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## 1.0 Purpose

PERU LNG (Company) has developed a liquefied natural gas (LNG) export Project that includes the construction of a pipeline, a liquefaction plant, and a marine terminal. The natural gas for the project will be produced in the natural gas fields of Block 56 in the Cusco Region. The natural gas will first be transported through the existing Camisea gas pipeline (from KP0 to KP211 of the TGP 32-inch pipeline) from Malvinas to Chiquintirca, in Ayacucho. From this point near Chiquintirca, a 408 km, 34-inch pipeline (the Pipeline) will be constructed to finish transporting the natural gas to a liquefaction plant where it will be prepared for export as LNG.

The Company's area of influence comprises, from the geo-political standpoint, four (4) regions (Lima, Ica, Huancavelica and Ayacucho), eight (8) provinces, and twenty three (23) districts..

Due to the presence of sensitive habitats and species within the Company's area of influence, site- and species-specific management actions are required to protect these resources. This Biodiversity Action Plan (BAP) has been developed to provide a comprehensive strategy and specific, implementable actions aimed at the protection and conservation of biodiversity during construction and operation of the PERU LNG facilities.

## 2.0 Scope

The BAP is an umbrella document that summarizes and incorporates the various PERU LNG plans and programs relating to the protection of biodiversity during the construction and operation of the Company. The BAP includes programs beyond those required by Peruvian law requirements. Most of the programs have already been implemented during construction, but only the Biodiversity Monitoring Plan (02/ES/PL/PN/018/D01) and the Biorestitution Plan (ENV-000-PRG-1040) will continue during the operations phase.

### 2.1 Geographical Scope

The BAP addresses biodiversity programs that are being implemented within the Departments of Lima (Cañete District only), Ica, Huancavelica and Ayacucho, Peru (see Figure 1). These areas encompass the locations of the PERU LNG natural gas liquefaction plant and pipeline. The 408km pipeline traverses the Andes from approximately 2,900 m altitude at Chiquintirca in eastern Ayacucho department, passing over the crest of the Andes at approximately 4,900 m, and then descending to the Pacific coast to the Pampa Melchorita Natural Gas Liquefaction Plant site. This transect passes through three major regional landscapes and 14 –finer-scale ecological landscape units.

The three major ecological regions (see Figure 1.1) with diverse landscapes and ecosystems can be characterized as follows:

- The Eastern Valleys Region (KP 000 to KP 120+700): consists of a series of subtropical and temperate valleys and mountain ranges characterized by greater rainfall and more extreme topographic relief, with vegetation ranging from upper montane forests to subtropical dry forests, scrublands, and moist grasslands. This region was therefore further broken down into seven distinct Ecological Landscape Units (ELUs).
- The High Andes Region (KP 120+700 to KP 257+600): consists of cold to temperate high ridges, peaks and plains, with increasing aridity towards the west, and primarily herbaceous vegetation, including many high Andean wetlands (bofedales), grasslands,

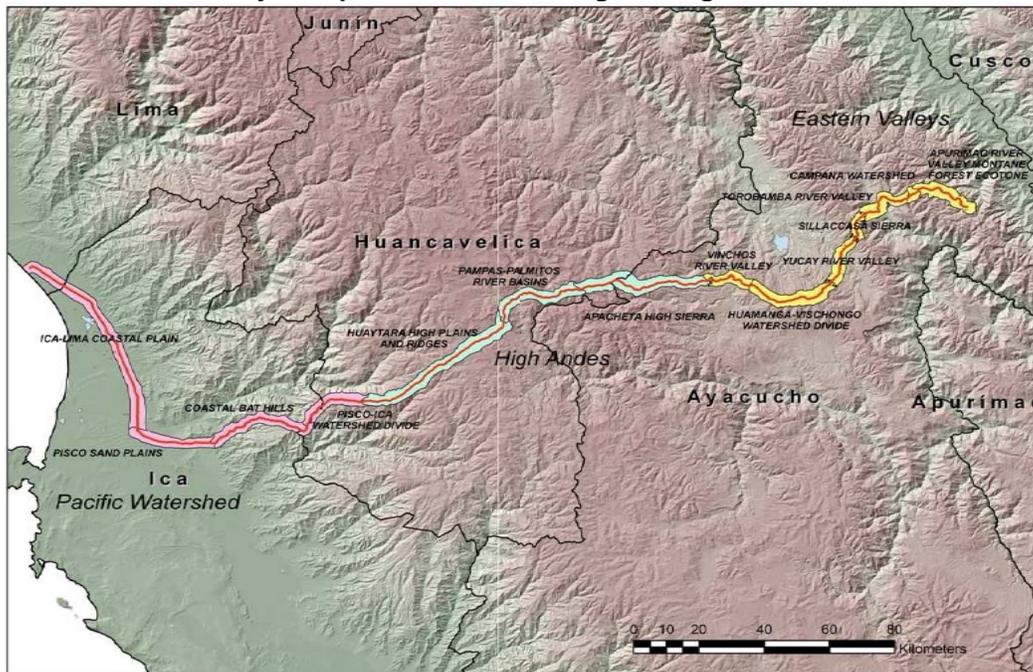
and scarcely vegetated areas. Snow is frequent in some sectors. This region was broken down into three ELUs.

- The Pacific Watershed Region (KP 257+600 to KP 408+000): contains arid slopes, narrow ridges, sand dune, and coastal plain landscapes with sparse to no vegetation, including scrublands, cactus formations, localized wetlands, degraded riparian vegetation, Tillandsia bromeliad mats, bare ground, and irrigated croplands. The Pacific Watershed Region was broken down into four ELUs.

Within these areas, biodiversity conservation is being implemented in accordance with biodiversity priorities. The rationale behind the proposed actions is to:

- Provide additional biodiversity-related benefits to areas affected by project facilities;
- Recognize the biodiversity value of the regions;
- Facilitate recognition by local communities of the biodiversity benefits resulting from the Project;
- Contribute to Peruvian biodiversity conservation.

**Figure 1: PERU LNG Project Pipeline Route, Ecological Regions, and Political Distribution**



### 3.0 Responsibilities and Glossary

#### 3.1 Responsibilities

Responsibilities are defined in ESHS Management System Element #5. Additional information on specific responsibilities may be included in the body of this document.

### 3.2 Glossary

Acronym	Description
BAP	Biodiversity Action Plan
BMAP	Biodiversity Monitoring and Assessment Program
EFS	Ecological Field Survey
ESIA	Environmental and Social Impact Assessment
EMP	Ecological Management Plan
EAP	Ecological Action Plan
ELU	Ecological Landscape Units
CBD	Convention on Biological Diversity
PS 6	IFC's Performance Standard (PS) 6, Biodiversity Conservation and Sustainable Natural Resource Management
IDB	International Development Bank
PCP	Political Constitution of Peru: Articles 66 to 69 provide a general framework for the conservation and sustainable use of Peru's biological diversity.
NEP	The 2005 National Environmental Policy (NEP, also known as State Policy No. 19, established under General Law of the Environment N° 28611) contains guidelines for managing environmental issues according to the following five policies.
IPIECA	The International Petroleum Industry Environmental Conservation Association

### 4.0 Standards

This BAP was developed to be consistent with the relevant environmental and social policies of the Company and the Government of Peru. The development and implementation of BAPs is an internationally recognized process that aims to identify and protect threatened species and habitats and protect and restore ecosystems. The original impetus for these plans derives from the 1992 Convention on Biological Diversity (CBD). Guidance on biodiversity action planning has been prepared by the International Petroleum Industry Environmental Conservation Association (IPIECA) and the International Association of Oil and Gas Producers (OGP) through the joint Biodiversity Working Group. This guidance incorporated expertise from the IUCN, Birdlife International, Earthwatch Institute, Conservation International and Wetlands International.

IPIECA developed guidance for the development of BAPs for hydrocarbon projects (IPIECA, 2005), which identifies the following principal steps:

- Deciding if a BAP should be created – understanding legal, biodiversity, and business case drivers;
- Completing prerequisites – planning for integration with site or project management systems and management of resources;
- Preparing the BAP – establishing the priorities for conservation and identifying actions;
- Implementing the BAP – rolling out the necessary actions;
- Monitoring, evaluation and improvement – tracking implementation progress and effectiveness; and
- Reporting, communication and verification of performance – upgrading engagement processes and building support with stakeholders and partners.

IPIECA stresses that each of these steps should be underpinned by stakeholder engagement and consultation. The IPIECA guidance also states that a BAP should consider, and to the extent possible be aligned with, the objectives and priorities of any existing or planned national

biodiversity program(s) to allow it to contribute to the broader vision of biodiversity conservation at national and regional scales.

This BAP was developed to be consistent with international guidelines and standards, in particular the Convention on Biological Diversity (CBD) (UNEP, 1993) and Peruvian Enabling Legislation, as well as those of the IFC, IDB and IPIECA.

## **5.0 BAP COMPONENTS**

The pipeline traverses approximately 310 km of mountainous terrain with numerous river crossings and approximately 98 km of coastal desert plain. Taking into consideration the nature and complexity of the PERU LNG operations, and the existing biodiversity in the area of direct influence, PERU LNG developed eight additional components over and above the normal scope of an Environmental and Social Impact Assessment (ESIA).

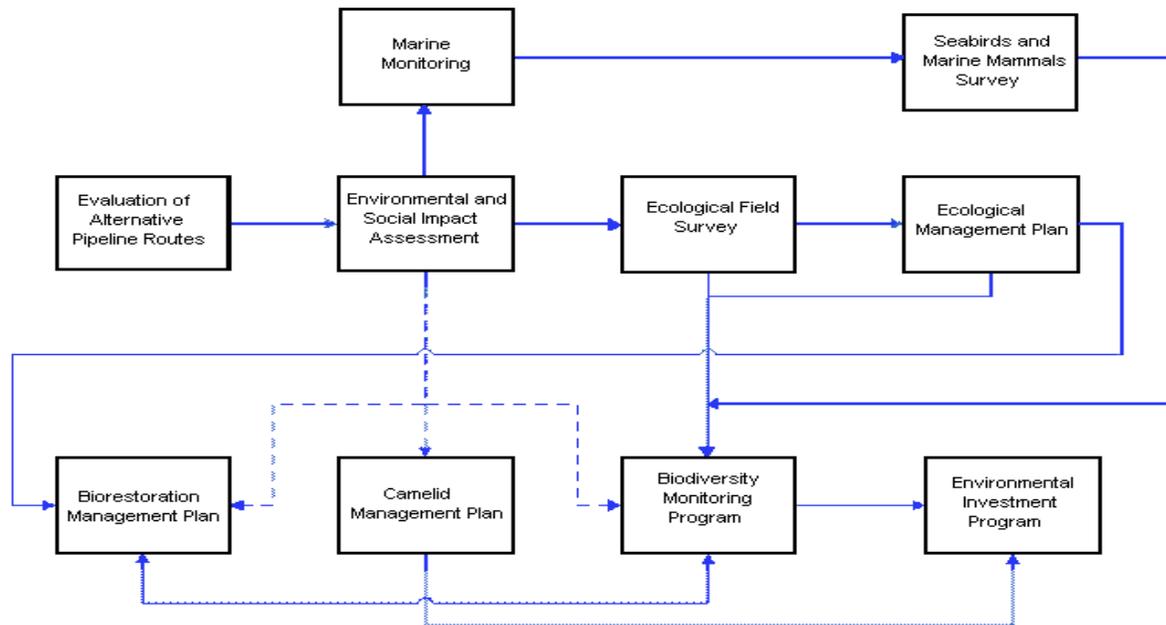
Ideally, an ESIA should involve collecting sufficient baseline data to allow for potential impacts to be quantified and the effectiveness of mitigation measures monitored. However, in practice it is often only possible to obtain a snapshot of the conditions. Therefore, PERU LNG decided to complement ESIA baseline information with additional surveys and ecological evaluations to ensure that the BAP addressed all aspects of Project design, construction and operation (tasks 3 to 10 below).

The BAP is thus comprised of ten components of data gathering, assessment and monitoring:

1. Evaluation of Alternative Pipeline Routes
2. Environmental and Social Impact Assessment (ESIA)
3. Ecological Field Survey (EFS)
4. Ecological Management Plan (EMP)
5. Biorecovery Management Plan (BMP)
6. Camelid Management Plan (CMP)
7. Marine Monitoring Program
8. Seabirds and Marine Mammals Surveys
9. Biodiversity Monitoring and Assessment Program (BMAP)
10. Environmental Investment Program (EIP)

These components are not strictly sequential; a number of them are considered part of an iterative, post-approval ESIA process. Others are overlapping or inter-related, thus linkages maximize synergies and provide benefits to the conservation of biodiversity.

**Figure 1.2: PERU LNG BAP Components**



The outputs of several work components have a direct feed into the following phase (solid connectors). For example, the evaluation of Alternative Routes enabled the selection of the pipeline corridor and plant site that was subsequently assessed as part of the ESIA. The ESIA led to the creation of the Biorestoration Management Plan and the Biodiversity Monitoring Program, which were all required by a certain point in time to satisfy conditions of the ESIA approval. However, the project recognized that further work was required to bring the biodiversity related plans up to the desired standard, thus additional ecological field surveys and management planning activities were carried out to ensure sufficient pre-construction baseline information was available for specific actions to be scheduled and executed during construction.

With regards to the Pipeline, the ESIA provided a solid starting point for the Ecological Field Survey (EFS) and Ecological Management Plans (EMP), which built upon the ecological knowledge already gained during the ESIA baseline data collection process. The ESIA studied a 3 - 7km wide corridor. The EFS and EMP focused the area of interest down to 50m and 25m respectively. In addition, a Marine Monitoring Program and a Seabirds and Marine Mammals Survey were developed to complement the Plant ESIA baseline. These programs augmented the data collected during the ESIA ensuring more detailed information was available for establishing the priorities for conservation. Data from the ESIA, EFS and EMP were all utilized in the development of the Pipeline Biorestoration Management Plan. The Biodiversity Monitoring and Assessment Program integrates the data collected during all previous surveys and determines annually which species should be prioritized for conservation. Over one hundred and fifty species were evaluated and ultimately around twenty species and four habitats were selected for initial scientific monitoring.

The biodiversity action planning process recognized that a number of species are of considerable importance to traditional communities whether or not they are of any special conservation value. During ongoing public consultation and disclosure activities it became clear that several communities rely heavily on camelids for their livelihoods and were concerned about the impacts

of construction on their animals. The Camelid Management Plan (CMP) was therefore developed to ensure effective mitigation measures were identified and implemented. This involved conducting population surveys prior to, during, and after construction, evaluating the effectiveness of the mitigation measures. During the development of the CMP opportunities to improve the health of the camelid population were identified. These opportunities were included in the Environmental and Social Investment Plan. Through improved health and environmental management practices, domestic camelid health has improved and productivity increased.

## 5.1 Evaluation of Alternative Pipeline Routes and Plant Location

The selection and evaluation of the alternative pipeline routes was completed in three stages: corridor selection, field reconnaissance, and site specific studies. Throughout the route selection process, risks were assessed on an ongoing basis to ensure appropriate mitigation measures were identified and implemented, as required. Route determination is traditionally performed by teams of topographers who place emphasis on the selection of the pipeline alignment. Environmental, community relations, and cultural heritage personnel were incorporated into the topographic survey team to ensure that additional criteria were fully integrated into the alignment decision making process. This resulted in the selection of a route that minimizes impacts to biodiversity and reduces risks with respect to pipeline integrity.

- Stage I: Corridor Selection - a “desktop study” to evaluate conditions such as extreme terrain, earthquake and fault activity, slope failure, flooding, river crossings, wetlands, and archaeological sites, etc.
- Stage II: Field Reconnaissance - an investigation built upon the Stage I baseline assessment to define geohazard issues that may affect specific areas of the pipeline corridor. This stage involved field reconnaissance of the pipeline corridor by a team of technical experts.
- Stage III: Site Specific Studies - undertaken on the ground by a team of specialists including, biologists, geologists and archaeologists. Once a corridor was confirmed, detailed micro-routing took place. Through micro-routing, many geotechnically challenging, archaeologically rich, and environmental sensitive areas were avoided. The ESIA data collection commenced during the site specific studies.

A similar exercise was undertaken for the selection of the Plant and quarry locations. Different sites were evaluated taking account of social, environmental, archaeological, economic and engineering variables.

## 5.2 Environmental and Social Impact Assessment

The Pipeline and Plant ESIA's were approved in 2006. For the pipeline, biological baseline data was collected from a number of sites (varying by season and by taxonomic group) located within a standard 3km wide corridor centered on the proposed RoW alignment. This corridor was widened up to 7km in selected areas to facilitate evaluation of an ecosystem or water catchment basin. The 3 – 7 km corridor width also ensured that potential access roads were evaluated. The number of sites per vegetation type was variable and not related to the extent of each vegetation type, with a heavy emphasis on high Andean wetlands (bofedales).

Biodiversity was integrated into the social baseline field work which included over fifty Participative Rural Appraisal Workshops and involved about 5,000 people. Information was gathered from the communities on their use of natural resources within the Company's area of influence. An additional four workshops were held with local non-governmental organizations to disclose information about local biodiversity and the project and to receive their feedback about the prioritization of species for conservation.

All this information was used in the initial baseline study of the biological diversity of the area. In addition, potential impacts were listed with their respective mitigation measures and management plans to minimize biodiversity impacts due to construction and operation activities.

With respect of the Plant, a complete biodiversity assessment was defined in the Plant ESIA and no additional surveys were required. As the plant ESIA considered the marine ecosystem, an extensive marine monitoring program was designed and has been being implemented in a quarterly basis for the past 3 years.

### **5.3 Ecological Field Survey**

The EFS was undertaken to ensure that detailed data was available for the entire 408 km of the pipeline route. The EFS reduced the 3 - 7km corridor studied in the ESIA down to 50 m to focus on the actual and potential impacts along, and immediately adjacent to, the Right of Way (RoW). The EFS was undertaken by a multidisciplinary team who walked the entire length of the RoW. The survey resulted in the collection of detailed information about species and habitats within the project footprint. Species found to be common, widespread, or abundant during the ESIA were not specifically addressed during the EFS. Species sensitivity was determined for each of the studied species based on four characteristics: 1) conservation status; 2) endemism (limited geographic distribution); 3) use by local communities, and 4) mobility (ability to move away from disturbance).

The EFS identified an additional 34 species that were added to the preliminary lists of species identified by the ESIA surveys as potential priorities for conservation. Using biogeographical information and ecological criteria, the EFS also defined 14 Ecological Landscape Units (ELUs) within the 408km pipeline RoW. Vegetation type was used as the primary criteria for the definition of habitat types within each ELU, which were then used as the basis in all subsequent phases of BAP development.

### **5.4 Ecological Management Plan**

The EMP was developed to detail the specific ecological mitigation measures required along the 408 km RoW. The final 25m RoW corridor was reviewed with emphasis on identifying sensitive flora species and building upon the mitigation measures that were identified by the original ESIA. The EMP describes the overarching biodiversity conservation requirements and the specific mitigation measures that must be implemented in the fourteen ecological landscape units within three ecological regions.

The primary objective of the EMP is to protect ecological integrity within the Company's area of influence. To ensure the effective implementation of the mitigation measures, fourteen stand-alone field ecological action plans - one for each ELU - were developed and distributed to construction staff at each spread. Each plan identified the actions to be implemented by field personnel, with the support of the construction contractor, to conserve thirteen sensitive species. These species were selected according to their conservation status in the Peruvian legislation (endangered or critically endangered), or a specific social interest. The actions needed either related to translocation programs or the taking of cuttings to allow the species to be returned to the RoW following propagation within the project's nurseries. This program was conducted with the help and support of the surrounding communities.

Cuttings were taken from a number of species and planted within three nurseries established within project construction camps. Multiple cuttings were taken from each individual plant impacted by the project taking into account anticipated survival rates during their time in propagation. This strategy ensures that significantly more individuals are available for replanting than were originally removed during clearing and grade activities.

To date, survival rates within nurseries and on the RoW have been encouraging and the project therefore anticipates having a net positive impact on this and other critically endangered plant species.

## **5.5 Bio restoration Management Plan**

The aim of the Bio restoration Management Plan is to ensure effective revegetation of the pipeline RoW and the associated facilities as quickly as practicable. To achieve this, the Company established short and long term objectives. The short-term objective is to protect the topsoil and restore vegetation cover as quickly as possible after construction. This will stabilize the ground surface, prevent soil erosion and wasting, protect pipeline integrity, and safeguard sensitive ecological habitats such as water bodies and wetlands against the effects of sedimentation. The long term objective is to restore the land affected by project activities along the RoW to conditions that allow the reestablishment of natural ecological processes that will lead to the progressive recovery of biodiversity, structure, and function to pre-construction conditions.

Bio restoration activities commenced during the topsoil stripping stage of construction. By stripping and protecting the topsoil the natural seed bank held within the topsoil was protected. When the topsoil is replaced on the right of way, native seeds will germinate helping return the disturbed areas to their original condition. In the many areas where the RoW traverses moderate to steep slopes, natural processes cannot be relied upon to provide adequate vegetative coverage within the timeframe required to stabilize the ground and protect the pipeline against erosion. To achieve the short-term bio restoration objectives, natural recovery is augmented with proactive and systematic seeding of the RoW.

Seeds have been applied at differing rates depending on the slope and altitude of the RoW. Seeding is being conducted on all slopes greater than 8.5°. After seeding, erosion control matting is also installed on slopes that exceed 18.3°. Above 4,200m no seeding was being conducted because at this altitude germination rates are so poor that seeding is not a viable bio restoration strategy. Instead, Ichu grass (native Andean grasses) was carefully translocated from the adjacent areas onto the RoW.

Given the variety of conditions found along the RoW, the seeding season ranges from October to January. After conducting seeding trials, the seeding program was proved to be successful and is being implemented during the current seeding season. Any future bio restoration needs will be based on the findings of the Biodiversity Monitoring Program. This monitoring will start immediately after the completion of bio restoration activities, which will evaluate the success of the plan against its short and long term objectives.

## **5.6 Camelid Management Plan**

During the public consultation and disclosure workshops completed during the ESIA process, it quickly became apparent that a significant number of vulnerable communities in the highlands place considerable value of the protection of camelids and voiced concerned about potential impacts of pipeline construction on their herds. To ensure the project fully understood the size and location of the camelid populations, it was agreed that they should be studied and a Camelid Management Plan developed with the participation of the potentially affected communities. Data was gathered directly from the communities by holding fifteen workshops with over 630 participants. This allowed the community lands of local importance for camelid management to be delineated. Each community provided camelid maps to determine the range of their herds, commonly used water sources and the areas the communities considered important for grazing.

Camelid specialists then undertook a detailed camelid census along the right of way. The resources used by the camelid herds and other grazing animals was also undertaken to verify and augment information provided by the communities. This study looked at vegetation and water

resources, including ecologically important bofedales, to rank them in terms of their quantity, quality and longer term viability. This allowed the project to develop Camelid sensitivity maps.

These sensitivity maps were used to develop detailed mitigation methods for each 100m section of the RoW in areas where camelids could be encountered. Once developed, the mitigation methods were agreed, they were included on the project alignment sheets to ensure their timely implementation during construction.

Many of the mitigation measures were implemented by the project with assistance from a third party specialist who was hired to provide advice and conduct specific monitoring of the camelid herds during the construction process. They conducted regular camelid density and population surveys to determine the effectiveness of the mitigation methods and other operational controls. The monitors also assisted in responding to any community grievance that were received in relation to camelids thus ensuring trusted experts were always available to help resolve disputes in an amicable fashion.

To date the program has proved effective with regard to protecting the camelids, building trust and goodwill with the communities.

## 5.7 Marine Monitoring Program

Marine Monitoring started in September 2006 prior to the construction of the marine terminal and plant. This particular program consisted of monitoring biological communities of benthos, fish, plankton and physical parameters (water quality, sediments, nutrients and water currents).

During 2007 and 2008 samples were collected on a quarterly basis. After two years of monitoring, no changes were identified and therefore in 2009 monitoring frequency was reduced to bi-annual monitoring.

In 2009, the marine monitoring was supplemented with an initial complementary seabird and marine mammal baseline. This was not established as a requirement in the ESIA, but is an additional activity implemented by PERU LNG to address stakeholder requests. The objective of this supplementary survey was to establish baseline conditions regarding species presence/absence, relative abundance and distribution of seabirds and marine mammals, before and after the marine infrastructure was installed.

To date, twelve monitoring events have been conducted and are expected to continue into the first year of operations. Baseline information gathered during the ESIA has been complemented with information collected from all monitoring events. During operations the marine monitoring and marine mammal and seabird monitoring will be included within the BMAP and therefore marine species protocols will be implemented including ESIA commitments.

## 5.8 Biodiversity Monitoring and Assessment Program

The primary aim of the Biodiversity Monitoring and Assessment Program (BMAP) is to provide a robust mechanism for assessing whether mitigation measures are proving effective or if construction activities are causing impacts, either positive or negative, on key species and ecosystems. The BMAP relies on the evaluation of a large biodiversity dataset (terrestrial and aquatic species) that has been collected since the early planning phases of the project. In total, approximately 150 species have been identified as potential priorities for conservation. A multidisciplinary team of national and international experts has applied sensitivity criteria to consider which of these species should be selected as indicator species that should be monitored based on the following criteria (but not limited to):

- Importance to society;

- Inclusion in the national threatened species lists
- Position in the IUCN Red List
- Inclusion in CITES
- Endemicity
- Mobility

At the beginning of the program, applying all these criteria resulted in 23 species and 4 habitats being selected for monitoring as part of the BMAP. However the number of species is reviewed every year in order to adjust the BMAP framework to take account of the monitoring results. Therefore, the number of species will vary during the lifetime of the BMAP.

For each of the selected species and habitats, research questions and protocols have been developed using proven methodologies developed by Smithsonian Institution (SI), who are currently collaborating with the Project as the BMAP Implementing Partner. The research questions were designed to understand the distribution and abundance of the species and habitats, their conservation status, and the potential for them to be impacted by construction and/or operation of the pipeline and LNG plant.

The monitoring program is being implemented by respected national and international specialists. SI is ensuring internationally recognized methods are being applied by running workshops and capacity building sessions with all the specialists involved in monitoring activities. The specialists involved have concluded that given the gaps in scientific knowledge regarding the area of interest and the scope of the BMAP, monitoring and research should make a significant contribution to our collective understanding of the local biodiversity. All data gathered as a result of the BMAP will be summarized and presented to local communities in an accessible, educational manner.

## 5.9 Environmental and Social Investment Program

The Environmental and Social Investment Program (ESIP) incorporates the environmental and social data gathered throughout the phased development of the BAP. The primary purpose of the ESIP is to capitalize on opportunities to conserve and improve natural resource use and thereby maximize returns in corporate, regional, national and international priorities for biodiversity conservation and sustainable use of natural resources.

An example of this program is the project implemented by PERU LNG to improve the health of the camelid populations within the area of influence and improve the quality of the vicuña fiber. Implemented activities such as training workshops in care and handling of newborns, treatment of infectious and parasitic diseases, and vicuña handling methodologies have benefited many families and breeders. Reduced mortality rates in alpaca and llama populations are already being manifested by the participating communities. The success of the camelid health campaign, coupled with a program aimed at improving the value of vicuña fiber (wool), is having a significant positive impact on the livelihood of ten communities in the Huancavelica and Ayacucho regions of Peru.

## 6.0 Verification and Monitoring

### Expert Panel

PERU LNG has established a technical panel to provide expert advice on the various programs being implemented as part of the BAP.

The expert panel consists of national and international experts from different disciplines. The principal tasks include, but are not limited to, the following:

- Evaluation of the Biodiversity Monitoring objectives and priorities.
- Examination of BAP implementation, primarily through the Biodiversity Monitoring Program, making conclusions regarding its adequacy. as well as recommendations for improvement, if necessary.

When possible the panel evaluates the BAP programs three times a year.

## 7.0 References

References:	Document Name
CONAM. 2001.	<i>Perú: Estrategia Nacional sobre Diversidad Biológica.</i> Consejo Nacional del Ambiente: Lima.
IPIECA. 2005.	<i>A Guide to Developing Biodiversity Action Plans for the Oil and Gas Sector.</i> International Petroleum Industry Environmental Conservation Association: London.
UNCED. 1993.	Resolution N° 03, Appendix to the Convention on Biological Diversity.
UNEP. 1993.	Convention on Biological Diversity. 1760 <i>United Nations Treaty Series</i> 143, 31 I.L.M. 818.
Walsh Peru. 2004.	Preliminary Environmental Evaluation for the Route Design of a Gas Pipeline. Walsh Peru: Lima.
Walsh Peru. 2005.	<i>Environmental and Social Impact Assessment of the Natural Gas Pipeline Project from Ayacucho to the Liquefaction Plant.</i> Walsh Peru: Lima.
Domus.2007	Ecological Field Survey (EFS )
ERM. 2008	Ecological Management Plan
ERM. 2008	Camelid Management Plan
PERU LNG ENV-000-PLN-1040	Biodiversity Action Plan
PERU LNG ENV-000-PRG-1040	Biorestitution Management Program
PERU LNG ENV-000-PRG-1330	Biodiversity Monitoring and Assessment Program (BMAP)