selected based on the category of threat, endemism and its importance to the conservation targets of the AMPF.

In addition, no negative impacts on the areas of biodiversity-related HCVs were observed. On the contrary, the strategies of project have been designed and implemented to ensure the achievement of the conservation objectives of the AMPF, as observed in the indicators above.

Table 7 - Deforestation of habitat of high importance species for biodiversity avoided

Scientific Name / Common Name	Deforested hectares (ha) in areas of high importance for biodiversity in the scenario with the project	Deforested hectares (ha) in areas of high biodiversity importance in the scenario without the project	Avoided deforestation hectares (ha) in areas of high importance for biodiversity
Aotus miconax (night monkey / mono nocturno) *	520	2,930	2,410
Flavicauda Lagothrix (yellow-tailed woolly monkey / mono choro cola amarilla) **	330	1089	759
Callicebus oenanthe (titi monkey / *titi monkey*)*	18	26	08
Tremarctos ornatus (spectacled bear / oso andino)*	242	2,187	1,945

*Source: Rondinini et al. (2011); **Source: NatureServe

Impact 4: Populations of endemic and threatened species above its critical level are maintained and / or recovered

This period, the work that had begun in the first monitoring period with the organization of the Andean Titi Monkey Project continues. The baseline of primate species for the 7 basins chosen in the AMPF, where conservation agreements were signed, was completed during the preceding period. Also, the monitoring

of primates began in order to assess the maintenance and recovery of these species which are key indicators of the level of forest health.

The presence of 5 species of primates in the AMPF has been confirmed thanks to the baseline study. Also, thanks to data collected by the Titi Monkey Project prior to the implementation of the project, it is known that there are two other species not recorded during the baseline study: *Cacajao calvus* and *Ateles belzebuth*. Table 8 shows the sightings made during the baseline studies of primates in the AMPF.

Table 8 - Number of primate species and individuals reported and found in the AMPF per sub-basin in the baseline study (2011-2013).

Settlement (sub-basin)	Number of species reported in interviews	Number of groups sighted in the field	Species	Number of individuals
Naranjos	5	3	*Cebus albifrons*	10
			Aotus miconax	3
			Lagothrix flavicauda	1
Naranjillo	8	2	*Saguinus fuscicollis*	10
			Cebus albifrons	Vocalización
Aguas Verdes	7	1	*Lagothrix flavicauda*	Vocalización
Yuracyacu	9	2	*Saguinus fuscicollis*	10
			Lagothrix flavicauda	15
Serranoyacu	6	1	*Lagothrix flavicauda*	10
Huasta	7	3	*Lagothrix flavicauda*	20
			Cebus albifrons	6
			Cebus apella	4
Río Negro	9	2	*Cebus albifrons*	11
		2	*Lagothrix flavicauda*	2
		1	*Saguinus fuscicollis*	1

Primate monitoring activities started in 2013. The results for Naranjos, Naranjillo, Aguas Verdes, Yuracyacu and Rio Negro sub-basins were obtained by 2015. These results are presented in Table 9.

Table 9 - Number of species and individuals of primates found in the AMPF by sub-basin, during the first monitoring of species

Settlement (sub-basin)	Number of groups sighted in field	Species	Number of individuals
Naranjos	4	*Lagothrix flavicauda*	27
	1	*Cebus albifrons*	7
	2	*Aotus miconax*	5
Naranjillo	1	*Cebus albifrons*	6
	2	*Aotus miconax*	6
	1	*Lagothrix flavicauda*	5
Aguas Verdes	1	*Lagothrix flavicauda*	4
Yuracyacu	1	*Lagothrix flavicauda*	3
	4	*Lagothrix flavicauda*	Vocalización
	1	*Cebus albifrons*	3
Río Negro	1	*Lagothrix flavicauda*	2
	1	*Cebus yuracus (Cebus albifrons)*	Vocalización
	1	*Aotus miconax*	5
	1	*Cebus yuracus (Cebus albifrons)*	Vocalización
	1	*Lagothrix flavicauda*	1

Although most primate species are highly vulnerable to human impact, not all are considered as bio indicators. The species selected for this purpose are a) Lagothrix flavicauda, by virtue of their characteristics as umbrella species (their protection largely involves the protection of many other sympatric species that share the same habitat); and b) Cebus yuracus (Cebus albifrons) and Cebus apella, since they allow to evaluate the tolerance of the local population in the presence of species that generate an obvious nuisance to their economic interests.

In that sense, the presence of these species in the sub-basins that were subject of study during the preparation of the baseline and in the partial monitoring results, confirm the existence of a conserved and sufficiently large habitat to maintain groups of Lagothrix flavicauda.

Impact 5: Pressure reduced to ecosystems of the AMPF through the promotion of sustainable use practices by local people.

As reported in the community section on positive impacts in the project area, the adoption of sustainable practices, and the awareness of the importance of the forest continues to increase. As result, a reduction in the pressure by the local population to convert land to coffee plantations was observed. In addition, the implementation of agroforestry system is having a positive effect, as native species are being planted and the habitat is being restored.

Impact 6: Operational capacity of the AMPF Head Office is strengthened and the response to the pressures on the area is improved.

As reported in the community section on positive impacts in the project area, the strengthening of the operational capacity of the AMPF is one of the key priorities for the project and a great positive impact is observed in this monitoring period. The numerous trainings – over 120 events – improved the quality and effectiveness of the AMPF management. The project has been working on documenting the strategies, plans, and protocols to maintain the institutional memory. The project continues working on the consolidation on the financial sustainability as the minimal funds required in the administration contract was already achieved in 2015.

Impact 7: Degraded ecosystems of the AMPF are restored through the implementation of reforestation and agroforestry systems.

The results show that significant progress has been made in the recovery of degraded areas and in mitigating the impact of firewood collection on these forests. For areas in the process of being restored, almost 126,000 seedlings of native tree species have been produced and over 100,000 have been taken to the field (Figure 7) and this has contributed to the restoration of more than 750 ha of forest, 266 ha under conservation agreements and 484 ha as part of the organic certification that is being pursued by the COOPBAM annually. The implementation of these plantations is aimed at meeting the demands of the agroforestry system (protection and land recovery, provision of shade).

It is also aimed at meeting the needs of the population (firewood, timber for construction) and thus to ensure the future contribution of these areas to the recovery and connectivity of local biodiversity and their care by local populations. An increase in the use of improved cooking stoves has also been observed. The project has promoted the use of up to 90 new improved cooking stoves in the area during these monitoring periods, which consume an average of 52% less firewood than regular cooking stoves. The use of improved cooking stoves helps reduce pressure on forest fragments and remaining primary forests in areas close to the population.

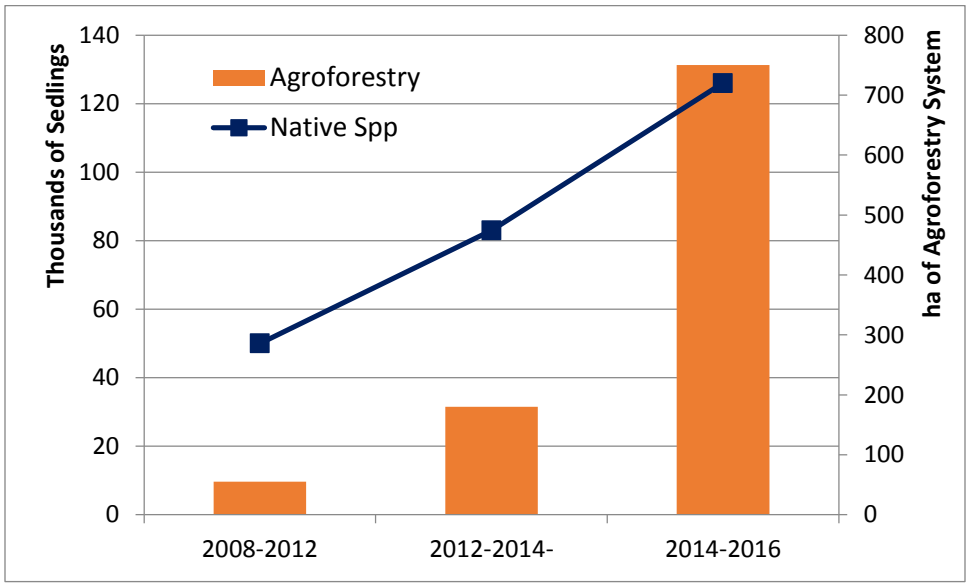


Figure 7- Number of native species planted and new area under agroforestry system per monitoring period

Only native species have been used in the restoration areas, and is limited to: *Alnus sp* (Aliso), *Erithrina edulis* (Pajuro), *Cedrela odorata* (Cedro), *Tabebuia chrysantha*, (Huayacan amarillo), *Tabebuia sp* (Huayacan rojo), *Pouteria sp* (Sacha caimito), *Pourouma cecropiaefolia* (Uvilla), *Cybistax antisyphilitica* (Yangua o Llangua), *Erythrina poepigiana* (Pajurillo), *Rollinia mucosa* (Anona), *Inga sp* (Shimbillo), *Inga sp* (Guaba), *Terminalia oblonga* (Yacushapana), *Cedrelinga catenaeformis* (Tornillo), *Inga sp* (Palta paca), *Pouteria sp* (Caimito), *Nectandra sp* (Moena), *Guarea trichilioides* (Requia), *Calophylum brasiliense* (Lagartocaspi or álfaro), *Cordia alliodora* (Laurel), *Colubrina glandulosa* (Shaina), *Theobroma grandiflorum* (Copuazu), *Calycophylum spruceanum* (Capirona), *Caryodendron orinocense* (Metohuayo), *Artocarpus altilis* (Pan de árbol), *Minquartia guianensis* (Huacapu).

In addition, the project has used non-native species in the agroforestry system, however those species were already introduced to the AMPF previously to the project and has not resulted to be invasive. The non-native species are: *Coffea arabica var catimor* (castillo and gran colombia coffee variety), *Persea americana* (Palta), *Lycopersicum esculentum* (Tomate), *Brassica olerasea* (Repollo), *Lactuca sativa* (Lechuga), *Raphanus sativus* (Rabanito), *Allium fistulosum* (Cebolla china), *Beta vulgaris* (Acelga), *Coriandrum sativum* (Culantro), *Cucumis sativus* (pepinillo), *Capsicum anuum* (ají pápikra), *Brassica rapa* (nabo), *Daucus carota* (zanahoria).

No genetically modified organisms (GMO) have been used.

Impact 8: Biodiversity and ecosystem services of the AMPF are recognized and valued by locals, who become allies in the conservation.

One of the conditions to ensure the sustainability of the changes in behavior that are being promoted by the project is to raise awareness throughout the population, and to have them adopt and institutionalize these changes into their daily practices. The awareness is promoted by several trainings and

environmental sensitization campaigns. The results of the project response indicators to sensitize local populations about the value of the AMPF biodiversity and ecosystem services show a significant improvement from the project baseline. In that sense, they have been implementing activities with schoolchildren and population leaders to train them on the importance of ecosystem services provided by the AMPF, environmental legislation and management of PNAs, and other environmental issues. During this monitoring period, 40 events of environmental education, with around 1,500 participants, and 32 sensitization activities with at least 1,200 participants were carried out. It is important to highlight the work being done with schoolchildren since they are the future generation who will directly influence the AMPF conservation.

Impact 9: Illegal extraction of wildlife in the AMPF is reduced

The results for this monitoring period presented a slightly reduction compared with 2012-2014. During 2014-2016, 55 cases of illegal extraction of flora were recorded (57 in 2012-2014); 52 out of these correspond to timber forest resources and 3 to orchid trafficking. It is worth mentioning that during 2014 and 2016 no reports of fauna trafficking (4 in 2012 to 214) were recorded.

These results were systematized based on the patrolling reports carried out by the forest rangers of the AMPF. The patrols were focused in high risk areas, where conservation agreements had not been signed yet, and therefore environmental awareness was not well disseminated.

Positive expected impacts on biodiversity outside the project area

Impact 1: Connectivity of the Conservation Corridor Abiseo-Cóndor-Kutukú – CCACK is maintained.

The Conservation Corridor Abiseo-Condor-Kutukú (CCACK) is one of the most diverse regions of the world, not only for its abundance of species, but also for its high degree of endemism. The project area is located in the center of the CCACK. In 2016, 132,842 ha in the AMPF remain under intact forest cover in the project scenario, contributing to the connectivity of the connectivity and conservation of High Conservation Values in the CCACK.

Impact 2: Ecosystem services of the AMPF (water and soil) are maintained and improved for the benefit of population outside project zone.

Maintaining the vegetation cover of the AMPF continues to generate direct benefits to the population settled in the middle and lower areas of the Alto Mayo basin. The allocation of water resources for human, agricultural and industrial consumption of cities, villages and settlements located from the edge of the AMPF to the Mayo River is guaranteed by the level of conservation of the AMPF.

On the other hand, the conservation areas of the AMPF provide refuge to the flora and fauna of the basin. They allow the development of touristic potentials in the Buffer Zone, such as the one in the Arena Blanca Reserve in the Aguas Verdes Buffer Zone (avitourism pilot project within the framework of conservation agreements and articulated to the international market), or the one in the settlement of Palestina in the

Buffer Zone, where the associated population is implementing a butterflies breeding center for tourism, in which the germplasm is collected within the protected area.

Impact 3: Biodiversity and ecosystem services provided by AMPF natural resources stocks outside project zone are recognized and valued.

The communications strategy and awareness of the local population also covers the population outside the AMPF, and aims to disseminate the great importance that the conservation of the AMPF has and the adverse consequences that its deforestation would bring for their own development.

Among the activities made, we can mention a valuation study of ecosystem services carried out in 11 villages in the AMPF Buffer Zone and 01 done outside the Buffer Zone, whose results were presented in 8 workshops with a total of 118 participants. Also, a study about native bees was conducted in 2 settlements inside the Buffer Zone and in 1 outside it. The results were presented in 4 workshops with a total of 73 attendees. The objective of this study was to make the diversity of bee species known, and to raise awareness about the pollination service they provide.

During this monitoring period, awareness raising activities have extended to the two provincial capitals of Rioja and Moyobamba. Despite having no direct relationship with the forest, the urban population of these cities strongly depends on ecosystem services to ensure the provision of water for human consumption. Two examples of this type of activities are: the 02 editions of FestiAMPF, held in Moyobamba, where the importance of the protected area is disseminated; and, the radio and television spots created for the campaign "*Hinchas de la Conservación*" (Conservation Fans) of SERNANP. The Regional Government of Rioja and the private sector have been included in these sensitization actions where emphasis was put in the need to conserve and restore ecosystems in order to implement a landscape approach.

Impact 4: Technology is transferred to improve coffee production systems outside project zone.

Since the last monitoring period the project has been training the best conservation agreement subscribers as promoters of the coffee production systems. They have played an important role not only in disseminating the techniques for best practices but also working (at their own initiative) as conciliators, communicators, and environmental educators. Their work is now being transferred to the COOPBAM that will be responsible to the long term technical capacitation for coffee producers inside and outside the protected area.

In addition, Conservation International, through the Sustainable Landscape Partnership has been using similar technology applied in the conservation agreements, to coffee producers in the Alto Mayo watershed (outside the protected area). Since 2014, over 400 coffee producers have received training on the management of coffee plantations, and production of native forest species that will help, to some extent, restore forest cover in the Alto Mayo Valley

Impact 5: New projects for the conservation of biodiversity in the Alto Mayo are leveraged.

Conservation International has been implementing several projects outside the AMPF which started with the need to improve the practices in the surroundings of the AMPF. All the projects are entirely aimed at establishing a conservation mini-corridor within the Alto Mayo basin. Both the processes of restoration of degraded ecosystems and the implementation of good agricultural practices contribute to the restoration and maintenance of habitats for the wild flora and fauna.

The implementation of the conservation mini-corridor ensures genetic exchange of wildlife, especially in mammal populations. Also, raising awareness activities, environmental education and information dissemination help local people understand the importance of biodiversity in the ecological processes and the impact it generates in various economic activities.

8.2 Negative Offsite Biodiversity Impacts (B2)

Negative expected impacts on biodiversity outside the project area

As the principle of governance is restored in the project area, project strategies will pressure illegal environmental actors who, in case they do not respect the current legislation, could conduct their illicit activities beyond the project area, causing negative impacts in areas where we have no interference.

The following analysis was made based on this premise by determining the progress in the monitoring of the impacts and analyzing the mitigation measures that should be implemented if these indicators were registered. The strategies and activities implemented to mitigate the potential negative impact are described in details in section 2.2.

Impact 1: Deforestation of the habitat of the species of high importance for biodiversity is displaced to in the leakage belt.

The indicators about the state of biodiversity, using spatial analysis with satellite images, show that the project has reduced deforestation in the area without significant negative impacts on the leakage belt. The implications for the conservation of biodiversity in the AMPF are several, including the maintenance of forest areas in the buffer zone to ensure the connectivity of the different populations of species as well as the maintenance of forests that provide refuge outside the project area when threats arise within the project area. Additionally, maintaining the habitat outside the project area creates conditions for the existence of flora and fauna, which may imply that the pressures on these species are kept outside the project area.

Similarly, deforestation in the habitat of species of high importance for biodiversity caused by the project in the leakage belt can also be considered zero, because it is lower than in the baseline. The maintenance of habitat for species of high importance for biodiversity in leakage areas ensures connectivity between populations of species within and outside the project area as well as the existence of habitat shelters outside the project area.

Impact 2: Illegal extraction of flora and fauna is displaced to out of the project area creating additional pressure on forests in the buffer zone.

In the project design the assumption that increasing the control and surveillance inside the AMPF would displace the illegal activities to outside the AMPF was considered. However the integrated approach used by the project, increased the awareness of the importance of the ecosystem services provide by the forest and its biodiversity, and provided alternative livelihoods to the settlers. As shown in the Sup.Inf_MIR_01 the local communities not only decrease the extraction of flora and fauna inside, but also became conservationists, through the signage of conservation agreements. Consequently, the project has a minimal (if any) negative impact on the flora and fauna outside the project area.

8.3 Exceptional Biodiversity Benefits (GL3)

The strategies of the project lead to the conservation of biodiversity in the project area, which is a site of global significance as shown in the Project Design Document (PDD). Some of these strategies have a direct impact on the conservation of species, for example, the project has been building environmental awareness with local communities and has maintained a conservation program at schools inside and outside the AMPF, as results, approximately 97% of the AMPF population recognizes the importance of the forest. In addition, the promotion of sustainable practices and improvement of governance and enforcement capabilities of the AMPF Head Office have directly protected 132,842 ha of forest and avoided 3,158 ha of habitat loss of vulnerable species.

The CCBS PD includes the list of species found in the AMPF categorized by the International Union for Conservation of Nature (IUCN) as Critically Endangered (CR) and Endangered (EN), according to the requirements of the GL3.1.1 indicator. Table 10 shows the updated list of these species.

Table 10 - Species of fauna Critically Endangered (CR) and Endangered (EN) in the project area

Scientific name	Common name	Threat status (UICN 2010 - II)	Threat status (2013.2 IUCN)	Threat status (2015-4 IUCN)
Atelopus pulcher	Harlequin frog	CR	CR	CR
Atelopus epikeisthos	New species of Harlequin toad	CR	CR	CR
Atelopus seminiferus	Upper Amazon stub foot toad	CR	CR	CR
Oreonax flavicauda	Yellow-tailed woolly monkey	CR	CR	CR
Callicebus oenanthe	Andean Titi monkey	CR	CR	CR
Zamia disodon	Palm tree	CR	CR	CR
Zamia hymenophyllidia		CR	CR	CR
Zamia macrochiera		CR	CR	CR
Zamia urep		CR	CR	CR
Hyloxalus azureiventris	Poisonous frog	EN	EN	EN
Centrolene fernandoi		EN	EN	EN
Cochranella saxiscandens		EN	EN	EN

Telmatobius colanensis		EN	EN	EN
Telmatobius truebae		EN	EN	EN
Herpsilochmus parkeri	Ash-throated Antwren	EN	EN	EN
Heliangelus regalis	Royal sunangel	EN	EN	EN
Loddigesia mirabilis	Marvelous spatuletail	EN	EN	EN
Xenoglaux loweryi	Long-whiskered owlet	EN	EN	EN
Grallaricula ochraceifrons	Ochre-fronted antpitta	EN	EN	EN
Picumnus steindachneri	Speckle-chested piculet	VU	EN	EN
Poecilotriccus luluae	Lulu's Tody- Flycather	VU	EN	EN
Ateles belzebuth	White-bellied spider monkey	EN	EN	EN
Ateles chamek	Chamek spider monkey	VU	EN	EN
Pteronura brasiliensis	Giant otter	EN	EN	EN
Virola surinamensis	Baboonwood	EN	EN	EN

The CCBS Project Document (PD) includes the list of species found in the AMPF categorized by the IUCN as Vulnerable (VU), according to the requirements of the GL3.1.2 indicator. Table 11 shows the updated list of these species

Table 11 - Vulnerable species (VU) in the project area

Scientific Name	Common Name	Threat Status (UICN 2010 - II)	Threat Status (UICN 2013.2)	Threat status (2015-4 IUCN)
Podocnemis unifilis	Taricaya	VU	VU	VU
Ameerega cainarachi	Cainarachi Poison Frog	CR	VU	VU
Ara militaris	Guacamayo verde	VU	VU	VU
Dendroica cerulea	Reinita cerúlea	VU	VU	VU
Touit stictopterus	Periquito de ala punteada	VU	VU	VU
Leptosittaca branickii	Perico de mejilla dorada	VU	VU	VU
Patagioenas oenops	Paloma peruana	VU	VU	VU
Thripophaga berlepschi	Rabiblando bermejo	VU	VU	VU
Aotus miconax	Mono nocturno	VU	VU	VU
Lagothrix poeppigii	Mono choro común	VU	VU	VU
Callimico goeldii	Tití	VU	VU	VU
Thomasomys ischyrus	Rata montaraz de Amazonas	VU	VU	VU
Dinomys branickii	Machetero	VU	VU	VU
Priodontes maximus	Armadillo gigante	VU	VU	VU
Pudu mephistophiles	Sacha Cabra	VU	VU	VU
Tapirus terrestris	Sachavaca	VU	VU	VU

Tremarctos ornatus	Oso andino	VU	VU	VU
Myrmecophaga tridactyla	Oso hormiguero	VU	VU	VU
Platyrrhinus ismaeli	Murciélago de nariz ancha de Ismael	VU	VU	VU
Vampyressa melissa		VU	VU	VU

Table 12 shows the species that have been removed from the list submitted in the PD, because the most recent IUCN categorization does not consider these species as Critically Endangered, Endangered or Vulnerable anymore, but Least Concern, Near Threatened, Data Deficient, or not evaluated.

Table 12 - Species removed from the list of Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) in the project area

Scientific name	Common Name	Threat status (UICN 2010 - II)	Threat status (2013.2 IUCN)	Threat status (2015-4 IUCN)
Ameerega bassleri	Pleasing Poison Frog	CR	NT	NT
Dasypus pilosus	Hairy Long-nosed Armadillo	VU	VU	DD
Podocarpus oleifolius	Romerillo	CR	LC	LC
Prumnopitys harmsiana	Romerillo	CR	NT	NT
Larnax nieva		CR	-	-
Phragmipedium kovachii		CR	-	-
Luteolejeunea herzogii		EN	LC	LC
Aiphanes spicata		VU	-	-
Lonchophylla hesperia	Western Nectar Bat	VU	NT	NT
Tropaeolum bicolor		VU	-	-
Fuchsia abrupta		VU	-	-

In the CCBS PD 17 bird species of restricted distribution were identified, according to the requirements of the GL3.2.1 indicator. Table 13 shows the updated list of these species.

Table 13 - Restricted-range bird species in the AMPF

Scientific Name	Common Name
Xenoglaux loweryi	Long-whiskered owlet
Grallaricula ochraceifrons	Ochre-fronted antpitta
Heliangelus regalis	Royal sunangel
Picumnus steindachneri	Speckle-chested piculet
Thripophaga berlepschi	russet-mantled softtail
Campylopterus villaviscensio	Napo sabrewing
Grallaria blakei	Chestnut antpitta
Grallaria przewalskii	Rusty-tinged antpitta
Hemitriccus cinnamomeipectus	Cinnamon-breasted tody-tyrant

Henicorhina leucoptera	Bar-winged wood-wren
Phlogophilus hemileucurus	Ecuadorian piedtail
Phylloscartes gualaquizae	Ecuadorian tyrannulet
Xenerpestes singularis	Equatorial greytail

Source: ICAM 2012, Birdlife International 2016

Four species *(Iridosornis reinhardti, Leptopogon taczanowskii, Myiophobus cryptoxanthus, and Ramphocelus melanogaster*) were removed from the list, since the updated information from Birdlife International indicates a distribution range higher than 50,000 km^2.

9 ADDITIONAL INFORMATION

The land cover and change analysis for this monitoring period was done based on the 2012 forest benchmark map. It was assumed that the rate of forest change was evenly distributed between the 2014-2016 period.

Areas identified as cloud in the 2016 land cover map were temporarily excluded from this monitoring period from both scenarios – baseline and project - and will be included in subsequent monitoring periods based on the availability of cloud-free images. Therefore the total baseline carbon stock changes in the project area during this monitoring period reported in MR Tables 02.a-c differ from the total baseline carbon stock changes in the project area reported on VM Tables 15.a-c of the AMCI Methodological Annex, respectively. Similarly, the total baseline carbon stock changes in the leakage belt during the monitoring period reported in MR Tables 04.a-c differ from the total baseline carbon stock change in the leakage belt reported in VM Tables 29.a-c of the AMCI Methodological Annex, respectively.

Areas obscured by clouds in 2012 and/or 2014 but reveled in 2016 as non-forest were accounted as deforestation in this monitoring period. Although some landslides were observed in the forest change analysis, the forest loss due to this event was minimal and was not accounted as deforestation when compared with the baseline. During this monitoring period, no other natural disturbances or catastrophic events occurred in the project area and leakage belt.

The 90% Confidence Interval value of the carbon stock was applied to the average carbon stock of pre-montane forest, dwarf forest and post-deforestation land use, as the uncertainty of the carbon estimate was above 10%.

Non-CO_2 emissions from forest fires and animal gazing were not monitored as they were not included in the baseline.