OUR COMMITMENT TO BIODIVERSITY

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ACEROS AREQUIPA

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EXECUTIVE SUMMARY

In chapter IV Protected Natural Areas in Peru and V the Paracas National Reserve, In this document, it is described how the Protected Natural Areas (ANP) are managed in Peru, the Pisco steel complex of Corporación Aceros Arequipa SA (CAASA) is located more than 2 km from the Paracas National Reserve, which is one of the most representative ANP of Peru.

In chapter VII Analysis Methodology, we present the stages of biodiversity risk assessment that we have used (1) identification, (2), analysis and evaluation, (3) response plan and (4) follow-up. In chapter VIII Analysis of Biodiversity Risks, two risks were identified and evaluated: "That the habitat of the Perimetric Living Fence deteriorates, due to the increase in atmospheric emissions from the Steel Complex" and "That the natural pollination in the Perimetric Living Fence is interrupted, due to the operations of the Steel Complex", then we have developed the response plan.

Considering that our live fence is a net improvement in biodiversity, in this document we report the progress of the expansion of the live 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 ex-fundo San Juan de Buenavista have an average height of approximately 8 m.

Because we are aware that it is necessary to work with local authorities of the Province of Pisco, we report the activities that we had to develop as members of the Municipal Environmental Commission (CAM) so that the Integrated Management Plan for the Coastal Marine Zone of Pisco has a favorable technical opinion from MINAM and is subsequently approved by the Provincial Municipality of Pisco. And finally, we present the results of our biological monitoring for the semesters of 2022.

I. INTRODUCTION

Peru is one of the countries with the most biodiversity in the world, in recent years the legislation has evolved in order to ensure its preservation.

Corporación Aceros Arequipa SA (CAASA) has its 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 a buffer that prevents the ANP from being directly impacted, this buffer zone is updated every 5 years in a document called "RNP Master Plan".

Part of CAASA's operations are located within the buffer zone (Storage Yard for Industrial and Reprocessable Materials) which has an environmental impact assessment approved by the competent authority and a favorable technical opinion by the National Service of 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 that are 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. We have developed a biodiversity risk assessment in which it was possible to identify various species that inhabit the CAASA perimeter living fence and that are evaluated every six months with the help of experts, it is worth mentioning that none of the identified species is within the conservation category or threat in accordance with current regulations.

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

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

II. OBJECTIVES AND SCOPE

II.1. Goals

- Report the activities that CAASA has been carrying out in relation to the conservation of the perimeter biodiversity that exists at the Pisco headquarters in the face of the identified risks.

- Present the activities that were carried out for the approval of the Pisco Coastal Marine Zone Management Plan, which was prepared jointly with local authorities and with the support of the Ministry of the Environment.

II.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 site that is close to a Protected Natural Area, in this case "The Paracas National Reserve".

It is worth mentioning that the scope is only for this site, since the other sites are located in areas where there are large amounts of industrial activities, even older than us, and where no biological wealth has been found in the evaluation of their respective environmental impacts.

III. NATURAL PROTECTED AREAS IN PERU

The 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, scenic and scientific interest, as well as as well as for its contribution to the sustainable development of the country. The ANPs constitute patrimony of the Nation. Its natural condition must be maintained in perpetuity, allowing the regulated use of the area and the use of resources, or determining the restriction of direct uses.

The 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 on 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 Area Headquarters. In case of transfer of property rights, the State may exercise the right of withdrawal in accordance with the Civil Code.

The ANPs together make up the National System of Natural Areas Protected by the State (SINANPE), whose management includes the public institutions of the central government, decentralized governments at the regional level and municipalities, private institutions and local populations that act, intervene or participate, directly or indirectly, in the management and development of these areas.

The policy guidelines and strategic planning 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 the SINANPE Protected Natural Areas, Regional Conservation Areas and Private Conservation Areas; as well as analyze the types of habitats of the System and the measures to conserve and complete the required ecological coverage.

The Master Plan is the highest-level planning document that an ANP has. 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.

III.1. Types of ANP according to use

In accordance with the nature and objectives of each ANP, a category will be assigned that determines its legal status, purpose and permitted uses. The ANPs contemplate a graduality of options that include:

III.1.1. Indirect use areas

They are those that allow non-manipulative scientific research, recreation and tourism, in areas appropriately designated and managed for it. 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.

III.1.2. Direct use areas

They are those that allow the exploitation or extraction of resources, primarily by local populations, in those zones and places and for those resources, defined by the management plan of the area. Other uses and activities that are developed must be compatible with the objectives of the area. The areas of direct use are the National Reserves, Landscape Reserves, Wildlife Refuges, Communal Reserves, Protected Forests, Hunting Reserves and Regional Conservation Areas.

III.2. SINANPE Categories

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

III.2.1. National Parks

Areas that constitute representative samples of the country's natural diversity and its large ecological units. They intangibly protect the ecological integrity of one or more ecosystems, the associations of wild flora and fauna and successional and evolutionary processes, as well as other associated landscape and cultural characteristics.

III.2.2. National Sanctuaries

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

III.2.3. Historical Shrines

Areas that protect with an intangible character, 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 took place.

III.2.4. Landscape Reserves

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

III.2.5. Wildlife Refuges

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

III.2.6. National Reserves

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

III.2.7. Communal Reserves

Areas for 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 with greater capacity for agricultural, livestock, forestry or protection use and on humidity.

III.2.8. Protection Forests

Areas that are established in order to guarantee the protection of upper or collecting basins, the banks of rivers and other watercourses 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 put the vegetation cover of the area at risk.

III.2.9. Hunting Grounds

Areas intended for the use of wildlife through the regulated practice of sport hunting.

III.3. ANP Zoning

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

III.3.1. Strict Protection Zone (PE)

Those spaces where the ecosystems have been little or not intervened at all, 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 outside 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 monitoring of the environment are allowed, and exceptionally, scientific research.

III.3.2. Wilderness (S)

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

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

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

III.3.4. Direct Use Area (AD)

Spaces planned 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.

III.3.5. Special Use Zone (EU)

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

III.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 them the zoning that corresponds to their nature.

III.3.7. Historical-Cultural Zone (HC)

It defines areas that have important historical or archaeological values and whose management must be oriented towards 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 said 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 designated areas, with the exception of strictly protected areas and wilderness areas. 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.

III.4. Buffer Zones

Buffer zones are those areas adjacent to the ANP, 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 buffer zones; the management or recovery of populations of flora and fauna; recognition of private conservation areas; conservation concessions; environmental services concessions; the investigation; habitat recovery; 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.

IV. THE NATIONAL RESERVE OF PARACAS

The Paracas National Reserve is an ANP of the Peru, located in the Pisco province, inside of the Ica department. 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.

Keep a representative sample of the ecosystems marine of the 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 feed ingand shelter during their long annual journeys.

The RNP has great propitious on the Coast for the conservation and calm reproduction of numerous species of birds residents and migrants. Among the most common are pelicans, the gray gull (Larus modestus), tendril (inca larosterna), scratcher (Rynchops nigra), arctic plover (pluvialis squatarola), Chuita (Phalacrocorax gaimardi), guanay (Leucocarbo bougainvillii), The Condor, The Humboldt penguin(in danger of extinction) and parihuanas or flamingos (Phoenicopterus chilensis), among other species.

The fish found in this sea area are: sole (Etropus extenes), the white toyo (Mustelus whitneyi), the pretty (sarda chilensis), the tromboyo, the ray, the cheetah,sardine, anchovy (Engraulis ringens), pampanito, grouper, corvina, lorna and many other species.

The mammals in this reserve they are mainly represented by the sea lions of a hair or chusco (Otaria by ronia), the two-haired wolf or fur seal (Arctocephalus australis), the buffo (delphinius delphis) and the sea cat (feline lontra), this one, in danger of extinction.

The RNP is also inhabited by leatherback and green turtles, reptiles such as lizards (Microlophusspp.) and geckos (Phyllodactylus spp.),octopuses,squid(loligo gahi), clams andcrustaceanslike the carter (Ocypode gaudichaudii), the purplish crab (Platyxanthus orbigny), the very very (emerita analog), among other.

IV.1. General Information

Goal	:	Conserve coastal marine ecosystems and their threatened biological diversity. Ensure the responsible use of hydrobiological resources. Protect the archaeological and cultural heritage for tourist use and the well-being of the population.
Location	:	In the department of Ica, in 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.

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

- Preserve the marine ecosystem (with depths up to 50 mbnm.), for the preservation of the natural banks of marine invertebrates, the macroalgae meadows and sea grasses that are distributed in this area.
- Monitor the state of conservation 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 scallop cultivation within the Paracas National Reserve.
- Promote sustainable tourism and facilitate the diversification of the RNP tourist offer.
- Promote the Participatory Management of the Paracas National Reserve (RNP).

Note: As of the closing of this document, SERNANP has not updated the Paracas National Reserve Master Plan.

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 breeding area of the Peruvian tern.
- Marine ecosystem with depths from 0 to 50 mbnm.
- Marine ecosystem of depths greater than 50 mbnm.

IV.2.1. Zoning of the Paracas National Reserve

Zoning is a planning and territorial ordering tool that responds to the needs and objectives of the RNP. It allows establishing the different uses of the territory, in such a way that it contributes to the coexistence of natural processes and the exploitation activities that occur within the RNP. The Master Plan groups the sectors for each type of zone and proposes taking into account criteria, proposing conditions to maintain the zone and rules of use.

IV.2.1.1. Strict Protection (PE)

It includes the sectors:

- Paracas Bay wetland.
- Great Gallan Island (terrestrial part) and surrounding islets.
- Owl Hill.
- Punta Arquillo (Cliff and rocky intertidal zone).
- Flamingo Lagoon.
- Three Gates (Cliff)
- Independence Island (North Zone).
- Burnt nose.

IV.2.1.2. Wild (S)

It includes the sectors:

- Paracas Bay (marine and terrestrial part).
- Coastal desert (Gaviotín breeding area).
- 100 meters around Isla San Gallan and Independencia.

- North Lagunilla – Red Beach.
- Yumac.
- I close the damn
- 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.

IV.2.1.3. Tourist (T)

- The Mine – Scrape.
- South lagoon.
- Cathedral-Supay.

IV.2.1.4. Direct use (AD)

- Isla Independencia (southern zone) and Isla Santa Rosa (Use 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 included in the other areas.
- Fte. To San Gallán (Surf and sighting of wolves).

IV.2.1.5. Recovery (REC)

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

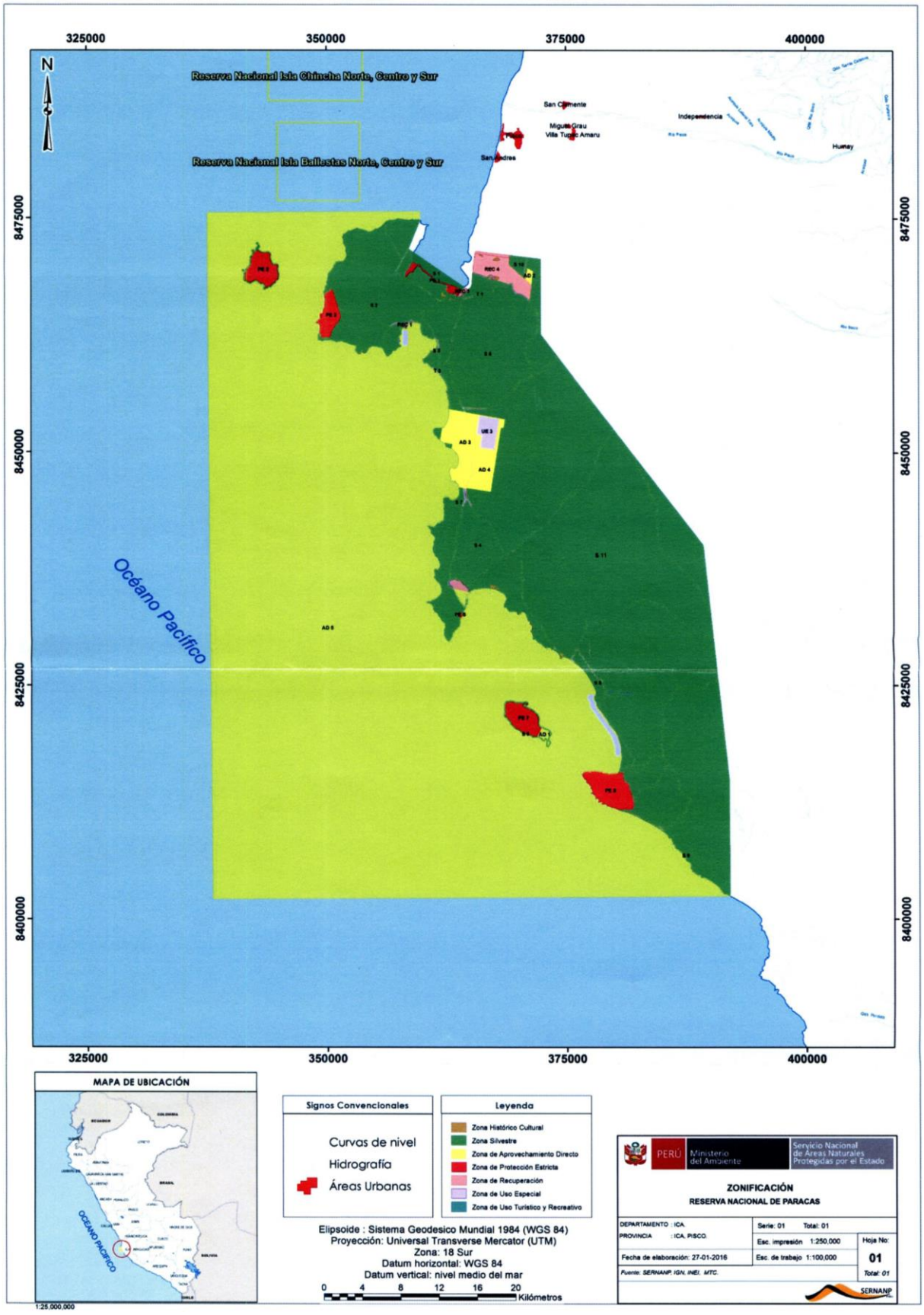
IV.2.1.6. Special Use (EU)

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

IV.2.1.7. Cultural history (HC)

- Coastal desert (Archaeological Zones).

Figure 1 Zoning Map of the Paracas National Reserve



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

IV.2.2. Buffer Zone

The buffer zone refers to those spaces adjacent to the SINANPE Protected Natural Areas, which, due to their nature and location, require special treatment to guarantee the conservation of the ANP. The activities carried out in the buffer zones should not jeopardize the fulfillment of the purposes of the ANP.

The buffer zone was modified having the following 11 georeferenced points:

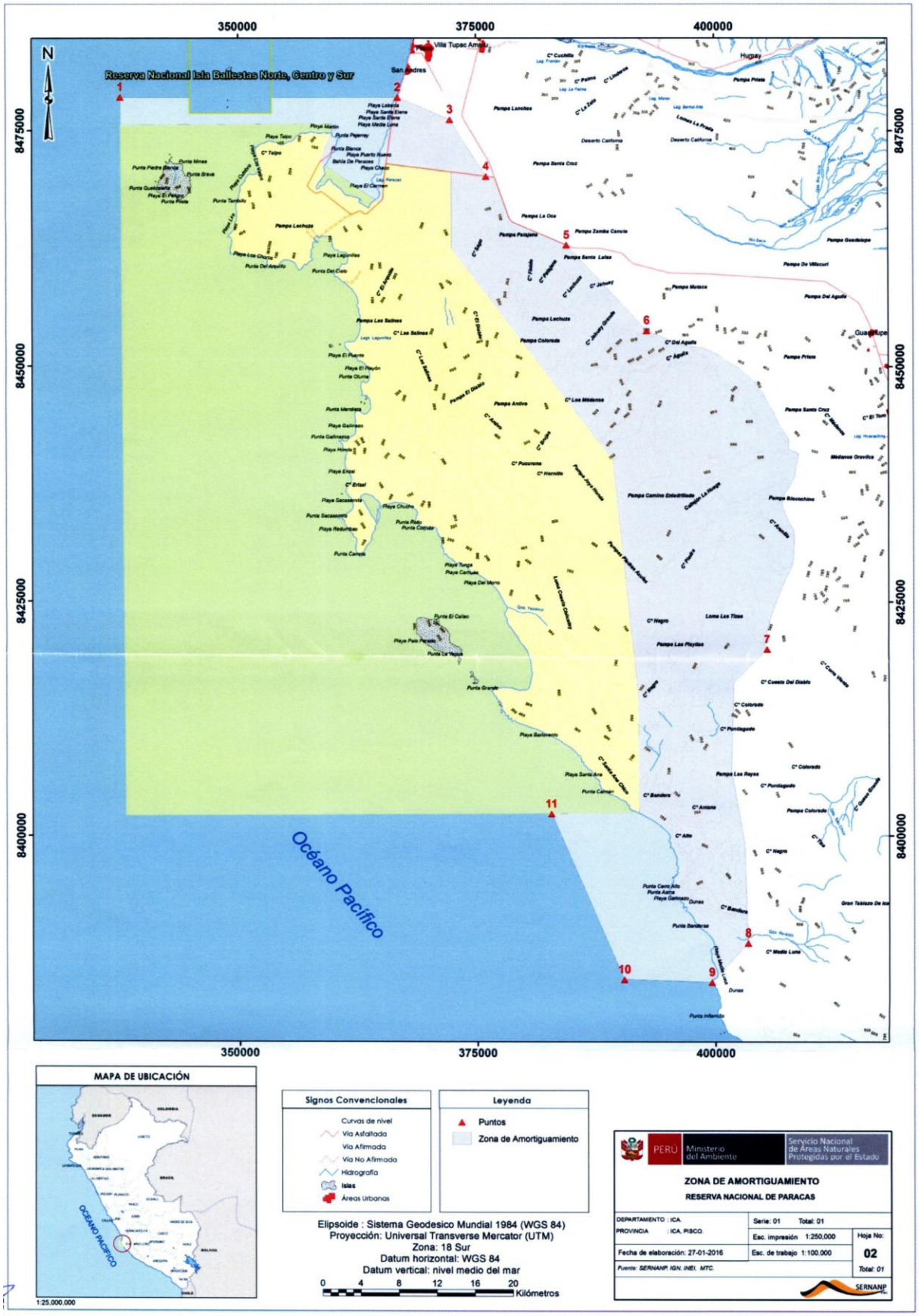
Table 1 List of Points of the Buffer Zone of the Paracas National Reserve

Spot	This	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 zone is 18S.

The following figure shows the map of the RNP buffer zone:

Figure 2 Buffer Zone of the Paracas National Reserve



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

V. ABOUT US

We are Corporación Aceros Arequipa SA (CAASA), a leading steel company in Peru and Peruvian capital, dedicated to the manufacture, processing, marketing, distribution and sale of iron, steel, among other metals and their derivatives. We offer quality products and maintain an excellent relationship and communication with our customers for more than 55 years, which is why we position ourselves as the leading company in the Peruvian market.

We have a clear business vision, human capital, good corporate governance, technological innovation, total quality, concern for environmental care and contribution to the community.

At CAASA we generate long-term value for our shareholders and interest groups; and, to achieve this, we ensure our work under solid pillars of good corporate governance, ensuring integral management at all levels, competitive, profitable and transparent. As a company, the constant growth of our operations based on responsible management with resources and society. Our mission and vision are aligned with the context of our organization and where we want to go.

V.1. Mission

Offer steel solutions to our clients, through innovation, continuous improvement and human development, contributing to the growth of the country and increasing value for our shareholders and interest groups.

V.2. Vision

To be leaders in the Peruvian steel market, located among the most profitable in the region with an active presence in the international market.

V.3. Our values

We have strong corporate values that allow us to operate responsibly, achieving our business objectives and having a positive relationship with our collaborators, clients, shareholders, suppliers and other interest groups, under ethical and transparent conduct of operations.

Figure 3 Our Values

V.4. Our Environmental Policy

Since 2020 we have a Corporate Environmental Policy, which mentions the organization's 8 environmental management priorities: (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 control of pollution and (8) Compliance with applicable environmental regulations.

We guarantee the establishment of controls that preserve the environmental components in the design of each of our projects, based on the sustainable use of natural resources, compliance with legal requirements, care for biodiversity, and focusing on climate change adaptation and mitigation measures.
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Within the priority "Conservation of biodiversity" there are the following guidelines:

- Comply with local, regional and national legal requirements related to land management and biodiversity protection; and not operate in areas considered as world heritage or in protected areas that are within the categories I-IV of the International Union for Conservation of Nature (IUCN).[1].
- **Evaluate 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 on biodiversity.
- Develop management plans to promote the importance of biodiversity. Prioritize the conservation of: keystone species, species that have special conservation status, species that have historically inhabited the area, and species with a history of traditional use and value to local communities.
- **Collaborate with stakeholders** to guarantee the long-term conservation of native species in the area of influence of our operations.
- **Identify and define action plans to avoid having net losses of biodiversity** in important habitats in close proximity to our operations[2].
- 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 as a consequence of CAASA's activities, and if necessary, offset any negative impact with afforestation programs, and continue to maintain our operations with zero deforestation.
- **Work together with external partners from the public and private sector** in order to fulfill our commitment to the conservation of biodiversity in our area of influence.

[1] The IUCN system of Protected Area Management categories creates a common understanding and an international framework of reference for protected areas both between and within countries, classified as: Category I (Strict Protection), Category II (Conservation and Protection ecosystem), Category III (Conservation of natural features), Category IV (Conservation through active management), Category V (Landscape and seascape conservation and recreation), and Category VI (Sustainable use of natural resources).

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

Figure 4 Environmental Management Priorities

VI. ANALYSIS METHODOLOGY

VI.1. Identification

The Steel Complex, including the former Fundo San Juan de Buenavista, is located on the South Pan-American Highway Km 241 in the district of Paracas, province of Pisco and department of Ica. The following figure shows the location and shape of the properties evaluated.

Figure 5 Location of the Evaluated Properties

Source: self made.

The Steel Complex has an area of 220 ha and the former Fundo San Juan de Buenavista is adjacent to the complex (on the southwest side) and has an area of 102.2 ha. In this place the project "Storage Yard for Industrial and Reprocessable Materials" is being developed. ".

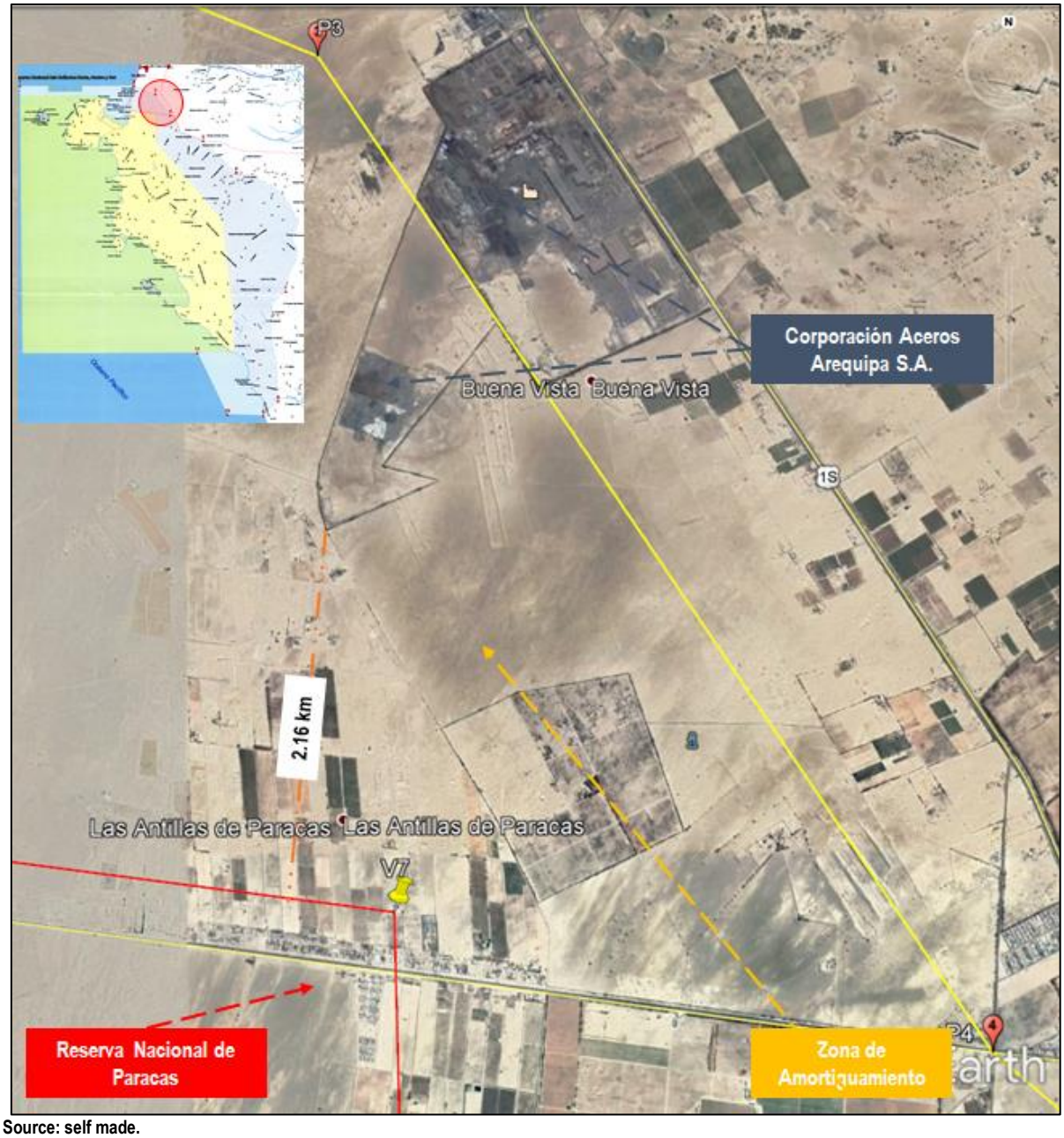
The Steel Complex has an environmental management instrument called "Update of the Environmental Management Plan of the Environmental Adaptation and Management Program (PAMA)" approved on July 4, 2016 by the Ministry of Production with Directorial Resolution No. 308-2016-PRODUCE /DVMYPE-I/DIGGAM.

In the former Fundo San Juan de Buenavista, we have been developing the project "Storage Yard for Industrial and Reprocessable Materials, 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, due to the fact that 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 to CAASA.

It is worth mentioning that in the two environmental management instruments, the impacts on the biological environment were evaluated and these were considered "Little Significant".

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

Figure 6 Location of CAASA in the Buffer Zone



Source: self made.

In the previous figure it can be seen 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 nearest 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 located near the RNP Wilderness, Direct Use and Recovery zones.

The identification of biodiversity risks is classified into two groups:

VI.1.1. Impact Risks

It can be a positive or negative contribution of a company towards the state of nature. Examples may include air, water, soil pollution; the fragmentation or alteration of natural systems and habitats; and the alteration of ecosystems.

VI.1.2. Dependency Risks

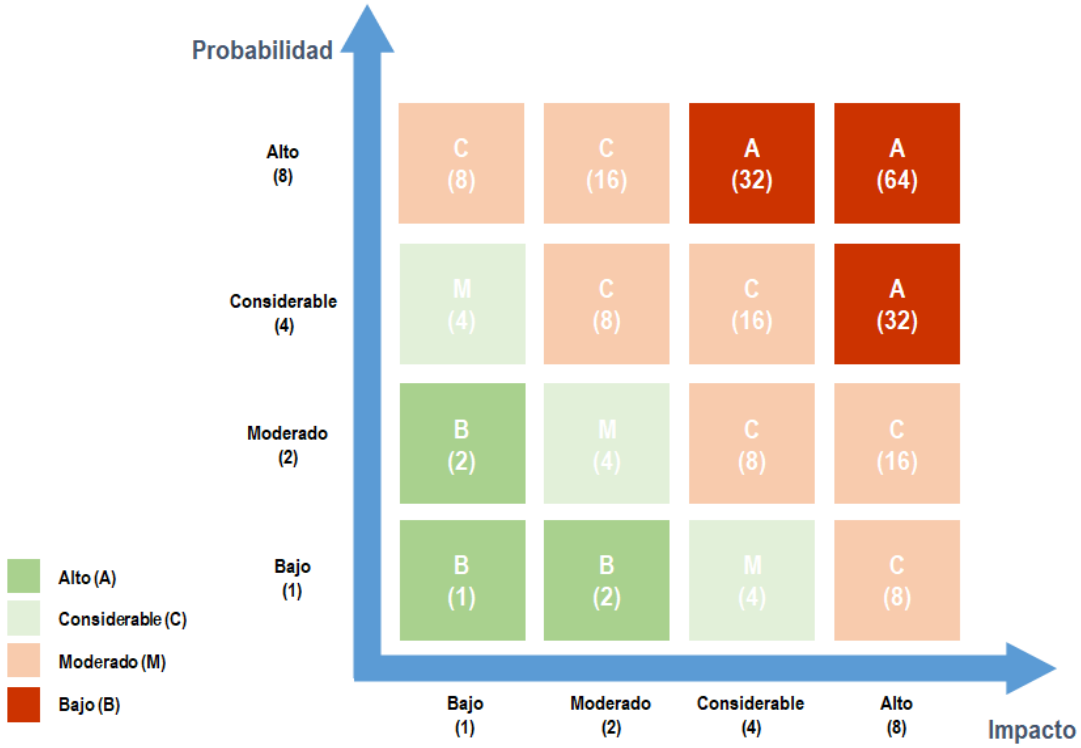
Aspects of nature's contributions to people upon which a person or organization depends to function. This could include regulation of water flow and quality; regulation of hazards such as floods and fires; pollination; and carbon sequestration.

VI.2. Analysis and Evaluation

VI.2.1. Risk Criticality

The criticality level is defined based on the Impact Level and the Probability. The interaction of the different levels of the two factors gives us the criticality of each risk, as shown in the following figure:

Figure 7 Criticality of Risk



Source: Methodology for Internal Control and Risk Management of CAASA.

VI.2.1.1. Impact Level Assessment

Evaluates the degree of change or effect that a risk may have in the face of a proposed scenario, which is focused on taking into account the following criteria:

- Economic.
- Continuity of operations and systems
- Security of the information.
- Reputation and image.
- Regulatory compliance.
- ethical management
- Environment.
- Occupational health and safety.

For the development of the present work we have taken into account the criterion "Environment". The selection process of the impact assessment methods considered the use of methodologies accepted, standardized and/or recommended by the competent environmental authority as the main and determining criterion, opting for the Leopold quantitative methodology, which assigns a value relative 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 qualitatively and quantitatively assess the impact on each component or environmental factor that could cause any type of activity. This methodology is adequate to identify and assess the impacts, as well as to define 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 made it possible to identify the direct and indirect environmental impacts and their status as positive or negative.

Table 2 Impact Rating Range

Range	Qualification
0 - 20	Not significant
21 - 40	little significant
41 – 60	moderately significant
61 – 80	Significant
81 - 130	highly significant

Source: Update of the PMA of the PAMA of Headquarters No. 02 of CAASA

In the case of the DAA of the Industrial and Reprocessable Materials Yard, the CONESA methodology was used to assess the environmental impacts of the project, presenting the following ranges:

Table 3 Importance Rating Range

Importance Index	Importance level	
I < 25	Low or Mild 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 Yard.

The following table shows the equivalencies of the impact levels with the GIRO methodology:

Table 4 Impact Level Equivalencies

Leopold Quantitative Methodology	CONESA Methodology	GIRO Methodology
Not significant (0 - 20)	Low or Mild (I < 25)	Low (1)
little significant (21-40)		
Moderately Significant (41-60)	Moderate (25 ≤ I < 50)	Moderate (2)
Significant (61-80)	High (50 ≤ I < 75)	Considerable (4)
highly significant (81-130)	Very high (75 ≥ I)	High (8)

Source: self made.

VI.2.1.2. Probability Level Assessment

It refers to the number of times the risk could materialize taking into account the following criteria:

- Occurrence estimate.
- Exposure.
- Historical frequency.

In itAnnex 3 and 4 willfind the evaluation criteria for the levels of impact and probability.

VI.3. Response Plan

After the risk assessment, the response strategy is formulated taking into account the current controls.

VI.4. Follow-up

Monitoring is part of our Internal Control and Comprehensive Risk Management Business Policy. For us, continuous evaluations (ISO audits, Legal Requirements Compliance Audits, product quality controls, budget control, occupational health and safety supervision, environmental inspections, etc.), independent evaluations (internal and external audits) or a combination of both, are used to determine whether each of the components of internal control and the controls to comply with the principles of each component are present and functioning properly.

The principles of this component are:

- We select, develop and carry out continuous and/or independent evaluations to determine if the components of the internal control system are present and functioning.
- The results of the evaluations are communicated to us in a timely manner to apply corrective measures.

Additionally, our risk management has 3 lines of defense: the first line is made up of managers, process owners and collaborators, who design and execute the controls of each process, in the second line are the Strategic Management Control areas (Quality, MA and SSO), financial controls and others, and in the third line the Internal Audit area focused on objective and independent supervision with a report to the Board of Directors and the Audit and Risk Committee (CAR). Periodically the defense is reviewed by external audits and supervision of regulatory entities.

VII. BIODIVERSITY RISK ANALYSIS

VII.1. Identification

The following table shows the list of identified risks:

Table 5 Risk Identification

Impact Risk
⚠ That the habitat of the Perimetric Live Fence deteriorates, due to the increase in atmospheric emissions from the Steel Complex.
Dependency Risk
⚠ That natural pollination in the Perimeter Live Fence is interrupted, due to the operations of the Steel Complex.

Source: self made.

VII.2. Analysis and Evaluation

The following table shows the analysis of the identified risks:

Table 6 Risk Analysis

Risk	Analysis
⚠ That the habitat of the Perimetric Live Fence deteriorates, due to the increase in atmospheric emissions from the Steel Complex.	Our Perimeter Live Fence of the Steel Complex has a length of 5.8 km where there are certain species of flora and fauna and additionally, 4.2 km of Fence were planted on the perimeter of the former San Juan de Buenavista farm, which currently has an average height of 10 m . The first part of the fence was planted by CAASA more than 30 years ago and I contemplate only the species of eucalyptus and aromo, currently the fence serves as a habitat for certain species of birds and reptiles since 2019 we have been carrying out biological monitoring and we have identified more of 12 species. Although it is true, the presence of flora and fauna in our Live Fence evidences the possibility of harmonious coexistence between the steel industry and species more sensitive than humans, we have identified that their conservation is necessary in view of the growth of the organization.
⚠ That natural pollination in the Perimeter Live Fence is interrupted, due to the operations of the Steel Complex.	Our Live Fence was planted more than 30 years ago with only eucalyptus and aromo, and its habitat depends on the natural pollination that has been occurring with other ecosystems in the area, that is why we have identified that our Perimeter Live Fence depends on conservation of ecosystems surrounding the steel complex.

Source: self made.

From the evaluation of the impact on the biological environment in the Steel Complex, a score of 22.9 was obtained, being considered a "little significant" impact.

Legal Technical Report No. 802-2016-PRODUCE/DVMYPE-I/DIGGAM-DIEVAI (recommending 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 assessment of fauna in the study area determined the existence of 3 registered bird species, of which 6 individuals were vultures, no species is in any conservation category.
- From the evaluation of mammals, inconclusive information is obtained since no mammals were recorded, but there are references from the inhabitants of fox sightings.

In 2018, a new IGA called "Sustaining Technical Report for the Modernization Project of the Steel Plant of Headquarters No. 02" was carried out, 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 an impact called "low importance".

For the Industrial and Reprocessable Materials Yard, there is Legal Technical Report No. 0015-2017-PRODUCE/DVMYPE-I/DIGGAM-DIEVAI (which recommends the approval of the IGA) describes the following regarding the environmental impact assessment of the biological medium:

- **The impact associated with the operation of the storage yard has an insignificant magnitude, since according to the baseline evaluation, there is no vegetation cover within the area, 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 7 Flora and Fauna Identified in each IGA

Year	Flora	Fauna
2015 - 2016 (PAMA WFP update)	- Eucalyptus (Eucaliptus globulus). - Aromo (Acacia karroo Hayne).	- Red-headed Vulture (Cathartes aura). - Lesser Snipe (Thinocurus rumicivorus). - Chick (Mimus longicaudatus). - Paracas Gekko (Phyllodactilus angustidigitus). - Peruvian lizard (Microlophus peruvianus).
2018 (ITS Modernization of the Steelworks)	- Eucalyptus (Eucaliptus globulus). - Aromo (Acacia karroo Hayne).	- Red-headed Vulture (Cathartes aura). - Lesser Snipe (Thinocurus rumicivorus). - Chick (Mimus longicaudatus). - American red-headed vulture (Cathartes aura). - American sparrow (Zonotrichia capensis). - Paracas Gekko (Phyllodactilus angustidigitus). - Peruvian lizard (Microlophus peruvianus).
2015-2016 (DAA Industrial and Reprocessable Materials Storage Yard)	- 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	- Cathartes aura (American red-headed vulture). - Chick (Mimus longicaudatus). - House Sparrow (Zonotrichia capensis) - Paracas Gekko (Phyllodactilus angustidigitus) - Peruvian wall lizard (Microlophus peruvianus)

Source: self made.

Taking into account the level of impact of the studies carried out and considering its equivalence with the level of impact of the GIRO methodology, we present the following table:

Table 8 Risk Assessment

Risk	Probability	Impact	Level
⚠ That the habitat of the Perimetric Live Fence deteriorates, due to the increase in atmospheric emissions from the Steel Complex.	Moderate (2)	Low (1)	Low (2)
⚠ That natural pollination in the Perimeter Live Fence is interrupted, due to the operations of the Steel Complex.	Moderate (2)	Low (1)	Low (2)

Source: self made.

VII.3. Response Plan

VII.3.1. Goal

- Preserve the biodiversity that coexists with our steel activity as a result of the implementation of the perimeter living fence.
- Promote the importance of biodiversity in collaboration with interested parties to guarantee 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.

VII.3.2. Expansion of the Perimeter Live Fence

The live fence has an annual maintenance program which consists of cleaning and pruning some trees, as necessary, this activity is carried out by the Auxiliary Services area of the headquarters. They are also in charge of checking the irrigation system and changing any accessory as necessary (this activity also takes into account the constant irrigation of the live fence).

VII.3.2.1. Goal

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

VII.3.2.2. 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 place for migratory birds. This area is considered desert. However, thanks to the live fence, we have managed to successfully introduce eucalyptus and aromos. This space also serves as a habitat for birds and reptiles in the area. This project is considered a "forestation" project because plantations are established on surfaces where there was no tree cover.

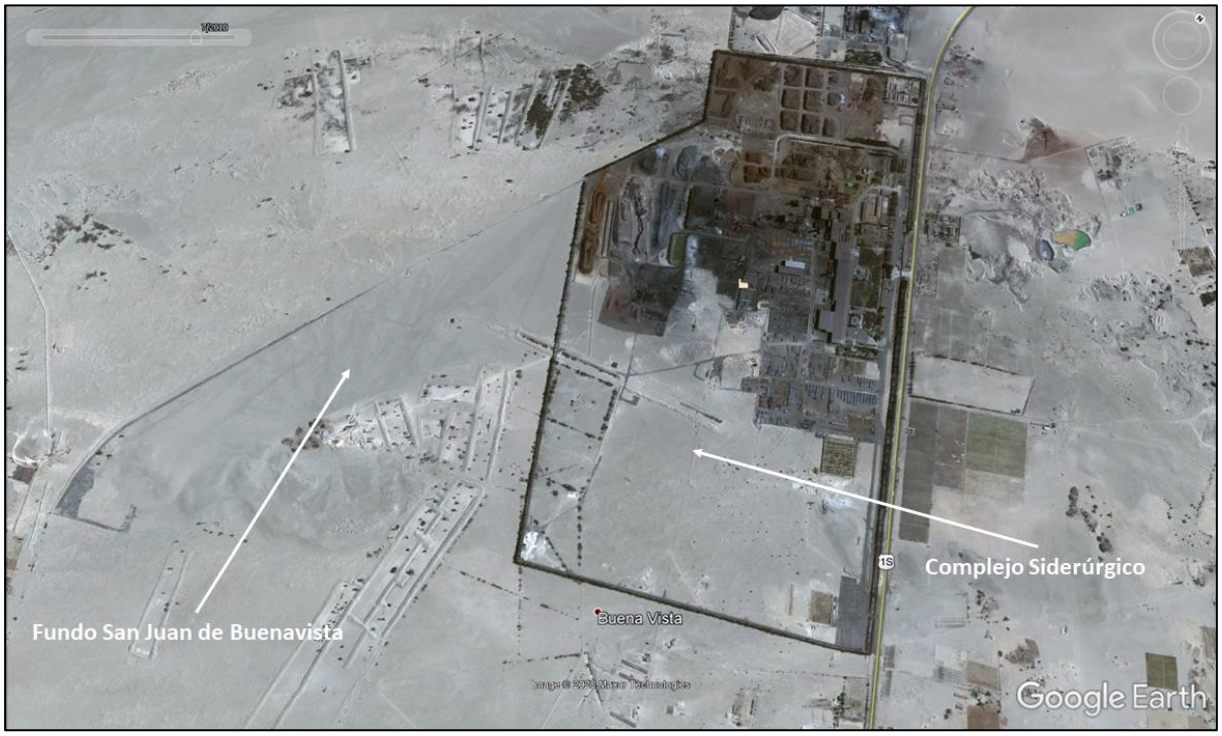
The area where the steel complex was established is considered "desert", once CAASA activities began to be implemented, the organization implemented the perimeter living fence, which is made up of a eucalyptus line and two aromo lines on the perimeter of the complex. industrial that at present has reached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

Currently the live 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 around the perimeter of the former San Juan de Buenavista farm, which currently has an average height of 8 m. We estimate that for the fence to serve as a 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 kept in the live fence of the steel complex, which are monitored on a semi-annual basis.

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

Figure 8 CAASA Live Fence in 2010

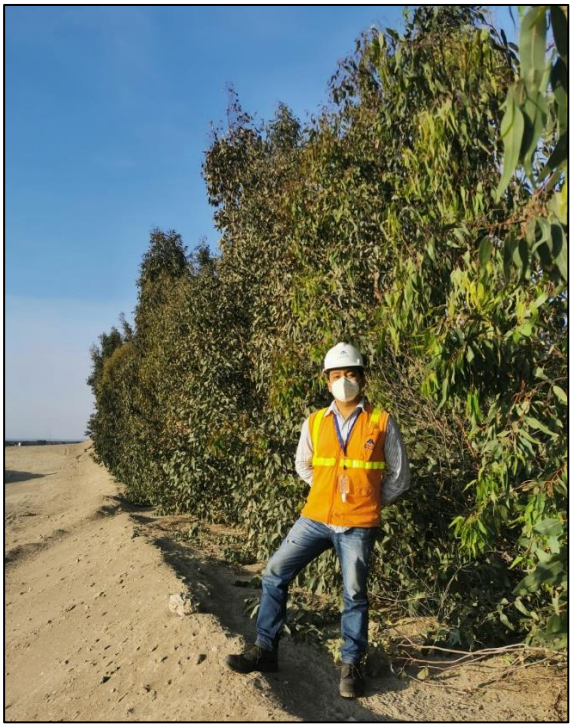


Source: self made.

Figure 9 CAASA Live Fence in 2021

Source: self made.

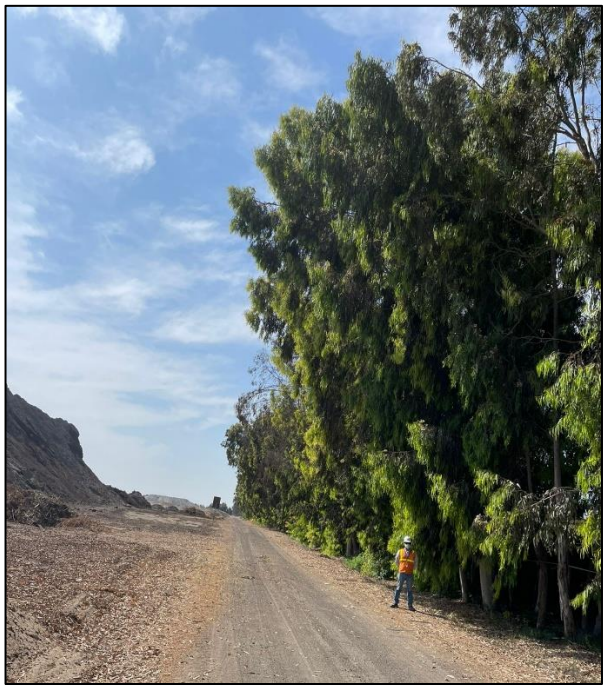
Figure 10 Live Fence (Ex Fundo San Juan de Buenavista Side)



Source: self made.

Source: self made.

Figure N° 11 Live Fence (Steel Complex Side)



Source: self made.

Source: self made.

VII.3.2.3. Schedule

Table 9 Schedule of Activities

Activities	Period					
	2018	2019	2020	2021	2022	>2022
- Additional planting of the perimeter fence in the Ex Fundo San Juan de Buenavista	X	X				
- Irrigation and maintenance of the entire live fence including the planting of the Ex Fundo San Juan de Buenavista		X	X	X	X	X
- Biological Monitoring of Wild Flora and Fauna		X	X	X	X	X
- Preparation of the Biodiversity Conservation Manual in CAASA					X	X
- Signage and Murals					X	X

Source: self made.

As can be seen in the previous figures, we estimate a 90% progress towards meeting the objective.

VII.3.2.4. CAASA at COP26

On November 2, 2021 the National Society of Industries(SNI) participated in COP26 in the panel "The experience of the Permanent Driving Group of the private sector (GIP) to accelerate climate actions with a focus on Nature-Based Solutions (SBN) in Peru". One of the 5 successful experiences our Perimeter Live Fence.

Figure 12 Lamina Used by the SNI

Source: Presentation of the SIN at COP26.

SNI publication:https://www.linkedin.com/posts/sociedad-nacional-de-industrias_soluciones-basadas-en-la-naturaleza-activity-6865283013027213312-_xEx?utm_source=linkedin_share&utm_medium=android_app

CAASA Publication:https://www.linkedin.com/posts/acerosarequipa_corporaci%C3%B3n-aceros-arequipa-en-la-cop26-activity-6863846672439611392-H6rY?utm_source=linkedin_share&utm_medium=android_app

VII.3.3. Signage and Sensitization of Biodiversity Care

There are signs prohibiting hunting and using the horn 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 live fence so that collaborators and visitors can get to know them.

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

Figure 13 Signage and Sensitization of Biodiversity Care

Hunting prohibition signage

Images from the video "Let's Preserve the Paracas National Reserve" prepared for our transportation providers (URL:https://youtu.be/28kNCt-DGJk)

Images of the video "Conservation of Biodiversity in CAASA" prepared for our collaborators (URL:https://www.youtube.com/watch?v=UopQV3Eyqog)

New tree planting (Baghouse Dust Containment Project) approximately 0.2 km of eucalyptus

New arborization areas (Living Project of the ecogravilla storage area) approximately 0.42 km of eucalyptus

Test images of the first mural of one of the birds registered in the biological monitoring

VII.3.4. Participation in the Municipal Environmental Commission of Pisco

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

Law No. 28611, General Environmental Law, regulates in its article 62 on the consultation in local environmental management, stating: "Local governments organize the exercise of their environmental functions, considering the design and structuring of their internal 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 action of the local government". For this reason, it is up to 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 Pisco Provincial Municipal Environmental Commission were approved.

The CAM Pisco has a multisectoral character, it is the environmental management instance, in charge of coordinating and agreeing on 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 resolve environmental problems, which can only be faced through trans-sectoral and participatory mechanisms.

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

The Civil Association Group of Birds of Peru It has been developing various activities of observations of flora and fauna of the Pisco wetlands and the following link shows the photographed galleries and the observation map: http://bit.ly/3YAPaCv.

Coastal Areas and Marine Resources (ACOREMA) It was founded in 1995. It is a non-profit Peruvian civil association, committed to marine-coastal conservation and human well-being.

It is dedicated to the research and conservation of marine biodiversity, with emphasis on the study of threatened species (cetaceans, sea turtles, Humboldt penguins, sea otters, sharks); develops initiatives for education, awareness, communication and environmental interpretation, to promote awareness and participation of the population in actions in favor of marine-coastal resources and a better quality of life.

It carries out its activities mainly in the province of Pisco, on the southern coast of Peru, whose territory includes two marine protected areas: the Paracas National Reserve and part of the Sistema de Islas, Islotes y Puntas Guaneras National Reserve. We also carry out actions of national, regional (in Latin America) and global scope, in alliance with other organizations.

In the following link you can verify the work that ACOREMA has been doing in Pisco: https://www.acorema.org.pe/.

The CAM Pisco has the following functions:

- To be the instance of consultation of the Local Environmental Policy in coordination with the Local Government for the implementation of the Local System of Environmental Management.
- Participatory construction of the Local Environmental Plan and 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 execution 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.

Figure 14 CAM Pisco

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

The CAM fulfills its functions with the support of Local Technical Groups - GTL to proposals of 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 operative, 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 Wetlands and Marginal Belt Technical Group was formed in which CAASA actively participates to date.

VII.3.4.1. Wetlands and Marginal Strip 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 a presence of clearing, invasion of livestock activity, planting of 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 development and implementation of the Integrated Management Plan for the Marine-Coastal Zone in the province of Pisco to be of provincial interest, initiating the process. 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, by 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 the requirements; and approval of the plan.

Figure 15 Phases of 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 "Integrated Management Plan Proposal for the Pisco-Paracas Marine Coastal Zone" was completed.

VII.3.4.2. Integrated Management Plan Proposal for the Pisco – Paracas Marine Coastal Zone (PMIZMC)

The Integrated Management Plan for Coastal Marine Zones (PMIZMC) of Pisco - Paracas constitutes a planning instrument resulting from an effort and commitment of public and private institutions, at the 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 the technical assistance of the Ministry of the Environment (MINAM) and the support of the EbAMar project "Ecosystem-based adaptation measures for the management integrated management of marine-coastal zones" (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.

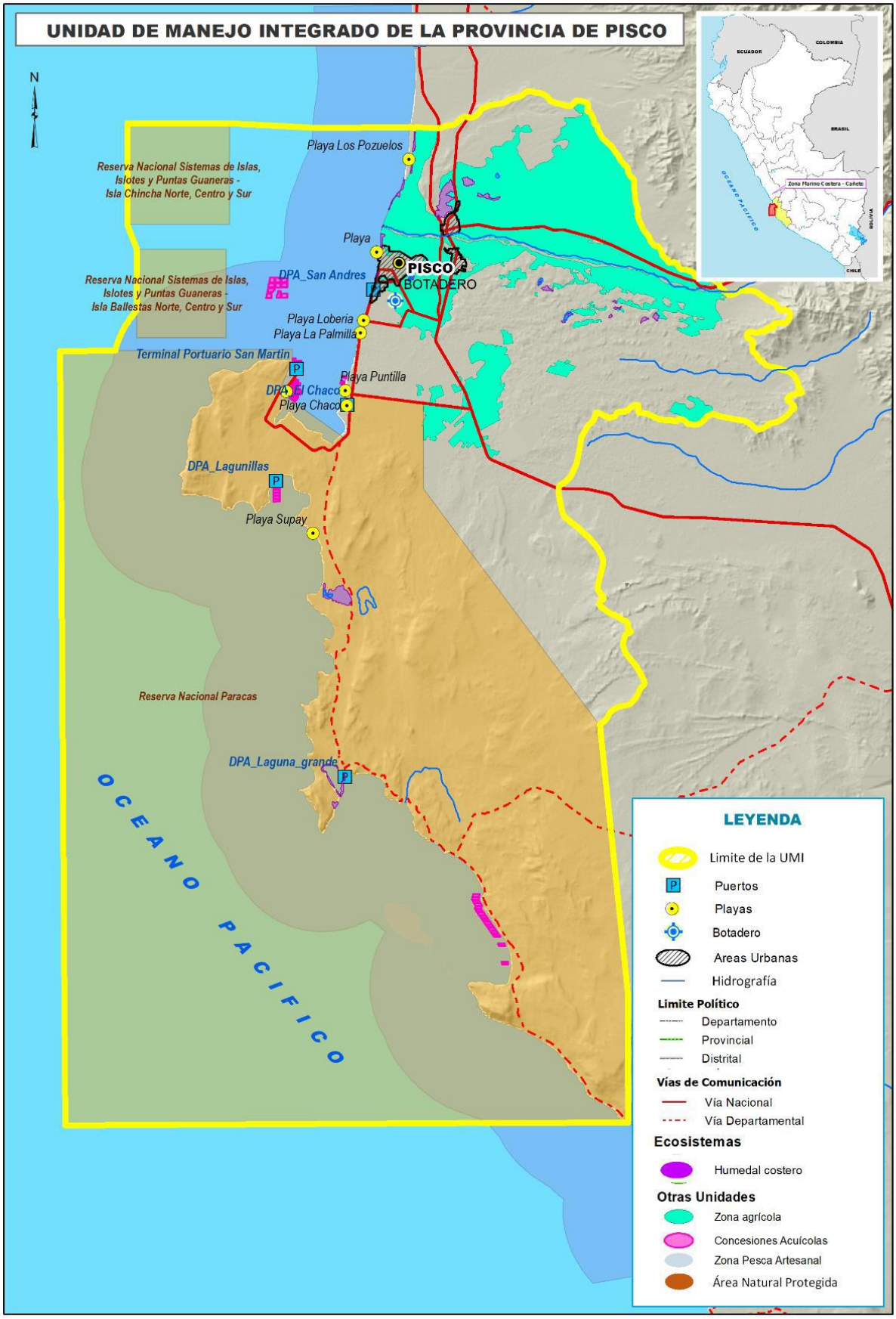
The PMIZMC is a planning instrument that contains the results, products and activities that jointly allow achieving the desired change in the ZMC associated with the conservation of ecosystems and their services.

This plan was prepared in a participatory manner with the members of the CGL through the technical assistance of the General Directorate of Environmental Land Management (DGOTA) of the MINAM and

the leadership 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 includes a current regulatory framework, the methodological route, the analysis of the Integrated Management Unit (UMI) and the change proposal. In the latter, the desired change is defined, the problems are analyzed, the change path and the planning matrix are prepared. 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 16 Map of the Integrated Management Unit of the Province of Pisco

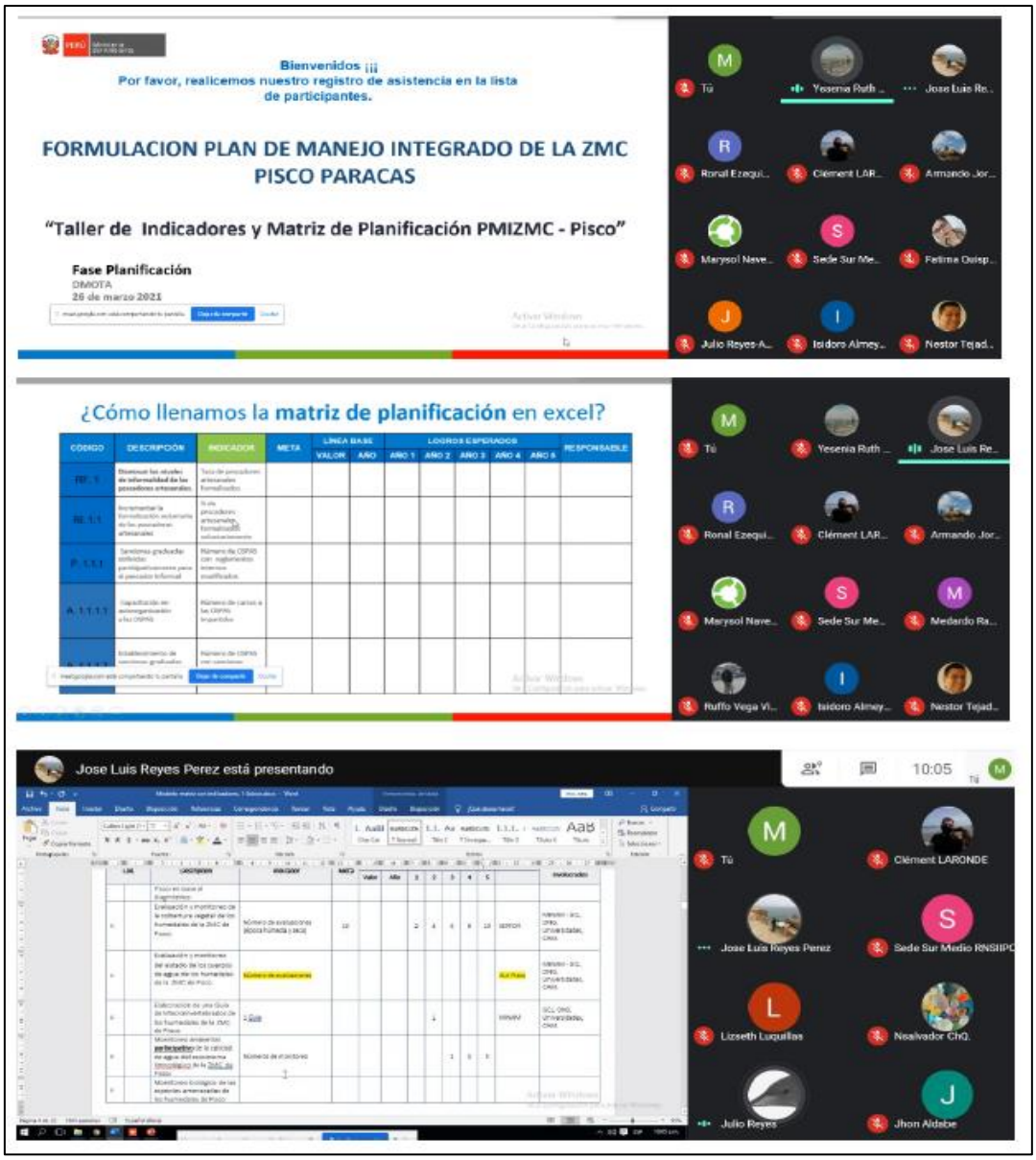


Source: Local Management Committee for the Integrated Management of the Pisco – Paracas Coastal Marine Zone.

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 governance for the proper management of the ZMC, (3) Improve the final disposal of solid waste in the ZMC, (04) Increase and improve the coverage of wastewater in the ZMC, (05) Improve the sanitary conditions of the DPAs 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 expansion and roads in the ZMC of Pisco and (08) Increase population awareness 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 that the ZMCs contain through an ecosystem approach, promoting the governance of the marine-coastal zone of Pisco. Likewise, it guides local management taking as reference the information of the development plans and Master Plans of the Paracas National Reserve and the National Reserve System of Islands, Islets and Puntas Guaneras in force, which constitute a contribution to the development of the area. marine-coastal.

Figure 17 Images of the Workshops Carried Out



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

On June 21, 2021, the General Directorate of Environmental Territorial Planning of the Ministry of the Environment issues its report and in which it concludes that the proposal for the Integrated Management Plan for the Pisco - Paracas Coastal Marine Zone complies with the technical considerations for the planning preparation phases that include the determination and characterization of the integrated management units, the analysis of obstacles, the definition of the desired change, the construction of a change path, the definition of indicators and the planning matrix; and for the approval phase, therefore, it issues a favorable opinion to continue with the respective technical approval as established in the corresponding regulatory framework.

On September 30, 2021 through Ordinance No. 014-2021-MPP, the Provincial Municipality of Pisco approves the Integrated Management of the Pisco Coastal Marine Zone. (URL:https://cdn.www.gob.pe/uploads/document/file/2678114/ORDENANZA%20N%C2%BA%20014-2021.pdf.pdf).

After the approval of the PMIZMC of Pisco, on December 13, 2021, a session of the Management Committee of the Integrated Management Plan for the Coastal Marine Zone - PMIZMC of Pisco was held again in order to review the 2021-2022 Action Plan of the PMIZMC of Pisco.

VII.3.5. Publications with Expert Help

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

VII.4. Follow-up

VII.4.1. 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 conservation or threat category in accordance with current regulations.

VII.4.1.1. General objective

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

VII.4.1.2. Specific objectives

- Carry out the description of the life zones present in the project area, according to the map of life zones established by Holdridge.
- Carry out 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 the biological communities, based on the information recorded during the field stage.
- Prepare the list of flora and fauna species indicating the category of conservation or threat in accordance with current regulations.

VII.4.1.3. Sampling Stations

The following table shows the sampling stations:

Table 10 Sampling Stations

Code	Description	Geographical coordinates	
		North	This
AAF-4 Controller	Desert plains and slopes with sparse vegetation	8474712	372925
AAO-4 Impact	Desert plains and slopes with sparse vegetation	8476389	373596
AAO-3 Impact	Cultivation Areas	8475342	374193
MB-1c Controller	Cultivation Areas	8477574	372882

Source: self made.

VII.4.1.4. Methodology

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

- **Stage Field**

  - **Flora Assessment**

General collections (qualitative): Tours of the different plant units were carried out through appropriate accesses and trails, recording all the observed species 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. At least one transect will be established for each designated station. Plant unit duly georeferenced. The method consists of drawing a straight line stretched out with a tape measure (or another implement that has marks at defined intervals) on which the presence of species will be recorded and the number of times they touch a rod every 1.0 m, the evaluation interval depends on the investigator's choice (normally in areas with a high variability of vegetal 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.

Count points not limited by 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 plant formation described in the Base Line, in which 1 sampling transect will be established, made up 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 a.m. and will end before 09:30 a.m., since after that time the vocal activity decreases significantly. During the censuses, all bird species detected visually and aurally were recorded, also, indirect evidence is taken into account, such as: footprints and nests.

To watch the birds, binoculars will be used and to determine the bird species, the field guides of Schulenberg et al. (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 cited as VES for its acronym in English "Visual Encounter Survey" (Crump & Scott, 1994) and in Spanish as busca por encuentro visual or REV "Relevamiento por Encuentro Visual". 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 the evaluation limited or standardized by search time, which can range between 20 and 30 minutes (hours/man) depending on the habitat conditions.

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

- **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= Absolute density of a species or family / Density of all species or families) x 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:it 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, according to this, a greater number of species increases diversity and also a greater uniformity also increases it. will.

$$H' = \sum_{i=1}^{S} (pi\ x\ log2pi).$$

Equity index J – Pielou index:measures the proportion of the observed diversity in relation to the maximum expected diversity. Its value ranges from 0 to 0.1 so that 0.1 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 equal.

- **beta diversity**

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

Jaccard Similarity Coefficient. - Expresses the degree to which the two samples are similar by 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 in 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 richness (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 their abundances (Ramírez, 2005).

$$I_{M-H} = \frac{2 \sum (ani \; x \; bnj)}{(da + db) \; aN \; x \; bN}$$

Where: ani = number of individuals of the ith species at site A

bnj = number of individuals of the j-th species at site B

Na = number of individuals at site A

Nb = number of individuals at site B

da = ∑ ani2 / Na2 for site A

db = ∑ bnj2 / Nb2 for site B

The index varies from 0 (there is no similarity) to 1 (there is similarity); This parameter makes it possible to compare the diversity values of a site against another site, in order to zone areas with certain values of bioecological potential, within the framework of the ZEE

- **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 conservation category, indicated below and detailed in the following Table.

national lists

- Supreme Decree No. 004-2014-MINAGRI - Update of the list of Categorization of Threatened Species of Wildlife Legally Protected.
- Supreme Decree No. 043-2006-AG - Categorization of Threatened Species of Legally Protected Wild Flora.

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). Species facing the highest degree of danger are listed in Appendix I of the convention. In Appendix II are the species that are not necessarily threatened with extinction but that could become so if their trade is not controlled. Species included in Appendix III are listed at the request of a member country that already regulates trade in that species and needs the cooperation of other countries to prevent unsustainable or illegal exploitation of the species.
- Convention on Migratory Species (CMS 2018). Appendix I of this convention lists threatened species and Appendix II contains species that should be the subject of international agreements that promote their conservation. Both appendices include species that migrate to Peru.

Figure 18 Biological Monitoring at CAASA

Source: Biological Monitoring Report 2nd Semester 2020.

VII.4.1.5. Conclusions of the First Semester 2022

➢ **Flora**

- As a result of the qualitative monitoring of flora, 14 species of vascular plants distributed in two (2) classes and nine (9) botanical families were recorded.
- With reference to the records obtained per unit of vegetation, it is found that the Plains and desert slopes unit obtained the highest richness with eight (8) species distributed in 12 genera and 13 families, while 10 species were recorded in the cultivation areas. distributed in nine (9) genera and seven (7) families.
- In general, the diversity values obtained are considered intermediate for all the stations evaluated since the values of the Shannon-Wiener index were between 0.92 and 2.71 bits/ind; the highest value obtained being 2.71 bit/ind at the AAF-04 station.

- The Vachellia macracantha species is categorized as Near Threatened (NT) according to national legislation DS N° 043-2006-AG.
- **Five (5) species are registered as being in the category of Least Concern**(LC) within the IUCN Red List of Threatened Species.
- None of the observed species is found within any of the CITES appendices.
- **No endemic species recorded**.

➢ **Wildlife**

Ornithofauna

- A total of 16 bird species were recorded, distributed in five (5) orders and 12 families. Of the five (5) registered orders, Passeriformes was the best represented with 10 species representing 62.50 % of the total registered species.
- Regarding the taxonomic families identified in the study area, the Columbidae and Troglodytidae families reported the highest number of species with three (3) records each, representing 18.75 % of the total record, respectively.
- In the cultivation area unit, the control station AAO-3 registered the highest richness with 10 species, however, it was not the most abundant, since its abundance was 42 individuals, while the station MB-1c registered a richness of 9 species an abundance of 58 individuals.
- In the Plains and desert slopes unit with sparse vegetation, the AAO-4 station registered the highest richness and abundance with 11 species and 66 individuals, while the AAF-4 station only registered six (6) species and 22 individuals.
- The Long-tailed Lark Mimus longicaudatus was the most abundant species in the area with 36 individuals representing 18.95 % of the total abundance recorded.
- Regarding the diversity indices, the AAO-4 Control station is the most diverse, with a value of H' = 3.41 bits/ind for the Shannon-Wiener index, being a high diversity, and the station with the least diversity was MB-1C control, with H' = 2.96 bits/ind, an intermediate diversity.
- None of the observed species falls within any of the categories of Supreme Decree No. 004-2014-MINAGRI.
- **All species are in the Least Concern category.**(LC), indicating that none of the species is endangered.
- The American Kestrel (Falco sparverius) species is included in CITES Appendix II, which means that they are species that are not in danger of extinction, but could become so if their trade is not regulated.
- **No endemic birds were recorded.**

Herpetofauna

- A total of one (1) species of reptiles was recorded, distributed in one (1) order and one (1) family.
- **The only family represented was Tropiduridae**.
- The greatest richness was found at station MB-1c with one (1) species and two (2) individuals.
- The greatest richness was found in the station that was outside the project area, because it does not encounter barriers, such as transportation routes where the constant circulation of vehicles prevents the transfer of species such as reptiles or mammals; Therefore, it is estimated that its population is low compared to other areas where there is constant communication of populations.

- **The Lizard of the Hills (Microlophus tigris)**it was the only species with two (2) individuals in total representing 100.00 % of the total abundance.
- As for the diversity indices, they could not be calculated because only one species was recorded at station MB-1c.
- In the AAO-4, AAF-4 and AAO-3 stations, it was not possible to determine the diversity values because they had species.
- **The species Lizard of the Hills (Microlophus tigris) is within the category of Near Threatened (NT)**of Supreme Decree No. 004-2014-MINAGRI; In addition, they are in the Least Concern (LC) category (IUCN, 2022-3).
- The species is not listed in some of the CITES appendices.
- No endemic species were recorded.

VII.4.1.6. Conclusions of the Second Semester 2022

➢ **Flora**

- It should be noted that quantitative monitoring was not carried out at the AAF-4 Control and MB-1c Control stations, because the MB-1C Control station is located on private property and it was not possible to enter and only qualitative monitoring was carried out. .
- As a result of the qualitative and quantitative monitoring of flora, six (6) species of vascular plants distributed in two (2) classes and six (6) botanical families were recorded.
- **With reference to the records obtained per unit of vegetation, it is found that in the Plains and desert slopes unit, a richness of four (4) species was obtained.**distributed in four (4) genera and four (4) families, while six (6) species distributed in six (6) genera and six (6) families were recorded in the cultivated areas.
- In general, the diversity values obtained are considered low for all the evaluated stations, since the values of the Shannon-Wiener index were between 0.98 (AAO-3 Impact) and 1.17 (AAO-4 Impact) bits/ind.
- None of the species is within the national legislation DS No. 043-2006-AG.
- **Five (5) species are registered as being in the category of Least Concern**(LC) within the IUCN Red List of Threatened Species.
- None of the observed species is found within any of the CITES appendices.
- No endemic species are recorded.

➢ **Wildlife**

Ornithofauna

- **A total of 10 bird species were recorded**, distributed in five (5) orders and nine (9) families. Of the five (5) registered orders, Passeriformes was the best represented with five (5) species representing 50.00 % of the total registered species.
- Regarding the taxonomic families identified in the study area, the Columbidae family reported the highest number of species with two (2) records, representing 20.00 % of the total record respectively.
- In the cultivation area unit, the control station AAO-3 registered the highest richness and abundance with eight (8) species and 76 individuals.

- In the Plains and desert slopes with sparse vegetation unit, station AAO-4 registered the highest richness and abundance with seven (7) species and 53 individuals.
- **The Long-tailed Lark Mimus longicaudatus**It was the most abundant species in the area with 52 individuals representing 26.80 % of the total abundance recorded.
- Regarding the diversity indices, the MB-1C Control station is the most diverse, with a value of H' = 2.65 bits/ind for the Shannon-Wiener index, being a moderate diversity, and the station with the least diversity was AAO-3 Impact, with H' = 2.15 bits/ind, moderate diversity.
- None of the observed species falls within any of the categories of Supreme Decree No. 004-2014-MINAGRI.
- All species are in the Least Concern (LC) category, indicating that none of the species is endangered.
- The species Amazilia Amazilia "Rufous-bellied Hummingbird" and Forpus coelestis "Emerald Perico" are included in CITES Appendix II, which means that they are species that are not in danger of extinction, but could become so if they are not. its trade is regulated.
- No birds were recorded endandmicas.

herpetofauna

- A total of one (1) species of reptile was recorded, belonging to the Squamata order and the Tropiduridae family.
- The Lizard of the beaches (Microlophus peruvianus) was the only species with two (2) individuals in total representing 100.00 % of the total abundance.
- The stations where the abundance of one (1) individual each was recorded was AAF-4 Control and MB-1c Control.
- As for the diversity indices, they could not be calculated because only one species was recorded at the AAF-4 Control and MB-1c Control stations.
- In the AAO-4 and AAO-3 stations, it was not possible to determine the diversity values because these species were not recorded.
- The species Lizard of the beaches (Microlophus peruvianus) is not found within the Supreme Decree No. 004-2014-MINAGRI.
- The lizard species of the beaches (Microlophus peruvianus) are within the Least Concern (LC) category (IUCN, 2022-2).
- The species Lizard of the beaches (Microlophus peruvianus) is not found within some of the CITES appendices.
- No endemic species were recorded.

Attached in Annex 1 is the photographic gallery of the Monitoring Program.

VII.4.2. Impact Assessment on the Biological Environment

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

VIII. CONCLUSIONS

- CAASA's steel activity is carried out more than 2 km from the Paracas National Reserve, being part of it within the buffer zone, this activity (Storage of Industrial and Reprocessable Materials) is compatible with zoning and has an evaluation of environmental impact in which resulted in a rating of "insignificant impacts to the biological environment".
- Two biodiversity risks were identified, one of impact "That the habitat of the Perimeter Living Fence deteriorates, due to the increase in atmospheric emissions from the Steel Complex" and another dependency "That natural pollination in the Perimeter Live Fence be interrupted, due to the operations of the Steel Complex", which were analyzed and classified as "Low Level" risks.
- To carry out the environmental impact assessment, field work was carried out in which different species that inhabit adjacent to the steel industry were identified and that were attracted due to the planting and maintenance of the Live Fence. Biological monitoring is carried out every six months with the help of experts in the field. 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 for net improvement in biodiversity due to the increase in the Live Fence, this has a 95% progress with eucalyptus trees that reach more than 8 m approximately. Additionally, this project was considered a Nature-Based Solution (SBN) and was exposed by the National Society of Industries (SNI) on November 2, 2021 at COP26.
- Within our activities in the Pisco CAM, we have participated in the formulation of the Pisco - Paracas PMIZMC proposal, which received a favorable technical opinion from the Ministry of the Environment and was approved by the Provincial Municipality of Pisco on September 30, 2021. This is a great achievement for the community and evidences the multidisciplinary work of representatives of the public and private sectors.

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

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X. ANNEXES

Annex 1 Photo gallery of the Biological Monitoring Program

Flora

Photo 1	
This	374193
North	8475342
Altitude	
Place of Reference	AA-O3
Scientific name	-
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	cultivation area

photo 2	
This	373596
North	8476389
Altitude	
Place of Reference	AA-O4
Scientific name	-
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	cultivation area

Photo 3	
This	372925
North	8474712
Altitude	
Place of Reference	AA-F4
Scientific name	-
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	Plain and desert slopes with sparse vegetation

Photo 4	
This	372882
North	8477574
Altitude	
Place of Reference	MB-1C
Scientific name	-
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	Plain and desert slopes with sparse vegetation

Photo 5	
This	372882
North	8477574
Altitude	
Place of Reference	AA-O3
Scientific name	*Sonchus oleraceus*
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	cultivation areas

Photo 6	
This	374193
North	8475342
Altitude	
Place of Reference	AA-O3
Scientific name	*Delonyx regia*
Supreme Decree 043-2006-AG	-
International Conservation	-
	IUCN-LC
Uses of the population	-
Plant Formation	cultivation areas

Photo 7	
This	373596
North	8476389
Altitude	
Place of Reference	AA-O4
Scientific name	*Vachellia karoo*
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	Desert plains and slopes with sparse vegetation

Photo 8	
This	373596
North	8476389
Altitude	
Place of Reference	AA-O4
Scientific name	*Bouganvillea spectabilis*
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	Desert plains and slopes with sparse vegetation

Photo 9	
This	373596
North	8476389
Altitude	
Place of Reference	AA-04
Scientific name	*Cenchrus echinatus*
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	Desert plains and slopes with sparse vegetation

Photo 10	
This	372925
North	8474712
Altitude	
Place of Reference	AA-F4
Scientific name	*Encelia canescens*
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	Desert plains and slopes with sparse vegetation

Photo 11	
This	372925
North	8474712
Altitude	
Place of Reference	AA-F4
Scientific name	*pluchea chingoyo*
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	Desert plains and slopes with sparse vegetation

Photo 11	
This	372925
North	8474712
Altitude	
Place of Reference	AA-F4
Scientific name	*Spilanthes leiocarpa*
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	Desert plains and slopes with sparse vegetation

Photo 12	
This	372925
North	8474712
Altitude	
Place of Reference	AA-F4
Scientific name	*Distichlis spicata*
Supreme Decree 043-2006-AG	-
International Conservation	-
	IUCN-LC
Uses of the population	-
Plant Formation	Desert plains and slopes with sparse vegetation

Photo 13	
This	372882
North	8477574
Altitude	
Place of Reference	MB-1C
Scientific name	*Sesuvium portulacastrum*
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	cultivation areas

Photo 14	
This	372882
North	8477574
Altitude	
Place of Reference	MB-1C
Scientific name	*Alternanthera pubiflora*
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	cultivation areas

Photo 15	
This	372882
North	8477574
Altitude	
Place of Reference	MB-1C
Scientific name	*Prosopis limensis*
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	cultivation areas

Photo 16	
This	372882
North	8477574
Altitude	
Place of Reference	MB-1C
Scientific name	*plantago major*
Supreme Decree 043-2006-AG	-
International Conservation	-
	IUCN-LC
Uses of the population	-
Plant Formation	cultivation areas

Photo 17	
This	372882
North	8477574
Altitude	
Place of Reference	MB1-C
Scientific name	*Nicandra physalodes*
Supreme Decree 043-2006-AG	-
International Conservation	-
	-
Uses of the population	-
Plant Formation	cultivation areas

Birds

Photo 1			
Scientific name	*Cathartes aura*		
Common name	red head vulture		
This	372882	**North**	8477574
Altitude	80 masl		
vegetation unit	Crop Area		
sampling station	MB-1c Controller		
endemism	-		
National Conservation Categories (DS 004-2014 MINAGRI)	None		
International Conservation Categories	**IUCN**	**CITES**	
Category	None	II	
Uses of the population	-		
Geographical distribution	**wide**Medium Minor Little Known		

photo 2			
Scientific name	*Tyrannus melancholicus*		
Common name	tropical tyrant		
This	372882	**North**	8477574
Altitude	80 masl		
vegetation unit	Crop Area		
sampling station	MB-1c Controller		
endemism	-		
National Conservation Categories (DS 004-2014 MINAGRI)	None		
International Conservation Categories	**IUCN**	**CITES**	
Category	None	None	
Uses of the population	-		
Geographical distribution	**wide**Medium Minor Little Known		

Photo 3			
Scientific name	*columbina cruziana*		
Common name	peruvian dove		
This	372882	**North**	8477574
Altitude	80 masl		
vegetation unit	Crop Area		
sampling station	MB-1c Controller		
endemism	-		
National Conservation Categories (DS 004-2014 MINAGRI)	None		
International Conservation Categories	**IUCN**	**CITES**	
Category	None	None	
Uses of the population	-		
Geographical distribution	**wide**Medium Minor Little Known		

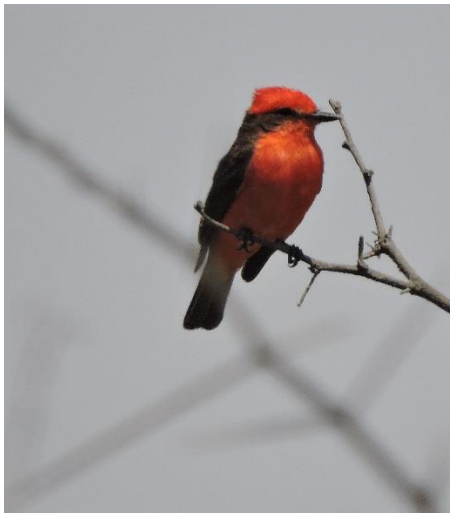


Photo 4			
Scientific name	*Pyrocephalus rubinus*		
Common name	turtupilin		
This	372882	**North**	8477574
Altitude	80 masl		
vegetation unit	Crop Area		
sampling station	MB-1c Controller		
endemism	-		
National Conservation Categories (DS 004-2014 MINAGRI)	None		
International Conservation Categories	**IUCN**	**CITES**	
Category	None	None	
Uses of the population	-		
Geographical distribution	**wide**Medium Minor Little Known		

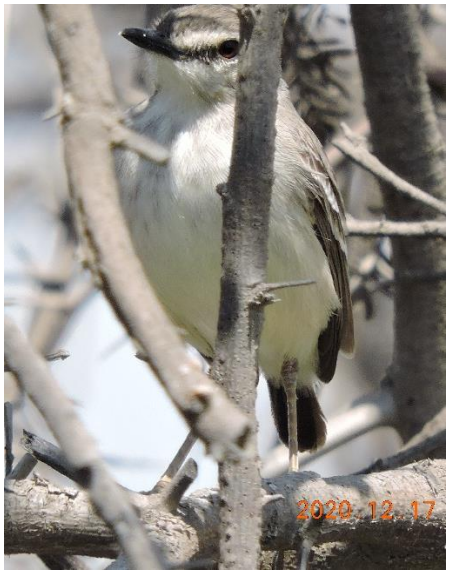


Photo 5			
Scientific name	*Coniristrum cinereum*		
Common name	Cinder Cone Peak		
This	372882	**North**	8477574
Altitude	80 masl		
vegetation unit	Crop Area		
sampling station	MB-1c Controller		
endemism	-		
National Conservation Categories (DS 004-2014 MINAGRI)	None		
International Conservation Categories	**IUCN**	**CITES**	
Category	None	None	
Uses of the population	-		
Geographical distribution	**wide**Medium Minor Little Known		

Photo 6			
Scientific name	*amazilia amazilia*		
Common name	coastal amazilia		
This	372882	**North**	8477574
Altitude	80 masl		
vegetation unit	Crop Area		
sampling station	MB-1c Controller		
endemism	-		
National Conservation Categories (DS 004-2014 MINAGRI)	None		
International Conservation Categories	**IUCN**	**CITES**	
Category	None	II	
Uses of the population	-		
Geographical distribution	**wide**Medium Minor Little Known		

Photo 7			
Scientific name	*Bubulcus ibis*		
Common name	cattle heron		
This	372882	**North**	8477574
Altitude	80 masl		
vegetation unit	Crop Area		
sampling station	MB-1c Controller		
endemism	-		
National Conservation Categories (DS 004-2014 MINAGRI)	None		
International Conservation Categories	**IUCN**	**CITES**	
Category	None	None	
Uses of the population	-		
Geographical distribution	**wide**Medium Minor Little Known		

Photo 8			
Scientific name	*Troglodytes aedon*		
Common name	common wren		
This	374193	**North**	8477342
Altitude	80 masl		
vegetation unit	Crop Area		
sampling station	AAO-3 Impact		
endemism	-		
National Conservation Categories (DS 004-2014 MINAGRI)	None		
International Conservation Categories	**IUCN**	**CITES**	
Category	None	None	
Uses of the population	-		
Geographical distribution	**wide**Medium Minor Little Known		

Photo 9			
Scientific name	*Mimus longicaudatus*		
Common name	chaucato		
This	372925	**North**	8474712
Altitude	80 masl		
vegetation unit	Desert plains and slopes with sparse vegetation		
sampling station	AAF-4 Controller		
endemism	-		
National Conservation Categories (DS 004-2014 MINAGRI)	None		
International Conservation Categories	**IUCN**	**CITES**	
Category	None	None	
Uses of the population			
Geographical distribution	**wide**Medium Minor Little Known		

Photo 10			
Scientific name	*zenaida melody*		
Common name	melodic turtledove		
This	373596	**North**	8476389
Altitude	80 masl		
vegetation unit	Desert plains and slopes with sparse vegetation		
sampling station	AAO-4 Impact		
endemism	-		
National Conservation Categories (DS 004-2014 MINAGRI)	None		
International Conservation Categories	**IUCN**	**CITES**	
Category	None	None	
Uses of the population	-		
Geographical distribution	**wide**Medium Minor Little Known		

Photo 11			
Scientific name	*Cathartes aura*		
Common name	red head vulture		
This	373596	**North**	8476389
Altitude	80 masl		
vegetation unit	Desert plains and slopes with sparse vegetation		
sampling station	AAO-4 Impact		
endemism	-		
National Conservation Categories (DS 004-2014 MINAGRI)	None		
International Conservation Categories	**IUCN**	**CITES**	
Category	None	None	
Uses of the population	-		
Geographical distribution	**wide**Medium Minor Little Known		

Reptiles

Photo 12			
Scientific name	*Mictolophus thoracicus icae*		
Common name	gramadal lizard		
This	372882	**North**	8477574
Altitude	80 masl		
vegetation unit	Crop Area		
sampling station	MB-1c Controller		
endemism	Peru		
National Conservation Categories (DS 004-2014 MINAGRI)	None		
International Conservation Categories	**IUCN**	**CITES**	
Category	None	None	
Uses of the population			
Geographical distribution	wideMedium Minor Little Known		

Photo 13			
Scientific name	*Mictolophus thoracicus icae*		
Common name	gramadal lizard		
This	372925	**North**	8474712
Altitude	80 masl		
vegetation unit	Desert plains and slopes with sparse vegetation		
sampling station	AAF-4 Controller		
endemism	Peru		
National Conservation Categories (DS 004-2014 MINAGRI)	None		
International Conservation Categories	**IUCN**	**CITES**	
Category	None	None	
Uses of the population	-		
Geographical distribution	wideMedium Minor Little Known		

Annex 2 Monitoring Stations

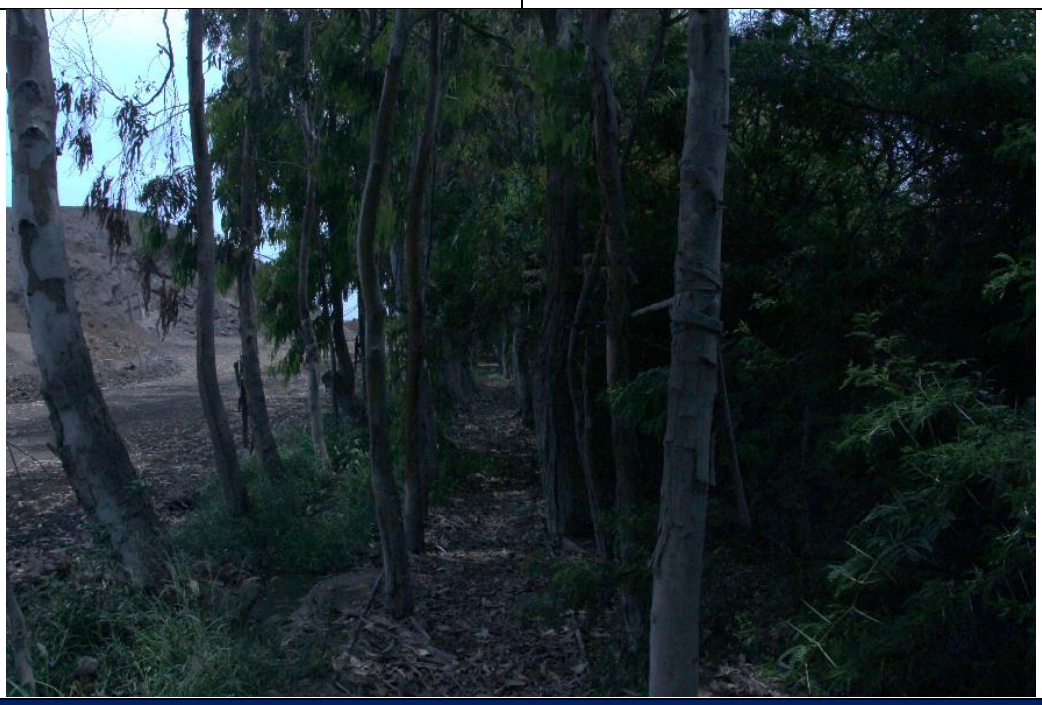
MONITORING STATION: AAO-3					
VEGETATION UNIT			Cultivation Areas		
THIS	374193	**NORTH**	8475342	**ALTITUDE (masl)**	-
EVALUATION DATE			11/27/2021		
DESCRIPTION OF THE MONITORING STATION			Located on the east side of the plant, bordering the Panamericana sur highway; It consists of a living fence with tree and shrub plant species, these species serve as shelter and food for some species of birds and reptiles.		

BIOTIC INDICES			
Taxa	**Flora**	**Birds**	**reptiles**
Wealth(S)	9	10	1
Abundance	59	42	1
Shannon-Wiener (H´)	2.51	2.82	0
Simpson(1-D)	0.74	0.82	0

MONITORING STATION: AAO-4					
VEGETATION UNIT			Desert plains and slopes with sparse vegetation		
THIS	373596	**NORTH**	8476389	**ALTITUDE (masl)**	-
EVALUATION DATE			11/27/2021		
DESCRIPTION OF THE MONITORING STATION			Located on the northeast side of the plant, close to a camp and sports field; It consists of a living fence with tree and shrub plant species, these species serve as shelter and food for some species of birds and reptiles.		

BIOTIC INDICES			
Taxa	**Flora**	**Birds**	**reptiles**
Wealth(S)	8	14	2
Abundance	58	91	3
Shannon-Wiener (H´)	2.36	3.49	0.92
Simpson(1-D)	0.73	0.89	0.44

MONITORING STATION: AAF-4					
VEGETATION UNIT			Desert plains and slopes with sparse vegetation.		
THIS	372925	**NORTH**	8474712	**ALTITUDE (masl)**	-
EVALUATION DATE			11/27/2021		
DESCRIPTION OF THE MONITORING STATION			Desert hillside plain with sparse vegetation, close to the live fence of the plant located on the west side of it; This living fence serves as a refuge and food for some species of local fauna.		



BIOTIC INDICES			
Taxa	**Flora**	**Birds**	**reptiles**
Wealth(S)	8	9	0
Abundance	46	27	0
Shannon-Wiener (H´)	2.88	3.08	-
Simpson(1-D)	0.85	0.88	-

MONITORING STATION: MB-1c					
VEGETATION UNIT			Cultivation Areas		
THIS	372882	**NORTH**	8477574	**ALTITUDE (masl)**	-
EVALUATION DATE			11/26/2021		
DESCRIPTION OF THE MONITORING STATION			Located in a cultivation area surrounded by coastal desert with some vegetation units, the area is outside the plant within its indirect influence zone.		

BIOTIC INDICES			
Taxa	**Flora**	**Birds**	**reptiles**
Wealth(S)	3	9	3
Abundance	9	58	6
Shannon-Wiener (H´)	1.44	2.75	1.46
Simpson(1-D)	0.59	0.53	0.61

Annex 3 Impact Levels

Criterion	Low (1)	Moderate (2)	Substantial (4)	high (8)
Economic	Loss or impact of less than S/0.6 M soles in a year	Loss or impact between S/0.6 M and S/1.25M soles in a year	Loss or impact between S/1.25 M and S/2.5M in one year	Loss or impact greater than S/2.5 M in one year
Continuity of Operations and Systems	Interruption of operation < 1 hour	Interruption of operation > 1 and < 8 hours	Interruption of operation > 8 and < 24 hrs	Interruption of operation > 24 hours
Security of the information	Does not impact integrity or timeliness of information	Impacts integrity and/or timeliness of information	Loss of own non-critical information or that of third parties	Loss of own critical information or that of third parties
Reputation and Image	Minimal public knowledge or perception of responsibility of the company	Limited public knowledge or perception of company responsibility	Broad media impact or tangible perception of company responsibility	Massive public knowledge, political interest or strong perception of responsibility of the company
Regulatory compliance	Does not cause regulatory non-compliance	Possible non-compliance with light penalties	Non-compliance with regulations with penalties	Severe regulatory breach with penalties
Ethical Management	-	-	Ethical faults in the execution of a process, does not incur a crime.	Ethical faults in a systemic way in the execution of a process and/or that a crime is incurred.
Environment	- Scope of the impact at the activity level and/or - Impact on pavement infrastructure.	- Scope of the impact at the level of an entire process and/or - Impact on 1 environmental factor (air, soil, water, flora and fauna).	- Scope of impact on other processes and/or - Impact on 2 or more environmental factors (air, soil, water, flora and fauna).	- Scope of the impact exceeds company limits and/or - Affectation of the sensitive natural environment or population.
Occupational Health and Safety (SSO)	Minor injuries may cause discomfort or discomfort.	Moderate injuries, may require minor medical attention.	Temporary disability and/or reversible damage to health	Permanent total or partial disability and/or irreversible/mortal damage

Source: Methodology for Internal Control and Comprehensive Risk Management of CAASA.

Annex 4 Probability Levels

Criterion	Low (1)	Moderate (2)	Substantial (4)	high (8)
Occurrence estimate (qualitative)	Low occurrence estimate.	Estimate of moderate occurrence.	Considerable occurrence estimate.	High occurrence estimate.
Occurrence estimate (qualitative)	Low occurrence estimate.	Estimate of moderate occurrence.	Considerable occurrence estimate.	High occurrence estimate.
Historical Frequency(quantitative)	- It has never happened.- It happened in less than 0.5% of the cases / total transactions.	- During the last year the event has not occurred, but it has occurred before.- It occurred between 0.5% and 1% of the total cases / transactions.	- During the last year it has happened once.- It happened between 1% and 5% of the total cases / transactions.	- During the last year the event has occurred more than once.- It occurred in more than 5% of the total cases / transactions.

Source: Methodology for Internal Control and Comprehensive Risk Management of CAASA.