ALTO MAYO CONSERVATION INITIATIVE MONITORING & IMPLEMENTATION N^{O}4
(2016-2018)

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GHG Accounting/ Crediting Period	15 June 2008 to 14 June 2028 – 20 Years
Monitoring Period of this Report	15 June 2016 to 14 June 2018 – 2 Years
History of CCB Status	CCB Validation and 1st verification on Dec 12, 2012. CCB 2nd verification on June 02, 2015 CCB 3rd verification on September 09, 2016
Gold Level Criteria	Exceptional Biodiversity

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1 SUMMARY OF PROJECT BENEFITS

1.1 Unique Project Benefits

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
1) Productive surface under some mechanism of international standards certification	1,693.96 ha under organic certification	4	1,693.96 ha under organic certification
2) Revenues generated through direct export of certified products.	US$ 845,283.21	4	US$ 1,306,654.88
3) Improvement in the AMPF governance[1]	3.33% (July 2014 score: 80% and May 2018 score: 83%)	3 and 5	21.22% (baseline score: 62.11% done in August 2013)

1.2 Standardized Benefit Metrics

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
GHG emission reductions & removals	Net estimated emission removals in the project area, measured against the without-project scenario	Not-applicable		
	Net estimated emission reductions in the project area, measured against the without-project scenario	1,142,776 tCO2	3	7,417,913 tCO2
Forest[2] cover	For REDD[3] projects: Number of hectares of reduced forest loss in the project area measured against the without-project scenario	2,638 ha	3, 5	17,310 ha
	For ARR[4] projects: Number of hectares of forest cover increased in the project area measured against the without-project scenario	Not applicable		

[1] Governance index was measured by using METT Scorecard
[2] Land with woody vegetation that meets an internationally accepted definition (e.g., UNFCCC, FAO or IPCC) of what constitutes a forest, which includes threshold parameters, such as minimum forest area, tree height and level of crown cover, and may include mature, secondary, degraded and wetland forests (*VCS Program Definitions*)
[3] Reduced emissions from deforestation and forest degradation (REDD) - Activities that reduce GHG emissions by slowing or stopping conversion of forests to non-forest land and/or reduce the degradation of forest land where forest biomass is lost (*VCS Program Definitions*)

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
Improved land management	Number of hectares of existing production forest land in which IFM[5] practices have occurred as a result of the project's activities, measured against the without-project scenario	Not-applicable		
	Number of hectares of non-forest land in which improved land management has occurred as a result of the project's activities, measured against the without-project scenario	1,863 ha	4	2,635 ha
Training	Total number of community members who have improved skills and/or knowledge resulting from training provided as part of project activities	2,919	4	3,689
	Number of female community members who have improved skills and/or knowledge resulting from training provided as part of project activities of project activities	1,323	4	1,671
Employment	Total number of people employed in of project activities,[6] expressed as number of full time employees7	91	4	160
	Number of women employed in project activities, expressed as number of full time employees	23	4	42
Livelihoods	Total number of people with improved livelihoods[8] or income generated as a result of project activities	1,576	4	1,992
	Number of women with improved livelihoods or income generated as a result of project activities	710	4	897
Health	Total number of people for whom health services were improved as a result of project activities, measured against the without-project	459	4	622

[4] Afforestation, reforestation and revegetation (ARR) - Activities that increase carbon stocks in woody biomass (and in some cases soils) by establishing, increasing and/or restoring vegetative cover through the planting, sowing and/or human-assisted natural regeneration of woody vegetation (*VCS Program Definitions*)
[5] Improved forest management (IFM) - Activities that change forest management practices and increase carbon stock on forest lands managed for wood products such as saw timber, pulpwood and fuelwood (*VCS Program Definitions*)

[6] Employed in project activities means people directly working on project activities in return for compensation (financial or otherwise), including employees, contracted workers, sub-contracted workers and community members that are paid to carry out project-related work.
[7] Full time equivalency is calculated as the total number of hours worked (by full-time, part-time, temporary and/or seasonal staff) divided by the average number of hours worked in full-time jobs within the country, region or economic territory (adapted from UN System of National Accounts (1993) paragraphs 17.14[15.102];[17.28])
[8] Livelihoods are the capabilities, assets (including material and social resources) and activities required for a means of living (Krantz, Lasse, 2001. *The Sustainable Livelihood Approach to Poverty Reduction*. SIDA). Livelihood benefits may include benefits reported in the Employment metrics of this table.

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
	scenario			
	Number of women for whom health services were improved as a result of project activities, measured against the without-project scenario	272	4	354
Education	Total number of people for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario	1,430	4	963
	Number of women and girls for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario	286	4	193
Water	Total number of people who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Not applicable		
	Number of women who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Not applicable		
Well-being	Total number of community members whose well-being[9] was improved as a result of project activities	3,104	4	3,104
	Number of women whose well-being was improved as a result of project activities	1,464	4	1,464
Biodiversity conservation	Change in the number of hectares significantly better managed by the project for biodiversity conservation,[10] measured against the without-project scenario	150,365 ha	5	129,000 ha
	Number of globally Critically Endangered or Endangered species[11] benefiting from reduced threats as a result of project activities,[12] measured against the without-project scenario	33	5	33

[9] Well-being is people's experience of the quality of their lives. Well-being benefits may include benefits reported in other metrics of this table (e.g. Training, Employment, Health, Education, Water, etc.), but could also include other benefits such as empowerment of community groups, strengthened legal rights to resources, conservation of access to areas of cultural significance, etc.
[10] Biodiversity conservation in this context means areas where specific management measures are being implemented as a part of project activities with an objective of enhancing biodiversity conservation.
[11] Per IUCN's Red List of Threatened Species
[12] In the absence of direct population or occupancy measures, measurement of reduced threats may be used as evidence of benefit

2 GENERAL

2.1 Project Description

2.1.1 Implementation Description

The management of the AMPF, during the last two years, can be considered a milestone for both the PNA and the national system. The level of investment was around $ 7 million which represented a revenue close to $ 10 million in these two years, totaling almost $ 27 million raised exclusively through the sale of carbon credits. This has positioned the project as one of the best in the world in terms of financial performance.

Furthermore, the high level of investment led to significant results in the management of the PNA. The number of conservation agreements subscribed exceeded the barrier of 1,000 reached in 2011. This number includes 336 agreements signed by COOPBAM which has achieved an incredible level of export that exceeds 227 thousand kilos generating a superior income close to $ 1 million during the 2017 and 2018 campaigns -and this is only halfway through.

In addition, permanent feedback and coordination with the subscribing population resulted in the delivery of more than 2,000 benefit packages aimed at improving living conditions and economic diversification. These included: coffee, ecological toilets, improved kitchens, specialty tourism pilots and bio-gardens.
The institutional management of the AMPF Headquarters has increased as well. About 40 professionals among park rangers, specialists and administrative personnel are part of the authority of the PNA. They are constantly trained and equipped and have managed to carry out about 500 patrols since the last verification report. This has led to a decrease in the number of environmental and criminal cases which are now slightly higher than 70.

The most outstanding issue in the strengthening of this management is the 112 queries submitted to its office for the execution of projects within the PNA and the Buffer Zone. Of all the requests received, 73 have been approved and their impact will be visible during the following verifications.

The Management Committee has become the main ally of the AMPF Headquarters to coordinate and specify actions of local, regional and national authorities in favour of the PNA management. The Committee is currently made up of 100 members (18 more than in 2016), is the main platform for the solution of socio-environmental conflicts in the AMPF and articulates public investment such as the 104777 SNIP project, which will invest more than S/. 2 million in the construction of two field schools. This adds up to the contribution of the project in the preparation of profiles and the disclosure statements needed for the land where the schools of Juan Velazco and the health center of Aguas Verdes will be built.

Everything described above has significantly increased the governance of the AMPF. Therefore, all the processes of the project are being transferred to the AMPF Headquarters. These should consolidate, within the next five-year frame of the Administration Agreement, the social technical processes necessary to maintain and improve the efficiency of the management of the PNA.

Finally, the ecosystemic functionality of the AMPF, including its high importance as a conservation unit, is guaranteed by the more than 2630 hectares of forest that were saved from deforestation and generated carbon credits. All these achievements have been possible thanks to the effort of more of 80 professionals based in Rioja, Lima and the United States who firmly believe that the AMPF is a successful model of conservation and development.

2.1.2 Project Category and Activity 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

2.1.3 Project Proponent(s)

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) (Sup.Inf_nprt_02a-e). 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. 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 (Sup.Inf_MIR_02).

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2.1.4 Other Entities Involved in the Project

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.

Organization name	Servicio Nacional de Áreas Naturales Protegidas por el Estado (SERNANP)
Role in the project	Protected Area Management
Contact person	Pedro Gamboa
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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 Administration Contract with between CI Peru and SERNANP.

Organization name	Asociación Ecosistemas Andinos (ECOAN)
Role in the project	Conservation Agreement implementation
Contact person	Constantino Aucca Chutas
Title	President
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Telephone	+51 8 422 7988
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Proyecto Mono Tocón (PMT)

Proyecto Mono Tocón is a local NGO with more than eleven 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 the areas within the protected area where the Conservation Agreements are implemented.

Organization name	Proyecto Mono Tocón (PMT)
Role in the project	Primate monitoring
Contact person	Jossy Claudia Luna Amancio
Title	General Coordinator
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Cooperativa Multiservicios Bosques del Alto Mayo Limitada (COOPBAM)

Created in late 2014, the COOPBAM is the AMPF subscriber cooperative. It associates 336 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.

Organization name	Cooperativa Multiservicios Bosques del Alto Mayo Limitada (COOPBAM)
Role in the project	Responsible for channeling the marketing of coffee produced and conservation agreement implementation
Contact person	Idelso Fernández Quevedo
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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 100 representatives (41 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 and to support institutional governance. The new advisors and structure have resulted in a stronger and more active Committee, with better engagement with the national authorities and congressmen. 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 1,001 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 1 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.

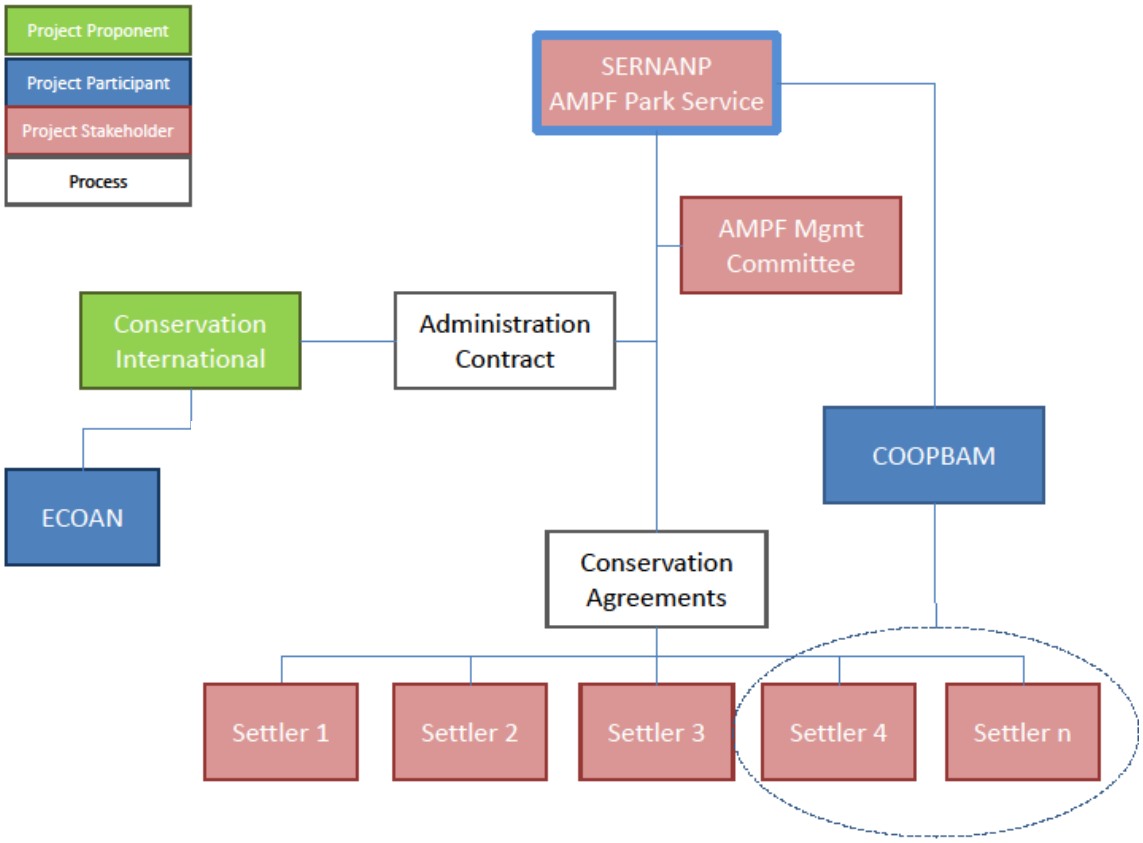

Figure 1 - Institutional Structure of the Alto Mayo project

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

2.1.5 Project Start Date (G3.4)

The start date of the project was June 15, 2008. This monitoring period started on June 15, 2016 and ended on June 14, 2018

2.1.6 Project Crediting Period (G3.4)

The start and end date of the project crediting period are, respectively: June 15, 2008 and 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.

2.1.7 Project Location (G3.3)

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 (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 2 illustrates the location of the project area and zone and the GIS files of the project boundaries were sent to the verifiers.

There are no changes in the project boundaries since validation. GIS files of project boundaries were made available to VV body.

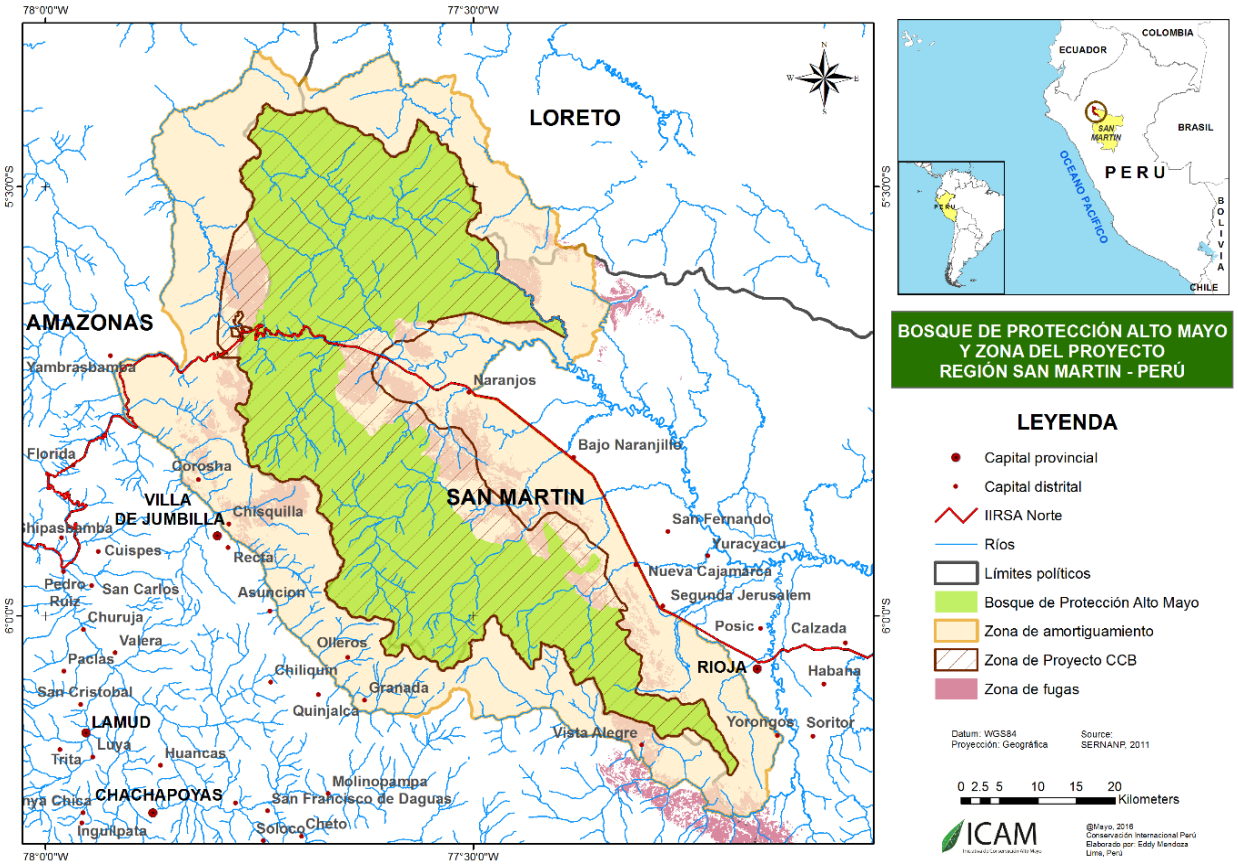

Figure 2- Location of the Alto Mayo Protected Forest and project boundaries

2.1.8 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. The project was validated using CCBS second version.

2.1.9 Other Programs (CL1.5)

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.

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. Similarly, the project has not and does not seek to receive project another form of social or environmental credit, including renewable energy certificates, besides CCBS. Farmers that are also subscribers of conservation agreement might aim for organic and, or fair trade certification, however those certification does not generate credits.

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

2.1.10 Sustainable Development

Although the project aims to improve the human well-being of local communities and conserve the natural resources of Alto Mayo, and therefore promote a sustainable and harmonized development for the region, the project is not part of any nationally stated sustainable development priority. In addition, the project does not report its impact to any national accounting system on sustainable development. As a co-manager of a protected area, CI-Peru has the commitment to report the achievements according to the technical and financial proposals (Sup.Inf_nprt_02a-e and Sup.Inf_nprt_04a+b) at yearly basis, however the objectives are established between SERNANP and the AMPF based on local circumstances.

2.2 Project Implementation Status

2.2.1 Implementation Schedule (G3.4)

The project was validated and underwent its first verification under the VCS and CCBS standards in 2012. The second and third verification was finalized in 2015 and 2016 respectively. The project aims to have verifications every two years and will update the baseline after 2018. The key milestones are organized by project strategies and the implementation schedule is shown in Table 1 (Sup.Inf_MIR_14a+b).

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																					

Strategy / Activity	Year																				
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Control and surveillance	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			X			X	
Construction of infrastructure			X		X	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	X	X	X	X	X						
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	X				X
Zoning update											X	X				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	
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											
Strategy 4: Communications and public awareness strategy																					

Strategy / Activity	Year																			
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Communications																					
Institutional positioning AMPF			X	X	X																
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 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 & monitoring of community engagement protocol						X	X	X	X	X	X	X	X								
Advocacy & contribution to 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

2.2.2 Methodology Deviations

There were no methodology deviations that impact the conservativeness of the quantification of GHG emission reductions or removals negatively.

2.2.3 Minor Changes to Project Description (*Rules* 3.5.6)

The project uses the adaptive management principles to improve the results and effectiveness of project activities. Although no changes in the project description has occurred in this monitoring period, additional activities and strategies were developed and implemented (e.g. social and communication strategies, or drone images for reforestation mapping)

2.2.4 Project Description Deviations (*Rules* 3.5.7 – 3.5.10)

Few deviations from the project description (PDD) have occurred in the first monitoring period, however the deviations do not include any change in the project area, project proponent, significate changes in project activities, or expected impacts of the project. The deviations from the project description were presented in the previous verification and are repeated below.

Uncertainty discount

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. This discount was not applied in the PDD tables, but were fixed in the monitoring reports. 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, additionality 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
	$ABSLPA_{icl,t}$ 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
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
	$ABSLPA_{fcl,t}$ ha	$Ctot_{fcl,t}$ tCO_2-e ha^{-1}	$\Delta CBSLPAf_t$ tCO_2-e	$\Delta CBSLPAf$ 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
	$\Delta CBSLPAi_t$	$\Delta CBSLPAi$	$\Delta CBSLPAf_t$	$\Delta CBSLPAf$	$\Delta CBSLPA_t$	$\Delta CBSLPA$
	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
	$ABSLLK_{icl,t}$	$Ctot_{icl,t}$	$ABSLLK_{icl,t}$	$Ctot_{icl,t}$	$ABSLLK_{icl,t}$	$Ctot_{icl,t}$	$\Delta CBSLLKi_t$	$\Delta CBSLLKi$
	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	Carbon stock changes in	Total carbon stock change

year *t*	final (post-deforestation) non-forest classes on the leakage belt		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

Minimum Mapping Unit

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.

Primate monitoring – Biodiversity Monitoring Protocol

The frequency and abundance of primates (indicator 7a and b of the Biodiversity Protocol) was initially set to be monitored quarterly, considering that a participatory monitoring system would be implemented; however, due to the great need of environmental awareness building, *Proyecto Mono Tocón* is monitoring this indicator biannually. The last monitoring was done in 2017 and the entire protocol was revised based on the lessons learned. The new protocol will be implemented in late 2018 and adjustments in the CCBS PD will be made for the next verification (Sup.Inf_MIR_04). A book was published in 2017 to disseminate the document and disseminate the lessons learned regarding the monitoring of primates (Sup.Info_MIR_05).

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 (2016-2018). 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.

Poverty Index – Socio-Economic Monitoring Protocol

During the first verification, the poverty index was estimated based on the USAID parameter, which establishes a global dollar value earned per household as the threshold of poverty. Since the second verification, the project has been measuring the poverty according to the Progress of Poverty Index (PPI)[13] 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.

2.2.5 Risks to the Project (G3.5)

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 5".

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

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

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*) or coffee fungus "chicken´s eye" (*Mycena citricolor*); lack of livelihood alternatives, particularly the dependence on coffee as the main 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*)

No significant attacks of coffee rust were recorded during the reporting period. However, there were chicken's eye attacks in some coffee plantations that involved losses in production and quality during the 2017 campaign. The subscribers who implemented the suggested preventive measures had minimal or no attacks of pests or diseases thus, the efficiency of the technical proposal was validated. These practices include:

- Production and use of organic fertilizers;
- Introduction of rust resistant varieties, such as Castillo and Gran Colombia; incorporation of different varieties of coffee distributed by lots and separated by alleys;
- 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;
- Implementation of regenerative pruning.

Although the varieties of the genetic line of the Catimor (such as Castillo or Gran Colombia) are rust resistant, they need to be fertilized in order to obtain an acceptable produce and quality in cup as well as to resist other pests and diseases. Consequently, the parcels that were correctly fertilized were the ones that produced the best responses during the 2016/2017 campaigns.

In addition to the mitigation measures described above, the following practices are being applied 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

In the last two years, the project has prioritized the generation of greater economic income for beneficiary families through:

1. **Articulation of coffee to special markets, expansion of the commercial coffee portfolio and reduction of intermediaries.** This required to build a strong relationship of trust between the COOPBAM and selected specialty coffee importers. Besides setting a premium price, subscribers articulate their coffees directly to the importer, increasing the profit margin by doing without coffee intermediaries; therefore, export costs are covered in a fair manner. Also, since the end of the 2017 campaign, importers of standard coffee qualities, whose production volume can generate higher income for the subscriber, are being searched for.

2. **Economic diversification.** In addition to the success indicators obtained through coffee, the project has achieved, on a smaller scale, the positioning of other economic activities that generate economic alternatives for the subscribing families. The pitahaya fruit is being marketed locally, positioning itself as the second income for beneficiary families with conservation agreements. Other activities such as bird and orchid tourism are already seen as successful family entrepreneurship. In addition, some subscribing families have decided to implement coffee shops and/or sell their ground and packaged coffee directly to the local market. A special mention goes to the women's committees' initiatives for the promotion of craft and embroidery techniques. Some of these products have been sold in various environmental events.

3. **Food safety**. Generating food self-sufficiency and improving the living conditions of the subscribing population has been a project priority in these two years. In that sense, the bio-gardens, the small animal modules, the ecological bathrooms and the improved kitchens are the main benefits that have significantly contributed to improve the diet, health and habitability of the beneficiaries without generating greater economic demands.

4. **Family financial management**. The subscribing families are being sensitized to understand the high importance of knowing how to spend and invest the economic income they are achieving with so much effort. This concept must be empowered by the beneficiaries so that they have a greater opportunity to develop themselves in a sustainable way.

The Long-term Sustainability of Technical Assistance

Extending the Administration Contract for five more years (until 2022), implies initiating the transfer of knowledge and process leadership to the AMPF Headquarters personnel. The first step has been to complete the organic structure of the Headquarters, which now has a staff of more than 40 professionals, including park rangers, specialists and administrative staff, who are permanently trained in technical and social aspects.

As process catalysts, we have initiated the transfer of knowledge and processes to the specialists and to the AMPF Head. This implies supporting the State's staff in building trusting relationships with local population and other stakeholders that have an impact on the management of the PNA. Various training and coordination events with the COOPBAM, women's committees, conservation supporters and the

Management Committee platform have been the first spaces used to transfer the leadership of socio-productive processes to the personnel of the AMPF Headquarters. Likewise, during 2018, processes such as the organic certification of the COOPBAM, the execution of the surveys of the 4th verification of the REDD+ mechanism and the monitoring of biodiversity and restoration through agroforestry systems with drones and trap cameras have been carried out for the first time with park rangers.

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. By mandate of the Ministry of Environment, REDD+ projects in protected natural areas can be verified until December 2018 and they can commercialize the bonds generated until December 2020. This measure will be complemented by a directive establishing the process of harmonization of these projects at the national level. It is expected that the directive establishes the recitals for the revision of the baseline of the projects, as well as, the transition time for future verification, commercialization and accounting of bonds that will be carried out from 2019.

Continuity of the Administration Contract

The Administration Contract has been renewed for five more years, which implies that the AMPF co-management will continue at least until November 2022. This will allow consolidating the main technical and social processes promoted by the project, as well as ensuring the transfer of knowledge and strengthening the relationship between the AMPF Headquarters, the local population and the various public and private actors that intervene in the management of the PNA (Sup.Inf_nprt_02d+e).

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.

Between 2011 to 2016 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.

Unfortunately during the second semester of 2016, some colleagues of the project and some leaders of the subscribers were systematic victims of aggressive actions by a group of families settled inside the PNA entirely dedicated to illegal activities. The actions have been classified in the civil-criminal jurisdiction and follow the respective proceedings. Security measures have been implemented to safeguard the integrity of the project personnel and the allied population; such measures also guarantee compliance with the conservation agreements and the main objectives established for each strategy. The main measures implemented are:

- Transit in areas where civil-criminal proceedings exist should be avoided to nullify the possibility of aggression on the part of opposing families.

- The implementation of field activities planned by conservation agreements and women's committees will be carried out with the support of the COOPBAM. Technical assistance to the subscribers will be provided by the promoters and the delivery of benefits will take place in the town of Aguas Verdes.

- The activities of communication, environmental education and civic actions (including medical campaigns) will be carried out in places where safety could be guaranteed since those involve multisectoral presence and high influx of local population (subscribers and non-subscribers)

Effects of climate change

During the reporting period, climatic anomalies have been less severe. However, there have been more events of extreme low temperature (friajes) that affected the entire Amazon region. The permanent monitoring performed by the project personnel identified the generation of higher humidity conditions that could potentially generate an expansion of fungi in coffee such as chicken eye, as well as greater respiratory affections, especially in the most vulnerable population. Therefore, preventive measures were implemented for both coffee (explained in the previous sections) and population. Medical campaigns were held in various locations within the PNA and the BZ which included diagnoses and free delivery of medicines. Further details are provided in the development section of the social management strategy.

2.2.6 Enhancement of High Conservation Values (G3.6)

The Alto Mayo Protected Forest, in its entirety, is considered as a HVC, maintaining its ecosystemic functionality is fundamental and of high importance for the more than 200 thousand people who live in the provinces of Rioja and Moyobamba. In that sense, all the activities carried out during the reporting period have helped to face the great management challenges of such an important PNA turning them into opportunities to obtain historical results, not only for the AMPF, but also for the national system of PNAs.

The actions of the management of the AMPF are aimed at seeking the welfare of the local population through the conservation and sustainable use of natural resources and ecosystem services of the PNA. A tangible example of this is the more than 2000 hectares of degraded forest that are being restored with

coffee under the agroforestry systems. More than 1500 hectares out of those provide coffee of excellent quality to the special markets of Canada, USA, New Zealand and Germany being sold directly at preferential prices through the COOPBAM.

Additionally, tourism initiatives, at family and community levels, are increasing. This is mainly because local population has realized that the management of natural capital is an opportunity to generate economic income. That is why family initiatives on birds and orchid tourism are being complemented with communal initiatives such as Urkuchaqui waterfalls (Nueva Zelandia), butterfly farms (Palestina) and the Onercocha lagoon (El Paraiso)

Finally, the conservation of the AMPF has a direct effect on the development of the region. It has an impact on the private sector that buys the carbon credits, on the importers and consumers of the coffee produced in the PNA and on the various specialized tourists who visit the bird tourism pilots. Conserving such an important protected natural area is the result of the joint work of more than 80 professionals based in Rioja, Lima and the United States who are constantly disseminating the concept that preserving areas such as the AMPF means to preserve lives.

2.2.7 Benefit Permanence (G3.7)

The sustainability of the benefits generated by the project in terms of climate, community and biodiversity lies mainly in the consolidation of the integral governance of the Alto Mayo Protected Forest. This governance implies that;

i) the State leads all the processes within the PNA and its buffer zone, making public investment visible when improving access to and quality of basic services, supporting and guaranteeing the conditions for the articulation of private investment;

ii) the local population, in its various levels (family and community), must be empowered in the implementation of family and healthy community concepts which are the premises for the design of the various benefits delivered within the framework of the strategies of conservation agreements and social management;

iii) the COOPBAM must achieve financial autonomy and optimum technical managerial levels to self-manage and maintain the growth projections that greatly benefit the population allied to the management of the PNA;

iv) the Management Committee should be consolidated as the main platform to bring together public and private institutions, social groups, educational entities and other actors whose roles contribute to the management of the PNA, both at the regional and national levels.

Everything described above must have a positive impact on the development of the local population settled in the project area and the one living in the provinces of Rioja and Moyobamba and at the same time, it has to achieve the conservation, the use of natural resources and the maintenance of the ecosystemic functionality of the AMPF. In order to accomplish this vision, the project has been conducting;

i) The transfer of leadership of all the management processes to the staff of the AMPF Headquarters, which implies a permanent training of capacities and the building of a community-institutional relationship.

ii) The gradual implementation of healthy families and communities as fundamental concepts. This is being done through social management strategies, conservation agreements, communication

and environmental education. These fundamental concepts are seen in the various benefits that increase living conditions, as well as in the various multisectoral actions for community benefits such as medical campaigns and civic actions. The evolution of conservation agreements from family to community level (proposal sent to SERNANP) is a crucial issue in this process. Their approval and implementation by the competent authority will start a new stage of benefits to the community that should be complemented with public investment for access to and improvement of basic services.

iii) In relation to public investment, the project has supported the preparation of project profiles and/or previous actions such as the disclosure statements needed for the land where schools will be built in Juan Velazco and Aguas Verdes, as well as the health center in Aguas Verdes.

iv) The strengthening and permanent support to the Management Committee is a vital part in the management of the PNA. Coordination with the main national authorities such as the Regional Congressmen, Ministers and the Prime Minister has been achieved through this platform. The reactivation of project SNIP 10477 has been achieved as a result of those coordination activities. The project investment is aimed at the construction of field schools in Aguas Verdes and Sol de Oro, both towns located in strategic zones of the BZ.

v) The COOPBAM has been financially growing according to plan. Since the first sale in 2015, more than $ 1.2 million have been exported. It is estimated that during this 2018 campaign, sales will reach $ 1 million, doubling the record obtained in the 2017 campaign. If this growth continues in 2020, the COOPBAM will be financially autonomous. At the same time, the training of managerial technical skills is permanent for the COOPBAM partners. Capacity building includes developing capacities in future generations (partners' children). Based on this, five young subscribers' children are currently being trained in the commercial areas of: technical assistance, stockpiling, certification, evaluation of physical performance and tasting.

2.3 Stakeholder Engagement

2.3.1 Community Consultation (G3.8)

The team maintain an active communication with the stakeholders throughout the project period, and has performed an intensive consultation process before start the activities. In addition, the conservation agreement – the main mechanism to promote conservation – is designed with the stakeholder participation. The conservation agreements are reviewed and renewed annually giving the opportunity to adjust and improve the consultation process. In addition, the implementation of specific activities such as the promotion of community tourism pilots in El Paraíso and Nueva Zelandia, or the promotion and implementation of the construction of the educational center in Juan Velazco are processes that have been developed jointly with the local population and subject to consultation and voluntary approval.

In addition, throughout the reporting period the project has engaged with the different stakeholder using different communication strategies as described below

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 to be in compliance with the law. However, in practice, these *rondas* omit this essential step and district, provincial, regional and national patrols acknowledge and support the *rondas campesinas* settled in the AMPF even without formally complying with the law.

As reported during the previous verification period, the AMPF Headquarters signed, during 2013, two agreements with rondas campesinas from El Triunfo and Aguas Verdes, which represent 19 of the 26 existing towns. The implementation of both agreements transcends until the present reporting period and can be seen in the activities of conservation agreements, social management, tourism promotion, articulation to public investment, support in the coordination with other public bodies, commercial articulation through the cooperative, among others.

On the other hand, since the signing of these agreements, the groups of rondas campesinas who did not sign the agreement are around Candamo, where land trafficking and deforestation has been concentrated in the past two years. Although the AMPF Headquarters has visited and spoken to these people, 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 Headquarters 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.

In mid-2017, the AMPF Headquarters was taken over by Ing. Frank Oyola, who has maintained the dialogue with various social groups, including the peasant rounds bases located in the Candamo sector. The dialogue with any actor that had wished to intervene in the PNA has always been opened and sustained.

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.

Additionally, this platform was designated by the Presidency of the Council of Ministers as the primary instance for the solution of socio-environmental conflicts that occurred within the PNA, such as those that occurred since the second semester of 2016 and described in the preliminary sections. The support of the project to this platform is permanent and carried out through the PNA Headquarters and the Management Committee which are the optimal entities and with the right attributions to represent the position and alternative solutions proposed by the AMPF management team.

Subscribers and promoters

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. Even though their primary role is purely technical, they function 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.

The COOPBAM deserves a special recognition as the main actor in the PNA management. The contribution of the cooperative goes beyond providing various commercial and welfare benefits to the subscribing population that has voluntarily decided to become a member of the COOPBAM. The cooperative is also one of the main speakers of the PNA management. The testimonies given by all its members reflect the great effort and benefit that the partnership with the State implies.

Local people

The direct 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 grievience resolution mechanism proposed during the validation is still maintained, however barely used. Most of the local population avoids making complaints in writing. 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 people settled in the AMPF.

Over the past two years, the AMPF management team has held more than 140 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 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 requested for an increase in the benefits derived from Conservation Agreements as well as for support in the search for special markets to which they could articulate the different qualities of coffee produced by the COOPBAM. The efforts of the Project during the reporting period involved the delivery of greater benefits within the framework of conservation agreements, obtain coffee of higher quality and achieve its homogenization. They also searched for international markets where all the coffee produced by the COOPBAM could be articulated.

Additionally, a specific requirement from the COOBPAM is the support needed to find national and international financial entities that could guarantee liquidity especially during stockpiling time. In this sense, the project managed to generate financial articulation between the COOPBAM and the company NorAndino with suitable conditions for both parties. Likewise, after the launch of the Conservation Ventures fund (Program of our Headquarters in the USA), the COOPBAM may be linked to important loans that guarantee the flow of funds for the stockpiling of at least two containers.

Awajún Indigenous Communities

It has been confirmed 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 CI-Peru ongoing projects with some Awajún indigenous communities are considered a plus in the intervention strategy. 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.

2.3.2 Public Comment Period Publicity (G3.9)

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

2.3.3 Distribution of Project Information (G3.9)

In addition to the measures described in the section *2.3.2 Public Comment Period Publicity*, 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.

2.3.4 Conflicts and Grievances (G3.10)

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.

2.4 Management Capacity and Best Practices

2.4.1 Required Technical Skills and Expertise (G4.2)

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. For details on the expertise of each of the partners with regards to REDD, please see sections 2.1.3 and 2.1.4). The Management team includes individuals with significant (i.e. at least 5 years) experience in all skills necessary to successfully undertake all project activities. For a detailed description of the experience of each of the members of the project management team, see Sup.Inf_nprt_01.

The work team consisted of 88 professionals, mainly members from four institutions: Conservation International, Asociación Ecosistemas Andinos (ECCOAN), The National Service of Natural Protected Areas (SERNANP) and the Mono Tocón Project (PMT). The latter only participated in the first 8 months of this period with the fourth primate monitoring in the AMPF. This activity was later replaced to initiate the design of a biodiversity monitoring protocol through the use of trap cameras.

The diversity of professionals involved in the management of the AMPF facilitates understanding the dynamics of working in the field with the population and state institutions. Professionals from the sciences, biology, forestry and environment, as well as technicians in agriculture, lawyer and others contribute to the daily work. Some of these professionals develop training in Protected Areas.

2.4.2 Worker Training (G4.3)

The team has developed the annual Capacitation Plan (Sup.Inf_MIR_13a+b) which was designed for the AMPF management personnel. The plan prioritized issues related to the actions developed by the REDD+ project such as; the strengthening of productive activities in coffee, pitahaya, meliponiculture, vanilla, food security (bio-gardens and raising of small animals), ecotourism, geographic information systems, community relations, facilitation techniques in participatory processes, first aid, gender and

equal opportunities, benefits in conservation agreements, management of PNA, among others, adding a total of 38 training sessions.

Conservation Agreements Technical Team

In 2012, a training plan on the strategy of Conservation Agreements was developed and started its implementation 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, cooperatives, marketing and organic certification. Two training sessions on the subject of conservation agreements were carried out for the ECOAN field technical team by the technical coordination of CI. Meetings and work tables were also held to learn about the results, impacts and difficulties in the implementation with the subscribing families.

In addition, the protocol for signing (new and renewing) conservation agreements meant having training on this topic. There were 61 sessions with the participation of 1,790 subscribers in this period.

Monitoring and Surveillance Technical Team

The objective for the technical and monitoring team of the REDD project has been to strengthen their capacities mainly in community relations, facilitation in participatory processes, conflict analysis and management, and geographic information systems. There has been 26 training sessions between July 2016 and June 2018. This has facilitated the field work with the community and the monitoring of forest restoration in the AMPF.

The importance of having qualified personnel in the CI Staff should be noted since it has favored the development of training for park rangers of the BPAM management, mainly in the areas of GIS, analysis and management of conflicts, and facilitation techniques for participatory processes.

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. In addition to the training in analysis and management of conflicts aimed at key personnel in the AMPF management, the PNA Head has participated in a course and a workshop on sustainable tourism in Protected Areas and management of PNA; both held abroad, the first one in Spain and the second in the United States. The purpose of this training was to articulate actions with other entities and look for the technical and financial sustainability of the area at a social, economic and environmental level.

The training on gender and equal opportunities received by technicians of conservation agreements help evaluate and measure the participation and involvement of young people and women in the project and to help consolidate the social platform for the benefit of the AMPF.

2.4.3 Community Employment Opportunities (G4.4)

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. 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.

Of the total number of personnel hired during the evaluation period for the REDD project, 66% (75 out of 114 professionals) come from San Martín and from adjoining regions such as Amazonas and Loreto. This percentage has not changed in the last years taking into account that the purpose of the project is to forge local capacities in order to empower the conservation of ecosystems and forests of the AMPF. It should be noted the high level of knowledge about the local environmental context that professionals from the region have which, coupled with the capacity to arrange and engage with the local population around the project, helps to shorten times in different processes.

2.4.4 Relevant Laws and Regulations Related to Worker's Rights (G4.5)

A comprehensive list of laws and regulations covering worker's rights in Peru is described in the section G4.5 of CCB PD. In additional CI has specific policies that goes beyond the formal regulations to ensure a safe, comfortable, enriching work environment. These policies include, for example, Anti-Discrimination and Equal Opportunity Employment Policy, Harassment Policy, Professional Development Policy, and Workplace Conduct Policy. CI follows all the labor laws and regulation, and its internal policies and ensure that employees are aware of them.

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 (Sup.Inf_MIR_06).

Since the Project is developed in the AMPF where SERNANP is the main authority, the induction protocol for the new worker is carried out following the guidelines designed by the State which has the purpose of empowering the functioning of the System of Natural Protected Areas and the self-conservation of Protected Natural Areas. Then, and according to the institution hiring the staff, the new personnel are made aware of the internal policies of work development.

2.4.5 Occupational Safety Assessment (G4.6)

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.

The security protocol has remained unchanged from the previous monitoring period and its implementation remains as planned (Sup.Inf_MIR_07). During this monitoring period, a series of training was provided to refresh these protocols

2.4.6 Financial Health of Implementing Organization(s) (G4.7)

The financial viability was evaluated as part of the Non-Permanence Risk assessment (see AM Non-Permanence Risk Report n5) and the evidences demonstrate an adequate financial health to continue to implement the project (Sup.Inf_nprt_06, 07a, 07b, and 08)

2.5 Legal Status and Property Rights

2.5.1 National and Local Laws (G5.1)

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.

2.5.2 Free, Prior and Informed Consent (G5.3)

The Alto Mayo Protected Forest is a natural area protected by the Peruvian State registered in Partida Registral N° 04015312 of the Sección Especial de Predios Rurales de la Zona Registral N° 3 (Special Section of Rural Plots of the Registration Zone No. 3) - Moyobamba – SUNARP (National Superintendence of Public Registries) on March 28, 2000. According to the Legal Report made in 2011 by the Peruvian Society of Environmental Law, the rural plot of the AMPF does not overlap with any pre-existing property of third parties. Furthermore, the main actions of the project are primarily implemented within the rural property of the AMPF and in the plots of farmers who voluntarily subscribe to the conservation agreements.

Under these premises, it can be concluded that there is no third-party property within the PNA AMPF. Therefore, private property rights are not violated. However, the activities promoted by the AMPF management are coordinated and consulted with the local population. The most visible example of this is the signing of conservation agreements, documents signed to the whole of their will by the parties. Likewise, we proceeded with the signing of the agreements between the AMPF Headquarters and the rondas campesinas (peasant patrols) during 2013.

So far, no claim on usurpation of private property has been sent to the PNA Headquarters nor to Conservation International or any of its partners, so, it is presumed that the local population that interacts with the project, be subscriber or non-subscriber, allied or contrary to the management of the PNA, has stated its position on possible violations of the right of private property by the project.

2.5.3 Property Rights Protection (G5.4)

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 started 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. The basic needs and the development infrastructure for the local population living in the AMPF are not possible to implement within this NPA because they are 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 2.3, 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, as well as test the implementation of the multisectoral actions (like health campaign and civic activities).

2.5.4 Identification of Illegal Activity (G5.5)

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 2016 and April 2018, more than 558 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 70 prosecutions (40 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 2.1.1.

3 CLIMATE

3.1 Monitoring GHG Emission Reductions and Removals

3.1.1 Data and Parameters Available at Validation

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.

3.1.2 Data and Parameters Monitored

Data / Parameter	Forest Cover and Change Map (2016-2018)
Data unit	Map
Description	Digital map of forest cover in 2018 and change 2016-2018 in the project area and leakage belt (Figure 3 and Figure 4)
Source of data	Sentinel-2 (MR Table 01.a.)
Description of measurement methods and procedures to be applied	Satellite imagery-based forest cover change classification using decision tree and RandomForest methods.
Frequency of monitoring/recording	At every verification period
Value monitored	0.5 ha of forest patch as minimum threshold
Monitoring equipment	QGIS 2.18 and R statistical program 3.4.4
QA/QC procedures to be applied	Quality Control and Assurance procedures are detailed in the Methodological Annex. The overall map accuracy is above the 90% required by the VM0015
Purpose of the data	Calculation of project emissions and leakage.
Calculation method	n/a
Comments	Raster format – 30m resolution – projection system UTM zone 18S – datum WGS84. GIS files provided to the verifier.

Data / Parameter	ABSLPAi,t
Data unit	ha yr^{-1}
Description	Annual area of observed deforestation in the project area for the period 2016-2018
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 monitored	GIS files of the project boundary
Monitoring equipment	Computer and QGIS 2.18 and ArcGIS 10.5 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
Purpose of the data	Calculation of project emissions
Calculation method	Spatial Analysis tool (tabulate area in zonal statistics toolbox)
Comments	n/a

Data / Parameter	ABSLLKi,t
Data unit	ha yr^{-1}
Description	Annual area of observed deforestation in the leakage belt for the period 2016-2018
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 monitored	GIS file of the leakage belt
Monitoring equipment	Computer and QGIS 2.18 and ArcGIS 10.5 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
Purpose of the data	Calculation leakage.
Calculation method	Spatial Analysis tool (tabulate area in zonal statistics toolbox)
Comments	n/a

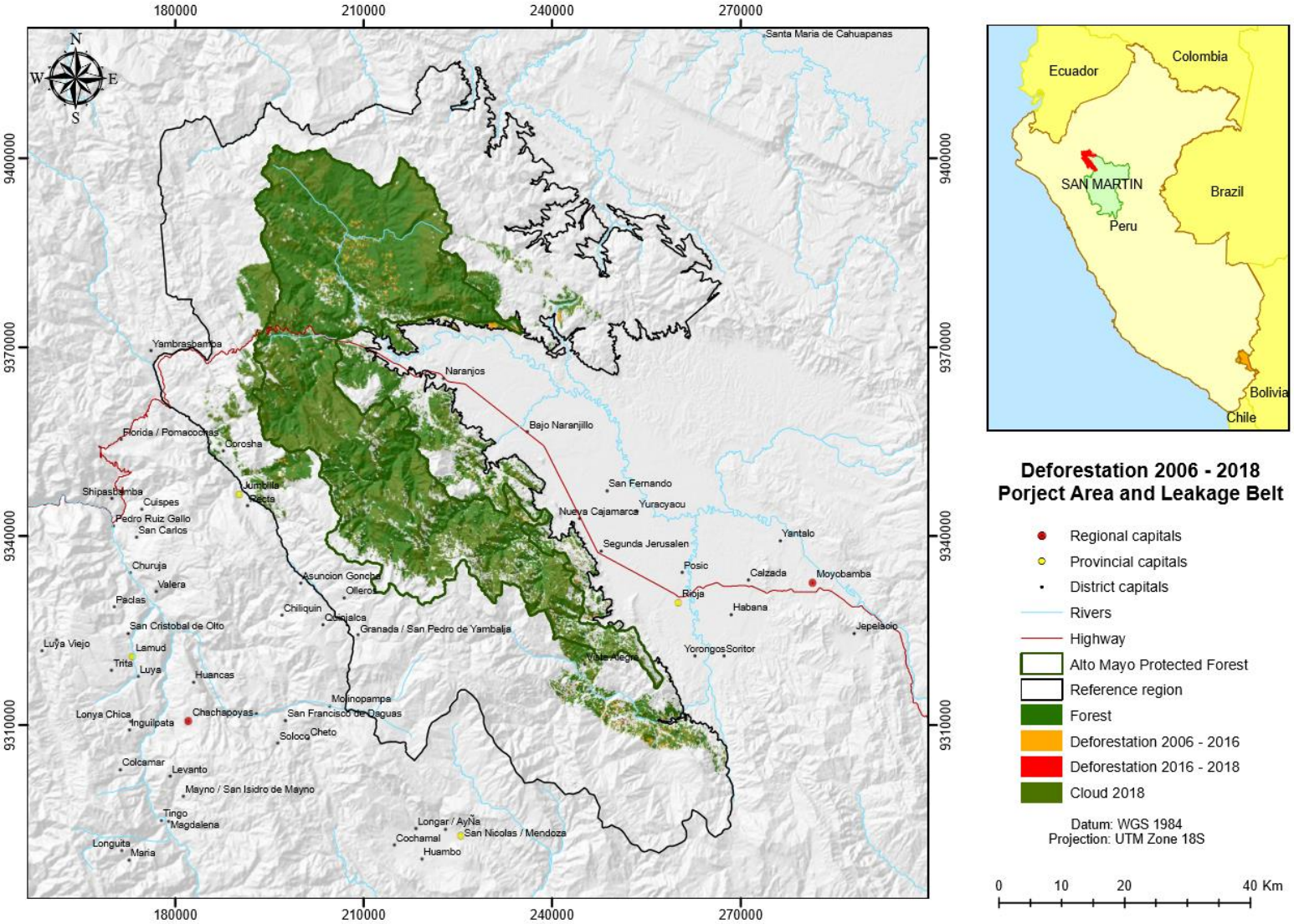

Figure 3 -Deforestation map 2006-2018. It shows the observed changes between forest and non-forest classes within the project area and leakage belt

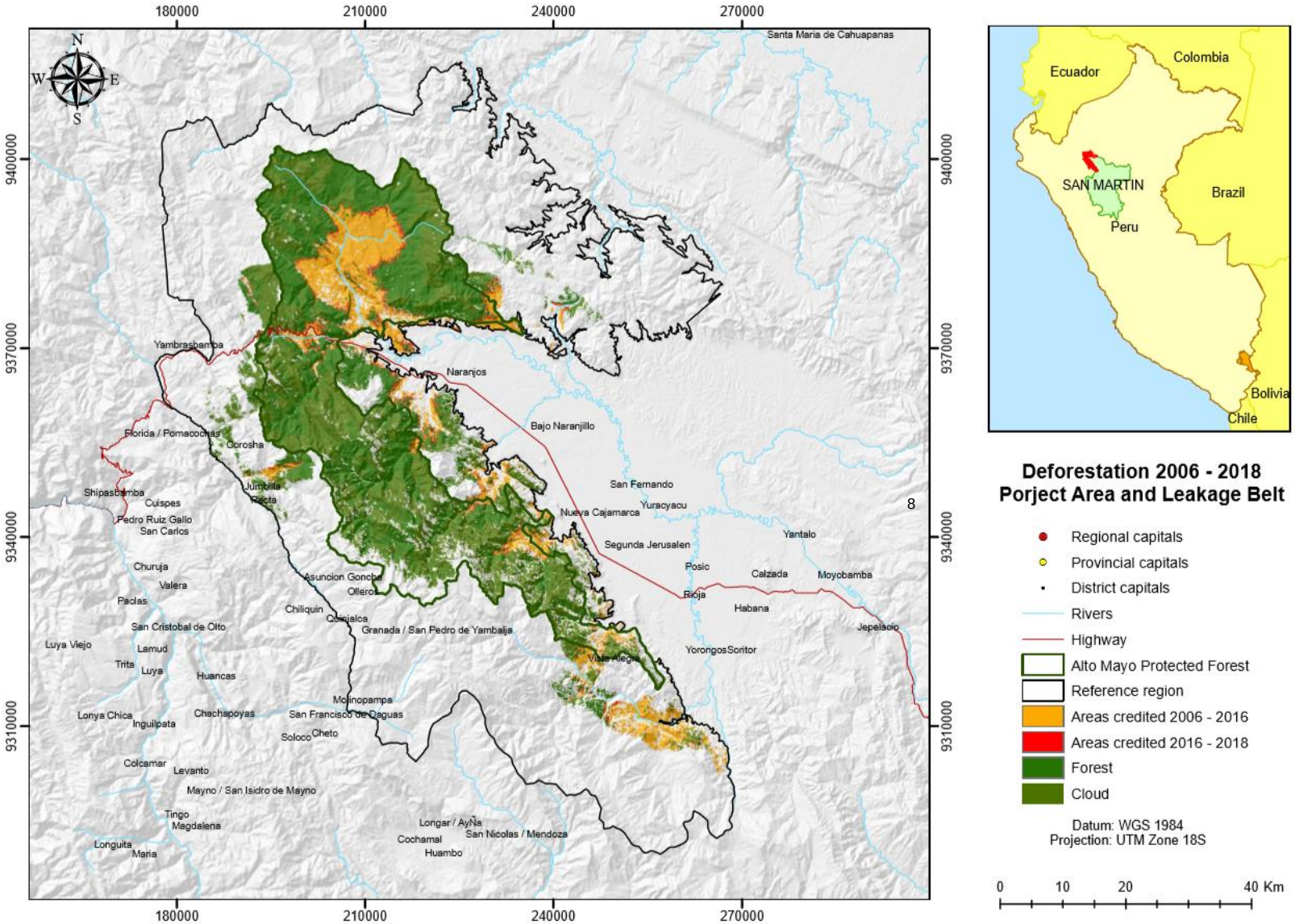

Figure 4 - Map of cumulative areas credited for the 2016-2018 monitoring period

3.1.3 Monitoring Plan

The project followed all the process and schedule described in the monitoring plan. There was no deviation or changes of the methodology or monitoring plan – excepted the ones described in Section 2.2.4. A full description of the data management plan of AMCI's monitoring plan is provided in the Section 4.3 of CVS PDD, and the technical description of the monitoring process is detailed in the VCS PDD's Methodological Annex (part 3). These two documents describe:

- The organizational structure, responsibilities and competencies of the personnel that carried out the monitoring activities.
- The methods used for generating/measuring, recording, storing, aggregating, collating and reporting the data on monitored parameters.
- The procedures used for handling any internal auditing performed and any non-conformities identified.
- The implementation of sampling approaches, including target precision levels, sample sizes, sample site locations, stratification, frequency of measurement and QA/QC procedures.

Below we summarize the main technical steps of the land cover and change monitoring procedures. 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 (Sup.Inf_MIR_08a+b).

1. The land cover and change maps were produced following the technical steps described below and detailed in Sup.Inf_MIR_08, 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_MIR_09. 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 (DD/MM/YY)	Scene or point identifier	
		Spatial	Spectral (µm)	(km^2)		Path / Latitude	Row / Longitude
Sentinel-2	MSI	10m	0.4 – 2.5	100 x 100	28-Jul-18	T18MTU	T18MTU
Sentinel-2	MSI	10m	0.4 – 2.5	100 x 100	28-Jul-18	T17MTU	T17MTU
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	2-Jul-18	9011	4353
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	24-Aug-18	8296	4057
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	24-Aug-18	8310	4056
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	24-Aug-18	8311	4056
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	24-Aug-18	8360	4297
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	24-Aug-18	8892	4310
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	24-Aug-18	8321	4063
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	24-Aug-18	8308	4064
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	25-Aug-18	8454	4105
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	25-Aug-18	8961	4388
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	25-Aug-18	8877	4298
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	25-Aug-18	8881	4303
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	25-Aug-18	8430	4107
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	28-Aug-18	8884	4311
Planet	PlanetScope	3m	0.45 – 0.86	8 x 25	24-Aug-18	8871	4313
RPAS Phantom 4 Pro	RGB	5cm – 16cm	0.4 – 0.7	1.5 x 2	12-Set-17	-	-
RPAS Phantom 4 Pro	RGB	5cm – 16cm	0.4 – 0.7	2.5 x 6	28-Oct-17	-	-
RPAS Phantom 4 Pro	RGB	5cm – 16cm	0.4 – 0.7	2.5 x 4	23-Ene-18	-	-

RPAS Phantom 4 Pro	RGB	5cm – 16cm	0.4 – 0.7	1 x 3	19-Apr-18	-	-
RPAS Phantom 4 Pro	RGB	5cm – 16cm	0.4 – 0.7	3 x 3	8-Aug-18	-	-

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

3. The images were classified in two-date image stacks (2016/2018) 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 QGIS using a neighborhood majority filter 3x3. Then the map product was processed to eliminated patches less than 0.5-hectare in size.

5. Areas of change from forest to non-forest were extracted from the final 2016-2018 land-cover change map and overlaid on the forested area from the original 2016 classification to create the updated 2018 land-cover map. Thereby minimizing the amount of erroneous transitions and reducing the map agreement error.

6. Areas of cloud in the 2016 land cover map were updating using a two-date images stack form 2006-2018, and then updated following the same methods described in steps 3-5. Areas that were obscured by clouds in 2018 were excluded and will be updated in future monitoring periods.

The project used high resolution images (3 m) circa 2018 and imaged collected with drones to validate the final land cover change. 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), 200 points were distributed over the observed 2016-2018 deforestation, however, some points fell out the image range and only 113 points checked on the high-resolution images. These points were allocated randomly using a GIS tool. The GIS Specialist did a visual interpretation of the classes (forest and non-forest) observed in the high-resolution images for each of the pointed and recorded in a excel spreadsheet (Sup.Inf_MIR_09). 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 2016-2018 classification was 90%, above the minimum accepted accuracy of 80%. See Table 3 for the confusion matrix. In addition, the accuracy of commission (or false alarms) was 96% (69 out of 72 points) and omission accuracy (or misses) was 88% (69 out of 78).

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	44	9	53	83%
Non-Forest	3	69	72	96%
LC Classes Map total	47	78	125	
Producer's accuracy	94%	88%	**Overall Accuracy of Land Change Map (113/125) % = 90%**	

3.1.4 Dissemination of Monitoring Plan and Results (CL3.2)

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.

3.2 Quantification of GHG Emission Reductions and Removals

3.2.1 Baseline Emissions

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 2018 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 (2018 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
2017	0	399	1,593	520	0	88	827,877	827,877
2018	0	399	1,504	520	0	88	781,410	1,609,287

MR Table 02.b. Baseline carbon stock changes in post-deforestation (non-forest) classes in the project area during the monitoring period (2018 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
2017	1,593	93	148,650	148,650
2018	1,504	93	140,320	288,970

MR Table 02.c. Total baseline carbon stock changes in the project area during the monitoring period (2018 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
	$CBSLPAi_t$	$CBSLPAi$	$CBSLPAf_t$	$CBSLPAf$	$\Delta CBSLPA_t$	$\Delta CBSLPA$

	tCO_2-e	tCO_2-e	tCO_2-e	tCO_2-e	tCO_2-e	tCO_2-e
2017	827,877	827,877	148,650	148,650	679,227	679,227
2018	781,410	1,609,287	140,320	288,970	641,089	1,320,317

3.2.2 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, 2012-2014, or 2014-2016) but observed in 2018 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 (2018 cloud free)

	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
Project year *t*	$APSPA_{icl,t}$ 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
2017	3	399	207	520	20	88	110,186	110,186
2018	3	399	207	520	20	88	110,186	220,371

MR Table 03.b. Ex-post carbon stock change in post-deforestation (non-forest) classes in the project area during the monitoring period (2018 cloud free)

	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
Project year *t*	$APSPA_{fcl,t}$ ha	$Ctot_{fcl,t}$ tCO_2-e ha^{-1}	$\Delta CPSPAf_t$ tCO_2-e	$\Delta CPSPAf$ tCO_2-e
2017	230	93	21,415	21,415
2018	230	93	21,415	42,830

MR Table 03.c. Total ex-post carbon stock change in the project area during the monitoring period (2018 cloud free)

	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
Project year *t*	$\Delta CPSPAi_t$ 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
2017	110,186	110,186	21,415	21,415	88,771	88,771
2018	110,186	220,371	21,415	42,830	88,771	177,541

3.2.3 Leakage

The total baseline carbon stock changes in the leakage belt during the monitoring period (2018 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, 2012-2014, or 2014-2016) but observed in 2018 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 (2018 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
2017	0	399	1,066	520	45	88	558,104	558,104
2018	0	399	1,081	520	50	88	565,858	1,123,962

MR Table 04.b. Baseline carbon stock changes in final (post-deforestation) non-forest classes in the leakage belt during the monitoring period (2018 cloud free)

Project year *t*	Baseline carbon stock changes in final (post-deforestation) non-forest classes in the leakage belt ID_{fcl} = non-forest		Total baseline carbon stock changes in final non-forest classes in the leakage belt	
			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
2017	1,112	93	103,721	103,721
2018	1,131	93	105,475	209,196

MR Table 04.c. Total net baseline carbon stock change in the leakage belt during the monitoring period (2018 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
2017	558,104	558,104	103,721	103,721	454,383	454,383
2018	565,858	1,123,962	105,475	209,196	460,383	914,766

The total ex-post actual carbon stock changes in the leakage belt during the monitoring period (2018 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 (2018 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
2017	0	399	138	520	6	88	72,463	72,463
2018	0	399	138	520	6	88	72,463	144,925

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 (2018 cloud free)

	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
Project year *t*	$APSLK_{fcl,t}$ ha	$Ctot_{fcl,t}$ tCO_2-e ha^{-1}	$\Delta CPSLKf_t$ tCO_2-e	$\Delta CPSLKf$ tCO_2-e
2017	145	93	13,506	13,506
2018	145	93	13,506	27,011

MR Table 05.c. Total ex-post actual carbon stock changes in the leakage belt during the monitoring period (2018 cloud free)

	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
Project year *t*	$\Delta CPSLKi_t$ 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
2017	72,463	72,463	13,506	13,506	58,957	58,957
2018	72,463	144,925	13,506	27,011	58,957	117,914

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 (2018 cloud free)

	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
Project year *t*	$\Delta CBSLLK_t$ tCO_2-e	$\Delta CBSLLK$ tCO_2-e	$\Delta CPSLK_t$ tCO_2-e	$\Delta CPSLK$ tCO_2-e	ΔCLK_t tCO_2-e	ΔCLK tCO_2-e
2017	454,383	454,383	58,957	58,957	395,426	395,426
2018	460,383	914,766	58,957	117,914	401,426	796,852

3.2.4 Net GHG Emission Reductions and Removals

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 2016-2018 are summarized in MR Table 07a. All emission reductions from this reporting period will be issued with the vintage dates of 15 June 2016 – 14 June 2018 (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
2017	679,227	679,227	88,771	88,771	590,457	590,457	0	0	590,457	590,457	59,046	59,046	531,411	531,411
2018	641,089	1,320,317	88,771	177,541	552,319	1,142,776	0	0	552,319	1,142,776	55,232	114,278	497,087	1,028,498

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

	Baseline carbon stock changes	***Ex post* project carbon stock changes**	***Ex post* leakage carbon stock changes**	***Ex post* net anthropogenic GHG emission reductions**	***Ex post buffer credits****	***Ex post* VCUs tradable**
	total $\Delta CBSLPA$	total $\Delta CPSPA$	total ΔCLK	total $\Delta REDD$	total VBC	total VCU
Project year *t*	tCO_2-e	tCO_2-e	tCO_2	tCO_2-e	tCO_2-e	tCO_2-e
2016-2018	1,320,317	177,541	0	1,142,776	114,278	1,028,498

3.3 Optional Criterion: Climate Change Adaptation Benefits

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

4 COMMUNITY

4.1 Net Positive Community Impacts

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. The Table 4 summarizes the expected impacts on the communities.

Table 4 - List of impact on communities 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. 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.	9. Decrease economic opportunities from illegal activities 10. Decrease provision of basic services within the AMPF 11. Improved control over the expansion of the agricultural frontier 12. Less support from land holders to their families in the area of origin
Outside Project	13. Ecosystem services of the AMPF (water and soil) are maintained and improved for the benefit of the population outside the project zone. 14. Technology is transferred to improve coffee production systems outside project zone. 15. New projects for sustainable development of the Alto Mayo watershed are leverage.	16. Demand for conventional coffee practices are displaced to native communities increasing unsustainable land use in areas rented by them. 17. Customary uses of the native communities are affected by increased surveillance and control program of the PNA.

Note that, in order to comply with the new VCS-CCBS reporting template, the impacts were numbered in a sequential order in Table 4, however might not be listed in a logical sequence in the sub-sections. The Table 4 follows the assumptions and design developed in the monitoring plan.

4.1.1 Community Impacts (CM1.1)

Impact 1: Governance of the AMPF is strengthened

The strengthening of governance within the framework of the project is mainly focused on supporting the effectiveness of the AMPF Headquarters and consolidating the institutionality of the Management Committee. In this sense, SERNANP has continued to be supported by financial resources through a donation agreement of 2 million soles which are used for equipment, food and logistic expenses in patrol activities, conditioning of checkpoints, payment of park guards, technical and administrative personnel, and for office expenses. These resources, in addition to the resources directly allocated by SERNANP, contribute to an effective work for the sustainability of the AMPF (Sup.Inf_MIR_01).

The Management Committee continued to receive financial support to carry out its executive meetings and assemblies, which deal with important issues for the AMPF and which purpose is to provide support for the correct decision making of the AMPF Headquarters. During this period, 4 assemblies and 9 executive committee meetings were held.

In this last period, support has been given to the AMPF Headquarters and the Management Committee to participate in the Aguas Verdes Technical Board, where multi-level public and private entities (national, regional and local) seek to mitigate negative social impacts in the PNA. The engagement of entities such as the Regional Government, the Economic Development Office, the Regional Environmental Authority, the Municipality of Rioja, the Presidency of the Council of Ministers, as well as the congressmen representing San Martin region has facilitated the efforts made to achieve the involvement of the highest level authorities with the AMPF.

It is worth mentioning that, the CI team provides continuous technical advice to the AMPF Headquarters and the Management Committee to make their participation effective in the different public/private spaces around the PNA.

Technical documents for the management of the PNA have been designed and approved by the Headquarters in this period. The implementation of these will consolidate the social processes in the AMPF. Some of the most important documents are: the Research Strategy (Sup.Inf_MIR_10), the Plan for the Management of Renewable Resources (Sup.Inf_MIR_11), the Community Development Plan (Sup.Inf_nprt_17), and the Plan for Touristic and Recreational Use (Sup.Inf_MIR_12).

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

The COOPBAM was created at the end of 2014. It is the first producer cooperative within a PNA in Peru to subscribe conservation agreements. This demonstrates that the cooperative is compatible with the creation objectives of the AMPF.

The COOPBAM, with the support of an allied cooperative, exported its first production to Denmark in 2015. Around 14 thousand kilos of coffee generated an income close to $58 thousand. However, when exported through another cooperative, the net profits of the COOPBAM were minimal. This made the partners react and decide to obtain organic and fair trade certifications as well as direct export rights. Therefore, during the 2016 campaign, the COOPBAM directly exported around 45 thousand kg of coffee of high quality achieving an income superior to $ 185 thousand. This meant breaking down the barriers that kept the cooperative from growing. The biggest commercial milestone of 2016 was the articulation of a coffee container acquired by OPTCOP, importer of Joffrey's Coffee and Tea Company, the exclusive coffee supplier of the Disney theme parks, where the COOPBAM coffee is sold.

The 2017 campaign capitalized on all the lessons learned during the first years of the COOPBAM. More than 250% was exported in quantity (113 thousand kg) and 266% of income ($ 492 thousand) was obtained. However, the most outstanding aspect of that campaign was the commercial articulation to markets of greater quality demand such as Red Fox and the consolidation of a strong commercial relationship with HACOFCO, a German importer that bought a container in 2016, three in 2017 and has already bought four containers during 2018 with an intention of additional purchase depending on the production capacity. In conclusion, 2017 has been the year for the business growth of the COOPBAM.

Five containers of coffee have already been exported in 2018, equaling the amount of coffee exported. There are also purchase intentions for another five containers. It is expected that the COOPBAM will generate sufficient income in this campaign so as to break the informal financing mechanism that most of its partners possess. This is the main reason why the levels of stockpiling are much lower than the productive capacity.

Also, the COOPBAM membership has increased. During the last verification period (2014 - 2016), only 203 subscribers were part of the cooperative. In 2017, the membership reached 280 and this 2018, 336 subscribers are part of it. In all these years, the organic certification has been renewed, maintaining an average of more than 500 hectares where coffee is produced under high socio-environmental standards.

In addition to the amount of coffee exported (more than 285 thousand kg) and the revenues generated (more than $ 1.2 million), the COOPBAM´s main contribution to the management of the PNA is to share their experience with the local population and the public and private institutions and to demonstrate that the model proposed by the project, that is, to increase the welfare of families by conserving the AMPF, is possible and generates significant benefits and contributions to the development of this part of the region.

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 2016-2018 period there have been 81 training practices on the sustainable improvement of coffee health families, and pitahaya cultivation with 2,000 attendees and over 5,000 hours of technical assistance in the same period.

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 2018. The average amount invested by each subscriber was S/. 724.

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 (Sup.Inf_MIR_01).

In terms of sales, coffee with organic and fair trade certification, exported directly through the COOPBAM (Cooperativa de Servicios Múltiples Bosque del Alto Mayo), was sold at a price between US $ 190.00 and US $ 250 per quintal in 2016. During 2017, the minimum price was still US $ 190.00 and the maximum was US $ 260.00. At the beginning of 2018, the price of US $ 190.00 per quintal was maintained. The sales volume reached in 2016 was 1,194 QQ. In 2017, 2,434 were sold -50% more than in the previous year-, and in 2018, 2,475 QQ have been stockpiled so far.

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

Since the first monitoring period, the project shown a positive impact improving the living conditions of people living in the AMPF. Also, all economic activities promoted by the project to improve living conditions of local population are aligned with the AMPF conservation objectives.

Since the previous monitoring period, the project started using the Progress out Poverty Index (PPI)[14] to quantify the improvement of living conditions of the AMPF settlers. In the previous monitoring period 2014-2016 the index showed that 44.1% of the population was living below the poverty line.

This period PPI showed that 46.7% of the AMPF population is living below the poverty line. It is important to mention that several factors such as the error range (-8.6/ +8.2), the small sample size and the short period of analysis (2 years), make difficult to evaluate the progress on living conditions of the local population.

However, according to the answers gave by the project beneficiaries, 54% of them perceive that their economic well-being improved and 98% of them associate this to the signing of conservation agreements. Also, 99% of beneficiaries have access to primary schools and 56% have access to secondary schools. Additionally, 70 % have access to a dispensary, health center or medical post. Access to drinking water is still a challenge, because only 2 % of subscribers have access. Nevertheless, 21% of subscribers mention this service improved with the project intervention.

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

During this monitoring period, the impact generated by economic alternatives and conservation actions wages continues. Through the promotion of economic alternatives on conservation actions 294 wages were generated and S/. 17,947 (soles) were paid to 148 people, including subscribers and their families. Is important to mention that these numbers include conservation activities such as reforestation, nursery activities and patrolling and are additional incomes to the ones generated through the increase of crop productivity due to the implementation of best practices from the conservation agreements.

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

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

During this period, environmental education activities were focused on adult population within the forest and on higher education students in the main cities of Alto Mayo (Moyobamba, Rioja and Nueva Cajamarca). A total of 2205 participants were reached through awareness campaigns and educational fairs and 450 participants through specific training. Likewise, with the support of 33 management participants, mainly park rangers and office staff, campaigns were carried out to clean the rivers and collect waste.

The contents of this stage were aimed at explaining the connection between ecosystem services and local wellbeing, and to promote analysis and critical thinking about the impact and value of nature conservation in the life and wellbeing of families. These contents were systematized in a workshop management methodology called "Nos vemos en el bosque" ("See you in the forest"). In order to develop this methodology, 26 AMPF park guards and 16 conservation supporters were trained. As a complement, 9 didactic packages were produced to be used during the presentations.

In a complementary way, a radio campaign called "A conservation history in the Alto Mayo Protected Forest" was developed in two stages of dissemination. The first stage includes 3 radial spots. Also, the book "Voces del Alto Mayo" ("Voices of Alto Mayo") coedited with the Alto Mayo Protected Forest was published. Both products highlight the change of life of the subscribing families and their new vision on development, from a conservation point of view.

With respect to the school population, the Tierra de Niños (Children's Land) program continued in 3 Educational Institutions throughout each school year and in 2017 a competition for the implementation of school environmental projects was carried out involving 12 Educational Institutions of Alto Mayo.

Also, the institutional relations in Alto Mayo were reinforced through sustained participation in 6 environmental fairs and festivals related to sustainable development. Recreational activities and exhibitions were developed by the 25 Hinchas de la Conservación (Conservation Fans) and 5 park rangers trained in environmental awareness. These were meant for schoolchildren and young people from the provinces of Moyobamba and Rioja. These events allow the management of the Alto Mayo Protected Forest to be articulated to the objectives of the state entities for regional development, thus improving the profile and image of the institution.

4.1.2 Net Positive Community Well-Being Impacts (CM1.1)

Overall, the net socioeconomic impacts in the project area are quite positive. The successful implementation of conservation agreements in the area has enabled a transition to more sustainable practices and livelihoods, thus reducing the potential negative impacts associated the elimination of illicit activities – namely, a decrease in overall economic activity in the area in the form of both wages and services, in this case,

Impact 9: Economic opportunities arising from illegal activities are decreased

By 2018, subscribers and non-subscribers continue reducing their illegal economic activities in the AMPF such as hunting, wood loading and chainsaw operating. The field survey revealed that of the total number of subscribers who quit doing some type of activity in the AMPF, 40% quit doing illegal activities. The same trend occurs with non-subscribers.

It is important to mention that 90% of the income generated by subscriber's wages comes from legal and conservation activities.

Impact 10: Provision of basic services within the AMPF is decreased

Contrary of what was supposed to happen because of the enforcement of current legislation and regulations regarding natural protected areas, access to basic services such as education and health increased. To ensure compliance of legislation without decreasing basic services provision to the AMPF population, Conservation International and the AMPF Head Office develop a strategy to provide basic services in areas designated by law and complementary activities and alliances that allow improving access to these services specially in sectors where conservation agreements are being implemented and the population have a commitment to preserve the AMPF. Since the last report, CI has supported the coordination of 2.5 million dollars of public funds for the construction of two field schools in the Aguas Verdes and Sol de Oro sectors. CI will also support the maintenance and operation costs of each of these schools.

According to the field survey 99% of subscribers have access to primary schools and 56% have access to secondary schools. 70% have access to a dispensary, health center or medical post. Compared to information gathered on the previous period, the percentage of people that could access to these services increased considerably. During this period three partnerships with national entities have been implemented in the buffer zone to promote access to basic services. Also, in the buffer zone, one dispensary and 11 schools were improved because of project advocacy. Is important to mention that 62% of subscribers mention access to basic services maintain the same or improved because of project implementation.

Access to drinking water is still an important challenge to be addressed. Only2 % of subscribers have access to drinking water.

Impact 11: Control over the expansion of the agricultural frontier is improved

The obligation generated by the signing of conservation agreements involves the commitment of not increasing the area for agricultural production, which is why the conservation agreement becomes the main tool to control this impact. Coffee technicians in the field are the ones who assist with enforcement of this obligation and the one of not deforesting primary forest.

Since last monitoring period the number of conservation agreements with settlers has increased by 18%, meaning not only an increase of control for the expansion of the agricultural frontier but also an increase of the number of conservation allies in the forest to prevent new entrances to the area that could potentially install new agricultural plots.

Patrolling, performed by AMPF park rangers, is another way to monitor deforestation. During this period 558 patrolling entries 48 special patrolling and 510 routine patrolling were developed. The process of using unmanned aerial vehicles (drones) is being used to monitor Conservation Agreements areas. Almost 50% of the area have been overflight to create the base line that will allow the project to implement the monitoring of the forest cover in this area and the land use map.

Impact 12: Families located in their area of origin receive less support from AMPF settlers

The project assumed that due to the project implementation and control of illicit activities the AMPF settlers would have less incomes and consequently less chances to send remittances to their families in their area of origin. However, with the increase of conservation agreements and the alignment with the AMPF objectives, illegal activities were reduced, but the settlers' incomes maintained or even increased. As observed in the field survey, over 54% of settlers perceived an improvement in their income coming from legal activities and 43% maintain their incomes.

4.1.3 Protection of High Conservation Values (CM1.2)

In general, all the population groups in the Alto Mayo basin (settlers, native communities, and peasant communities) make small scale use of different areas of the AMPF to meet some of their basic needs, characterizing HCVs. The areas within the AMPF, where resources such as firewood and construction materials are used and the collecting of different forest products is made, are concentrated in areas near the population centers of the main sub-basins where population is settled.

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.

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 2016-2018 socio-economic survey, settlers have pointed out that water, fresh air, firewood, medicinal plants, and bush meat are the 5 most valued ecosystem services provided by the AMPF. The order of ecosystem services importance is the same as the previous reporting period. It is important to mention that not only subscribers (99%) but non-subscribers (98%) consider that the forests of AMPF are very important for their livelihoods and development.

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. As observed in the field, firewood that is collected for cooking 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. To further reduce the consumption of firewood the project has implemented during this period 185 improved cook stoves, these stoves reduce firewood use by up to 52%.

This reporting period, the Head Office has received and evaluated only 6 requests for timber use of fallen trees for housing restoration purposes. Compared to last period this number reduced considerably by 67%.

4.2 Offsite Stakeholder Impacts

4.2.1 Mitigation of Negative Impacts on Other Stakeholders (CM2.2)

The specific indicators selected to monitor the impact on offsite community demonstrated that minimal if any negative impacted was observed. Overall, there is a positive impact mostly supported by the implementation of sustainable practices in the buffer area carried out by CI Peru.

Impact 16: 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 this reporting period partnership with the Shampuyacu and the Alto Mayo Native Communities continue, and Conservation Agreements have been signed with both communities to conserve their forest as well as shift from conventional coffee management to sustainable practices, involving not only community members but also land tenants.

Due to conservation agreements benefits 34 hectares of cacao and 43.5 hectares of coffee are managed under sustainable practices in Alto Mayo community and 42 hectares of cacao and 48 hectares of coffee in Shampuyacu.

Impact 17: 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 since 2014 to date 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.

4.2.2 Net Impacts on Other Stakeholders (CM2.3)

This region overall is rich with natural and cultural resources, and current and expected future net impacts on other stakeholders are positive. Overall, benefits have related specifically to the provision of

ecosystem services in the form of clean water, the development of PES compensation mechanisms, technology transfer to beyond the direct project participants, and an increase in investment in the area.

Impact 13: 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 was able to avoid 2,638 ha of forest loss in 2016-2018 and over 17,310 ha since the project start date in 2008, which corresponds to 7.4 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 SEDAPAR S.R.L -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 14: 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 90% 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: the implementation of Farm Field Schools (FFS) in the Native Community of Shampuyacu and the Native Community of Alto Mayo continues. The training of local promoters in the management of cacao and coffee crops started in 2016 on to 2018. Trainings are composed of eight thematic modules, where participants are taught best practices for growing coffee and cacao, using the technical package implemented in the AMPF. Emphasis has been given to replace chemical weed control with mechanical methods, because the use of herbicides is widespread due to their availability and low cost. Field School is complemented with internships in places that have had successful experiences in the management of these crops such as San Ignacio, Chazuta and Juanjui. Conservation Agreements were signed with both Communities in 2017, which generated a positive impact, improving cultivation practices in a sustainable manner. Also, an Association of Communards which started their first activities of commercial articulation during 2018 has started its operations in Alto Mayo. This has helped to minimize the percentage of deforestation in a great manner.

- Coffee growers and cacao farmers: the project has been working with coffee and cacao producers in the districts of Jepelacio, Habana, Calzada and Elijah Soplín Vargas in order to strengthen their productive and organizational capacities. In that sense, field schools for farmers are being implemented on topics such as: business administration, partnership and best agricultural and processing practices. Direct technical assistance is provided to more than 400 families and technical assistance continues to be provided to the producers' organization created in 2015: Cooperativa Diamante Verde - COODIVER.

- The work with farmers settled in Ecosystem Conservation and Restoration Zones (ECRZs) has continued during the current reporting period, through training workshops with the populations of three ECRZs. The workshops dealt with practical methods for raising native bees as an alternative to diversify production and raise farmers' awareness about the potential economic value of local biodiversity. In addition, an ecological restoration pilot project, which includes the training of the population in various areas such as the installation of family gardens, began in January 2016 in the Alto Mayo ECRZ wetland.

Impact 15: New projects for sustainable development of the Alto Mayo watershed are leverage

During 2016 to 2018, the portfolio of projects implemented by CI Peru outside the AMPF involved an investment of more than $ 9 million. This included four ongoing projects. Work has been prioritized in the Awajun indigenous towns, located in both the BZ of the AMPF and the upper area of the Mayo River basin, because most of the landscape scale deforestation is concentrated in these communities. The forests of these communities are being leased to migrant population to establish temporary crops, mainly rice and coffee, as well as tabasco red pepper, pineapple, banana and cacao. The technical unsustainability in the production of these crops will produce heavily degraded soils in these communities in the future. This will imply a greater deforestation of the indigenous forests and a greater demand of land by the migrant population, which can potentially put pressure on the forests or areas restored 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.

4.3 Community Impact Monitoring

4.3.1 Community Monitoring Plan Development (CM3.3)

Not applicable. The monitoring plan was developed and within one year from the validation and its implementation was verified in the second and third verification events, respectively 2015 and 2016.

4.3.2 Community Monitoring Plan Results (CM3.1, CM3.2, GL2.5)

During the monitoring period of this report 2016-2018, there was no deviation in the data analysis from the methods and procedures described in the *Protocolo de Monitoreo Socioeconomico*. Community variables were included in the validated project description, and all communities (including community groups, other stakeholders, and HCVs related to well-being) were identified in the monitoring plan. The community impact monitoring plan also outlines the dates, frequency, and other details for the sampling methods and monitoring process, along with evaluation of the monitoring.

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.

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.

4.3.3 Dissemination of Monitoring Plan and Results (CM3.3)

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. A poster was created with key information about the project and the main results of the monitoring report to facilitate the comprehension of local population. The poster was displayed in various parts of the AMPF and major towns in the project zone and made available to the VV body

4.4 Optional Criterion: Exceptional Community Benefits

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

5 BIODIVERSITY

5.1 Net Positive Biodiversity Impacts

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 5 summarizes the expected impacts on the biodiversity.

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

	Expected Impacts on Biodiversity	
	Positives	Negatives

Inside Project Zone	18. The habitat of high importance species for the biodiversity of the AMPF in conserved. 19. Habitat fragmentation of high importance species for the biodiversity of the AMPF is avoided. 20. High Conservation Value Areas of the AMPF is maintained and/or enhanced. 21. Populations of endemic and threatened species above its critical level are maintained and / or recovered. 22. Pressure reduced to ecosystems of the AMPF through the promotion of sustainable use practices by local people. 23. Operational capacity of the AMPF Head Office is strengthened and the response to the pressures on the area is improved. 24. Degraded ecosystems of the AMPF are restored through the implementation of reforestation and agroforestry systems. 25. Biodiversity and ecosystem services of the AMPF are recognized and valued by locals, who become allies in the conservation. 26. Illegal extraction of wildlife in the AMPF is reduced.	N/A
Outside Project Zone	27. Connectivity of the Conservation Corridor Abiseo-Cóndor-Kutukú – CCACK is maintained. 28. Ecosystem services of the AMPF (water and soil) are maintained and improved for the benefit of population outside project zone. 29. Biodiversity and ecosystem services by AMPF natural resources stocks outside project zone are recognized and valued. 30. Technology is transferred to improve coffee production systems outside project zone. 31. New projects for the conservation of biodiversity in the Alto Mayo are leveraged.	32. Deforestation of the habitat of the species of high importance for biodiversity is displaced to in the leakage belt. 33. Illegal extraction of flora and fauna is displaced to out of the project area creating additional pressure on forests in the buffer zone.

Note that, in order to comply with the new VCS-CCBS reporting template, the impacts were numbered in a sequential order in Table 5, however might not be listed in a logical sequence in the sub-sections. The Table 5Table 4 follows the assumptions and design developed in the monitoring plan.

5.1.1 Biodiversity Changes (B1.1)

Impact 18: 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 decreased 32% from 339 ha/y in the first monitoring period (2008-2012) to 230 ha/y in 2016-2018 (Figure 5), demonstrating the effectives of the project's strategies. In 2018, 150,365 ha of forest were successfully protected in the AMPF and over 2,600 ha of forest loss was avoided.

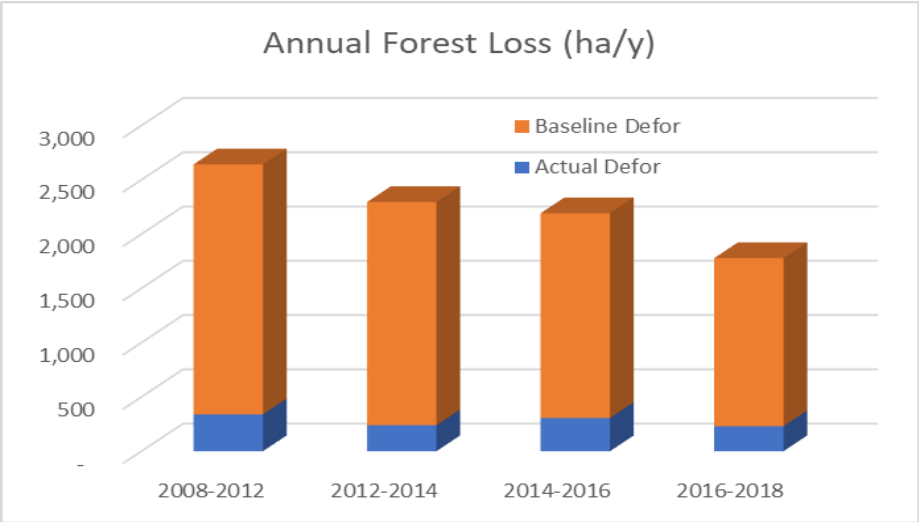

Figure 5 - Annual actual and projected deforestation per monitoring period

Impact 19: 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 (24% 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 21%). 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 (3%) 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 21: Populations of endemic and threatened species above its critical level are maintained and / or recovered

The monitoring of primates ended in June 2017 with the presentation of the book “AMPF Experiences” by the Titi Monkey Project (Sup.Inf_MIR_05), The book includes a summary of the primate evaluation carried out in 7 micro-watersheds (Naranjos, Naranjillo, Aguas Verdes, Yuracyacu, Serranoyacu, Huasta and Rio Negro). A primate baseline was set in all these micro-watersheds which included an evaluation of the social perception of primates, highlighting the recognized species and their main threats. The reduction of space due to agricultural and livestock activities is considered the main threat to the primate populations of the AMPF.

The monitoring of primates was carried out in 6 micro-watersheds. It covered 33 transects measuring more than 1 km each. These transects were paths used by local people. Opening new trails that could be used in such a way was avoided since they can cause a negative impact on the ecosystem in the future (i.e. selective logging and hunting).

The probability of primate sighting is linked to phenological changes, abundance of fruits and, at the same time, to the impact generated by the inhabitants settled in the area.

The Huasta sub-basin provided habitat for a greater number of primate species (L. flavicauda, A. miconax, S. macrocephalus and C. yuracus), but their monitoring could not be carried out due to conflicts with some inhabitants. In general, when monitored, the number of recorded species was equal or higher than the baseline.

The most commonly found species in all the sub-basins assessed was the Peruvian yellow-tailed woolly monkey (Lagothrix flavicauda), followed by the Andean white-fronted capuchin monkey (Cebus yuracus) and the Andean night monkey (Aotus miconax), unlike the large-headed capuchin monkey (Sapajus macrocephalus) that was only found in the Huasta sub-basin.

In 2018, the assessment of alternatives for the development of a participatory biodiversity monitoring was also proposed. In this sense, CI's experience in the development of the Tropical Ecology, Assessment and Monitoring (TEAM) Initiative was taken in advantage. This initiative has been widely used in the preparation of baselines and biological monitoring in protected natural areas worldwide (Sup.Inf_MIR_04). The new monitoring protocol will be implemented in the AMPF in 2018, with the group of terrestrial vertebrates mainly. This will allow evaluating the stability of trophic networks, identifying key species and assessing the large variety of species within the protected natural area.

The monitoring is primarily focused on evaluating significant differences in terrestrial vertebrate species in forest areas, degraded areas and agricultural land areas with good and bad practices that surround plots of subscribers of conservation agreements in the AMPF.

Impact 22: 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. 300 hectares of pilot plots under agroforestry systems were installed and 1747 hectares are under organic certification.

Impact 23: 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 38 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.

Five management documents were approved by the AMPF Headquarters: i) the Research Strategy (Sup.Inf_MIR_10), ii) Plan for the Management of Renewable Natural Resources (Sup.Inf_MIR_11), iii) the Tourism Plan (Sup.Inf_MIR_12), iii) the Community Development Plan, iv) the Management Plan for the Sustainable Use of Natural Resources, and iv) the Communication Plan, which have been implemented and have contributed to the fulfilment of the PNA goals (Sup.Inf_nprt_15a+b), and v) Stakeholder Engagement Plan (Sup.Inf_nprt_16).

During this period, CI Peru -in coordination with their Headquarters in Washington- has been able to raise about $ 2'300,000.00 from the sale of carbon credits, with the approval of SERNANP. This has served to continue implementing the conservation strategies of the forests and ecosystems of the AMPF.

Impact 24: 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 64,000 seedlings of native tree species have been produced and over 74,000 have been taken to the field and this has contributed to the restoration of more than 460 ha of forest, 295 ha under conservation agreements. Additionally, COOPBAM pursued the organic certification of 3,550 ha at annual basis where 1,345 ha of the total farm area are devoted to coffee crops. 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 293 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.

Impact 25: Biodiversity and ecosystem services of the AMPF are recognized and valued by locals, who become allies in the conservation.

In order to achieve this goal, communication and environmental education strategies addressed to the population within the forest were combined. The guiding objective was to incorporate the concept of conservation into the vision of local development. In that sense, the testimonies of the subscribers of Conservation Agreements were taken as inputs for the creation of audio-visual materials (story-telling videos), radio programs, computer graphics and editorials, and to generate content for social networks. These showed, in an experiential way, how the change of agricultural and production practices benefits the living conditions of families and -at the same time-, this change also benefits the state of conservation of ecosystems. The materials emphasize the direct relationship between each species of the AMPF biodiversity and the quality of human life. These efforts specially focused on the COOPBAM partners, who obtained recognition for the quality of their coffee production during this period. This context highlighted the importance of biodiversity as a key condition for achieving progress in this domain.

In addition, a series of merchandising articles was developed in relation to the most representative species in Alto Mayo and the role they play in the health of the ecosystem. These articles were delivered

during the awareness campaigns, which reached external and internal audiences of the AMPF; a total of 2,205 participants. As a specific effort, training on the importance of biodiversity was carried out involving 450 participants, in order to build capacity to transmit these key concepts. As a result of these communication campaigns, the vast majority of the population within the AMPF (99%) recognized the importance of the ecosystem services in their well-being and are willing to develop conservation actions.

Impact 26: Illegal extraction of wildlife in the AMPF is reduced

The results on environmental illicit activities reported by the surveillance and control area of the AMPF management office indicated that eight interventions were made on wood trafficking. There were 22 findings of logging and/or deforestation, 17 in primary forests and 5 in secondary forests. On the contrary, no wildlife traffic has been reported. These results, compared with the ones obtained in previous years, show a reduction of environmental illicit acts. This is due to a greater dissemination of the importance of conserving the forests of the AMPF, where park rangers have joined to carry out awareness actions for the local population and with whom they interact. In addition to this, they have the opportunity to work within the framework of conservation agreements, which provides economic development while keeping with the conservation of the PNA.

5.1.2 High Conservation Value Protection (B1.2)

Impact 20: 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 6 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 6 - 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	457	3,658	3,201

monkey / mono nocturno) *			
Flavicauda Lagothrix (yellow-tailed woolly monkey / mono choro cola amarilla) **	459	3,686	3,227
Callicebus oenanthe (titi monkey / *titi monkey*)**	1	9	8
Tremarctos ornatus (spectacled bear / oso andino)*	285	2,060	1,775

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

5.1.3 Invasive Species (B1.3)

Only native species have been used in the restoration areas, and is limited to: *Alnus sp (Aliso), Guadua sp (Bambú), Guazuma crinita (Bolaina), Pouteria sp (Caimito), Swietenia macrophylla (Caoba), Calycophylum spruceanum (Capirona), Micandra sp (Caraña), Cedrela odorata (Cedro), Guarea sp (Cedrón), Gustavia sp (Chope), Pouteria sp (Fruto Del Paraiso), Inga sp (Guaba), Ficus spp (Higuerón), Minquartia guianensis (Huacapu), Euterpe precatoria (Huasai), Tabebuia chrysantha (Huayacan Amarillo), Tabebuia sp (Huayacan Rojo), Jenipa sp (Jagua), Calophylum brasiliense (Lagartocaspi O Álfaro), Eugenia sp (Lanchillo), Guarea sp (Latapi), Cordia alliodora (Laurel), Leucaena leucocephala (Leucaena), Clarisia rasemosa (Mashona), Caryodendron orinocense (Metohuayo), Miconia sp (Miconias), Nectandra sp (Moena), Inga brachyptera (Pacae), Erythrina poepigiana (Pajurillo), Erithrina edulis (Pajuro), Vitex sp (Paliperro), Inga sp (Palta Paca), Artocarpus altilis (Pan De Arbol), Schizolobiun amazonicum (Pino Chuncho), Ireartea deltoidea (Pona), Manilkara sp (Quinilla Amarilla), Guarea trichilioides (Requia), Pouteria sp (Sacha Caimito), Colubrina glandulosa (Shaina), Inga sp (Shimbillo), Cedrelinga catenaeformis (Tornillo), Styrax sp (Tumbe), Pourouma cecropiaefolia (Uvilla), Terminalia oblonga (Yacushapana), Cybistax antisyphilitica (Yangua o Llangua), Matisia cordata (Zapote).*

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 (see Table 7).

5.1.4 Impacts of Non-native Species (B1.4)

Table 7 - Impacts of Non-native Species

Species	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).
Justification of Use	Agroforestry system for food security
Adverse Effect	No adverse effect was observed or previously documented

5.1.5 GMO Exclusion (B1.5)

No genetically modified organisms (GMO) have been used.

5.2 Offsite Biodiversity Impacts

5.2.1 Negative Offsite Biodiversity Impact Mitigation (B2.2)

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 impact analysis was made based on this premise by determining the progress in the threats 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 detail in section 2.2. Overall, no negative offsite biodiversity impact was observed at this monitoring period confirming that the measures taken to mitigate the threats were efficient.

Impact 32: 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 33: 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.

However, in order to monitor and ensure the change, a park ranger shelter has been set up in the Huasta annex of the Alto Mayo Native Community. This limits with the AMPF, so that patrolling and forests and biodiversity conservation monitoring tasks are carried out. The presence of park rangers in this place has

strengthened the relationship with the communities and settlers who settled down to work in the cultivation of coffee, also achieving awareness of the importance of the AMPF.

5.2.2 Net Offsite Biodiversity Benefits (B2.3)

Impact 27: 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 2018, 151,290 ha in the AMPF remain under intact forest cover in the project scenario, contributing to the connectivity and conservation of High Conservation Values in the CCACK.

Impact 28: 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.

It is important to mention that the 9 districts of the province of Rioja have their catchment of water for human consumption in the buffer zone of the AMPF. Additionally, CI and the Headquarters have been working on the Mechanisms of Retribution for Ecosystem Services, which since 2017 has been consolidating in the Rioja district, favoring around 30,000 inhabitants.

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.

Additionally, the Headquarters has received a request for technical opinion from 102 projects in the AMPF and its BZ; 73 of them are compatible with the PNA and are being developed in accordance with the conservation guidelines favoring the local population.

Impact 29: Biodiversity and ecosystem services provided by AMPF natural resources stocks outside project zone are recognized and valued.

Just like for the population within the forest, the communication strategy focused on generating content that shows the connection between the existence of biodiversity and human well-being. These contents were disseminated, mainly through the fan page of the AMPF, increasing the frequency of publication. At the end of this reporting period, page followers exceeded 11,000 and the half-yearly audience reached more than 250,000.

Regarding the written press, relations with local journalists were resumed, releasing relevant information related to nature and scheduling informative meetings. These public relations activities facilitated 160 positive mentions, out of the 203 regarding the AMPF. In the editorial line, efforts were concentrated on systematizing the achievements and the application model of conservation agreements in two emblematic publications, within the framework of the 30th anniversary of the creation of the forest. These are; the book Voces del Alto Mayo ("Voices of Alto Mayo") and the institutional brochure. As a complement, 3 videos were produced on representative stories of change of agricultural practices in the AMPF and 12 testimonial videos. Together, these materials reached an average of 1,600 people per month. Especially, in digital channels.

About spaces of direct dissemination, the messages about conservation were explained to more than 2 thousand students of basic and higher education. This was done thanks to the technicians of the management team and, mainly, to the 20 young people members of the program Hinchas de la Conservación (Fans of Conservation). The most frequent spaces were environmental fairs, festivals and classrooms of educational institutions of Alto Mayo and Lima.

Impact 30: 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 31: New projects for the conservation of biodiversity in the Alto Mayo are leveraged.

In addition to the investment made within the AMPF, CI Peru invests in strategic areas at the scale of the Alto Mayo landscape to ensure the maintenance of biodiversity connectivity through a mini conservation corridor that unites the AMPF and the awajunes communities of Alto May and Shampuyacu. The processes carried out in this mini corridor include the process of river restoration and reduction of chemical use through agroforestry systems, protection and maintenance of primary forests (including patches of flooded forests) (Sup.Inf_MIR_15a+b).

The use of trap cameras to record wildlife at strategic points in both communities as well as the monitoring of plant cover (primary forests and restored areas) through the use of drones, have registered important findings about large mammals and felines. They have also registered a decrease in the rate of deforestation in the Awajún community of Alto Mayo and an increase in the forest area in the agroforestry systems of both communities (Sup.Inf_MIR_16).

5.3 Biodiversity Impact Monitoring

5.3.1 Biodiversity Monitoring Plan Development (B3.3)

Not applicable. The monitoring plan was developed and within one year from the validation and its implementation was verified in the second and third verification events, respectively 2015 and 2016.

5.3.2 Biodiversity Monitoring Results (B3.1, B3.2)

During the monitoring period of this report 2016-2018, there was no deviation in the data analysis from the methods and procedures described in the *Protocolo de Monitoreo de la Biodiversidad.* The protocol along with the monitoring reports describes the dates, frequency, location and sampling methods. 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.

Data of over 100 metrics was analyzed and aggregated in several indicators (see Sup.Inf_MIR_01 for a complete list of indicators and results). The indicators were chosen based to demonstrate the impact of the strategies implemented by the project in conserving the biodiversity of AMPF, including the HCVs. 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. Similarly, more than one indicator is needed to demonstrate the impact and effectiveness of the strategies. In the sections above we highlight the aggregated the result and evaluation of monitoring to each of the expected (positive or negative) impact that the project will have.

5.3.3 Monitoring Plan and Results Dissemination (B3.3)

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. A poster was created with key information about the project and the main results of the monitoring report to facilitate the comprehension of local population. The poster was displayed in various parts of the AMPF and major towns in the project zone and made available to the VV body

6 ADDITIONAL PROJECT IMPLEMENTATION INFORMATION

The following paragraphs documents the additional information that clarifies and explains how the project has been implemented in accordance with the validated CCB and/or VCS project description.

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 2016-2018 period.

Areas identified as cloud in the 2018 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, 2014 and/or 2016 but reveled in 2018 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.

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). As consequence the project was not subject of grandfathering during this monitoring period.

7 ADDITIONAL PROJECT IMPACT INFORMATION

Exceptional Biodiversity Benefits (GL3)

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 8 shows the updated list of these species, as part of the criterion for the Gold Level on Biodiversity.

Table 8 - Species of fauna y flora Critically Endangered (CR) and Endangered (EN) in the project area

Scientific name	Common name	Threat Status (2010 IUCN)	Threat Status (2013 IUCN)	Threat status (2017 IUCN)
Atelopus pulcher	Harlequin frog	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
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
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 9 shows the updated list of these species

Table 9 - Vulnerable species (VU) in the project area

Scientific Name	Common Name	Threat Status (2010 IUCN)	Threat Status (2013 IUCN)	Threat status (2017 IUCN)
Podocnemis unifilis	Yellow-spotted River Turtle	VU	VU	VU
Ara militaris	Military Macaw	VU	VU	VU
Dendroica cerulea	Cerulean Warbler	VU	VU	VU
Touit stictopterus	Spot-winged Parrotlet	VU	VU	VU
Leptosittaca branickii	Golden-plumed Parakeet	VU	VU	VU
Patagioenas oenops	Peruvian Pigeon	VU	VU	VU
Thripophaga berlepschi	Russet-mantled Softtail	VU	VU	VU
Aotus miconax	Andean Night Monkey	VU	VU	VU
Cacajao calvus ssp	Bald-headed uacari	VU	VU	VU
Priodontes maximus	Giant armadillo	VU	VU	VU
Pudu mephistophiles	Northern Pudu	VU	VU	VU
Tapirus terrestris	Lowland Tapir	VU	VU	VU
Tremarctos ornatus	Spectacled Bear	VU	VU	VU
Telmatobius truebae		EN	EN	VU
Myrmecophaga tridactyla	Giant Anteater	VU	VU	VU

In the CCBS PD 17 bird species of restricted distribution were identified, according to the requirements of the GL3.2.1 indicator. Table 10 shows the updated list of these species.

Table 10 - 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.