

OUR COMMITMENT TO BIODIVERSITY





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I. EXECUTIVE SUMMARY

In Chapter V Protected Natural Areas in Peru and I saw The Paracas National Reserve, of this document, it is described how the Protected Natural Areas (ANP) are managed in Peru, the Psico headquarters of Corporación Aceros Arequipa SA (CAASA) is located more than 2 km from the Paracas National Reserve, which is one of the ANP most representative of Peru.

In chapter VII Exposure and Evaluation of Biodiversity, the distances and activities carried out by CAASA are described, as well as the results of the impact evaluation on the biological environment, which were considered as "Not significant". It also describes the species that inhabit our perimeter living fence and the results of the biological monitoring program that we have been carrying out in which no species is found in the category of conservation or threat in accordance with current regulations.

Considering that our living fence is a net improvement in biodiversity, andn Chapter VIII Perimetric Living Fence of CAASA, We report the progress of the expansion of the living fence in order to have adult trees that can increase the population of the identified species, at the close of this report we can identify that the trees in the area of the former San Juan de Buenavista farm have an average height of approximately 6 m.

Because we are aware that it is necessary to work with local authorities, andn Chapter IX CAASA and the Municipal Environmental Commission of the Province of Pisco, we report the progress of the proposal of the Integrated Management Plan for the Coastal Marine Zone of Pisco - Paracas that seeks to be an alternative to preserve the biodiversity that exists in the area.

In chapter X Biodiversity Management Plan we present a brief summary of our Plan that is updated every year, all of this being within the continuous improvement cycle of the organization and finally in chapter XI we present the main management conclusions that we have been doing.

II. INTRODUCTION

Peru is one of the countries with the most biodiversity in the world, in recent years it has increased and updated the legislation for its preservation.

Corporación Aceros Arequipa SA (CAASA) has its main headquarters in the district of Paracas, province of Pisco and department of Ica, located more than 2 km from the Paracas National Reserve (RNP) which is considered a Protected Natural Area (ANP) by State. The RNP has 335,000.00 hectares and has a zoning distribution in which certain activities can be carried out. As every ANP has a buffer zone (which does not belong to the ANP) that is considered as a buffer that prevents it from directly impacting the ANP, this buffer zone is updated every 5 years in a document called "RNP Master Plan".

Part of CAASA's operations are within the buffer zone (Industrial and Reprocessable Materials Storage Patio) which has an environmental impact assessment approved by the competent authority and with a favorable technical opinion by the National Service for Natural Areas. Protected by the State (SERNANP), which validates that our activity can be carried out in said area.

The scope of this document is related to the Pisco headquarters of CAASA (Steel Complex and former San Juan de Buenavista farm) the activities carried out have environmental certification issued by the competent authority, to achieve these certifications an evaluation of environmental impact, in which several media were evaluated, one of them being the biological environment presenting a "non-significant" impact. In this evaluation it was possible to identify various species that inhabit the CAASA perimeter living fence and that are evaluated semi-annually with the help of experts, it is worth mentioning that none of the identified species is within the category of conservation or threat in accordance with current regulations.

This document reports the activities that we have been carrying out in conservation of the biodiversity that exists in our perimeter living fence and the joint work that we have been carrying out with the local authorities for the preservation of biodiversity in the coastal marine zone of Paracas - Pisco.

We invite you to read each of the chapters of this document, in which it shows that the steel industry can be carried out in conjunction with the preservation of biodiversity.

III. OBJECTIVES AND SCOPE

III.1. Objectives

- Report the activities that CAASA has been carrying out in relation to the conservation of the perimeter biodiversity that exists at the Pisco headquarters.
- Present the progress of the Proposal of the Management Plan for the Coastal Marine Zone of Pisco - Paracas, which was prepared in conjunction with the local authorities and with the support of the Ministry of the Environment.

III.2. Scope

The scope of this document is related to the operations of the Pisco headquarters:

- Steel Complex (Panamericana Sur Km 241 - Pisco) including the former San Juan de Buenavista farm, because it is the only headquarters that is close to a Protected Natural Area, in this case "The Paracas National Reserve".

IV. ABOUT US

We are Corporación Aceros Arequipa SA (CAASA), a steel company originally established as Aceros Arequipa SA in 1964, we started our production processes in the city of Arequipa in 1966.

Our main activity is the manufacture, elaboration, commercialization, distribution and sale of iron, steel, other metals and their derivatives; in different shapes and qualities. To achieve this we have the following operations:

- Administrative offices: Magdalena del Mar, Lima.
- Complejo Siderúrgico, which is located on the Panamericana Sur at kilometer 241, district of Paracas, province of Pisco, Ica region and consists of the following plants:
 - Direct Reduction Plant.
 - Steel Plant.
 - Lamination Plant 1.
 - Lamination Plant 2.
 - Industrialization Plant.
 - Dimensioned Steel Plant.
- Distribution centers in the departments of: Lima, Arequipa and Trujillo.
- Scrap metal distribution, collection and processing center: Callao and Huachipa.
- Distribution center and international subsidiary: La Paz, Santa Cruz and Cochabamba in Bolivia.
- International subsidiary: Antofagasta in Chile and in the City of Cali, Colombia.

Our vision is to be leaders in the Peruvian steel market, located among the most profitable in the region with an active presence in the international market; while our mission is to offer steel solutions to our clients, through innovation, continuous improvement and human development, contributing to the growth of the country and increasing the value for our shareholders.

Since 2020 we have a Corporate Environmental Policy, in which the 8 priorities of the organization's environmental management are mentioned: (1) Circular economy, (2) Biodiversity conservation, (3) Environmental awareness, (4) Efficient use of natural resources, (5) Actions against climate change, (6) Comprehensive management of solid waste and industrial by-products, (7) Integrated pollution control and (8) Compliance with applicable environmental regulations.

Within the priority "Conservation of biodiversity" there are the following guidelines:

- Comply with local, regional and national legal requirements related to land management and the protection of biodiversity; and not operate in areas considered as world heritage or in protected areas that are within categories I-IV of the International Union for Conservation of Nature (IUCN)¹.
- Assess the impact on biodiversity in our current and future areas of operation, as necessary according to their location. When areas with important biodiversity are identified at a global or national level, the mitigation hierarchy will be applied focused on avoiding, minimizing, restoring and compensating. For all current CAASA projects, measures will be implemented to minimize the impact to biodiversity.

¹ The IUCN Protected Areas Management category system creates a common understanding and international frame of reference for protected areas both between and within countries, classified into: Category I (Strict Protection), Category II (Conservation and protection of the ecosystem), Category III (Conservation of natural features), Category IV (Conservation through active management), Category V (Conservation of landscapes and seascapes and recreation) and Category VI (Sustainable use of natural resources).

- Develop management plans to promote the importance of biodiversity. Give priority to the conservation of: key species, species that have a special conservation status, species that historically inhabited the area, and species with a history of traditional use and value for local communities.
- Collaborate with stakeholders to ensure the long-term conservation of native species in the area of influence of our operations.
- Identify and define action plans to avoid net losses of biodiversity in important habitats that are close to our operations².
- Promote the collection, analysis and improvement of information and knowledge on biodiversity in collaboration with experts.
- Acquire, develop and apply systems and technologies to reduce impacts on biodiversity.
- Avoid deforestation of new green areas as a consequence of CAASA activities, and if necessary, offset any negative impact with afforestation programs.

² The principle of no net loss of biodiversity or net gain of biodiversity refers to compensation that is designed and executed to achieve measurable in situ conservation results, which can reasonably be expected to result in no net loss.

V. NATURAL AREAS PROTECTED IN PERU

Protected Natural Areas (ANP) are the continental and / or marine spaces of the national territory, expressly recognized and declared as such, including their categories and zoning, to conserve biological diversity and other associated values of cultural, landscape and scientific interest, as well as as for its contribution to the sustainable development of the country. **The ANP constitute the patrimony of the Nation. Its natural condition must be maintained in perpetuity, allowing the regulated use of the area and the exploitation of resources, or determining the restriction of direct uses.**

ANPs can be:

- Those of national administration, which make up the National System of Protected Natural Areas - SINANPE
- Those of regional administration, called regional conservation areas.
- Private conservation areas.

The ANPs, with the exception of the Private Conservation Areas, are in the public domain and may not be awarded property to individuals. When ANPs that include privately owned properties are declared, the restrictions to the use of the property of the property may be determined, and where appropriate, the corresponding compensatory measures will be established. The ANP administration will promote the signing of agreements with the holders of rights in the areas, to ensure that the exercise of their rights is compatible with the objectives of the area.

The exercise of property and other real rights acquired prior to the establishment of an ANP, must be done in harmony with the objectives and purposes for which they were created. The State will evaluate in each case the need to impose other limitations on the exercise of said rights. Any transfer of rights to third parties by a resident of an ANP must be previously notified to the Headquarters of the Area. In case of transfer of property rights, the State may exercise the right of withdrawal in accordance with the Civil Code.

The ANP as a whole make up the National System of Natural Areas Protected by the State (SINANPE), whose management is integrated by the public institutions of the central Government, Decentralized Governments at the Regional level and Municipalities, private institutions and local populations that act, intervene or they participate, directly or indirectly, in the management and development of these areas.

The policy and strategic planning guidelines of the ANPs as a whole will be defined in a document called "**Master Plan for Protected Natural Areas**". The Master Plan is prepared and reviewed under a broad participatory process and must contain, at least, the conceptual framework for the constitution and long-term operation of SINANPE Natural Protected Areas, Regional Conservation Areas and Private Conservation Areas; as well as analyzing the habitat types of the System and the measures to conserve and complete the required ecological coverage.

The **Master Plan** is the highest level planning document available to an ANP. They will be prepared under participatory processes, **reviewed every 5 years** and will define, at least:

- The zoning, strategies and general policies for the management of the area.
- The organization, objectives, required specific plans and management programs.
- The cooperation, coordination and participation frameworks related to the area and its buffer zones.

V.1. Types of ANPs According to Use

According to the nature and objectives of each ANP, a category will be assigned that determines its legal condition, purpose and permitted uses. The ANPs contemplate a gradual nature of options that include:

V.1.1. Indirect Use Areas

They are those that allow non-manipulative scientific research, recreation and tourism, in appropriately designated and managed areas. In these areas, the extraction of natural resources is not allowed, as well as modifications and transformations of the natural environment. Indirect use areas are National Parks, National Sanctuaries and Historic Sanctuaries.

V.1.2. Direct Use Areas

They are those that allow the use or extraction of resources, primarily by local populations, in those areas and places and for those resources, defined by the area's management plan. Other uses and activities that are developed must be compatible with the objectives of the area. Direct use areas are National Reserves, Landscape Reserves, Wildlife Refuges, Communal Reserves, Protection Forests, Game Preserves and Regional Conservation Areas.

V.2. SINANPE categories

The following are categories of the National System of Protected Natural Areas:

V.2.1. National Parks

Areas that constitute representative samples of the natural diversity of the country and of its large ecological units. In them, the ecological integrity of one or more ecosystems, the associations of wild flora and fauna and the successional and evolutionary processes, as well as other associated landscape and cultural characteristics, are protected with an intangible nature.

V.2.2. National Sanctuaries

Areas where the habitat of a species or a community of flora and fauna is intangible, as well as natural formations of scientific and landscape interest.

V.2.3. Historic Sanctuaries

Areas that protect intangible, spaces that contain relevant natural values and constitute the environment of sites of special national significance, because they contain samples of the monumental and archaeological heritage or because they are places where outstanding events in the history of the country were developed.

V.2.4. Landscape Reserves

Areas where environments are protected whose geographical integrity shows a harmonious relationship between man and nature, harboring important natural, aesthetic and cultural values.

V.2.5. Wildlife Refuges

Areas that require active intervention for management purposes, to guarantee the maintenance of habitats, as well as to satisfy the particular needs of certain species, such as breeding sites and other critical sites to recover or maintain the populations of such species.

V.2.6. National Reserves

Areas destined for the conservation of biological diversity and the sustainable use of resources of wild, aquatic or terrestrial flora and fauna. They allow the commercial use of natural resources under management plans, approved, supervised and controlled by the competent national authority.

V.2.7. Communal reserves

Areas destined to the conservation of wild flora and fauna, for the benefit of neighboring rural populations. The use and commercialization of resources will be done under management plans, approved and supervised by the authority and conducted by the beneficiaries themselves. They can be established on soils of greater capacity for agricultural, livestock, forestry or protection use and on humidity.

V.2.8. Protection Forests

Areas that are established in order to guarantee the protection of high or collecting basins, the banks of rivers and other water courses and in general, to protect fragile lands that require it against erosion. They allow the use of resources and the development of those activities that do not endanger the vegetation cover of the area.

V.2.9. Hunting grounds

Areas destined to the use of wild fauna through the regulated practice of sport hunting.

V.3. Zoning of ANPs

Regardless of the category assigned, each area is zoned according to its requirements and objectives, being able to have strict protection zones and limited access, when required. ANPs can count on:

V.3.1. Strict Protection Zone (PE)

Those spaces where ecosystems have been little or no intervention, or include places with unique, rare or fragile species or ecosystems, which, in order to maintain their values, need to be free from the influence of factors unrelated to the natural processes themselves, and must be maintained the characteristics and quality of the original environment. In these Zones, only activities related to the management of the area and the monitoring of the environment are allowed, and exceptionally, scientific research.

V.3.2. Wild Zone (S)

Areas that have suffered little or no human intervention and in which the wild character predominates; but they are less vulnerable than the areas included in the Strict Protection Zone. In these areas it is possible, in addition to administration and control activities, scientific research, education and recreation without permanent infrastructure or motorized vehicles.

V.3.3. Tourist and Recreational Use Zone (T)

Spaces that have attractive landscape features for visitors and, by their nature, allow recreational use compatible with the objectives of the area. In these areas, the development of educational and research activities is allowed, as well as the infrastructure of services necessary for the access, stay and enjoyment of visitors, including drive-through access routes, shelters and the use of motorized vehicles.

V.3.4. Direct Use Zone (AD)

Spaces foreseen to carry out the direct use of wild flora or fauna, including fishing, in the management categories that contemplate such uses and according to the conditions specified for each ANP. Activities for education, research and recreation are allowed.

V.3.5. Special Use Zone (EU)

Spaces occupied by human settlements pre-existing to the establishment of the ANP, or in which, due to special situations, some type of agricultural, livestock, agrosilvopastoral use or other activities that involve the transformation of the original ecosystem occurs.

V.3.6. Recovery Zone (REC)

Transitory zone, applicable to areas that, due to natural causes or human intervention, have suffered significant damage and require special management to recover their quality and environmental stability, and assign the zoning that corresponds to their nature.

V.3.7. Historic-Cultural Zone (HC)

It defines areas that have important historical or archaeological values and whose management must be oriented to their maintenance, integrating them into the natural environment. It is possible to implement interpretation facilities for visitors and local population. Research, educational activities and recreational use will be promoted in these areas, in relation to their cultural values.

The infrastructure and facilities necessary for the administration of the ANP may be located in any of the areas indicated with the exception of the Strict Protection Zones and the Wild Zones. The provision of infrastructure, interpretation centers and, eventually, other services for visitors, will seek a balance between the requirements of the administration and the minimum impact on the natural quality of the area.

V.4. Buffer Zones

Buffer Zones are those areas adjacent to the ANPs, which due to their nature and location require special treatment to guarantee the conservation of the protected area. The Master Plan of each area will define the extension that corresponds to its Buffer Zone. The activities carried out in the Buffer Zones must not jeopardize the fulfillment of the purposes of the ANP.

Ecotourism is promoted in the Buffer Zones; the management or recovery of populations of flora and fauna; the recognition of Private Conservation Areas; conservation concessions; environmental services concessions; the investigation; the recovery of habitats; the development of agroforestry systems; as well as other activities or a combination of these that contribute to the objectives and purpose for which the ANP has been created.

VI. THE PARACAS NATIONAL RESERVE

The Paracas National Reserve is an ANP of the Peru, located in the Pisco province, inside of the department of Ica. The RNP was declared on September 25, 1975. It was created in order to conserve a portion of the sea and the desert of Peru, giving protection to the various species of wild flora and fauna that live there.

Preserves a representative sample of the ecosystems marine of cold sea of the Peruvian Current or Humboldt current, considered by specialists as the most productive of the Land, in addition to maintaining the environments used by a wide variety of species migratory for your feeding and shelter during their long annual journeys.

The RNP has great properties on the coast for the conservation and quiet reproduction of numerous species of birds residents and immigrants. Among the most commonly found are pelicans, the gray seagull (*Larus modestus*), tendril (*Larosterna inca*), scratcher (*Rynchops nigra*), arctic plover (*Pluvialis squatarola*), Chuita (*Phalacrocorax gaimardi*), guanay (*Leucocorax bougainvillii*), the Condor, the Humboldt penguin (in danger of extinction) and parihuanas or flamingos (*Phoenicopterus chilensis*), among other species.

The fish found in this maritime zone are: sole (*Etropus extenes*), the white toyo (*Mustelus whitneyi*), the pretty (*Sarda chilensis*), the tramboyo, the ray, the cheetah, sardine, anchovy (*Engraulis ringens*), pampanito, grouper, croaker, lorna and many other species.

The mammals in this reserve they are mainly represented by the sea lions of a hair or chusco (*Otaria byronia*), the two-haired wolf or fine wolf (*Arctocephalus australis*), the bufeo (*Delphinus delphis*) and the sea cat (*Feline lontra*), this one, in danger of extinction.

The RNP is also populated by leatherback and green turtles, reptiles such as lizards (*Microlophus* spp.) and geckos (*Phyllodactylus* spp.), octopus, squid (*Loligo gahi*), clams and crustaceans like the carter (*Ocyropsis gaudichaudii*), the purplish crab (*Platyxantus orbigny*), the very (*Emerita analoga*), among other.

VI.1. General information

objective	:	Conserve coastal marine ecosystems and their threatened biological diversity. Ensure the responsible use of hydrobiological resources. Protect archaeological and cultural heritage for tourist use and the well-being of the population.
Location	:	In the department of Ica, in the marine waters and in the provinces of Pisco and Ica.
Creation	:	On September 25, 1975, through Supreme Decree No. 1281-AG.
Extension	:	335,000.00 hectares.

VI.2. Paracas National Reserve Master Plan (2016 - 2020)

The Master Plan was approved by Presidential Resolution No. 020 - 2016 - SERNANP on January 29, 2016, this document presents nine objectives which are:

- Maintain the conservation status of the Paracas Bay, Lagunilla Cove and Independencia Bay wetlands, in their current condition, guiding them towards a progressive improvement trend.
- Conserve the ecosystems of Islands, Islets, Points and Cliffs, available as breeding, feeding and resting areas for threatened wildlife.

- Conserve the marine ecosystem (with depths up to 50 mbnm.), For the preservation of the natural banks of marine invertebrates, the macroalgae meadows and seagrasses that are distributed in this area.
- Monitor the conservation status of the marine ecosystem at depths greater than 50 mbnm. And its biological diversity.
- Maintain the coverage of the coastal desert, the hills and the sofaique forest.
- Promote the sustainable use of natural resources within the ANP.
- Promote the sustainable use of the scallop cultivation within the Paracas National Reserve.
- Promote sustainable tourism and facilitate the diversification of the RNP's tourism offer.
- Promote Participatory Management of the Paracas National Reserve (RNP).

The RNP covers 5 types of ecosystems:

- Wetlands
- Islands, islets, points and cliffs.
- Coastal desert, which includes the coastal hills, the sofaique forest and the reproduction area of the Peruvian tern.
- Marine ecosystem with depths from 0 to 50 mbnm.
- Marine ecosystem of depths greater than 50 mbnm.

VI.2.1. Zoning of the Paracas National Reserve

Zoning is a planning and land use planning tool that responds to the needs and objectives of the RNP. It allows to establish the different uses of the territory, in a way that contributes to the coexistence of natural processes and the exploitation activities that take place within the RNP. The Master Plan groups the sectors for each type of zone and proposes taking into account criteria setting out conditions to maintain the zone and norms of use.

VI.2.1.1. Strict Protection (PE)

It includes the sectors:

- Bahia Paracas wetland.
- Gran Gallan Island (terrestrial part) and islets around it.
- Cerro Lechuza.
- Punta Arquillo (Cliff and rocky intertidal zone).
- Flamenco lagoon.
- Three Doors (Cliff)
- Independence Island (North zone).
- Burnt nose.

VI.2.1.2. Sylvester (S)

It includes the sectors:

- Paracas Bay (Marine and terrestrial part).
- Coastal desert (Tern breeding area).
- 100 meters around Isla San Gallan and Independencia.
- Lagunilla norte - Red beach.

- Yumaque.
- The damned closed.
- Mendieta.
- Carhuaz and Tunga.
- Windward - the black - Antana.
- Little Forest (Zofaique).
- Coastal Desert.
- Punta Mendieta, Punta Sacasemita, Punta Cielo, Punta Prieta and Los Frailes cliffs, Santa María, La Esperanza.

VI.2.1.3. Tourist (T)

- La Mina - Scrape.
- South Lagunilla.
- Cathedral - Supay.

VI.2.1.4. Direct Use (AD)

- Isla Independencia (southern zone) and Isla Santa Rosa (Exploitation of guano).
- North zone (Use of date palms).
- Concession in Otuma (Use of salt).
- Beach areas for the passive collection of macroalgae.
- The entire marine area not covered in the other areas.
- Fte. To San Gallán (Surfing and wolf watching).

VI.2.1.5. Recovery (REC)

- Ensenada Lagunilla.
- Bahía Independencia Wetland (La Poza de LG and adjacent beaches: La Raya, Rancherío, Bocana).
- Santo Domingo urbanization.
- Zone with acquired rights (northeast limit of the ANP).
- Athens

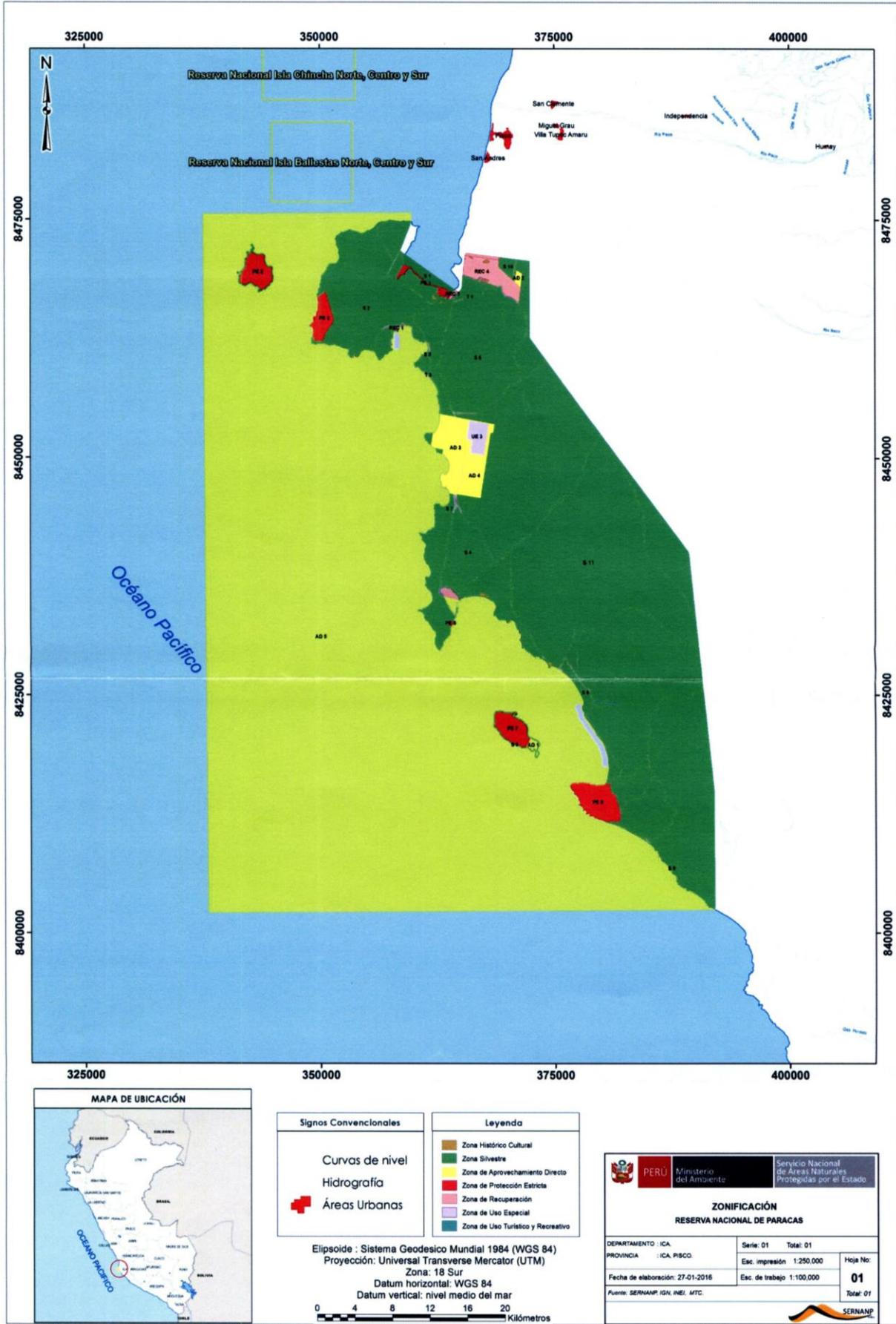
VI.2.1.6. Special Use (EU)

- Coastal desert.
- QUIMPAC (pools).
- Concessions for mariculture in Raspón and El Queso (Use of scallops).

VI.2.1.7. Historical Cultural (HC)

- Coastal desert (Archaeological zones).

Figure N ° 01 Zoning Map of the Paracas National Reserve



Source: Presidential Resolution No. 020-2016-SERNANP (2016).

VI.2.2. Buffer zone

The Buffer Zone refers to those spaces adjacent to the Natural Protected Areas of SINANPE, which, due to their nature and location, require special treatment that guarantees the conservation of the ANP. The activities carried out in the Buffer zones must not jeopardize the fulfillment of the purposes of the ANP.

The Buffer Zone was modified having the following 11 georeferenced points:

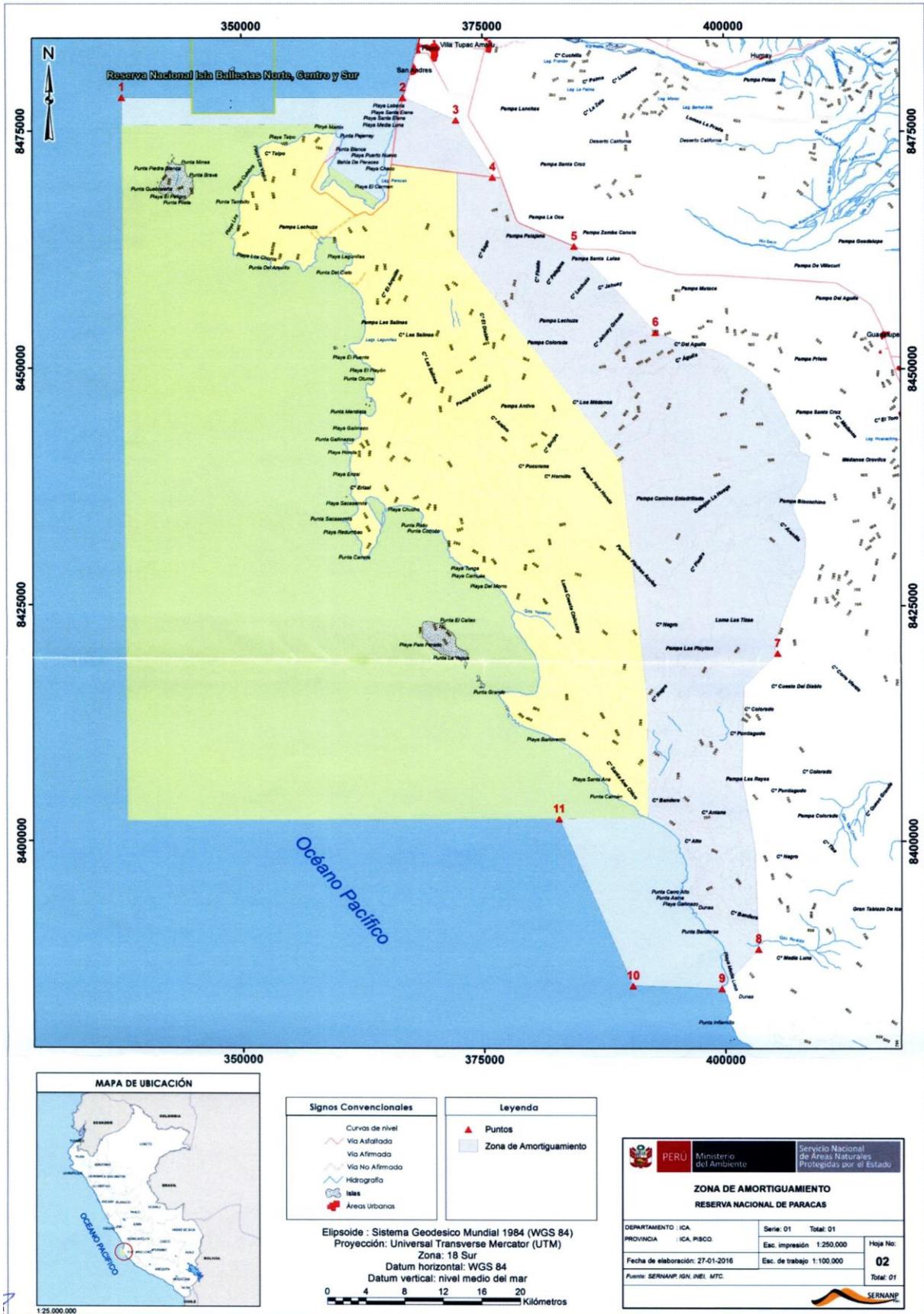
Table N ° 01 List of Points of the Buffer Zone of the Paracas National Reserve

Point	East	North
1	337612	8478555
2	366740	8478548
3	372242	8476185
4	376044	8470181
5	384451	8462868
6	392854	8453790
7	405455	8419926
8	403412	8388742
9	399607	8384614
10	390387	8384898
eleven	382758	8402390

Note: Coordinates are expressed in UTM projection. The reference datum is WGS 84, the projection area is 18S.

The following figure shows the map of the RNP Buffer Zone:

Figure N ° 02 Buffer Zone of the Paracas National Reserve



Source: Presidential Resolution No. 020-2016-SERNANP (2016).

VII. EXPOSURE AND EVALUATION OF BIODIVERSITY

The Steel Complex, including the former San Juan de Buenavista Farm, are located on the Carretera Panamericana Sur Km 241 in the district of Paracas, province of Pisco and department of Ica. The following figure shows the location and shape of the evaluated properties.

Figure N ° 03 Location of the Evaluated Properties



Source: Own elaboration.

The iron and steel complex has an area of 220 ha and the former San Juan de Buenavista Farm is adjacent to the complex (on the southwest side) and has an area of 102.2 ha in this place the project "Industrial and Reprocessable Materials Storage Patio".

The steel complex has an environmental management instrument called "Updating of the Environmental Management Plan of the Program for Adequacy and Environmental Management (PAMA)" approved on July 4, 2016 by the Ministry of Production with Directorial Resolution No. 308-2016-PRODUCE / DVMYPE-I / DIGGAM.

In the former San Juan de Buenavista Estate, we have been developing the project "Industrial and Reprocessable Materials Storage Patio, which has an environmental management instrument called" Declaration of Environmental Adequacy (DAA) "approved on January 15, 2017 by the Ministry of Production with Directorial Resolution No. 015-2017-PRODUCE / DVMYPE-I / DIGGAM. In the case of

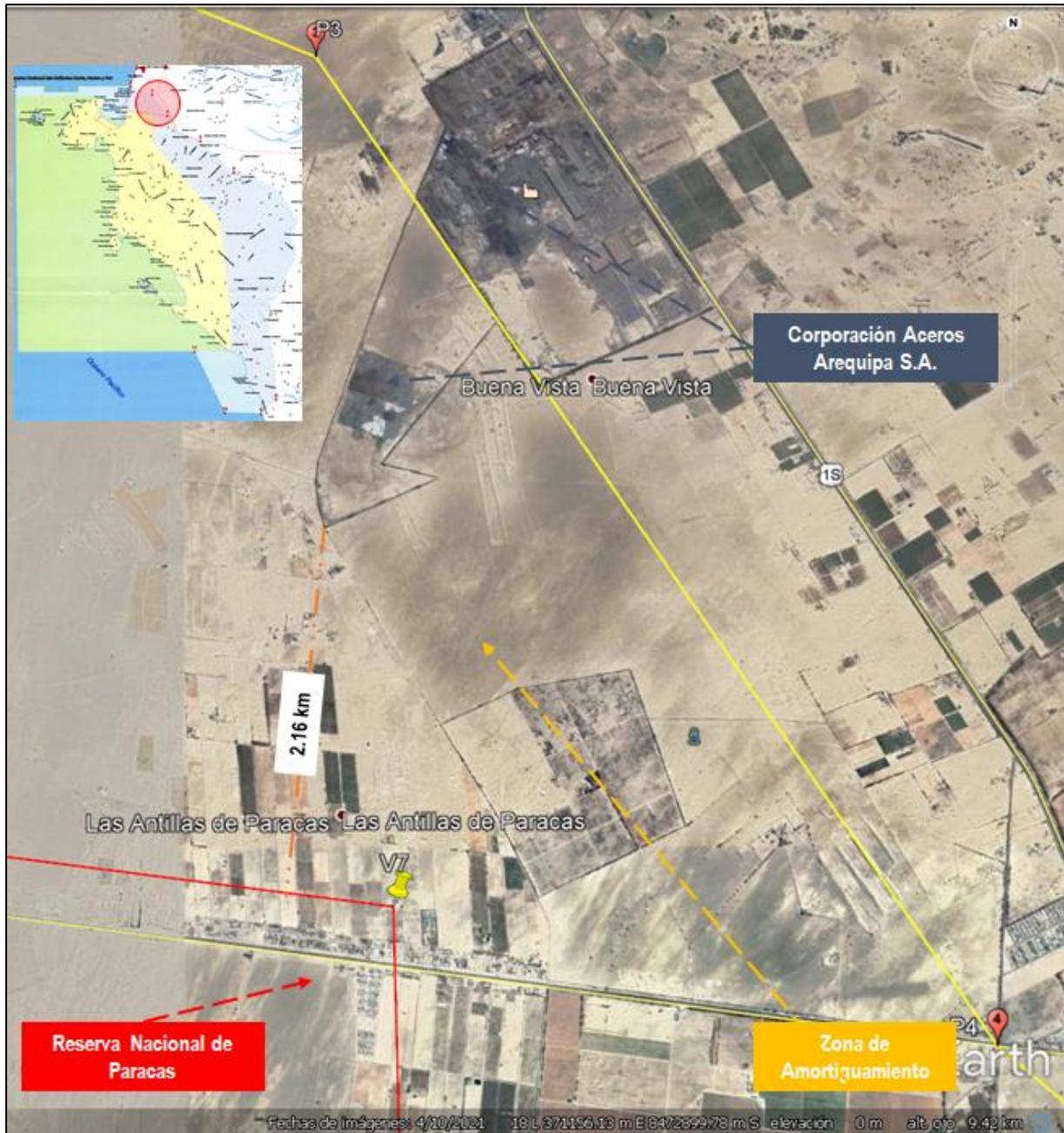
this project because it is developed within the Buffer Zone of the Paracas National Reserve, the Ministry of Production requested a technical opinion from the National Service of Natural Areas Protected by the State (SERNANP) which was favorable for CAASA.

It is worth mentioning that the impacts on the biological environment were evaluated in the two environmental management instruments and these were considered "Not very significant".

VII.1. CAASA and the Paracas National Reserve

According to the Master Plan (2016-2020) of the Paracas National Reserve, the former San Juan de Buenavista farm is located within the buffer zone near the junction of points 3 and 4, as shown in the following figure:

Figure N ° 04 Location of CAASA in the Buffer Zone



Source: Own elaboration.

In the previous figure it can be evidenced that the former San Juan de Buenavista farm (owned by CAASA) is located in the buffer zone, but not in the Paracas National Reserve, thus it is also identified that the closest vertex of the property is located approximately 2.16 km from the nearest side of the Paracas National Reserve.

Considering the Zoning Map of the Paracas National Reserve, CAASA's activities are close to the Wild, Direct Use and Recovery zones of the RNP.

VII.2. Biodiversity Assessment

As previously described, there are environmental management instruments (IGAs) approved for the Steel Complex and for the Industrial and Reprocessable Materials Storage Yard located in the Former San Juan de Buenavista Estate, the environmental impact assessment is described below. biological that was developed for each IGA:

VII.2.1. Steel Complex

The steel complex has an Update of the Environmental Management Plan of the PAMA that was approved on July 4, 2016 by the Ministry of Production with Directorial Resolution No. 308-2016-PRODUCE / DVMYPE-I / DIGGAM, in this IGA the environmental impacts to different environmental components, one of them being the biological component.

VII.2.1.1. Methodology Used

The process for selecting impact assessment methods considered as the main and determining criterion the use of methodologies accepted, standardized and / or recommended by the competent environmental authority, opting for Leopold's quantitative methodology, which assigns a relative value to the impact. according to its character, probability of occurrence, magnitude and importance of each activity of the extractive process on the environmental components.

This method is very useful to assess qualitatively and quantitatively the impact on each component or environmental factor that could cause any type of activity. This methodology is suitable for identifying and assessing the impacts, as well as for defining the qualitative or quantitative interrelationships of the activities or current operations of the steel complex.

The cause-effect analysis of the interaction of the activities of the activity stages versus the environmental components allowed the identification of direct and indirect environmental impacts and their status as positive or negative.

Table N ° 02 Impact Rating Range

Rank	Qualification
0 - 20	Not significant
21 - 40	Little significant
41 - 60	Moderately significant
61 - 80	Significant
81 - 130	Highly significant

Source: WFP update from CAASA Headquarters PAMA No. 02

VII.2.1.2. Results

From the evaluation of the impact on the biological environment, a rating of 22.9 was obtained, being considered a **“not very significant”** impact.

The Legal Technical Report No. 802-2016-PRODUCE / DVMYPE-I / DIGGAM-DIEVAI (which recommends IGA approval) describes the following:

- It is indicated that the surrounding environment is devoid of vegetation, which is a characteristic of the Paracas Desert.
- The recent evaluation of fauna in the study area determined the existence of 3 registered bird species, of which 6 individuals were buzzards, none of which are in any conservation category.
- From the evaluation of mammals, inconclusive information is obtained since no mammals were registered, but there are references from the inhabitants of fox sightings.

In 2018, a new IGA was made called "Supporting Technical Report for the Modernization Project of the Steel Plant at Headquarters No. 02" which was approved by Directorial Resolution No. 262-2018-PRODUCE / DVMYPE-I / DGAAMI (09/28/2018). In this IGA the biological environment was also evaluated, but this time with the CONESA methodology, which resulted in a so-called "low importance" impact.

VII.2.2. Industrial and Reprocessable Materials Storage Patio in the former San Juan de Buenavista Farm.

This project also has an IGA, called "Declaration of Environmental Adequacy" which was approved by Directorial Resolution No. 015-2017-PRODUCE / DVMYPE-I / DIGGAM on January 11, 2017, in which the environmental impact was also evaluated. to the biological environment.

VII.2.2.1. Methodology Used

In the DAA, the CONESA methodology was used to evaluate the environmental impacts of the project, presenting the following ranges:

Table N ° 03 Importance Rating Range

Importance Index	Importance level	
I <25	Low or Slight Impact	No Significant Impact
25 ≤ I <50	Moderate Impact	
50 ≤ I <75	High	Significant impact
75 ≥ I	Very high	

Source: DAA Industrial and Reprocessable Materials Storage Patio.

VII.2.2.2. Results

The Legal Technical Report N ° 0015-2017-PRODUCE / DVMYPE-I / DIGGAM-DIEVAI (which recommends IGA approval) describes the following with respect to the environmental impact assessment of the biological medium:

- **The impact associated with the operation of the storage yard has a negligible magnitude, since according to the baseline evaluation, within the area there is no vegetation cover, nor significant presence of fauna. This impact has been classified as low or slight magnitude.**

The following table shows the species of flora and fauna identified in each IGA.

Table N ° 04 Flora and fauna Identified in each IGA

Year	Flora	Fauna
2015 - 2016 (WFP update from PAMA)	<ul style="list-style-type: none"> - Eucalyptus (Eucalyptus globulus). - Aromo (Acacia karroo Hayne). 	<ul style="list-style-type: none"> - Red-headed vulture (Cathartes aura). - Crouching girl (Thinocurus rumicivorus). - Chisco (Mimus longicaudatus). - Paracas gekko (Phyllodactylus angustidigitus). - Peruvian lizard (Microlophus peruvianus).

<p>2018 (ITS Modernization of the Steel Mill)</p>	<ul style="list-style-type: none"> - Eucalyptus (Eucalyptus globulus). - Aromo (Acacia karroo Hayne). 	<ul style="list-style-type: none"> - Red-headed vulture (Cathartes aura). - Crouching girl (Thinocurus rumicivorus). - Chisco (Mimus longicaudatus). - American Red-headed Vulture (Cathartes aura). - American Sparrow (Zonotrichia capensis). - Paracas gekko (Phyllodactilus angustidigitus). - Peruvian lizard (Microlophus peruvianus).
<p>2015-2016 (DAA Industrial and Reprocessabl e Materials Storage Patio)</p>	<ul style="list-style-type: none"> - Sesuvium portulacastrum. - Alternanthera halimifolia - Baccharis salicifolia - Heliotropium curassavicum - Opuntia ficus-indica - Casuarina quisetifolia - Salicornia fruticosa - Cressa truxillensis - Acacia macracantha - Phoenix canariensis - Distichlis spicata - Phragmites australis 	<ul style="list-style-type: none"> - Cathartes aura (American red-headed vulture). - Chisco (Mimus longicaudatus). - American sparrow (Zonotrichia capensis) - Paracas Gekko (Phyllodactilus angustidigitus) - Peruvian lizard (Microlophus peruvianus)

Source: Own elaboration.

VII.3. Biological Monitoring Program

VII.3.1. Objectives

VII.3.1.1. General objective

- Perform biological monitoring of Wild Flora and Fauna (Flora and Avifauna), quantitatively and qualitatively, within the area of influence of Corporación Aceros Arequipa SA (CAASA).

VII.3.1.2. Specific objectives

- Make a description of the life zones present in the project area, according to the life zone map established by Holdridge.
- Make the description of the plant formations and flora species reported in the study area.
- Prepare a list of fauna species (ornithofauna and herpetofauna).
- Characterize in terms of composition, richness and abundance, the biological communities present in the Project area
- Estimate the alpha and beta diversity indices of biological communities, based on the information recorded during the field stage.
- Prepare the list of species of flora and fauna indicating the category of conservation or threat in accordance with current regulations.

VII.3.2. Sampling Stations

The following table shows the sampling stations:

Table N ° 05 Sampling Stations

Code	Description	Geographical coordinates	
		North	East
AAF-4 Control	Desert plains and slopes with little vegetation	8474712	372925
AAO-4 Impact	Desert plains and slopes with little vegetation	8476389	373596
AAO-3 Impact	Growing Areas	8475342	374193
MB-1c Control	Growing Areas	8477574	372882

Source: Own elaboration.

VII.3.3. Methodology

To carry out the monitoring program, we work with the company SGS del Peru, which has professionals in biology.

VII.3.3.1. Stage Field

➤ Flora Evaluation

General collections (qualitative): Tours were made through the different plant units through accesses and appropriate trails, recording all the species observed and photographing those entities that are difficult to determine in the field, noting their relevant morphological characteristics, which will later be determined by consulting specialized bibliography and family specialists.

Transects (quantitative): To quantify the components of the flora, the methodologies proposed in the MINAM Flora and Vegetation Inventory Guide (2015) were used, for which the transect methodology proposed by Mateucci, S. & S. Colma, 1982 will be used. least one transect will be established for each designated station. Plant unit duly georeferenced. The method consists of drawing a straight line with a tape measure (or another implement that has marks at defined intervals) on which the presence of species and the number of times they touch a rod every 1.0 m will be recorded. the evaluation interval depends on the choice of the researcher (normally in areas with a high variability of plant patches in small spaces, smaller intervals are used),

➤ Wildlife

Ornithofauna: For the evaluation of the ornithofauna, a combination of two methods will be carried out, in order to obtain greater accuracy in terms of recording the diversity of species.

Counting points not limited to distance (Reynolds et al. 1980, Buckland 1987, Bibby et al. 2000). For the data collection and census of the birds, they will be evaluated in each vegetation formation described in the Baseline, in which 1 sampling transect will be established composed of 10 substations or counting points in each sampling station (10 counting points). The counting points will be separated by at least 100 m along a transect already established prior to the evaluation days.

The samplings began around 05:30 am and will end before 09:30 am, since after that time the vocal activity decreases significantly. During the censuses, all species of birds detected visually and audibly were registered, also, indirect evidence is taken into account, such as: footprints and nests.

To spot the birds, binoculars will be used and for the determination of the bird species, the field guides of Schulenberg et al. Will be consulted. (2007) and Clements and Shany (2001), likewise the taxonomic classification of the South American Classification Committee SACC (2011) will be followed.

Herpetofauna: This technique is commonly referred to as VES for its acronym in English “Visual Encounter Survey” (Crump & Scott, 1994) and in Spanish as search by visual encounter or REV “Survey by Visual Encounter”. It is widely known and is useful for recording aquatic, terrestrial, and arboreal specimens such as amphibians, salamanders, lizards, lizards, snakes, and turtles. It is based on a limited or standardized evaluation by search time, which can range between 20 and 30 minutes (man-hours) depending on habitat conditions.

Sampling through this technique can be carried out both during the day and at night (Córdova et al., 2009), allowing to locate those specimens found in the low vegetation Pérez 2005). The pace of movement should be slow and constant, checking adjacent vegetation, surrounding bodies of water, stones, rocks, sticks, and various materials that serve as shelter for specimens within a given habitat. The sample units will have a separation of at least 50 meters from each other.

VII.3.3.2. Postfield Stage

The field data will be processed and the Population Parameters will be found:

Density (D): is the number of individuals (N) in a given area. $D = N / A$.

Relative Density (Dr): $Dr = \text{Absolute density of a species or family} / \text{Density of all species or families} \times 100$.

➤ Alpha diversity

In ecology, the Simpson diversity index (among other indices) is often used to quantify the biodiversity of a habitat. This takes into account the number of species present in the habitat, as well as the abundance of each species. The direct calculation gives rise to the indicator of Dominance by a species.

$$1 - D_{Si} = \sum_{i=1}^S p_i^2$$

Shannon-Wiener diversity index: takes into account the two components of diversity, number of species and equity, such as the uniformity of the distribution of the number of individuals of each species, accordingly, a greater number of species increases diversity and also greater uniformity also will do.

$$H' = \sum_{i=1}^S (p_i \times \log_2 p_i).$$

Equitability index J - Pielou index: it measures the proportion of the diversity observed in relation to the maximum diversity expected. Its value ranges from 0 to 1 so that 1 corresponds to situations where all species are equally abundant

$$J' = \frac{H'}{H'_{max}}$$

H' = Shannon-Wiener index

H'max = is the maximum diversity that would be obtained if the distribution of the abundances of the species in the community were perfectly equitable.

➤ Beta diversity

Beta diversity is the variation in the number of species that exists between the habitats of the same ecosystem. To measure this type of diversity, indices of similarity and dissimilarity between samples are used. The beta diversity measures are calculated from qualitative data (presence / absence of species) or quantitative data (proportional abundance of each species), the most frequent being the use of the following similarity / dissimilarity indices.

Jaccard's Coefficient of Similarity. - Expresses the degree to which the two samples are similar due to the species present in them. Used for qualitative data, it is expressed by the following formula:

$$I_J = \frac{c}{a + b - c}$$

Where: a = number of species present at site A

b = number of species present at site B

c = number of species present at both sites, A and B

The range of values for this index goes from 0, when there are no species shared between both sites, to 1, when the two sites have the same species composition.

Morisita-Horn index.- This index is based on abundance and is not influenced by sample size or wealth (Moreno, 2001; Ramírez, 2005; Wolda, 1981). However, it is very sensitive to the most abundant species, so it is convenient to use logarithmic transformations in its abundances (Ramírez, 2005).

$$I_{M-H} = \frac{2 \sum (a_{ni} \times b_{nj})}{(d_a + d_b) a_N \times b_N}$$

Where: a_{ni} = number of individuals of the i-th species at site A

b_{nj} = number of individuals of the j-th species at site B

a_N = number of individuals at site A

b_N = number of individuals at site B

$d_a = \sum a_{ni}^2 / a_N^2$ for site A

$d_b = \sum b_{nj}^2 / b_N^2$ for site B

The index ranges from 0 (there is no similarity) to 1 (there is similarity); This parameter allows the diversity values of one site to be compared with another site, in order to zonify areas with certain values of bioecological potential, within the framework of the EEZ

➤ **Protected species.**

The list of flora and fauna species (mammals, birds, amphibians, reptiles and insects) registered in the evaluation areas were contrasted with the national and international lists of species in the conservation category, indicated below and detailed in the following Table.

National lists

- Supreme Decree No. 004-2014-MINAGRI - Updating of the list of Categorization of Endangered Species of Legally Protected Wild Fauna.
- Supreme Decree No. 043-2006-AG - Categorization of Endangered Species of Wild Flora Legally Protected.

International lists

- International Union for the Conservation of Nature (IUCN 2020-1) - The IUCN Red List of Threatened Species (Searchable Database).
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES 2019). Appendix I of the convention lists the species facing the highest degree of danger. In Appendix II are the species that are not necessarily threatened with extinction but that could become so if their trade is not controlled. Appendix III lists species included at the request of a member country that already regulates the trade of said species and needs the cooperation of other countries to avoid unsustainable or illegal exploitation of them.

- Convention on Migratory Species (CMS 2018). Appendix I of this convention lists threatened species and Appendix II contains species that must be the subject of international agreements that promote their conservation. Both appendices include species that migrate to Peru.

Figure N ° 05 Biological Monitoring in CAASA



Source: Biological Monitoring Report 2nd Semester 2020.

VII.3.4. Conclusions of the First Semester 2020

VII.3.4.1. Flora

- In the study area, thirteen species distributed taxonomically in three classes, eight orders and eleven families were registered.
- Regarding the families, the most diverse were the Fabaceae and Poaceae with two species each. The families Asteraceae, Aizoaceae, Amaranthaceae, Nyctaginaceae, Casuarinaceae, Bignoniaceae, Boraginaceae, Myrtaceae, and Moraceae follow with a single species.
- In the study area, there were four types of growth habits: Succulent with one species, Shrub with three species, arboreal and herbaceous with four species.
- The species with the highest abundance are *Eucalyptus globulus* Labill with 64.71% and *Heliotropium curassavicum* L with 16.67%.
- It was recorded that the Shannon-Wiener diversity index ($H' = 1.43$ to $H' = 1.00$) is low, in stations AAO-3 Impact and AAO-4 Impact the dominance index is high Dominance_D 0.61 due to the presence of *Eucalyptus globulus* in living fences located in the area of these stations.
- It is observed that the AAO-4 Impacto and AAO-3 Impacto stations present the highest similarity with 30.00% differing from the other by up to 1.00%. The other AAF-4 Control and MB-1c Control stations present a similarity of 20.00%, this conclusion is shown because it is the one that most closely matches the description of the stations as they are considered similar to each other because they have live fences with similar species.
- According to the registered species, it is maintained that according to Supreme Decree IUCN (2020-1) *Vachellia macracantha* (Humb. & Bonpl. Ex Willd.) Seigler & Ebinger, is qualified as NT.

VII.3.4.2. Wildlife

➤ Ornithofauna

- A total of seventeen species of birds were recorded, distributed in twelve families and six taxonomic orders. The Passeriformes order was the best represented with seven families and nine species, which constitute 52.94% of the avifauna recorded in the study area. The Columbidae family reported the highest number of species with three records, representing 17.65%. The MB-1c Control and AAO-4 control stations that are outside the area of influence showed greater total abundance than the AAO-3 Impact and AAF-4 Control stations.
- In the study area, five food associations are registered, of which there is a heterogeneous distribution in the food supply, allowing diversity in the area.
- Regarding the diversity indices, it is recorded for the AAO-4 Impacto station, it is the most diverse among the four stations with Shannon-Wiener ($H' = 3.20$) and the one with the least diversity AAF-4 Control with Shannon-Wiener ($H' = 1.52$).
- The AAO-4 Impact and MB-1c Control stations are the most similar to each other with an index of 86.13% since they share eight species in common of the eleven that each has a similar amount of abundance.
- According to the consultations made regarding the status and list of protected species, four species *Falco sparverius*, *Athene cucularia*, *Amazilia amazilia* *Thaumastura cora*, are registered for the area in appendix II of CITES.

➤ Herpetofauna

- Throughout the study area, following the methodology, *Microlophus thoracicusicae* was registered in the MB-1c Control station with three specimens. The species is not considered threatened.
- Because only one species was recorded in the study area, diversity and similarity calculations were not performed for herpetofauna.

VII.3.5. Conclusions of the Second Semester 2020

VII.3.5.1. Flora

- 23 species of flora were recorded in the study area. The families with the highest number of species were Asteraceae and Fabaceae with 4 species each. The species with the highest abundance of individuals was *Eucalyptus globulus* of the Myrtaceae family with a total of 74 individuals. For the herbaceous stratum the individuals of the Poaceae family predominated and for the woody stratum were the individuals of the Myrtaceae family. The monitoring points with the greatest diversity were those belonging to the plant formation of Crop areas. It is observed that, although the area is desert, due to the fact that these lands are intervened by cultivation works, there is a variety of herbaceous species that develop at this particular time taking advantage of the fact that the water resource is present to maintain the areas cultivation.
- 8 species were recorded in the LC conservation category according to IUCN criteria. The arboreal species *Vachellia macracantha* stands out, which is categorized as NT according to national legislation.

VII.3.5.2. Wildlife

➤ Ornithofauna

- A total of 18 bird species were recorded, distributed in 13 families and seven taxonomic orders. The Passeriformes order was the best represented with seven families and nine species, which constitute 50% of the avifauna recorded in the study area. The Columbidae family reported the highest number

of species with three records, representing 30%. The MB-1c Control and AAF-4 control stations that are outside the area of influence showed greater total abundance than the AAO-3 Impact and AAO-4 Impact stations.

- In the study area, six food associations are registered, of which a heterogeneous distribution is registered in the food supply, allowing diversity in the area.
- Regarding the diversity indices, it is observed that the AAF-4 Control station is the most diverse among the four stations with a Shannon-Wiener index of $H' = 2.25$ bits / ind, and the one with the lowest diversity was recorded in AAO- 3 Impact, with $H' = 1.66$ bits / ind.
- The AAF-4 Control and MB-1c Control stations are the most similar to each other, with a similarity of 80% since they share five species in common of the 18 registered.
- According to the consultations made to the state and the list of protected species, four species are registered in the appendix II of CITES: Falco sparverius, Cathartes aura, Amazilia and Thaumastura cora.

➤ **Herpetofauna**

- Throughout the entire study area, following the methodology, Microlophus thoracicus icae was registered in the MB-1c Control and AAF-4 Control stations, with a specimen of a single species in each one. The species is not considered in threat categories according to national and international legislation.

Figure N ° 06 Photographic Record of Biological Monitoring

Photo 2		
East	373596	
North	8476389	
Altitude		
Reference place	AA-O4	
Scientific name	-	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Cultivation Area	

Photo 13		
East	372882	
North	8477574	
Altitude		
Reference place	MB-1C	
Scientific name	<i>Sesuvium portulacastrum</i>	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Growing areas	

	Photo 2			
	Scientific name	<i>Tyrannus melancholicus</i>		
	Common name	Tropical tyrant		
	East	372882	North	8477574
	Altitude	80 masl		
	Vegetation unit	Crops Area		
	Sampling station	MB-1c Control		
	Endemism	-		
	National Conservation Categories (DS 004-2014 MINAGRI)	None		
	Conservation International Categories	IUCN	CITES	
Category	None	None		
Population uses	-			
Geographical distribution	<u>Wide</u> Lesser Average Little Known			

 <p>2020.12.17 13:43</p>	Photo 4		
	Scientific name		<i>Pyrocephalus rubinus</i>
	Common name		Turtupilín
	East	372882	North 8477574
	Altitude		80 masl
	Vegetation unit		Crops Area
	Sampling station		MB-1c Control
	Endemism		-
	National Conservation Categories (DS 004-2014 MINAGRI)		None
	Conservation International Categories		IUCN
	Category		None
	Population uses		-
	Geographical distribution		WideLesser Average Little Known
 <p>2020.12.18 09:00</p>	Photo 12		
	Scientific name		<i>Mictolophus thoracicus icae</i>
	Common name		Grass lizard
	East	372882	North 8477574
	Altitude		80 masl
	Vegetation unit		Crops Area
	Sampling station		MB-1c Control
	Endemism		Peru
	National Conservation Categories (DS 004-2014 MINAGRI)		None
	Conservation International Categories		IUCN
	Category		None
	Population uses		-
	Geographical distribution		WideLesser Average Little Known

VIII. CAASA PERIMETRIC LIVING FENCE

VIII.1. Objective

Achieve a net improvement in the biodiversity of the area through the expansion of the perimeter of the living fence.

VIII.2. Description

We seek to generate positive impacts on our environment. We have built a living fence around our steel complex in Pisco, which serves as a habitat for species in the area and a resting space for migratory birds. This area is considered desert. However, thanks to the living fence, we have been able to successfully introduce eucalyptus and aromas. This space also serves as a habitat for birds and reptiles in the area. This project is considered as an "afforestation" project because plantations are established in areas where there was no tree cover.

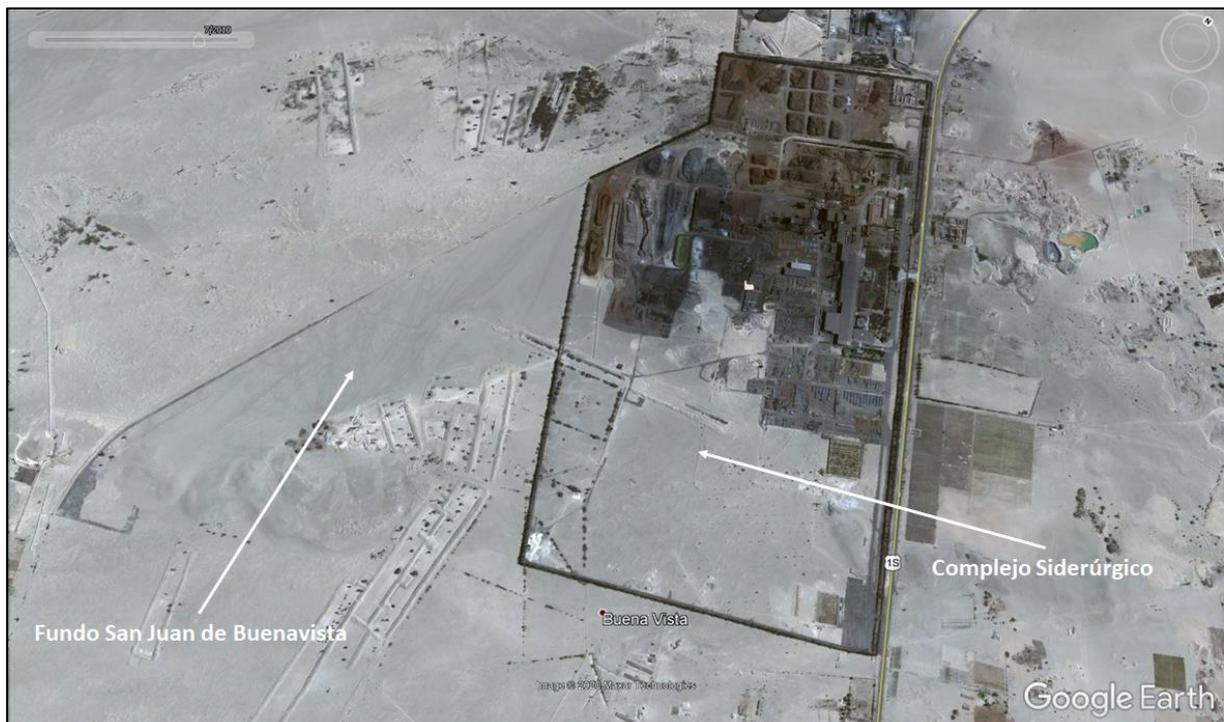
The area where the iron and steel complex was established is considered "desert", once CAASA's activities began to be implemented, the organization implemented the perimeter living fence which is made up of a line of eucalyptus and two aromo lines on the perimeter of the complex. industrial plant that today has reached approximately 10 meters in height (eucalyptus size).

Currently, the living fence of the steel complex has a length of 5.8 km where there are certain species of flora and fauna which were described in the previous chapter. Additionally, 4.2 km of fencing was planted in the perimeter of the former San Juan de Buenavista farm, which currently has an average height of 6 m. We estimate that for the fence to serve as habitat, the trees should measure more than 10 m and that their age after planting is greater than 5 years.

In the previous chapter it was described which are the species of flora and fauna that are in the living fence of the steel complex which are monitored every six months.

The following figure shows a satellite image of the CAASA property without the fence at the Ex Fundo San Juan de Buenavista.

Figure N ° 07 Living fence of CAASA in 2010



Source: Own elaboration.

Figure N ° 08 Living fence of CAASA in 2021

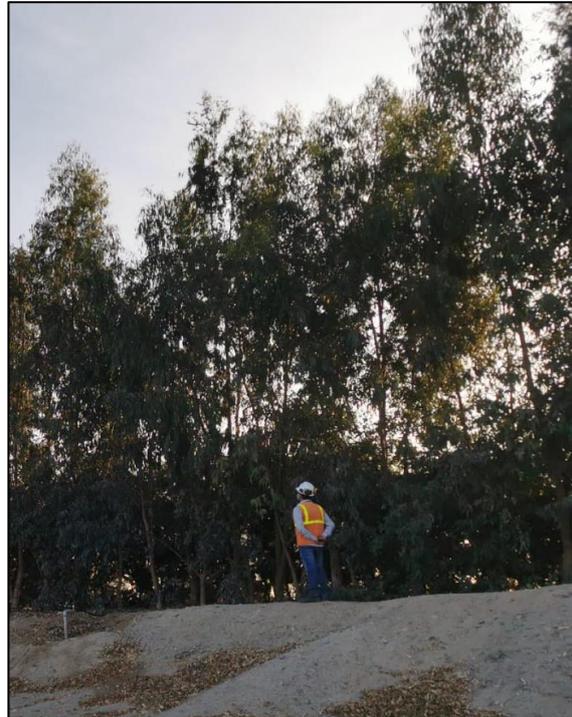


Source: Own elaboration.

Figure N ° 09 Living fence (Ex Fundo San Juan de Buenavista side)



Source: Own elaboration.

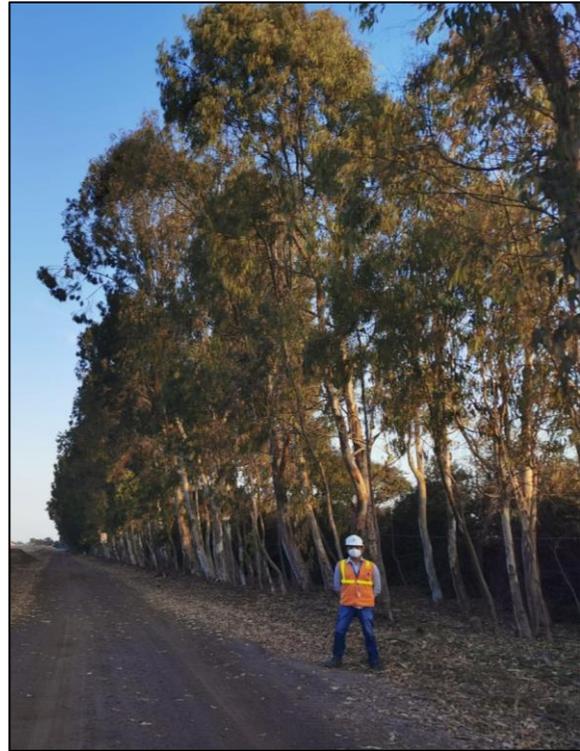


Source: Own elaboration.

Figure N ° 10 Living Fence (Steel Complex Side)



Source: Own elaboration.



Source: Own elaboration.

VIII.3. Schedule

Table N ° 06 Schedule of Activities

Activities	Period					
	2018	2019	2020	2021	2022	> 2022
- Additional seeding of the perimeter fence in the former San Juan de Buenavista Farm	X	X				
- Irrigation and maintenance of the entire living fence including the sowing of the former San Juan de Buenavista Farm		X	X	X	X	X
- Biological Monitoring of Wild Flora and Fauna		X	X	X	X	X
- Preparation of the Biodiversity Conservation Manual at CAASA					X	
- Signage and Murals					X	

Source: Own elaboration.

VIII.4. Progress

As can be seen in the previous figures, estimate a progress towards meeting the objective of 80%.

IX. CAASA AND THE MUNICIPAL ENVIRONMENTAL COMMISSION OF THE PROVINCE OF PISCO

Law No. 28611, General Environmental Law, regulates in its article 62 on the agreement in local environmental management, stating: **“Local governments organize the exercise of their environmental functions, considering the design and structuring of their internal organs or commissions, based on their resources, needs and the transversal nature of environmental management. They must implement a Local Environmental Management System, integrating public and private entities that perform environmental functions or that affect the quality of the environment, as well as civil society, within the scope of local government action”**. For this reason, it is the responsibility of the Local Government (Provincial Municipality of Pisco) to organize the exercise of its environmental functions.

Through Ordinance No. 002-2016-MPP, the Pisco Environmental Commission was updated and reactivated and through Resolution No. 458-2019-MPP-ALC on August 19, 2019, the Internal Regulations of the Provincial Municipal Environmental Commission of Pisco were approved.

CAM Pisco has a multisectoral nature, it is the instance of environmental management, in charge of coordinating and arranging the Municipal Environmental Policy. They promote dialogue and agreement between the public, private and civil society sectors to bring environmental management to a level of real efficiency, and to solve environmental problems, which can only be faced under cross-sectoral and participatory mechanisms.

The CAM Pisco is made up of more than 37 representatives of public and private entities, one of them being CAAS as well as other specialists from the institutions Civil Association Grupo Aves del Perú - GAP, Coastal Areas and Marine Resources - ACOREMA,

CAM Pisco has the following functions:

- To be the instance of agreement of the Local Environmental Policy in coordination with the Local Government for the implementation of the Local Environmental Management System.
- Build in a participatory manner the Plan and the Local Environmental Agenda that will be approved by the Local Government.
- Achieve concrete commitments from member institutions based on a shared vision of sustainable development.
- Prepare proposals for the operation, application and evaluation of environmental management instruments and the implementation of Environmental Policies.
- Facilitate the appropriate treatment for the solution of environmental conflicts.
- Participation and representation in the regional Instance.
- Promote the application of the Local Environmental Management System.
- Promote mechanisms for the participation of civil society and private activity in Environmental Management.
- Contribute to the development of local Environmental Management Systems.

The General Assemblies of CAM Pisco are ordinarily held once a month, on a date established by the members of the CAM, the presidency may also call extraordinary meetings when the matters to be discussed so require, and must communicate such fact to the representatives. of the CAM in advance.

The CAM fulfills its functions with the support of Local Technical Groups - GTL to proposals from the members and approved by the CAM.

The GTL are instances destined to the discussion, analysis and search of technical agreements and mechanisms that are required to make operational, the environmental management instruments, propose alternative solutions to environmental problems, generate proposals and projects, as well as diagnose, design, execute and evaluate local environmental policies.

With Resolution No. 459-2019-MPP-ALC on August 19, 2019, the Technical Group of Wetlands and Marginal Belt was formed in which CAASA actively participates to date.

Figure N ° 11 CAM Pisco



IX.1. Wetlands and Marginal Belt Technical Committee

This committee met on several occasions in 2020, in which it was identified that there are activities that put the state of the wetlands in the province of Pisco at risk, for this it was identified that there is the presence of clearings, invasion of livestock activity, palm trees, presence of domestic animals and burning of waste in the area.

On November 30, 2020, Ordinance No. 018-2020-MPP was approved, declaring the preparation and implementation of the Integrated Management Plan for the Marine-Coastal Zone in the province of Pisco of provincial interest, starting the process of formalization of said Plan.

Several meetings were held during 2020 and 2021 with advice from the Ministry of the Environment (MINAM) and on April 15, 2021, through Decree No. 002-2021-MPP, the Local Management Committee for the Integrated Management of the Coastal Marine Zone was formed. Pisco - Paracas by 42 representatives, including the 37 representatives of the Faja Marginal Wetlands Technical Committee.

The formulation of the Integrated Management Plan of the ZMC Pisco - Paracas presents 3 phases:

- Preparation: Establishment of enabling conditions at the regional level; and establishment of enabling conditions at the local level.
- Planning: Analysis of the problematic situation; and definition of the change proposal.
- Approval: Formulation of requirements; and approval of the plan.

Figure N ° 12 Phases of the Plan Formulation



Source: Local Management Committee for the Integrated Management of the Pisco - Paracas Coastal Marine Zone.

Several workshops were held on January 22, February 12 and 18; and March 9 and 26. In May, the preparation of the "Proposal for the Integrated Management Plan of the Coastal Marine Zone of Pisco - Paracas" was completed.

IX.2. Proposal for an Integrated Management Plan for the Coastal Marine Zone of Pisco - Paracas (PMIZMC)

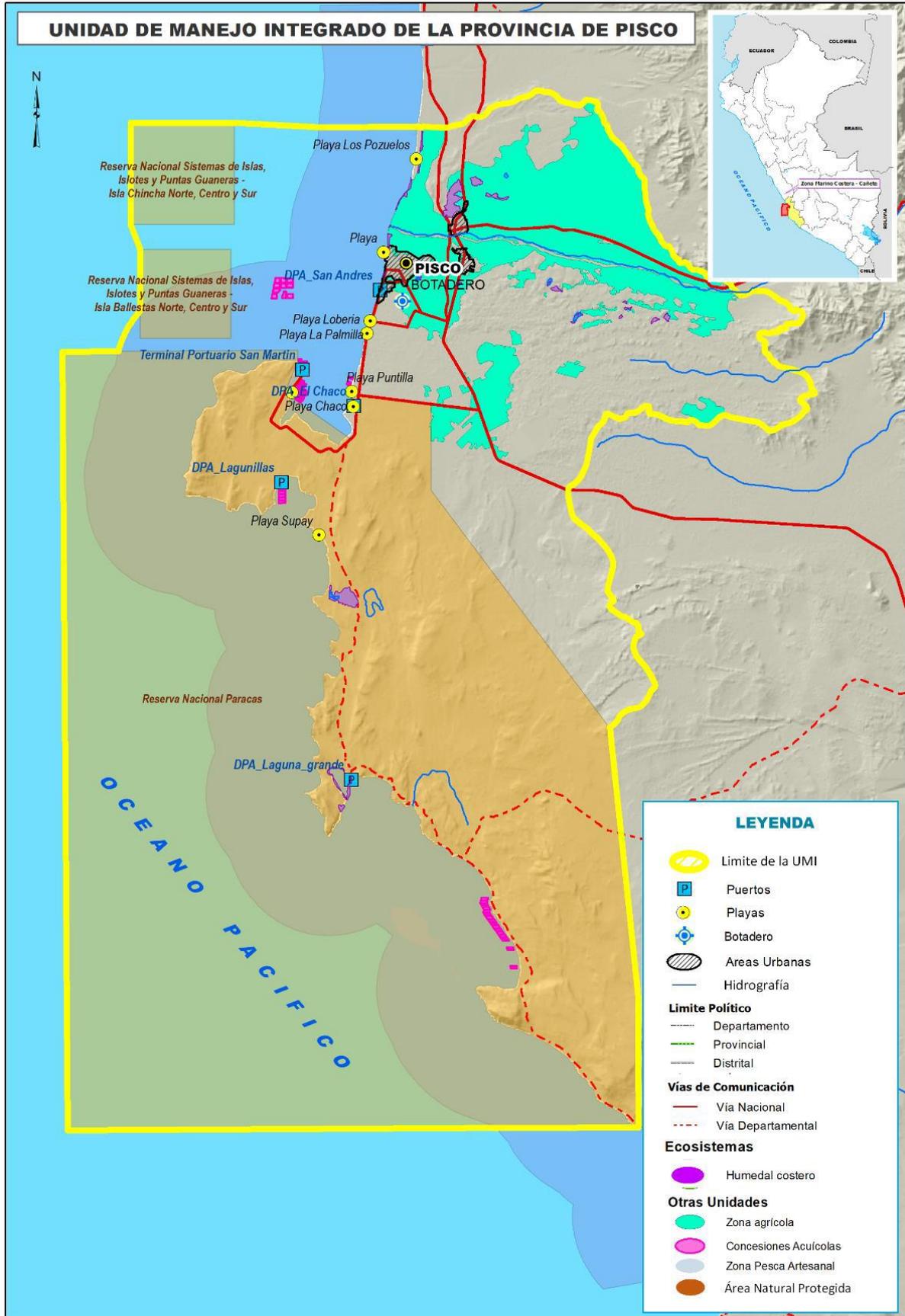
The Integrated Management Plan for the Coastal Marine Zones (PMIZMC) of Pisco - Paracas constitutes a planning instrument resulting from an effort and commitment of public and private institutions, at regional and local level, representatives of organized civil society, technical groups and work teams such as the Regional Technical Group (GTR) and the Local Management Committee (CGL), which with technical assistance from the Ministry of the Environment (MINAM) and the support of the EbAMar project "Ecosystem-based adaptation measures for the management of of the marine-coastal areas "(GIZ-MINAM) and the leadership of the Provincial Municipality of Pisco, has managed to prioritize measures and actions to improve the quality of life of the population and their livelihoods, through the recovery and maintenance of ecosystem services in coastal marine areas.

The PMIZMC is a planning instrument that contains the results, products and activities that jointly allow to achieve the desired change in the ZMC associated with the conservation of ecosystems and their services.

This plan was developed in a participatory manner with the members of the CGL through the technical assistance of the General Directorate of Environmental Territorial Organization (DGOTA) of MINAM and the conduction of the Management of Services to the City, Environment and Public Safety of the Provincial Municipality of Pisco and the support of the Management of Natural Resources and Environmental Management (GRRNYGA) of the Regional Government of Ica (GORE Ica).

The PMIZMC of Pisco - Paracas comprises a current regulatory framework, the methodological route, the analysis of the Integrated Management Unit (UMI) and the proposal for change. In the latter, the desired change is defined, problems are analyzed, the route of change and the planning matrix are elaborated. In this way, twenty-six (26) problems were identified and prioritized through structural analysis, where it is considered to generate true articulation mechanisms at key points.

Figure N ° 13 Map of the Integrated Management Unit of the Province of Pisco

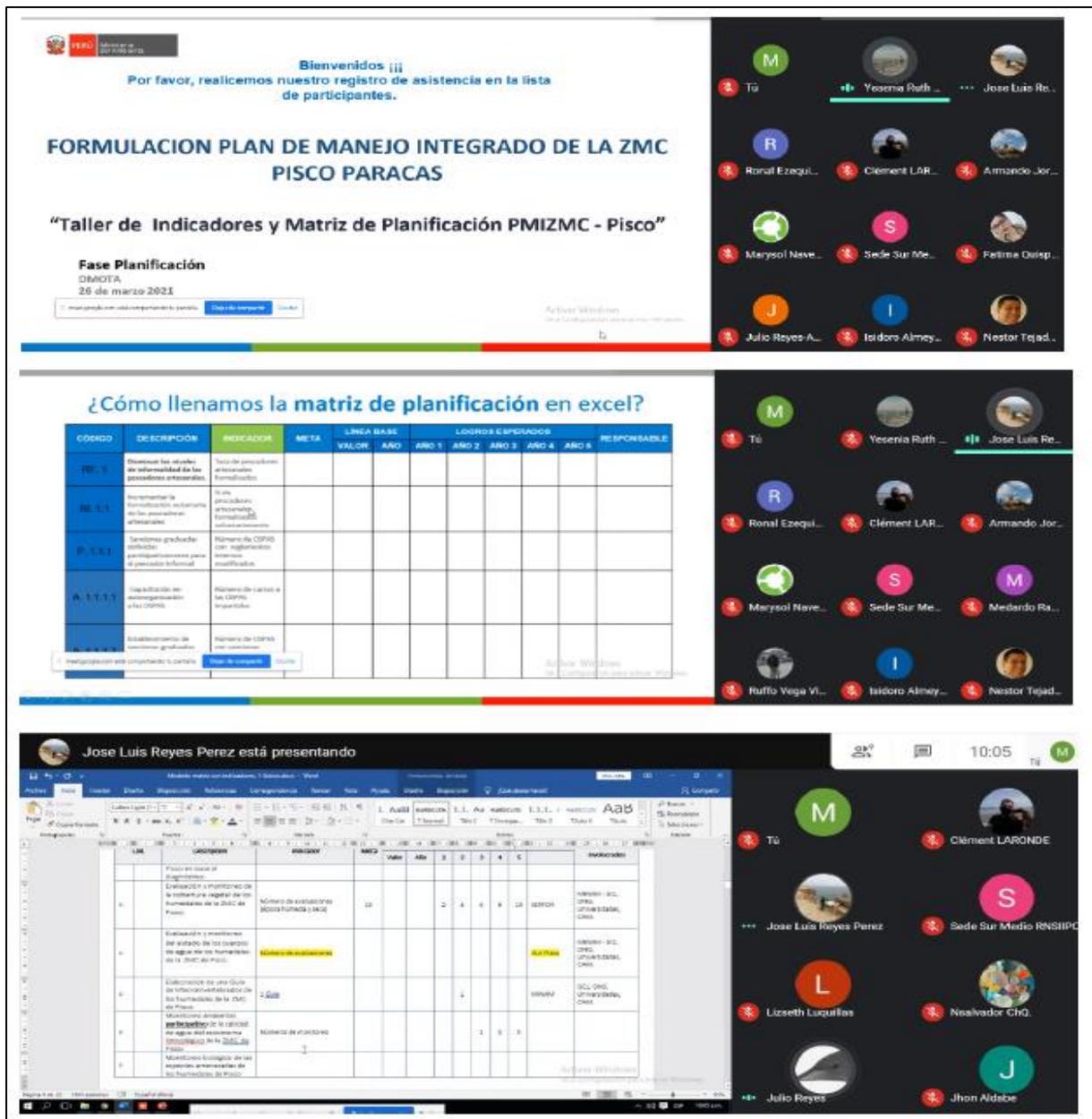


Source: Local Management Committee for the Integrated Management of the Pisco - Paracas Coastal Marine Zone.

The strategic objectives identified for the UMI of Pisco - Paracas are: (1) Promote the conservation of ecosystems and their biodiversity (wetlands, islands, beaches) of the ZMC of Pisco, (2) Strengthen the governance for the adequate management of the ZMC, (3) Improve the final disposal of solid waste in the ZMC, (04) Increase and improve the coverage of wastewater from the ZMC, (05) Improve the sanitary conditions of the DPA of Lagunillas, Laguna Grande and San Andrés , (06) Strengthen local governments in the management of public and private investment projects on environmental issues, (07) Reduce inadequate urban and road expansion in the ZMC of Pisco and (08) Increase the awareness of the population in the care of the ecosystems of the ZMC of Pisco.

The objective of the PMIZMC of Pisco - Paracas is to contribute to improving the access and uses of the resources contained in the ZMC through an ecosystem approach, promoting the governance of the marine-coastal zone of Pisco. Likewise, it guides local management taking as a reference the information from the development plans and Master Plans of the Paracas National Reserve and the National Reserve System of Islands, Islets and Guaneras Points in force, which constitute a contribution to the development of the area. marine-coastal.

Figure N ° 14 Images of the Workshops Held



Source: Local Management Committee for the Integrated Management of the Pisco - Paracas Coastal Marine Zone.

X. MANAGEMENT PLAN FOR BIODIVERSITY

X.1. objective

- Conserve the biodiversity that coexists with our iron and steel activity as a result of the implementation of the perimeter living fence.
- Promote the importance of biodiversity in collaboration with stakeholders to ensure the long-term conservation of native species in the area of influence of our operations.
- Promote the collection, analysis and improvement of information and knowledge on biodiversity in collaboration with experts.

X.2. General activities

X.2.1. Maintenance of the Living Fence

The living fence will have an annual maintenance which will consist of cleaning and pruning of some trees as necessary, this activity is carried out by the Auxiliary Services area of the headquarters. They are also in charge of the revision of the irrigation system and the change of any accessory as necessary (in this activity the constant irrigation of the living fence is also taken into account).

X.2.2. Signage Related to Biodiversity Care

Signs prohibiting hunting and use of horns will be implemented unnecessarily in different areas, as well as speed limits. In addition to this, murals will be implemented with the most representative species that inhabit the living fence so that collaborators and visitors can know them.

X.2.3. Meetings at the Municipal Environmental Commission of Pisco

It will actively participate in the Municipal Environmental Commission of Pisco within the Committee of Wetlands and Marginal Belt of Pisco in order to seek approval of the Integrated Management Plan of the Coastal Marine Zone of Pisco - Paracas (PMIZMC) and seek its implementation with various parts of the public and private sector.

X.2.4. Awareness of CAASA Collaborators

Within CAASA's Environmental Awareness Program, the importance of biodiversity conservation in CAASA will be addressed.

X.2.5. Expert Help Publications

Work together with information experts on the biodiversity that exists in the CAASA living fence in order to make publications and serve as site-specific information.

X.3. Monitoring and Tracking

X.3.1. Biological Monitoring

Biological monitoring will be carried out every six months in order to estimate diversity indices and identify if there is any species that is in the category of conservation or threat in accordance with current regulations.

X.3.2. Impact Assessment on the Biological Environment

Each time an Environmental Management Instrument is carried out, it must evaluate the impact on the biological environment and if necessary update the biological baseline of the headquarters.

XI. CONCLUSIONS

- CAASA's steelmaking activity is carried out more than 2 km from the Paracas National Reserve, part of it being within the buffer zone, this activity (Storage of Industrial and Reprocessable Materials) is compatible with zoning and has an evaluation of environmental impact, which resulted in a rating of "non-significant impacts to the biological environment."
- In order to carry out the environmental impact assessment, field work was carried out in which different species that live adjacent to the iron and steel industry were identified and that were attracted due to the seeding and maintenance of the Living Fence. which identify the species that coexist with our activity, it is worth mentioning that none of the species is in the category of conservation or threat in accordance with current regulations.
- With respect to our project of net improvement in biodiversity due to the increase in the Living Fence, this has an 80% progress, having eucalyptus trees that reach approximately 6 m.
- Within our activities at CAM Pisco, we have participated in the formulation of the proposal for the PMIZMC of Pisco - Paracas, which will serve as a management instrument to preserve the biodiversity of the area.

In general, we are developing activities that allow the conservation of the biodiversity that inhabits the living fence of our headquarters and we are making efforts to expand the space for a net improvement, in addition we are participants together with the local government to be able to implement mechanisms that can safeguard biodiversity in the coastal marine zone of Pisco - Paracas.

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XIII. ANNEXES

Annex N ° 01 Photo Gallery of the Biological Monitoring Program

Flora

Photo 1		
East	374193	
North	8475342	
Altitude		
Reference place	AA-O3	
Scientific name	-	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Cultivation Area	

Photo 2		
East	373596	
North	8476389	
Altitude		
Reference place	AA-O4	
Scientific name	-	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Cultivation Area	

Photo 3		
East	372925	
North	8474712	
Altitude		
Reference place	AA-F4	
Scientific name	-	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Desert plains and slopes with little vegetation	

Photo 4		
East	372882	
North	8477574	
Altitude		
Reference place	MB-1C	
Scientific name	-	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Desert plains and slopes with little vegetation	

Photo 5		
East	372882	
North	8477574	
Altitude		
Reference place	AA-O3	
Scientific name	<i>Sonchus oleraceus</i>	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Growing areas	

Photo 6		
East	374193	
North	8475342	
Altitude		
Reference place	AA-O3	
Scientific name	<i>Delonix regia</i>	
DS 043-2006-AG	-	
Conservation International	IUCN - LC	
Population uses	-	
Vegetal Formation	Growing areas	

Photo 7		
East	373596	
North	8476389	
Altitude		
Reference place	AA-04	
Scientific name	<i>Vachellia karoo</i>	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Desert plains and slopes with little vegetation	

Photo 8		
East	373596	
North	8476389	
Altitude		
Reference place	AA-04	
Scientific name	<i>Bouganvillea spectabilis</i>	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Desert plains and slopes with little vegetation	

Photo 9		
East	373596	
North	8476389	
Altitude		
Reference place	AA-04	
Scientific name	<i>Cenchrus echinatus</i>	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Desert plains and slopes with little vegetation	

Photo 10		
East	372925	
North	8474712	
Altitude		
Reference place	AA-F4	
Scientific name	<i>Encelia canescens</i>	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Desert plains and slopes with little vegetation	

Photo 11		
East	372925	
North	8474712	
Altitude		
Reference place	AA-F4	
Scientific name	<i>Pluchea chingoyo</i>	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Desert plains and slopes with little vegetation	

Photo 11		
East	372925	
North	8474712	
Altitude		
Reference place	AA-F4	
Scientific name	<i>Spilanthes leiocarpa</i>	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Desert plains and slopes with little vegetation	

Photo 12		
East	372925	
North	8474712	
Altitude		
Reference place	AA-F4	
Scientific name	<i>Distichlis spicata</i>	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Desert plains and slopes with little vegetation	

Photo 13		
East	372882	
North	8477574	
Altitude		
Reference place	MB-1C	
Scientific name	<i>Sesuvium portulacastrum</i>	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Growing areas	

Photo 14		
East	372882	
North	8477574	
Altitude		
Reference place	MB-1C	
Scientific name	<i>Alternanthera pubiflora</i>	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Growing areas	

Photo 15		
East	372882	
North	8477574	
Altitude		
Reference place	MB-1C	
Scientific name	<i>Prosopis limensis</i>	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Growing areas	

Photo 16		
East	372882	
North	8477574	
Altitude		
Reference place	MB-1C	
Scientific name	<i>Plantago major</i>	
DS 043-2006-AG	-	
Conservation International	IUCN - LC	
Population uses	-	
Vegetal Formation	Growing areas	

Photo 17		
East	372882	
North	8477574	
Altitude		
Reference place	MB1-C	
Scientific name	<i>Nicandra physalodes</i>	
DS 043-2006-AG	-	
Conservation International	-	
Population uses	-	
Vegetal Formation	Growing areas	

Birds

	Photo 1		
	Scientific name	<i>Cathartes aura</i>	
	Common name	Red-headed vulture	
	East	372882	North 8477574
	Altitude	80 masl	
	Vegetation unit	Crops Area	
	Sampling station	MB-1c Control	
	Endemism	-	
	National Conservation Categories (DS 004-2014 MINAGRI)	None	
	Conservation International Categories	IUCN	CITES
	Category	None	II
	Population uses	-	
	Geographical distribution	<u>Wide</u> Lesser Average Little Known	

	Photo 2		
	Scientific name	<i>Tyrannus melancholicus</i>	
	Common name	Tropical tyrant	
	East	372882	North 8477574
	Altitude	80 masl	
	Vegetation unit	Crops Area	
	Sampling station	MB-1c Control	
	Endemism	-	
	National Conservation Categories (DS 004-2014 MINAGRI)	None	
	Conservation International Categories	IUCN	CITES
	Category	None	None
	Population uses	-	
	Geographical distribution	<u>Wide</u> Lesser Average Little Known	

	Photo 3		
	Scientific name	<i>Columbina cruziana</i>	
	Common name	Peruvian Tortolita	
	East	372882	North 8477574
	Altitude	80 masl	
	Vegetation unit	Crops Area	
	Sampling station	MB-1c Control	
	Endemism	-	
	National Conservation Categories (DS 004-2014 MINAGRI)	None	
	Conservation International Categories	IUCN	CITES
	Category	None	None
	Population uses	-	
	Geographical distribution	<u>Wide</u> Lesser Average Little Known	

	Photo 4		
	Scientific name	<i>Pyrocephalus rubinus</i>	
	Common name	Turtupilín	
	East	372882	North 8477574
	Altitude	80 masl	
	Vegetation unit	Crops Area	
	Sampling station	MB-1c Control	
	Endemism	-	
	National Conservation Categories (DS 004-2014 MINAGRI)	None	
	Conservation International Categories	IUCN	CITES
	Category	None	None
	Population uses	-	
Geographical distribution	<u>Wide</u> Lesser Average Little Known		

	Photo 5		
	Scientific name	<i>Coniristrum cinereum</i>	
	Common name	Ashen Cone Peak	
	East	372882	North 8477574
	Altitude	80 masl	
	Vegetation unit	Crops Area	
	Sampling station	MB-1c Control	
	Endemism	-	
	National Conservation Categories (DS 004-2014 MINAGRI)	None	
	Conservation International Categories	IUCN	CITES
	Category	None	None
	Population uses	-	
Geographical distribution	<u>Wide</u> Lesser Average Little Known		

	Photo 6		
	Scientific name	<i>Amazilia amazilia</i>	
	Common name	Coastal amazilia	
	East	372882	North 8477574
	Altitude	80 masl	
	Vegetation unit	Crops Area	
	Sampling station	MB-1c Control	
	Endemism	-	
	National Conservation Categories (DS 004-2014 MINAGRI)	None	
	Conservation International Categories	IUCN	CITES
	Category	None	II
	Population uses	-	
Geographical distribution	<u>Wide</u> Lesser Average Little Known		

	Photo 7			
	Scientific name		<i>Bubulcus ibis</i>	
	Common name		Cattle heron	
	East	372882	North	8477574
	Altitude		80 masl	
	Vegetation unit		Crops Area	
	Sampling station		MB-1c Control	
	Endemism		-	
	National Conservation Categories (DS 004-2014 MINAGRI)		None	
	Conservation International Categories		IUCN	CITES
	Category		None	None
	Population uses		-	
Geographical distribution		<u>Wide</u> Lesser Average Little Known		

	Photo 8			
	Scientific name		<i>Troglodytes aedon</i>	
	Common name		Common cockroach	
	East	374193	North	8477342
	Altitude		80 masl	
	Vegetation unit		Crops Area	
	Sampling station		AAO-3 Impact	
	Endemism		-	
	National Conservation Categories (DS 004-2014 MINAGRI)		None	
	Conservation International Categories		IUCN	CITES
	Category		None	None
	Population uses		-	
Geographical distribution		<u>Wide</u> Lesser Average Little Known		

	Photo 9			
	Scientific name		<i>Mimus longicaudatus</i>	
	Common name		Chaucato	
	East	372925	North	8474712
	Altitude		80 masl	
	Vegetation unit		Desert plains and slopes with little vegetation	
	Sampling station		AAF-4 Control	
	Endemism		-	
	National Conservation Categories (DS 004-2014 MINAGRI)		None	
	Conservation International Categories		IUCN	CITES
	Category		None	None
	Population uses		-	
Geographical distribution		<u>Wide</u> Lesser Average Little Known		

Photo 10				
	Scientific name	<i>Zenaida meloda</i>		
	Common name	Melodic turtledove		
	East	373596	North	8476389
	Altitude	80 masl		
	Vegetation unit	Desert plains and slopes with little vegetation		
	Sampling station	AAO-4 Impact		
	Endemism	-		
	National Conservation Categories (DS 004-2014 MINAGRI)	None		
	Conservation International Categories	IUCN	CITES	
	Category	None	None	
	Population uses	-		
	Geographical distribution	<u>Wide</u> Lesser Average Little Known		

Photo 11				
	Scientific name	<i>Cathartes aura</i>		
	Common name	Red-headed vulture		
	East	373596	North	8476389
	Altitude	80 masl		
	Vegetation unit	Desert plains and slopes with little vegetation		
	Sampling station	AAO-4 Impact		
	Endemism	-		
	National Conservation Categories (DS 004-2014 MINAGRI)	None		
	Conservation International Categories	IUCN	CITES	
	Category	None	None	
	Population uses	-		
Geographical distribution	<u>Wide</u> Lesser Average Little Known			

Reptiles

	Photo 12			
	Scientific name	<i>Mictolophus thoracicus icae</i>		
	Common name	Grass lizard		
	East	372882	North	8477574
	Altitude	80 masl		
	Vegetation unit	Crops Area		
	Sampling station	MB-1c Control		
	Endemism	Peru		
	National Conservation Categories (DS 004-2014 MINAGRI)	None		
	Conservation International Categories	IUCN	CITES	
	Category	None	None	
	Population uses			
	Geographical distribution	WideLesser Average Little Known		

	Photo 13			
	Scientific name	<i>Mictolophus thoracicus icae</i>		
	Common name	Grass lizard		
	East	372925	North	8474712
	Altitude	80 masl		
	Vegetation unit	Desert plains and slopes with little vegetation		
	Sampling station	AAF-4 Control		
	Endemism	Peru		
	National Conservation Categories (DS 004-2014 MINAGRI)	None		
	Conservation International Categories	IUCN	CITES	
	Category	None	None	
	Population uses	-		
	Geographical distribution	WideLesser Average Little Known		