

## Environmental and Social Review Summary (ESRS) Paracel Cellulose Project – PARAGUAY

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### 1. General Information of the Project and Overview of Scope of IDB Invest’s Review

Paracel SA (the “Client” or the “Company”) is a joint venture company composed of Girindus Investments (a group of companies based in Sweden) and the Zapag group (a Paraguayan local corporation), as well as other Paraguayan companies and family investors. Paracel intends to develop and operate a project with both an Industrial Component and a Forestry Component (the “Project”).

The Industrial Component involves construction and operation of an element chlorine free (“ECF”) Bleached Eucalyptus Kraft Pulp (“BEKP”) mill with a capacity of 1,500,000 metric tons per annum (“TPA”). The mill will be sited at the property named Zapatero Cue, in the department of Concepción, Paraguay, approximately 20 kilometers (“km”) north of the city of Concepción. The site is part of a 1,200 hectare (“ha”) former cattle ranch that extends from the left bank of the Paraguay River 3 km inland. The mill will occupy approximately 300 ha of the site. This component also includes: i) pulp production (wood preparation, fiber processing, drying, and baling); ii) chemical recovery (evaporation, recovery boiler, causticizing, and lime kiln); iii) utilities (biomass boiler, water treatment plant, boiler feed water treatment plant, and effluent treatment plant); iv) cogeneration unit with a nominal capacity of 260 megawatts (“MW”); v) area for unloading, handling, and storage of sodium hydroxide, hydrogen peroxide, sulfuric acid, sodium bisulfite, sodium chlorate, magnesium sulphate, aluminum sulphate, and methanol; vi) dedicated plants for the production of oxygen and chlorine dioxide; vii) fuel oil storage tanks for boilers startup; viii) diesel storage tanks for fire pumps and chip loaders; and ix) area for industrial solid waste treatment and disposal systems.

The Forestry Component involves the planting and harvesting of eucalyptus trees on 19 former agricultural and cattle ranching properties (or “*estancias*”) acquired by Paracel for the Project. The *estancias* total approximately 188,000 ha and are distributed in the departments of Concepción and Amambay, ranging between 40 and 130 km from the mill site.

The Project will also include the following ancillary facilities: i) a new substation at the mill site; ii) six worker camps in the city of Concepción, with a total capacity of 7,280 people; iii) a 32.7 km, 220 kilovolt (“kV”) transmission line to connect the Project’s substation to the national grid; and iv) a system for raw water intake and emissary pipeline for treated effluent disposal into the Paraguay River. In addition, the Project will include the following associated facilities: i) permanent road access to the mill site, implemented by the Paraguayan Ministry for Public Works and Communications (“MOPC”); ii) a riverine all weather port facility for loading pulp onto barges; and iii) dedicated berth and warehouse storage at the existing coastal shipping export terminal in Nueva Palmira, Uruguay.

Once operational, Paracel will consume approximately six million cubic meters (“m<sup>3</sup>”) of wood per year to produce approximately 1,500,000 TPA, with capacity for up to 1,800,000 TPA with process optimization. The early eucalyptus wood supply will be transported to the mill site through the Paraguay River and roads. Approximately 70% of the early wood supply will be obtained from existing plantations in neighboring Mato Grosso do Sul, Brazil, of which 70% will be transported to the mill site via barge from Porto Murtinho, Brazil, and the remaining 30% will arrive via by land through Ponta Porã on the Paraguay – Brazil border. The remaining 30% of eucalyptus will be obtained from plantations in Argentina and Paraguay and delivered via both barge and truck. By 2029, the mill will be supplied from the Project’s own plantations and several independent producers (“outgrowers”). The Project construction is expected to start in early 2022 and the mill will begin operations in early 2024.

The Environmental and Social Due Diligence (“ESDD”) included: i) site visits<sup>1</sup>; ii) virtual meetings; iii) videoconference interviews with the client’s main representatives, as well as with Paracel operational, environmental, health and safety (“EHS”), forestry, logistics, social, and human resources personnel; iv) interviews with indigenous leaders and representatives; v) technical sessions with local consulting firms in charge of socioeconomic and biodiversity baseline and impact assessments; vi) meetings with government officials; and viii) meetings with other local stakeholders.

The ESDD also included a review of the following documents: i) Environmental and Social Impact Assessment (“ESIA”) for the pulp mill and river port (“Mill ESIA”)<sup>2</sup>; ii) ESIA for the forest plantations, including the indigenous component (“Plantations ESIA”)<sup>3</sup>; iii) Cumulative Impacts Assessment (“CIA”)<sup>4</sup>; iv) combined Environmental and Social Management Plan (“ESMP”) for both Project components<sup>5</sup>; v) Environmental Impact Assessment (*Estudio de Impacto Ambiental Preliminar*, or “EIA”) for the transmission line; vi) EIA for the substation at Villa Real; vii) Environmental Basic Programs (*Programas Básicos Ambientales*, or “PBA”), approved as part of the permitting process; viii) primary, constituent documents that informed the ESIA’s (e.g., indigenous peoples socioeconomic baseline and impact assessment, socioeconomic baselines for both ESIA’s, and wet and dry season biodiversity baselines); ix) standalone environmental and social management and monitoring programs developed for the Project (e.g., Stakeholder Engagement Plan, or “SEP”); and x) equipment delivery specifications and contracts with key suppliers and contractors.

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<sup>1</sup> These included: i) the mill site (riverside and port area, offices, ground preparation works for borrowing and deposit areas, conservation areas, neighboring communities); ii) the future sites for worker camps; iii) linear infrastructure sites (access roads, transmission line); iv) the city of Concepción; v) the Trementina, San Liberato, and Gavillan *estancias*; and vi) the indigenous communities of Redención (in Concepción) and Vyá Renda (near the Trementina *estancia*).

<sup>2</sup> “Environmental and Social Impact Assessment, Pulp Mill, River Port, Transmission Line and Electrical Substation in Concepción – Paraguay,” Poyry, July 2021.

<sup>3</sup> “Environmental and Social Impact Assessment, Eucalyptus Plantations,” Poyry, August and October 2021.

<sup>4</sup> “Cumulative Impact Assessment, Eucalyptus Plantation, Pulp Mill, Transmission Line, Substation and River Port,” Poyry, October 2021.

<sup>5</sup> “Environmental and Social Management System, Pulp Mill, River Port, Transmission Line and Electrical Substation and Eucalyptus Plantation,” October 2021.

## 2. Environmental and Social Categorization and Rationale

The Project has been classified as a Category A Project, pursuant to the IDB Invest Environmental and Social Sustainability Policy, because it may cause significant adverse environmental and social (“E&S”) impacts and risks that include, among others, the following: i) increase demand of public services, security decrease in nearby municipalities, and increase in occupational and community health and safety risks, including communicable diseases and gender-based violence and harassment (“GBVH”) due to the presence of nearly 8,000 workers during construction; ii) risks of vehicular accidents from log hauling and hazardous materials transportation<sup>6</sup>; iii) generation of large amounts of air and effluent emissions; iv) potential impacts to air and water quality; v) land use changes in modified and natural habitats; vi) use of fertilizers and agrochemicals (pesticides, herbicides); and vii) opening and maintenance of logging roads.

The Performance Standards (“PS”) triggered by the Project are: i) PS1: Assessment and Management of Environmental and Social Risks and Impacts; ii) PS2: Labor and Working Conditions; iii) PS3: Resource Efficiency and Pollution Prevention; iv) PS4: Community Health, Safety, and Security; v) PS5: Land Acquisition and Involuntary Resettlement; vi) PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources; vii) PS7: Indigenous Peoples; and viii) PS8: Cultural Heritage.

## 3. Environmental and Social Context

### 3.1 General characteristics of the Project’s site

The mill will be installed in the department of Concepción, in a predominantly rural region on the left bank of the Paraguay River. The city of Concepción, the main urban center, lodges approximately 85,000 of the 251,000 inhabitants of the department. According to the latest census data, its population is predominantly young (72% under 35 years old), with an average of 9.4 years of education. Although Concepción’s main economic activity historically has been extensive agriculture and livestock farming (with associated activities, such as slaughterhouses and saddleries), some industrial development has recently taken place in the department with the installation of meatpacking and milk processing plants.

The city of Concepción has good electricity supply coverage (98% of households) and potable water distribution (86%). Sanitary sewerage collection service, however, is more limited (23%). The city has a landfill, but only about a third of the population has access to garbage collection services (most households resort to burning). 72% of the population of the city of Concepción has access to health services, 15% of which is through different health insurance coverage schemes.

Parcel’s *estancias* are in the Cerrado ecoregion, in a transition zone where Cerrado-type savanna from the north converges with contiguous humid Chaco to the south and west, and upper Paraná Atlantic Forest ecoregions to the east and south, resulting in the presence of characteristic transitional biodiversity. Habitats in the plantation area of the Project have experienced forest harvesting and agricultural development since colonial times. This, along with the proliferation of

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<sup>6</sup> For the first seven years wood will be sourced from independent producers in Brazil, Argentina and, to a lesser extent, Paraguay.

livestock since last century, has resulted in the conversion of original savanna and forests to largely modified habitats.

There are ten indigenous communities within 20 km of the Project's sites. One of these, Redención, an urban multi-ethnic community of predominantly Maskoy and Guaraní speakers, is in the city of Concepción, near the mill site. The other nine communities, predominantly Paĩ Tavyterã and Mbya Guaraní ethnic communities, are located near Paracel's *estancias*.

### 3.2 Contextual risks

The northeastern region of Paraguay, where Paracel's Forestry Component is located, is known for being one of the principal producers of cannabis in South America. Since the late 1960's, this drug has been privately produced, processed, and illegally traded<sup>7</sup> predominantly in the departments of San Pedro and Amambay, near the border with Brazil.

The Paraguayan People's Army<sup>8</sup> (*Ejército del Pueblo Paraguayo*, or "EPP") is a clandestine guerrilla group that operates in the departments of Concepción, Amambay, and San Pedro, and that obtains its funding from racketeering and kidnapping activities targeting preferentially large landowners<sup>9</sup>. The Joint Task Force ("JTF"), a unit of the Paraguayan Armed Forces made up of members of the army, the national police, and agents of the National Anti-Drug Agency ("SENAD"), was created to curb drug trafficking and combat EPP guerrillas.

Currently, Paracel is negotiating an agreement with SENAD to establish a joint Paracel-SENAD work program to help protect eucalyptus plantations and natural habitats from encroachment by illicit crops. However, so far, Paracel has not reported any interaction with the EPP.

## 4. Environmental Risks and Impacts and Proposed Mitigation and Compensation Measures

### 4.1 Assessment and Management of Environmental and Social Risks

#### 4.1.a E&S Assessment and Management System

The Ministry for the Environment and Sustainable Development (*Ministerio del Ambiente y Desarrollo Sostenible*, "MADES") approved the Mill EIA<sup>10</sup> (which was later enhanced into the Mill ESIA) and issued an environmental license for the Project (*Declaración de Impacto Ambiental*, or "DIA") in 2021. The Environmental Management Plan (*Plan de Gestión Ambiental*, or "PGA") for the Project construction and its related Social Management Plan (*Plan de Gestión Social*, or "PGS"), which together include a total of 41 environmental and social PBAs for construction and operation,

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<sup>7</sup> Some of these activities involve landowners, transport workers, hired private security and mercenaries, and middlemen who protect growing areas and landing strips, using intimidation and violence. Recent episodes of drug-gang related crimes in Pedro Juan Caballero are a testimony to this prevailing contextual risk.

<sup>8</sup> One of EPP's main objectives is to implement a comprehensive, peasant-led agrarian reform that would involve expropriating "unproductive" lands currently in the hands of large landowners

<sup>9</sup> A notorious recent case was the kidnapping, in September 2020, of Paraguay's former vice-president Óscar Denis by EPP guerrillas, whose whereabouts remained unknown to present.

<sup>10</sup> "Estudio de Impacto Ambiental Preliminar, Paracel, Fábrica de Celulosa y Puerto en Concepción – Paraguay," Poyry, July 2020.

were approved as part of the permitting process. Streamlined EIAs were also prepared for each individual *estancia* to be developed into eucalyptus plantations. Similarly, the Project conducted separate EIAs for the substation at Zapatero Cue and the transmission line connecting it with Concepción and obtained their corresponding DIAs in October 2020. For the forestry area, Parcel is in the process of acquiring the environmental permits on a per-property basis, with several DIAs already issued by MADES.

To meet international requirements, Parcel prepared the following documents: i) a revised and improved Mill ESIA; ii) a separate and consolidated Plantations ESIA; iii) a Cumulative Impacts Assessment; and iv) a consolidated set of environmental and social management plans (or “ESMPs”) for both Project components. Parcel, as required by its draft ESMS Manual<sup>11</sup>, is in the process of developing an Environmental and Social Management System (“ESMS”) and will develop an ESMS for the operational phase of all Project components.

#### 4.1.1.b Policy

Parcel has enacted an overarching Sustainability Policy that sets the Company’s commitment and guiding principles to carrying out its activities in an environmentally and socially responsible manner. The Sustainability Policy and operational strategy consider national and international regulations, including the International Organization for Standardization (“ISO”) standards, the Forest Stewardship Council (“FSC”)<sup>12</sup> standard, and the IFC Performance Standards. The Company also has a series of other related policies, including a specific policy for engagement with indigenous peoples (“IP”) and a social investment policy.

#### 4.1.1.c Identification of Risks and Impacts

##### 4.1.1.c.i Direct and indirect impacts and risks

The Mill ESIA identifies potential impacts for the Project’s design, construction, operation, and decommissioning phases. The key impacts relate to: i) erosion and river sedimentation; ii) water use conflicts; iii) surface water and groundwater quality; iv) air quality; v) noise; vi) soil quality; vii) loss of vegetation and land habitat; viii) impacts to aquatic ecosystems; ix) vehicle collisions with animals; x) disturbance of flora and fauna; xi) impacts to natural and modified habitat; xii) generation of direct and indirect temporary jobs; xiii) impacts to local infrastructure; xiv) increased risk of vehicle accidents; and xv) impacts to cultural heritage.

The Plantations ESIA identifies potential impacts for the Project’s planning and implementation phases related to: i) air quality; ii) water quality; iii) effluents; iv) runoff; v) impacts to streams and landscapes; vi) soil quality; vii) noise; viii) impacts to terrestrial and aquatic flora and fauna; ix) changes in ecosystem services; x) impacts to natural or critical habitat; xi) landscape fragmentation; and xii) impacts of pesticide use on the community.

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<sup>11</sup> “Health, Safety, Environmental and Social Management Handbook,” September 2021.

<sup>12</sup> <http://www.fsc.org>.

Paracel's 32.7 km, 220 kV transmission line will mostly follow the alignment of pre-existing rural roads and through an agricultural landscape, away from any conservation areas, thus minimizing its impacts. The transmission line EIA includes mitigation measures for potential localized biodiversity impacts (e.g., bird flight diverters) that will be incorporated into Paracel's construction and operation ESMS.

Since the Mill ESIA and Plantations ESIA did not offer sufficient details of the potential impacts related to road improvement or construction (i.e., upgrade of existing temporary access road, rehabilitation and improvement of permanent access road, and early wood supply traffic during commissioning and ramp up)<sup>13</sup> and the associated increase in light and heavy vehicular traffic (i.e., machines, trucks, and buses) during construction, Paracel has developed an initial road safety program designed to address community health and safety. This program will be shared with the MOPC to ensure alignment of road safety management measures.

Paracel has developed an ambient sound pressure baseline from measurements made at five points within a radius of approximately 5 km in the mill's area of direct influence and modeled potential noise impacts at 27 critical or sensitive points.

Since the Mill ESIA does not address construction phase workforce management, worker housing development, and construction phase labor influx risks in sufficient detail, Paracel has developed some initial management plans to address these risks, including: i) a worker code of conduct; ii) a grievance mechanism; iii) a local supplier promotion and development plan; iv) a communications plan; v) a local workforce development and linkage plan; vi) a management plan for contractor adherence to social provisions; and viii) a worker influx management plan.

The Mill ESIA provides a limited analysis on the risks and impacts on the ocean access port of Nueva Palmira, Uruguay (an associated facility), which consists mainly of a dedicated berth and warehouse installations as part of new and improved brownfield structures. Therefore, as part of its ESMS, Paracel will develop a risk assessment and associated environmental, health and safety, and social ("EHS" or "HSE") management measures to be implemented by the contractor chosen to build and operate those structures.

The Mill ESIA concludes that it is unlikely to find cultural heritage features or artifacts on the site. The indigenous socioeconomic baseline did not reveal the existence of potential critical cultural heritage sites in Paracel's forestry *estancias*.

#### 4.1.c.ii Analysis of alternatives

The Mill ESIA includes a no-project analysis of alternatives that lists the opportunities forfeited in terms of human and socioeconomic development, tax revenues, employment generation, and improvements to infrastructure and accessibility that would not materialize if the Project were not implemented. The assessment also includes an alternatives analysis for four different siting locations. Accessibility, logistics, distance from critical receptors, soil drainage, topography, wind

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<sup>13</sup> Temporary access to the mill site during construction will be secured by Paracel through improvements to an existing, 4.6 km dirt road that traverses agricultural farms as well as the small settlement of Pyrendá.

direction and atmospheric dispersion, availability of manpower, supply of process water and effluent depuration water body, and proximity to suitable lands for forestry development were all considered in mill site selection.

The 32.7 km, 220 kV transmission line maximized presence of open areas or agricultural landscapes (pastures and cropland) and minimized interference with areas of permanent protection. A significant proportion of Paracel's process inputs (e.g., chemicals) will be transported by river, thereby avoiding roads. All Paracel pulp production will be transported by river barges through an existing waterway to the seaport of Nueva Palmira, Uruguay.

#### 4.1.c.iii Cumulative impact analysis

The CIA was conducted following the six-step process specified by best practice guidance<sup>14</sup>, establishing the spatial and temporal boundaries of analysis. The initial list of thirteen<sup>15</sup> potential Valued Ecosystem Components ("VECs") and ten past, present, and future projects in the region that could potentially generate incremental impacts to the initial 13 VECs was compiled from ESIA information and the findings of stakeholder interviews<sup>16</sup>. Five VECs were shortlisted<sup>17</sup>, and potential impacts were categorized by priority. The CIA concludes that the Project will contribute to a positive cumulative impact on the local economy, income, and employment generation, and will contribute a small negative impact to water resources, the VEC with the highest priority (medium) considered by stakeholders. The CIA includes a specific section on management of cumulative impact to waters resources with mitigation measures the Project will implement to avoid or minimize any potential negative cumulative impacts identified in the study. These include: i) enhancement of the baseline by adding an additional water quality monitoring point downstream and closer to the water utility's (Empresa de Servicios Sanitarios del Paraguay S.A., "ESSAP") intake; ii) conducting a full seasonal cycle of dry and rainy season, statistically representative, baseline sampling before start of operations; and iii) engaging ESSAP and other water users and stakeholders on developing a participatory water quality monitoring program.

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<sup>14</sup> Good Practice Handbook on the Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets [https://www.ifc.org/wps/wcm/connect/58fb524c-3f82-462b-918f-Oca1af135334/IFC\\_GoodPracticeHandbook\\_CumulativeImpactAssessment.pdf?MOD=AJPERES&CVID=kbnYgI5](https://www.ifc.org/wps/wcm/connect/58fb524c-3f82-462b-918f-Oca1af135334/IFC_GoodPracticeHandbook_CumulativeImpactAssessment.pdf?MOD=AJPERES&CVID=kbnYgI5).

<sup>15</sup> Soil contamination (erosion and waste collection and treatment system; Surface water resources (watershed conservation, drainage and sanitation); Infrastructure and road safety; jobs; local development; natural habitat; groundwater resources; air contamination; noise; floral; fauna; landscape; and cultural heritage All potentially eligible VECs were analyzed against the following criteria: i) confirmed to be valued by an identifiable stakeholder group; ii) reasonably expected to be impacted by the Project (i.e., at least one potential impact significance rating of minor or higher); and iii) reasonably expected to be potentially impacted by other projects or external drivers.

<sup>16</sup> Sanitary sewerage system and wastewater treatment plant for the city of Horqueta (MOPC); Environmental adaptation of the sanitary sewerage system of Concepción (ESSAP); Improvement of neighborhood roads in Concepción (MOPC); Improvements in the physical connectivity of the department of San Pedro – Punta Riel – Belén section (MOPC); Habilitation and Maintenance of the Pozo Colorado – Concepción section (MOPC); Improvement of the electrical system of Concepción (Section SE Horqueta – SE Concepción); Improvement of the dredging of the Paraguay – Paraná Waterway (MOPC); Improvement of the Drinking Water System for Regional Development in the Republic of Paraguay (ESSAP/MOPC); Frigorífico Concepción S.A.; and JBS Frigorífico.

<sup>17</sup> These included: i) surface water resources (watershed conservation, drainage, and sanitation); ii) soil contamination (erosion and waste collection and treatment system); iii) infrastructure and road safety; iv) Jobs; and v) local development.

#### 4.1.c.iv Gender risks

There is a significant gender gap, defined as the differential and unequal access to economic, political participation, educational, and occupational opportunities based on sex or gender, in Latin America and the Caribbean. This gap is reinforced by pervasive cultural norms regarding acceptable roles for men and women and is exacerbated by weak legal protections or inadequate social response. The gender gap leads to gender discrimination, unequal access to public services, educational differentials, pay and labor gaps, and lagging political participation rates. The gender gap index for Paraguay is tied with five other countries at 0.7, which is better than only one of 26 countries in the region.<sup>18</sup>

Gender-Based Violence and Harassment (“GBVH”) is also a significant problem in Latin America and the Caribbean, which has the highest rate in the world. There were 37 reported femicides in Paraguay in 2019, which was the fifth least of 16 countries in the region.<sup>19</sup> GBVH has been exacerbated by the COVID-19 pandemic. The most recent report on Paraguay from the United Nations Committee on the Elimination of Discrimination against Women indicates that the country has made progress in recent years in terms of laws and government programs, although areas of concern remain.<sup>20</sup>

The socioeconomic baseline studies conducted for the mill<sup>21</sup> and plantations<sup>22</sup> indicate that women in the Project’s area of indirect influence (“All”): i) have a higher life expectancy than men; ii) are more likely to attend high school and receive higher education than men; and iii) are more likely to go to medical consultations than men. On the other hand, women: i) are less likely to be economically active than men (e.g., 45.04% vs. 73.64% in Concepción); ii) have a higher rate of underemployment than men (e.g., 13.35% for women vs. 8.25% overall in Concepción); iii) earn significant less than men (e.g., 25% less in Concepción); and iv) comprise a higher percentage of immigrants (57%) than men. Within the rural and indigenous communities in the Project’s area of direct influence (“ADI”) for the plantations, women are generally employed in household chores, family farm activities, handicrafts, the raising of small animals, the sale of dairy products and their derivatives, trade, decoration, rentals, gastronomy, hairdressing, and dressmaking. Alternatively, women migrate in search of job opportunities to departmental capitals, Asunción, or abroad. According to the socioeconomic baseline studies, unequal practices persist, with women (especially indigenous women) generally assigned to household tasks while men engage in work that generates income. Women often lack sex education and rely on herbal remedies rather than modern medicine for contraception. As a result, women in the Project’s ADI average 3.97 children. Regarding GBVH, the social baseline study for the mill indicates that 9% of people surveyed in the Project’s ADI identified domestic violence as a social issue of concern.

The Project’s ESIA’s identify the following potential impacts as being particularly relevant to women: i) employment (positive, due to opportunities for women to work for the Project); ii) human rights

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<sup>18</sup> <https://www.statista.com/statistics/803494/latin-america-gender-gap-index-country/>

<sup>19</sup> <https://www.statista.com/statistics/827170/number-femicide-victims-latin-america-by-country/>

<sup>20</sup> <https://evaw-global-database.unwomen.org/-/media/files/un%20women/vaw/country%20report/america/paraguay/paraguay%20cedaw%20co.pdf?vs=3548>.

<sup>21</sup> “Social Studies (Industrial Component), Environmental and Social Impact Assessment (ESIA),” March 2021.

<sup>22</sup> “Social Studies, Forestry Component,” January 2021.

(positive, due to Paracel's strong non-discrimination and equal opportunity policies compared to other regional employers); iii) worker influx and increased truck traffic (increased potential for GBVH); iv) impacts to indigenous communities; and v) community health and safety.

Measures to enhance the Project's positive impacts and mitigate its negative ones on women, in general, cut across several different ESMPs for construction and operations (e.g., the Strengthening of Family Production and Generation of Added Value program). However, Paracel has a specific ESMP for gender risks and opportunities management, the Women Empowerment Program. Dedicated measures for indigenous women are described in the Project's Indigenous Peoples ("IP") Women Empowerment Program.

#### 4.1.c.v Climate change exposure

The Project was screened and evaluated for exposure to physical and natural disaster risks, as well as low carbon transition risk with a horizon of 2050. Climate physical risk was assessed following Task Force on Climate-Related Financial Disclosures ("TCFD") guidance.<sup>23</sup> The key findings were: i) even though water stress, water supply, and water demand are not expected to change by 2050, seasonal variability of available surface water is expected to change significantly, potentially limiting commercial navigation in some sections of the Paraguay River at Zapatero Cue; ii) on average, total annual rainfall and monthly distribution of rainfall is not projected to significantly change<sup>24</sup>; iii) temperature is projected to increase substantially (1.5°C) compared to historical records, and though maximum temperature is not projected to increase beyond the heat stress tolerance range of eucalyptus ( $\leq 40^{\circ}\text{C}$ ), the frequency and intensity of extreme heat events (consecutive number of very hot days) is expected to increase; and iv) minimum temperature is also projected to increase substantially (more than 1.5°C)<sup>25</sup>. As a result, Project exposure to climate physical risk is deemed to be high.

Exposure to other climate and natural disaster risks involve riverine flooding, as part of the mill site will accommodate the all-weather barge terminal, which is in a partially flooded zone of the left bank of the Paraguay River. Paracel has therefore produced a flood probability report that estimated the extreme flows and waterline profiles with periods of return ranging from 2 to 10,000 years. Maximum flood projections indicate, under the worst-case scenario, an affected area of the mill site at 200-250 m from the mean river level. However, given the mill site's favorable topography and relief, the affected flood area under such scenarios is the southeastern corner of the site at the confluence with Arroyo Seco and a wetland belonging to a neighboring property. Therefore, the flood risk to the site as a whole is considered to be low, and for the port moderate.

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<sup>23</sup> <https://www.fsb-tcfid.org/about/>.

<sup>24</sup> The predicted range of annual monthly rainfall remains virtually the same as the historical records and within the preferred annual range (1,000 mm – 1,800 mm) for eucalyptus plantations.

<sup>25</sup> Increases in both minimum and maximum temperatures could potentially impact eucalyptus growth rates, as continuous exposure to longer periods of extreme hot days could eventually cause heat stress and impact optimal growth. Also, plantations may not have a chance to release heat and cool down during the night given high minimum temperatures. Heat stress events could also have significant impacts on water resources, soil moisture, and the health of other vegetation in the region.

Transition risks impacting the Project are likely to be low, given that the bulk of land use change brought about by Paracel will consist of the establishment of new plantations in former grazing areas (i.e., afforestation).

#### 4.1.d Management Programs

The Project will adopt Best Available Techniques (“BAT”)<sup>26</sup> and Best Environmental Management Practices (“BPEM”), aiming to reduce air emissions, liquid effluents, noise, and solid waste generated by the industrial processes and forestry development component. The Project’s ESMS includes management plans (ESMPs) arranged in four pillars: i) Social; ii) Indigenous Peoples; iii) Environmental; and iv) Health & Safety. The ESMPs and their procedures and protocols, together with the institutional policies and codes (e.g., Code of Conduct and Ethics) adopted by the Company, form part of Paracel’s ESMS.

The ESMS constituent elements also serve as a guide and reference to Paracel’s suppliers and contractors, through four standard contractual appendices: i) Supplier Code of Conduct; ii) Manual for Shared Services and People Management Procedures<sup>27</sup>; iii) Industrial Health, Safety and Environmental (HSE) Handbook; and iv) Forestry HSE Handbook. These documents are a binding part of the contracts and oblige suppliers and contractors to comply with them while keeping a relationship with Paracel.

#### 4.1.e Organizational Capacity and Competency

Paracel is in the process of selecting first-class manufacturers for the supply of equipment (e.g., woodyard, cooking, bleaching, evaporation, pulp drying, white liquor, boilers, water, wastewater, power). Equipment suppliers are responsible for the detailed design, procurement of materials, and construction under Engineering, Procurement, and Construction (“EPC”) contracts.

Paracel will contract one Engineering, Procurement, Construction, and Management (“EPCM”) party that will be responsible for: i) building the river barge port at Zapatero Cue’s mill site and improving the Nueva Palmira seaport in Uruguay; ii) constructing a dedicated fleet and transporting the pulp along the Paraguay-Paraná waterway; and iii) receiving heavy oil and wood at the terminal in Zapatero Cue. Construction of linear infrastructure will be also executed under an EPCM contract. The EPCM will act as Owner’s Engineer and Management and will be responsible for supervising the construction and the Balance of Plant (“BOP”) with the support of an engineering company.

Paracel has established an initial E&S structure to implement all the HSE processes required during construction and operation (i.e., environmental, social, and health and safety programs, plans, and procedures), which includes three different teams: i) social; ii) environmental; and iii) health and safety. The Company has appointed a social manager responsible for all activities related to social issues, an inter-institutional coordination and communication position, and an expert in diversity and inclusion to coordinate execution of IP and gender-related plans during construction and

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<sup>26</sup> Best Available Techniques (BAT) Reference Document for the Production of Pulp, Paper and Board. European Union Industrial Emissions Directive 2010/75/EU (Integrated Pollution Prevention and Control) (2015).

<sup>27</sup> The Manual sets a requirement for suppliers to implement a documented Environmental and Social Management System (ESMS) based on the general criteria set forth by PS-01.

operations. Paracel has also appointed an environmental manager who is responsible for overall management of environmental aspects, including the development of ESIA's and the associated permitting process. It has also appointed an occupational health and safety ("OHS") coordinator, who is currently responsible to coordinate and supervise a small number of contractors present on site for earthworks, as well as initial works at the plantations. The Project has two security coordinators: one responsible for the Forestry Component, who reports to the senior manager for Talent Management, and another for the Industrial Component, who reports to the Head of Engineering for the Project.

Paracel has an organization chart in which both the social and environmental managers, along with other key project staff such as the project director, the forestry director, and the human talent director, report directly to the Chief Executive Officer ("CEO"). The HSE organizational chart, however, does not include a biodiversity specialist to cover both the mill site and plantations (although the environmental coordinator does have biodiversity expertise) or an IP specialist in Concepcion to establish a more permanent presence in the territory of indigenous communities. Since some positions of the HSE teams still need to be filled, Paracel will present a Staffing Plan to include an updated organizational structure that defines roles, responsibilities, and authority to implement the ESMS, including outsourced functions and personnel.

Paracel has retained the services of a company ("Central Services") to support management and supervise EPC contractor performance during construction inside and outside the fence (i.e., transmission line, road access, worker camps). The scope of Central Services includes the following: i) occupational health and safety capacity building and supervision inspection; ii) inspection audits and safety supervision; iii) health management, including COVID-19 and interface with hospitals; iv) emergency management and fire preparedness and response; and v) inspections of living conditions at worker accommodations and camps. Paracel will hire consultancy support for environmental supervision management and oversight, which will include audits, campaigns, training, and work front inspections, including topics such as erosion, waste disposal, effluents, water intake and consumption, noise and dust control, and vegetation suppression. Paracel's construction management team will also benefit from an additional contractor to provide support on project planning, contracts management, and work front measurements.

Paracel will establish a socio-environmental management committee, formed by both contractor (Central Services, environmental supervision) and Paracel supervisors of HSE teams, tasked with monitoring performance and liaising with local and national institutions to address cross-cutting issues that require interinstitutional partnerships and close coordination.

#### 4.1.f Emergency Preparedness and Response

The Mill ESIA contains a preliminary hazard analysis ("PHA") to identify the potential hazardous events that may lead to an accident during operations.<sup>28</sup> Simulations carried out for key hazard scenarios (leaks associated with the loss of containment of such products, explosion events caused

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<sup>28</sup> The Preliminary Risk Analysis, carried out based on the standard developed by the military safety program of the United States Department of Defense (MIL-STD-882B), identified 53 hazards.

by non-condensable gas, methanol and/or chlorine dioxide) showed that: i) the radius of the vulnerable areas are all within the boundary of the industrial plant; and ii) no catastrophic or critical hazards were identified (92% of the identified risks were either negligible, minor, or moderate). Once the detailed engineering has been completed, Paracel will conduct a Hazard and Operability Analysis (“HAZOP”) and conduct a Quantitative Risk Assessment (“QRA”) to confirm no negative impact to people or the environment will take place under worst case scenarios during operations.

As part of its ESMS, Paracel has drafted an Emergency Preparedness and Response Plan (“ERP”) that establishes a set of measures and procedures to minimize the probability of occurrence of a threat or emergency, mitigate the impact if the event occurs, recover from the emergency, and resume normal operations. The plan identifies the most significant emergency scenarios under mill operations and response procedures, such as: i) chemical leaks and explosions; ii) natural disasters; iii) acts of terrorism and sabotage; and iv) road accidents. The ERP includes specific provisions for the forestry area, including emergencies involving forest fires.

The Company’s Occupational Health and Safety Manual for the Forestry Component requires contractors to adopt and maintain formal HSE procedures for responding to emergency scenarios according to the identified risks, characteristics, and circumstances of the activities, following the guidelines of Paracel’s ERP. Responses to emergency scenarios include first aid, casualty routing, site abandonment with respective escape routes, measures for high magnitude emergency scenarios, and conducting drills for the different emergency scenarios identified.

Paracel will constitute an Emergency Management Committee at the strategic level, aided by both tactical (OHS Coordinator) as well as operational (emergency brigade) functions. The OHS Coordinator will be responsible for the scheduling and execution of emergency drills and to coordinate emergency brigades. The latter will receive 8-hour refresher training once per year or when there is a significant change in emergency brigade members.

#### 4.1.g Monitoring and Review

The PGA describes the environmental monitoring programs required as part of the permitting process. However, it lacks a unified and structured approach to capture all environmental parameters to be monitored to allow decision-making. As part of the ESMS for construction, Paracel will therefore include an environmental monitoring protocol for all project components, summarizing: i) parameters to be monitored; ii) monitoring methodology; iii) location and frequency of monitoring; iv) applicable references (Paraguayan regulations, WBG EHS Guidelines, and Good International Industry Practice or “GIIP” guidelines); and v) numerical standards adopted by the Project.

IDB Invest and co-financiers will monitor the Project with the support of an Independent Environmental and Social Consultant (“IESC”) throughout the life of the loan. IDB Invest will also conduct regular supervision visits to the Project its during construction and operation.

#### 4.1.h Stakeholder Engagement

The socioeconomic baseline for the mill identifies and assesses three areas of influence: i) the Area of Indirect Influence (“All”) that includes the departments of Concepción, Amambay, and San Pedro; ii) the Area of Direct Influence (“ADI”)<sup>29</sup> that consists of the districts of Concepción, Loreto (16 km from the mill site), Belén (33 km), and Horqueta (45 km); and iii) the Directly Affected Area (“DAA”) that extends 1 km from the mill site and encompasses a single community, Piquete Cue, which consists of 13 households. Although not identified in the Mill ESIA, the small community (4 households) of Pyrendá should be considered as part of the DAA.

Community members from Piquete Cue indicated that they had very good communication with the Project. Their biggest interest is that the road that passes through the community be improved, and their biggest concerns is that the Project may block their access to the river where they fish. Parcel informed them that the road will be improved and that the road to the river does not pass through its property and, therefore, community access will not be altered. Community members from Pyrendá indicated that they have had less communication with the Project but confirmed that they had given the Project permission to utilize the section of the access road to the mill that they own in exchange for an assurance that the Project will improve this road. Community members from San Ramón, located in the ADI, confirmed that the Project had already improved the road that passes through their community, and that their biggest interest is that the Project provide them with training and certifications to allow them to work at the mill.

The socioeconomic baseline for the Forestry Component utilized the same All as that of the mill (the departments of Concepción, Amambay, and San Pedro). The ADI includes 18 micro-territories in the districts of San Pedro, Sargento José Felix López, Bella Vista Norte, Passo Barreto, Loreto, Arroyito, and Horqueta, as well as 10 indigenous communities described in detail below. The DAA was defined to encompass the Parcel *estancias* themselves. There are no communities within this DAA.

Parcel has enacted a Stakeholder Engagement Policy that establishes the reference framework and conditions for the proper management of the Company’s practices. The policy applies to Parcel S.A. and its subsidiaries in all their direct communication actions with stakeholders, and must also be followed by all advertising, marketing, and communication service providers.

In addition to the departmental capital city of Concepción, the Project's area of influence for the mill and plantation *estancias* includes small-sized municipalities in its outskirts (such as Belén, Horqueta and Loreto), with little to no capacity to absorb and manage additional pressure on social and physical infrastructure. Parcel maintains a positive and constructive dialogue with the current mayors of these municipalities and with its neighbors.

Parcel conducted socio-economic baseline studies for the Project’s mill and forestry areas of influence, focusing on the identification of vulnerable groups. This baseline includes: i) primary data points or census for people affected by land easements and for neighbors adjacent to the Project’s

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<sup>29</sup> This area includes Callejón San Ramón, Laguna Plato, Pirity Mongelos, Callejón San Antonio, Paso Ita, Mbocayaty, Callejón San Luis, Colonia Cnel. Mongelos, Costa Pucu, Colonia Roberto L. Petit, Co’è Porâ, Jhugua Zarzo, Curuzu Ñu, Jhugua González, Costa Ferreira, Saladillo, Colonia Primavera; all located within a 12 km radius of the mill.

mill site (i.e., mill, river port and water system, and main transportation routes); and ii) secondary data points or macro-data for the municipalities in the forestry area of influence.

Based on the socio-economic baselines, Parcel has produced an initial SEP for all Project components, which includes: i) identification and prioritization of key stakeholders; ii) stakeholder mapping and categorization; iii) criteria for identification of vulnerable groups and IP; iv) information to be disclosed to each stakeholder group; v) strategy for information disclosure, consultation, and collection/analysis of feedback; vi) grievance mechanism for complaints presented directly or through interaction with contractors; vii) key performance indicators (e.g., grievances received and resolved, meetings executed and planned); and viii) socio-economic monitoring.

#### 4.1.h.i Disclosure of Information

Parcel has conducted extensive disclosure of information related to the Project that initiated with the ESIA process. The Mill EIA and its summary report (*Relatorio de Impacto Ambiental*, or "RIMA") were presented to the public and other stakeholders at a formal public hearing event in Concepción in December 2020.<sup>30</sup> Parcel has also published the Mill EIA and its associated environmental license on its website.<sup>31</sup> The Company will also publicly disclose the Mill ESIA, Plantations ESIA, CIA, and an Executive Summary<sup>32</sup> of these three documents.

#### 4.1.h.ii Informed Consultation and Participation

Parcel has been holding public consultation and stakeholder engagement activities since mid-2019. The Project has met with and presented to national and local governments, the public sector, the private sector (including suppliers and contractors), academia, civil society organizations, religious organizations, indigenous communities, and local citizens.<sup>33</sup> Ongoing information disclosure and consultation has identified and channeled local community expectations. The key issues identified during this process are impacts to water and air quality, potential interference with local tourism, and accessibility by neighbors and IPs to forestry plantations and roads for local travel and passage. "Infrastructure and road safety" was the aspect most mentioned by representatives of institutions and communities within the area of influence of the Industrial Component (districts of Concepción, Loreto, Horqueta, and Belén). Although in a lower percentage, many people stated "that the improvement of the road be guaranteed" as one of the expectations regarding the Project's Forestry Component. The main expectation from the Project's local stakeholders relates to employment generation and potential Parcel investments in social projects (e.g., contributions to improvements of local rural roads, health related campaigns, and donations of materials for social projects).

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<sup>30</sup> The Mill ESIA provides evidence of consultations with the communities in Concepción in January and February of 2020, including interviews with farmers, the private sector, civil society organizations, and members of the community.

<sup>31</sup> <https://parcel.com.py/estudios-de-impacto-ambiental/>.

<sup>32</sup> "Parcel ESIA's Executive Summary, Eucalyptus Plantation, Pulp Mill, Transmission Line, Substation and River Port," Poyry, 2021.

<sup>33</sup> Disclosure and consultation activities included various formats such as focus groups, meetings, interviews, radio, TV, social media and Parcel's website.

#### 4.1.h.iii Indigenous Peoples

Paracel's IP Policy foresees a process of continuous and permanent dialogue and engagement with indigenous communities. The Company will regularly inform the Paraguayan Indigenous Institute (*Instituto Paraguayo del Indígena*, or "INDI")<sup>34</sup> about the approaches and results of such activities.

#### 4.1.h.iv Private Sector Responsibilities Under Government-Led Stakeholder Engagement

The Project does not include a stakeholder engagement process led by or with the participation of the government.

#### 4.1.i External Communication and Grievance Mechanisms

##### 4.1.i.i External communication

The Project has a head of communications and social responsibility officer who oversees all stakeholder engagement activities. Paracel also has a Communication Policy with information on strategies for stakeholder engagement and evidence of Project disclosure events, including virtual and in-person meetings with the community, as well as a WhatsApp channel that has over 110 members. To date, the Project has also engaged with the community via surveys, with over 150 responses.<sup>35</sup>

##### 4.1.i.ii Community grievance mechanism

The Project's ESMS includes a "Complaints Management Program, Suggestions and Inquiries" applicable to both its Industrial and Forestry Components. The program indicates that grievances can be lodged through the following mechanisms: i) on Paracel's website; ii) by e-mail; iii) by telephone; iv) by mail; or v) in person at a Paracel office. Grievances are categorized by priority, with response times between 7 and 15 days, according to their importance. The procedure describes the following steps in addressing grievances: i) reception; ii) classification; iii) early warning; iv) analysis or investigation; v) determination of measures or actions; and vi) closing and communication. The procedure includes safeguards for complainants, such as protection from retaliation and confidentiality, and key performance indicators ("KPIs") that are constantly reported to Project stakeholders.

##### 4.1.i.iii Provisions for addressing vulnerable groups' grievances

Paracel's grievance mechanisms were specifically designed to ensure access by indigenous communities. They include provisions for the monitoring of its performance through monthly

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<sup>34</sup> The INDI is the government agency responsible for implementing Decree No. 1039 that established the Protocol for the Process of Consultation and Free, Prior and Informed Consent with indigenous Peoples living in Paraguay. INDI's mission includes establishing and applying policies and programs and articulating public and private efforts focused on guaranteeing the faithful fulfillment of indigenous rights.

<sup>35</sup> Effective engagement was corroborated by interviews with stakeholders during the ESSD process. Stakeholders have different levels of knowledge about the Project. Most of them demonstrated expectation on work opportunities and mentioned various forms of receiving Project information (directly from Paracel staff, social media, and others means).

meeting with indigenous leaders who are provided with information about grievances received from their communities and the way they were handled. The procedure also calls for the maintenance of a specific registry of communication with indigenous communities.

#### 4.1.j Ongoing Reporting to Affected Communities

The Project's ESMS includes a Dissemination and Communication Program that contains: i) a strategy for monitoring and communicating with indigenous communities; ii) guidelines for preparation and posting of signs in work areas; and iii) pertinent information to be disclosed to the population on the Project's different stages, including those related to environmental, social, and health and safety issues. The latter includes the following actions: i) prepare a Communication Plan; ii) elaborate informative audiovisual materials; iii) develop digital strategies (social networks); iv) implement communication panels for the population; v) develop a media plan (local press media); vi) prepare sustainability reports based on the Global Reporting Initiative methodology; and vii) conduct annual meetings to disseminate sustainability reports.

The Project's ESMS also includes the Communication Plan that describes use of the following external media to reach out to the public: i) corporate website and social media (Facebook, Twitter, YouTube, LinkedIn, and Instagram); ii) emails and telephone; iii) videos, graphics, and flyers; iv) publications and printed material (brochures); v) reports; vi) presentations; vii) events, congresses, workshops, forums, celebrations, and meetings; viii) posters and signage; and ix) corporate portal. The plan includes specific procedures for sharing information on social media and on public relations (press media and events), as well as an action plan with the following components: i) billboards for the public; ii) sustainability reporting; iii) supplier events; iv) forestry component communication materials and events; v) socialization of the community grievance mechanism; vi) disclosure of the Code of Ethics; vii) reports on hiring; viii) attracting talent; ix) road safety; x) support for Ministry of Public Health and Social Welfare campaigns; xi) blood donation; xii) sexual and reproductive health campaigns; xiii) sexual violence and abuse; xiv) nutrition; xv) forest fires; xvi) cultural heritage; xvii) Parcel policies; xviii) communication with indigenous peoples; xix) internal communications; xx) occupational health and safety; xxi) collaborator welfare campaigns; xxii) merchandising; xxiii) induction of new collaborators; xxiv) information on Project stages and relevant data; xxv) corporate website; xxvi) institutional material; and xxvii) media training.

To help build and sustain a long-term social license to operate, Paracel will develop a participatory water quality monitoring program (or roundtable) with water users downstream from Paracel's effluent discharge point, to be included in a revised SEP.

## 4.2 Labor and Working Conditions

### 4.2.a Working Conditions and Management of Worker Relationships

The Project's Industrial Component will directly employ approximately 8,000 people during the peak of construction, and an estimated 1,200 people during operations. The Forestry Component will employ up to an estimated 3,000 people involved in the various silvicultural and harvesting activities, mostly contractor workers. Paracel's forestry contractors rely on outsourced nursery providers for the supply of eucalyptus plantlets. Although nursery workers are not under Paracel's

direct-control supply chain, the Company will require its key forestry contractors to develop a procedure by which they can verify compliance by nursery suppliers with the Project's working condition requirements.

#### 4.2.a.i Human Resources Policies and Procedures

Paracel's corporate Human Resources (Human Talent, or "HT") Department has adopted a Human Talent Policy, which states the Company's commitment to perform its activities respecting human rights and consolidating a culture based on corporate values and fair and impartial relations, in line with Paracel's Sustainability Policy. Paracel's HT department is currently developing specific human resources policies and procedures for the Project construction and operation phases. Other HT policies already developed include: i) Recruitment and Selection Policy; ii) Equal Opportunities and Non-Discrimination Policy; and iii) Corporate Travel Policy.

Paracel's Manual for Shared Services and People Management Procedures describes the responsibilities and general obligations of all providers of goods and services for the construction of the industrial mill site and ancillary facilities. The manual includes explicit references to: i) Paracel's HT policies (e.g., Code of Conduct and Ethics); ii) PS2; and iii) national workplace regulatory standards and legislation. The manual also includes general terms and conditions of employment and requirements, including: i) contractor management and administration of human capital; ii) worker infrastructure accommodation and health care provisions; iii) preventive measures aimed at eliminating and mitigating possible labor liabilities; iv) prohibition of "double outsourcing"; v) full respect for the dispositions of collective bargaining agreements, as applicable; vi) managing demobilization and returning workers to their place of origin; and vii) financial penalties, based on findings of audits and inspections, for poor contractor performance.

#### 4.2.a.ii Working Conditions and Terms of Employment

After completion of a probational period, all Paracel employees will be granted indefinite contracts and will receive an induction training that includes the Company's Code of Conduct and Ethics, health and safety rules, benefits, deductions, time recording, and wage and overtime pay. Contractor personnel or workers assigned to the Project will have either fixed term or indefinite contract beyond the probation period and will also receive induction training on Paracel's Code of Conduct and Ethics, grievance mechanism, and health and safety rules.

#### 4.2.a.iii Workers' Organizations

Paracel's Human Talent Policy has an explicit provision respecting worker rights for collective bargaining and freedom of association. Paracel has not yet established collective bargaining agreements with the local labor unions for construction or operations.

#### 4.2.a.iv Non-discrimination and Equal Opportunity

Paracel has adopted an Equal Opportunity and Non-Discrimination Policy that states the Company's commitment to promote, guarantee, and respect equal rights, opportunities, and inclusive participation and integration of all its workers, including gender equity, inclusion, and non-discrimination. Paracel has also developed a Recruitment and Selection Policy that enshrines non-discrimination principles in the recruitment and retention of personnel based on race, religion, age, nationality, ethnic or social origin, sexual orientation, gender, marital status, pregnancy, disability, or political affiliation.

Paracel will update (and communicate to its personnel, contractors, and supplier) its HT policies and procedures to address GBVH in the workplace, and its employee and contractor Grievance Mechanism to capture and address gender violence and harassment issues in the workplace. The latter update will include safeguards to ensure confidentiality for those who report GBVH (survivors and witnesses), means to involve the survivor in decision-making about responses, and consequences for perpetrators of GBVH in the workplace.

#### 4.2.a.v Retrenchment

Paracel has a Job Reduction Management Plan to manage the reduction of the workforce at the end of the construction phase, including direct and third-party workers. The plan ensures that all workers will receive notice of dismissal and severance payments mandated by law and collective agreements in a timely manner. It also includes details on responsibilities, planning the retrenchment phase, steps to engage with workers, legal requirements, selection criteria, steps for appeals and complaints, indemnification payment details, and other sections. Paracel will ensure that the plan is disclosed to workers and contractors throughout the life of the Project.

#### 4.2.a.vi Grievance Mechanism

Paracel has a corporate confidential channel to report grievances related to breaches to of its Code of Conduct and Ethics, which also includes breaches to the Company's HT policies. It also has a procedure for grievances (Procedure for Complaints, Suggestions, and Inquiries) that is accessible to employees, contractors, and suppliers for all its components: forestry, industrial, and logistics.

During the Project construction, the grievance mechanism for contractors will be centralized by a third-party ("Central Services") in charge of workforce management. Paracel will regularly audit the Central Services grievance mechanism to ensure that the process is understood by workers, it allows anonymous complaints, and that all complaints from direct or contracted workers are adequately registered, analyzed, and addressed.

#### 4.2.b Protecting the Workforce

Paracel's wood planting and harvesting operations will be mostly carried out by contractors. Since violations of worker rights regulations related to living conditions of sub-contracted workers have been previously recorded in the region (including Brazil), Paracel will develop and implement a Contractor Management and Assurance Plan that will establish the Company's requirements for

protecting its outsourced forestry workforce, aligned with the comprehensive provisions contained in its “Manual for Shared Services and People Management Procedures.”

#### 4.2.c Child and Forced Labor

Paracel’s HT Policy explicitly prohibits the use of child and forced labor, which will also be adopted by the Company’s contractors. The ESDD did not detect any cases of potential child or forced labor. Nevertheless, baseline findings revealed that: i) many of the indigenous people who are working in ranches close to the Project site are informally employed, oftentimes receiving lower payments than the daily wage stipulated by law; ii) on many occasions, they are not provided with safety clothing and tools; and iii) they do not have medical insurance that allows them to face the costs of an accident or occupational disease.

#### 4.2.d Occupational Health and Safety

Paracel has developed comprehensive HSE Management Guidelines (“Handbook”) to standardize the basic procedures to promote a safe work environment and prevent work related incidents and accidents. The Handbook, a mandatory contractual requirement for Paracel’s personnel, contractors, and suppliers, focuses on accident prevention and on compliance with the Company’s standards, procedures, and principles, as well as with Paraguay’s legislation. Paracel has also developed an Occupational Health and Safety Manual specific to the Forestry Component.

As is common in other wood pulp greenfield projects in the region, Paracel will retain an EHS management company to provide support in the supervision and reporting of contractor EHS performance.

#### 4.2.e Provisions for people with disabilities

Paracel’s Human Talent Policy states that the Company does not discriminate against people with disabilities and that it works to ensure that both men and women with disabilities are “granted dignity, autonomy and full participation in society.” Paracel’s Equal Opportunity and Non-Discrimination Policy also states that the Company does not discriminate against people with disabilities and that it is committed to adequately adapt the physical environment as well as tools and resources to guarantee the health and safety of people with disabilities, as well as to facilitate the integration, participation, and involvement of these people.

The Project’s ESMS includes a Program for Development and Linkage with the Local Workforce that indicates that the Project will develop actions and promote spaces for the recruitment, selection, and hiring of people who are part of vulnerable groups, including people with disabilities.

#### 4.2.f Workers Engaged by Third Parties

The Project expects to maintain an average of 6,500 contracted workers with an estimated peak of 8,000. The Central Services management support will review worker documentation (e.g., contract, affiliation to social security, professional affiliations, tests), deliver the induction training before the worker is released to access the Project site, and verify the correct time recording and payment of

wages and benefits by contractors. It will also inspect the way basic services (catering, accommodation, waste collection, transportation, and medical) are provided.

Parcel does not allow a contractor to outsource or subcontract its entire contract. All subcontracting needs to be approved by Parcel.

To ensure, support, and monitor the hiring of labor, Parcel has prepared a Workforce Development and Linkage Plan and a set of supporting procedures that include: i) a local recruitment strategy and procedure to limit Project-induced immigration; ii) a worker accommodation plan<sup>36</sup>; and iii) a demobilization plan to mitigate negative impacts on workers and receiving communities.

#### 4.2.g Supply Chain

Parcel has developed a 'Program to Sensitize and Follow up on Compliance with Regulations by Workers and Contractors', which will be complemented by a specific procedure to verify that its suppliers are compliant with local labor legislation.

### 4.3 Resource Efficiency and Pollution Prevention

#### 4.3.a Resource Efficiency

The design of the mill complies with BAT and resource use limits identified in the WBG EHS Guidelines for Pulp and Paper. During stable operations, the mill will require 120 MW of power, corresponding to an electrical energy consumption of approximately 702 kWh/ADt (kilowatt-hour per air dried ton) of pulp, which is in the required range guidelines for kraft bleached pulp.<sup>37</sup> All the electricity and steam required will be generated on site from the biomass and recovery boilers. The excess electricity generated in the recovery and biomass boilers is estimated at 852,000 MWh per year and will be available for export. Considering the Paraguayan grid emissions factor (0.043 kg CO<sub>2</sub>/kWh), this would represent 36,640 tons of CO<sub>2</sub> avoided emissions per annum.

##### 4.3.a.i Greenhouse Gases

According to the Mill ESIA, during the 28-month construction period, the main emission sources will come from fossil fuel electricity generators that will produce 214,286 tCO<sub>2</sub>eq/yr.

During mill operations, the main source of GHG emissions is the consumption of fossil fuel in the lime kilns and the lime recovery process.<sup>38</sup> The Project's carbon footprint analysis indicates a net removal (i.e., carbon stock), during the first six years of new plantation growth, of approximately

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<sup>36</sup> Parcel has prepared a request for proposal (RfP) for the provision of workers' accommodation services, which includes the requirements under the Brazilian Ministry of Labor NR-18 Regulatory Standard on Working Conditions and the Environment in the Construction Industry, and the European Bank for Reconstruction and Development – IFC Guidance Note on Workers' Accommodation.

<sup>37</sup> WBG Environmental, Health, and Safety Guidelines - Pulp and Paper Mills). <https://www.ifc.org/wps/wcm/connect/2310ee34-7432-4546-8898-03372c9b51e2/Final%2B-%2BPulp%2Band%2BPaper%2BMills.pdf?MOD=AJPERES&CVID=jkD2FLw>.

<sup>38</sup> Use of fossil fuel (tall oil, bunker or diesel) will only be necessary for start-up(s), to achieve the required temperature. Parcel has decided to install a renewable energy alternative (i.e. biomass gasification) to replace the use of heavy oil in the limekiln during normal operations. The GHG footprint is therefore expected to decrease significantly.

56.58 MtCO<sub>2</sub>eq from eucalyptus forests after the stabilization of the operations. After that period, its fossil emissions (limekiln fuel combustion and transportation emissions) will continue to occur, and the plantations and preservation areas of native forest and grassland combined removals will not be sufficient to compensate for the fossil fuel combustion emissions. The combined direct emissions during operations will be approximately 400,406 tCO<sub>2</sub>eq/yr<sup>39</sup> (of which 114.830 tCO<sub>2</sub>eq/yr relate to forestry: synthetic fertilizer application, silviculture, harvesting, debarking, forwarding, and transport activities). Parcel will therefore be a yearly net emitter of GHG emissions but will have a stable carbon stock generated by plantation and natural vegetation community growth. Parcel will undertake a full annual inventory of emissions.

#### 4.3.a.ii Water Consumption

The total production capacity of treated water for the mill is up to 7,000 m<sup>3</sup>/h, which is within the consumption guidelines of the WBG EHS Guidelines for Pulp and Paper Mills. This flow represents less than 0.2 % of the most restrictive flow of the Paraguay River under severe drought conditions and less than 0.1 % of its mean annual flow. About 85% of the water needed for the mill will return to the river once treated.

Eucalyptus plantations are not irrigated. New plantlets receive about 1 liter (“l”) of water together with fertilizer at the time of planting. If needed and for a few days, limited manual irrigation of about 2 l/plant/day is made to newly planted saplings during the driest (drought) conditions.

#### 4.3.b Pollution Prevention

Surface water quality sampling for the mill site and plantations was conducted in the rainy and dry seasons. Quantitative water quality baseline data for the Paraguay River at the pulp mill site has been established for a total of 59 parameters (5 in situ, 22 physicochemical, 1 bacteriological, 16 metals, and 15 pesticides, including glyphosate) in sampling campaigns at two points: one upstream of Parcel’s effluent discharge point and another downstream from the water intake. For the Forestry Component, quantitative information on surface water quality was collected in the departments of Concepción and Amambay for 26 physicochemical, bacteriological, metal, and pesticide parameters in streams and rivers running through the area of influence of the plantations. Monitoring points for forestry areas were also selected to correspond to sites of interest where land-use changes are likely to occur in the short term, mainly the transformation of pasture for livestock to eucalyptus plantations.

For the mill site, overall results comply with the limits established by SEAM Resolution No. 222/2002, with the exception of: i) total aluminum (Al); ii) total phosphorus (P); and iii) total nitrogen (N). According to the Mill ESIA, exceedances in aluminum are probably related to the predominant soil type, and phosphorus and nitrogen are correlated with the existence of significant agricultural activities and the use of fertilizers.

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<sup>39</sup> Does not include the soil organic Carbon, a portion of it will be permanently sequestered as soil carbon and estimated at approximately 0.15 Mt CO<sub>2</sub>/year.

The surface water quality baseline for plantations indicates that, of the 20 parameters with defined limits in the national legislation, 11 (55%) are compliant while 9 (45%) present some deviations (either below the minimum or above the maximum limits) for at least one monitoring point. According to the Plantations ESIA, exceedances are correlated with diffuse pollution sources, including agricultural runoff and cattle ranching. The groundwater quality baseline includes 23 physicochemical and bacteriological parameters for the Project's area of influence. For the latter, deviations were noticed in the pH, nitrates, total phosphorus, and total and fecal coliforms.<sup>40</sup>

Parcel will monitor surface and ground water quality both at the mill site and plantations during operations.

Parcel's pulp mill will be designed and operated in accordance with the most advanced standards in industries of this type.<sup>41</sup> High technology equipment has been incorporated into the manufacturing design process to optimize production and reduce emissions to the environment. In terms of effluents, the mill will use element chlorine-free ("ECF") bleaching, avoiding the formation of Adsorbable Organic Halides ("AOX"). In addition, the mill will not use metal chelating agents (i.e., ethylenediaminetetraacetic<sup>42</sup> acid, or "EDTA") in the bleaching process. In terms of atmospheric emissions, the mill will adopt technologies for controlling emissions of air pollutants, including: i) recovery boiler and lime kilns equipped with high efficiency electrostatic precipitators to remove particulate material from flue gases; and ii) use of low nitrous oxide ("NO<sub>x</sub>") emissions technology, including a multilevel air system, dry solids content above 80% in black liquor, control of O<sub>2</sub> content and concentration of CO during combustion, control of nitrogen content in black liquor, use of low NO<sub>x</sub> burners, and control of excess air.

#### 4.3.b.i Wastes

The operation of the pulp mill will generate both industrial and non-industrial solid wastes. Industrial solid waste will come from the wood handling, causticizing, boiler, and water and effluent treatment plant areas<sup>43</sup>, with an expected volume of 340,000 m<sup>3</sup> of non-hazardous wastes per annum. Solid waste management will prioritize the destination of waste for recycling, incineration, and soil correction production, minimizing waste disposal in landfills. However, the Mill ESIA indicates that some of these wastes may go to an industrial landfill as an alternate destination.

Currently, the waste management plan is included in the PGA. However, the document is general and does not yet include the the necessary level of detail needed for its effective implementation.

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<sup>40</sup> Sampling was done on 14 existing artesian wells distributed in the plantations' properties, and six tubular wells built specifically for groundwater sampling at the mill site.

<sup>41</sup> Including : i) the use dry eucalyptus bark separation instead of wet, to reduce the contaminating load of effluents from this stage; ii) the adoption of a continuous digester for cooking (instead of batch digesters), reducing the generation of condensable gases, organic load in the effluent, and emission of sulfur into the atmosphere; iii) the use of a delignification unit (first bleaching phase), which will substantially reduce the organic load and color generated in the effluent; iv) the installation of collecting and burning concentrated and diluted non-condensable gases systems; v) the purification of the contaminated condensate through the installation of a gas-liquid separation column, recovering the condensate and thus reducing the contaminating load of the liquid effluent; and vi) the installation of waste recovery and control systems in the production process.

<sup>42</sup> EDTA has been found to increase the availability of metals and the risk of eutrophication of water bodies receiving the effluents from pulp mills.

<sup>43</sup> Including wood waste, dregs, grits, lime mud, ashes, primary sludge, biological sludge (organic), and tertiary sludge.

Parcel will therefore prepare a Waste Management Plan and Database to ensure that waste is treated and disposed in an environmentally safe manner and to guarantee its traceability.

#### 4.3.b.ii Hazardous Materials Management

Parcel has prepared an Agrochemicals Management Program as part of the forestry ESMPs. The Company will consume about 133,550 tons/year of hazardous materials<sup>44</sup> to produce up to 1,800,000 AdT/year of pulp. Oxygen and ozone will be produced on site. Liquid chemical transportation will be carried out in bulk through barges and tank trucks. To prevent and adequately respond to emergencies associated with the transportation of hazardous materials, Parcel will prepare a Transportation Safety Management Plan.

Storage of hazardous materials (agrochemicals) by the key forestry contractor (Forestadora del Este at the San Liberato *estancia*), is in line with GIIP<sup>45</sup>. The other main sources of hazardous waste are used oils and oil-contaminated wastes from equipment maintenance. These are temporarily stored in adequate areas with secondary containment and treated and disposed by authorized companies.

#### 4.3.b.iii Pesticide Use and Management

Leaf-cutting ants (*Atta spp.* and *Acromyrmex spp.*) and, to a lesser degree, termites (*Isoptera sp.*) directly affect eucalyptus cultivation and, therefore, require systematic control.<sup>46</sup> The latter is done mainly in the dry season, using granulated baits based on sulfluramid<sup>47</sup> or fipronil<sup>48</sup>. Both compounds are listed as moderately hazardous (Class II) by the World Health Organization (“WHO”)<sup>49</sup>. According to the FSC classification of chemical pesticides, these are considered as “restricted” (as opposed to “prohibited” or “highly restricted”) highly hazardous pesticides<sup>50</sup>. The Plantations ESIA indicates that Formirex® (which has a concentration of 0.01% of fipronil and its localized application does not require special application equipment) will be applied directly to individual ant or termite nests and mounds that have been located at the plantations prior to planting seedlings, leaving a 100-m buffer around any human settlement or water course.

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<sup>44</sup> Caustic soda (sodium hydroxide), sodium bisulfate, sulfuric acid, hydrogen peroxide, sodium chlorate, magnesium sulfate, aluminum sulphate, talc, lime, urea, phosphoric acid, sodium hypochlorite, defoamer, and polyelectrolyte.

<sup>45</sup> The storage facility is fully enclosed, locked, clean, well-organized, signed, and ventilated. Protective clothing, material safety data sheets (“MSDS”), and emergency kits are available on site. Empty agrochemical containers are triple rinsed, locked up in the storage facility and disposed by an authorized company. The rinse-water is reused for new applications.

<sup>46</sup> Several mechanical, biological, and chemical methods, including different formulations, are currently being studied for controlling leaf-cutting ants.

<sup>47</sup> Sulfluramid is manufactured using a perfluorooctyl sulfonyl fluoride (PFOS) derivative, a persistent organic pollutant included in the Stockholm Convention under its Annex B (i.e. listed for restriction). According to the Stockholm Convention on POPs, limited information provided on associated worker exposure to PFOS from the manufacture of sulfluramid baits indicates low health risk exposure to the workers.

<sup>48</sup> Fipronil is an active neonicotinoid pesticide banned by the European Union (EU) for use on arable crops that attract bees, as it is potentially lethal to bees.

<sup>49</sup> [https://apps.who.int/iris/bitstream/handle/10665/44271/9789241547963\\_eng.pdf?sequence=1&isAllowed=y](https://apps.who.int/iris/bitstream/handle/10665/44271/9789241547963_eng.pdf?sequence=1&isAllowed=y).

<sup>50</sup> <https://fsc.org/en/document-centre/documents/retrieve/7e9195d8-c6f7-4a2c-8495-a5464e693a0f?mode=view#viewer.action=download>

Although Paracel will be using Formirex<sup>®</sup>, it will not plant any arable crops and, therefore, no threat to the bee population will be induced. Paracel will include a risk and alternative analysis in its Integrated Pest Management Plan.

Paracel will also use selective herbicides for control of broadleaf and grass weeds for pre-emergence (isoxaflutole: 0.2 l/ha, applied three times for the first year) and post-emergence (glyphosate: between 1.5-2.7 l/ha once also during the first year). Both are listed as restricted agrochemicals by the FSC.

Paracel will not use any agrochemicals that are prohibited, listed for elimination, or otherwise considered as highly or extremely hazardous and, therefore, will update its set of forestry management procedures to include an Integrated Pest Management Plan to complement its Agrochemicals Management Program. Paracel will periodically report the use of fipronil, sulfluramid, isoxaflutole, and glyphosate and will monitor trends in the use of these pesticides.

#### 4.3.b.iv Liquid Effluents and Wastewater

The sources of liquid effluent generation include: i) wood preparation; ii) cooking and brown pulp deperation; iii) alkaline and acid filtrates; iv) drying machine; v) evaporation and recovery; vi) causticizing and lime kiln area; vii) contaminated condensates; viii) sanitary effluents; ix) contaminated rainwater; and x) miscellaneous (e.g., spills, leaks, cleaning of various areas).

Process effluents will be dealt with in a wastewater treatment plant (“WWTP”) that has a design flow of 5,700 m<sup>3</sup>/h. The design also includes emergency and stormwater basins (lagoons) to redirect effluents with characteristics that are out of specification.

Effluents from the WWTP will be released into the Paraguay River, about 21 km upstream from the city of Concepción. The effluent discharge system includes three underwater emissaries with multipoint pens (three diffusers each) and vertical risers with nozzles for underwater launching and dispersal in river waters. At the end of each riser there will be a 90° turn to horizontal and a special duckbill type check valve will be installed at the tip, allowing the discharge of effluent jets optimally, as well as to prevent sand and foreign bodies from entering the system.

While the plant is already designed to comply with national effluent standards and WBG EHS Guidelines for Pulp and Paper (Table 1a for Kraft Bleached Pulp), as a precautionary measure Paracel will install and operate a wastewater tertiary treatment plant to further reduce the organic load (e.g., chemical oxygen demand, or “COD”) and nutrients (e.g., phosphorus, nitrogen) of its effluents, thereby further minimizing risk of impacts to the riverine ecosystem.

Paracel has conducted effluent dispersion as well as depuration modelling using the CORMIX<sup>51</sup> and WASP<sup>52</sup> models, respectively, to assess the impact of the effluents on the Paraguay River. CORMIX treated effluent parameters used to model the mixing zone were: i) biological oxygen demand (“BOD”); ii) color, iii) flow, iv) total nitrogen; v) total phosphorus; vi) AOX; and vii) effluent temperature. The model considered ten different scenarios for effluents dispersion, varying the river flow and the variables studied (BOD, color, total nitrogen, total phosphorus, and AOX). The model showed full dispersion of effluents occurs within a very short distance from the release point, bringing the parameters studied into compliance with the water quality standards established by SEAM (Resolution 222/2002) within less than a meter for all parameters. Total dispersion occurs within 50 m of the nearfield.

The WASP simulation assessed the influence of the pollutant load by the pulp mill on the self-depuration capacity of the Paraguay River between the pulp mill outflow, Concepción, and Asunción. The model used the following data: i) flows; ii) consumptive demands; iii) water quality; iv) climate (air temperature, evaporation, relative humidity, and solar radiation); v) hydraulic coefficients; vi) effluent biochemical parameters (flow, pH, temperature, BOD, COD, suspended solids, color, total phosphorus, total nitrogen, ammonia, and AOX); and vii) river morphology. The longitudinal profiles for the effluent parameters modeled considered historical maximum, minimum, and critical flows. WASP results show no significant impact for all water quality parameters evaluated, as the high flows of the Paraguay River guarantee a satisfactory dilution capacity of the pollutants. High dissolved oxygen concentrations along the Paraguay River will therefore maintain aquatic life and the ammonia, nitrate, and total phosphorus concentrations do not have potential to change the trophic state of the watercourse.

During mill operations, MADES will access in real time Paracel’s online wastewater treatment plant continuous monitoring system. The Company will also share the results of its water quality and effluent monitoring program with downstream stakeholders.

#### 4.3.b.v Air Quality and Atmospheric Emissions

The Project’s main sources of air emissions are the recovery boiler, the biomass boiler, and the lime kilns. According to the Mill ESIA, predicted performance levels for air emissions are expected to comply with WBG EHS Guideline values for kraft pulp, as well as with WBG EHS Guidelines for Thermal Power Plants and for Cement and Lime Manufacturing. Both diluted non-condensable gases (“DNCG”) and concentrated non-condensable gases (“CNCG”) will be burned in the recovery boiler for control of malodorous gases.

Ambient air quality has been monitored at three points in the mill’s area of indirect influence for two seven-consecutive-day campaigns of 24 hours for: i) Total Suspended Particles (“PTS”); ii) Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>); Nitrogen Dioxide (NO<sub>2</sub>); iii) Sulfur Dioxide (SO<sub>2</sub>); iv) Ozone (O<sub>3</sub>);

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<sup>51</sup> The Cornell Mixing Zone Expert System (“CORMIX”) is a US Environmental Protection Agency (US EPA) supported mixing zone software model and decision support system for environmental impact assessment of regulatory mixing zones resulting from continuous point source discharges.

<sup>52</sup> The Water Quality Analysis Simulation Program – WASP, developed by the US EPA, is one of the most used water quality models worldwide due to its capacity to integrate various types of pollutants, for a variety of water quality parameters in 1, 2 and 3 dimensions for both lentic and lotic environments.

and v) Hydrogen Sulfide (H<sub>2</sub>S). Air quality was also measured during approximately one hour for the Reduced Total Sulfur (“TRS”) and Carbon Monoxide (CO), and for 20 minutes for Volatile Organic Compounds (VOCs)<sup>53</sup>. Levels of CO, O<sub>3</sub>, and TRS were not detected for either the dry or rainy season. While there are no established limits for VOCs, results obtained in the 21 samples are significantly below those established by the American Conference of Governmental Industrial Hygienists (“ACGIH”) for a daily average value expressed as exposure to Toluene (20 ppm).

Results for PM<sub>10</sub> and PM<sub>2.5</sub> conform to IFC/WHO interim target 1 limits for 24 hours. Samples for point 01 located in the city of Concepción (Departmental Commission on Animal Health) and point 02 (Loreto municipality), however, presented PM<sub>2.5</sub> concentrations above the SEAM 24h, presumably due to the presence of unpaved roads and emissions of diesel fuel propelled vehicles. While TRS was not detected, levels of H<sub>2</sub>S were found in five out of seven campaigns during the dry season at point 03 (police outpost station at Colonia Roberto Petit).<sup>54</sup> Results of the multi-parameter baseline campaigns for the mill therefore show all ambient air parameters to be below the thresholds in the WHO Ambient Air Quality Guidelines in the WBG General EHS Guidelines.

As part of the environmental licensing process, Paracel prepared an air dispersion model for the lime kilns, recovery boiler, and biomass boiler, using the AERMOD<sup>55</sup> modelling system for the Project’s ADI for CO, NO<sub>2</sub>, PM<sub>10</sub>, and SO<sub>2</sub> (PM<sub>2.5</sub> was not modeled) at 15 points that include some sparsely populated rural settlements, critical receptors (such as schools in Piquete Cue, Callejon San Ramon, and Laguna Plato), the town of Loreto, and the city of Concepción. While the model did not include ambient air quality baseline data, results showed that the Project is not expected to significantly impact ambient air quality at sensitive receptors, since its emissions of NO<sub>2</sub>, PM<sub>10</sub>, and SO<sub>2</sub> contribute less than 4%, 1%, and 17%, respectively, of the most stringent guideline values between the national air quality standards (SEAM 259/2015) and WBG General EHS Guidelines at sensitive receptors. Also, the maximum TRS concentration values are well below the WHO’s (2003) odor perception limit.

Air emissions during construction are typically associated to dust generated from earth moving activities and fumes from heavy equipment. Management of these conditions are contemplated in the mill’s PGA. Road dust in the construction site will be controlled through water tanks and roads will be paved before releasing the site to contractors for equipment installation. The condition of equipment (including emission of fumes) is verified by Paracel before being released to be used in the construction site.

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<sup>53</sup> One campaign was done during the dry season (September-October) and the other during the rainy season (February-March). The three sampling points were as follows: i) city of Concepción (SENACSA / Departmental Commission on Animal Health); ii) center of town of Loreto; iii) National Police Outpost Station n.18 Col. Roberto L. Petit. These points are relatively far (i.e.15-20Km) from the mill site, have specific local conditions and may therefore not be fully representative of current ambient air quality at the future site of the mill.

<sup>54</sup> H<sub>2</sub>S may originate from anaerobic decomposition of organic matter. The air quality report indicates that there were potential sources of emissions of hydrogen sulfide in the vicinity of the air sampler (four lagoons/ponds) that could influence the results because of the sensitivity of the detection method in terms of results obtained in micrograms per cubic meter of collected air.

<sup>55</sup> AERMOD is an atmospheric dispersion modeling system developed by the AERMIC (American Meteorological Society (AMS) and the US Environmental Protection Agency (EPA).

Paracel will continue to monitor ambient air quality in the mill's DAA and enhance the baseline by including two additional sampling points in the human settlements closest to the mill (e.g., Piquete Cue, Laguna Plato, and/or Callejón San Ramón).

#### 4.3.b.vi Noise

The Mill ESIA includes an initial acoustic baseline study based on data collected at five points in and near the mill site. The study indicates a predominance of low noise levels both during the day (30-50 dBA) and night (35-50 dBA). However, since the Mill ESIA did not use international methodology prescribed by the WBG General EHS Guidelines, Paracel will address these gaps through: i) an updated noise baseline in line with GIIP; ii) a revised noise propagation model including stationary and mobile sources (i.e., truck traffic) at the Project fence and at sensitive receptors; and iii) mitigation measures, if required. The noise baseline will include: i) the characterization of background noise levels at potential sensitive receptors; ii) statistically significant measurement times; and iii) measurements at sufficient distances from reflective surfaces.

### 4.4 Community Health, Safety and Security

#### 4.4.a Community Health and Safety

A key risk to the local communities is the potential social impacts from worker influx during the Project construction and, to a lesser extent, during its operational phase. The presence of outsiders and foreign workers typically increases risks due to a lack of understanding of local cultural norms. Also, the influx of a large, male-dominated workforce is likely to increase the risks of GBVH in the Project's area of influence. To mitigate these potential impacts, Paracel has updated its Code of Conduct and Ethics for managers and workers engaged in construction, to: i) clearly state zero tolerance for GBVH; ii) define the expected behavior in the construction site and Project area of influence; iii) prohibit sexual harassment in the workplace; iv) forbid all types of sexual exploitation or abuse in local communities; v) establish rules of interaction with local communities; and vi) adopt training and conduct communication campaigns inside the workplace and within communities at risk.

Paracel has adopted several management programs to prevent undesired impacts on the community. These include: i) Community Health and Safety Management Program; ii) Road Safety Program (which prescribes the development of a Corporate Road Safety Policy); iii) Hazardous Materials Management Program (for mill operations); iv) Hazardous Materials Management Program (for plantations); and v) Worker Influx Management Program.

Paracel will develop a Community Health and Safety Management Plan and a Transportation Management Plan (covering both fluvial as well as land traffic).

#### 4.4.a.i Infrastructure and Equipment Design and Safety

Both the Mill and Plantations ESIA's identify pressure on local infrastructure from the influx of Project workers as an impact to community health and safety. In addition, the Plantations ESIA identifies an increase in vector borne and communicable diseases from an accumulation of standing water as a

potential impact to community health and safety. These impacts will be mitigated by measures included in the Community Health and Safety Program, which is composed of the following components: i) establishment of specific alliances with local and national health institutions to contribute to the management and monitoring of information; ii) promotion of well-being and a healthy life with emphasis on vulnerable groups (children, women, and indigenous communities); iii) support access to essential health care services (investment in health); and iv) investment in security. Each component has associated actions and KPIs.

Since traffic accidents involving Project water and terrestrial vehicles represents a significant risk to community health and safety, Paracel will develop a Transportation Safety Management Plan that will incorporate a Project's Fluvial Transportation Management Program and supplementary considerations for road vehicular transportation and additional road safety contingency measures.

#### 4.4.a.ii Hazardous Materials Management and Safety

The Project's ESMS includes a Forestry Hazardous Materials Management Program that contains procedures for: i) storage and handling of hazardous materials; ii) fuel storage and supply infrastructure; iii) handling and transportation of hazardous materials; iv) management of fuels and oils on plantations; v) prevention of explosions, fires, leaks, and spills; and vi) inspection and maintenance. The program also includes procedures for monitoring compliance. It also contains measures to mitigate the risk on community health and safety, which include: i) prohibition of smoking in vehicles that transport flammable substances; ii) inspection of vehicles that transport flammable or explosive loads; iii) prohibition of transporting flammable and explosive substances together; and iv) non-drip hose connections for tank vehicles.

The Project's ESMS also includes an Industrial Hazardous Materials Management Program that includes requirements for infrastructure for the storage of hazardous materials, structures for containment and control, fuel storage and supply facilities, and security equipment, as well as procedures for their inspection and maintenance. It also has provisions for hazardous materials transportation.

The River Transport Management Program includes procedures for the use of antifouling paints, solvents, and lubricants and measures to prevent accidental leaks of fuel and cargo as a result of accidents during navigation or transfer of materials at sea, on a river, or at port. The program also includes measures to prevent spillage of oil and hazardous materials during the discharge of ballast water in compliance with international rules and guidelines. It also states that all hazardous materials cargo must be properly labeled and comply with stowage and transport limits.

The pulp production process will require the transportation of large quantities of hazardous materials (sodium hydroxide, sodium sulfate, sulfuric acid, hydrogen peroxide, magnesium sulfate), bulk fuel, wood, and finished product (fiber pulp). Paracel's initial few years of operations will require wood supply from Brazil (4 million m<sup>3</sup>/year), Argentina (1.2 million m<sup>3</sup>/year), and Paraguay (0.6 million m<sup>3</sup>/year). Wood from Brazil will use two transportation modes: i) by truck, entering Paraguay through the Brazilian municipality of Ponta Porã (30% of volume); and ii) by truck to the municipality of Porto Murinho, and from there through barges to the plant (70% of volume).

In periods of severe drought during which low levels of the Paraguay River are registered, Paracel may need to increase road haulage of inputs, equipment, hazardous materials, or finished products. In consultation with the community, the Company will therefore update its Transportation Safety Management Plan to include: i) the identification of vulnerable locations; ii) additional procedures for emergency response; iii) a linkage to Paracel's external grievance mechanism; and iv) procedures for the production and distribution to the population in risk of information on what to do in case of an emergency.

#### 4.4.a.iii Ecosystem Services

The Plantations ESIA includes a description of ecosystem services in the Forestry Component's ADI. The most important ecosystem service identified by the community is surface water<sup>56</sup>, which is used for recreation (bathing, beach use) and fishing (for sale and for self-consumption), especially on the Aquidabán River (e.g., in the towns of Paso Barreto, Paso Mbutu, and Islería).

Some communities in the Forestry Component's ADI also use karanday (*Copernicia alba*) fibers, a native palm tree, for artisan production of woven objects. The commercialization of these crafts is one of the main income-generating activity of the communities of Isla Hermosa, Domínguez Nigó, Anderí, Paso Mbutu, and Paso Barreto. However, eucalyptus plantations will not impact populations of karanday, as the latter normally grow in seasonably inundated areas that are not apt for eucalyptus.

Indigenous communities also benefit from ecosystems services (i.e., wood, fruits, honey, herbs, and vegetable fibers, which are used for food, medicine, construction, and as fuel for cooking or shelter on the coldest days). However, only the indigenous communities of Vy'a Renda, Takuarendyju, and Takuarita were found to hunt, fish, and collect resources from Paracel *estancias* and could therefore be affected by the Project, but not with significant or long-term negative impacts. Of these communities, Takuarita may be more affected than the others, as it will be surrounded by eucalyptus plantations in the future.

The Mill ESIA baseline identifies several water-related leisure activities taking place in the Paraguay River, including navigation, sports fishing, and recreation, but does not provide enough information. Paracel, using internationally accepted methodologies, will therefore: i) enhance the characterization of such ecosystem services; ii) identify opportunities to improve their availability, management, and conservation; iii) identify opportunities to work with IPs and non-indigenous communities to manage such services; and iv) implement measures to avoid and mitigate impacts to ecosystems services and restore degraded areas, decrease fragmentation, and enhance connectivity.

#### 4.4.a.iv Community Exposure to Disease

Community exposure to disease is considered moderate to low, given that: i) most of the workforce will come from the Project's area of influence; and ii) workers from outside the Project's area of

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<sup>56</sup> Most drinking water systems are supplied by groundwater. The majority of the communities that still do not have access to drinking water systems are supplied from by deep wells, springs, cutwaters, and streams.

influence will be lodged at fully equipped and furnished worker camps as well as in hotels and rented houses located in Concepción, Belén, Loreto, and Horqueta.

Nevertheless, to prevent any potential disease outbreak, the Project's Community Health and Safety Program foresees: i) the establishment of an agreement with the Ministry of Public Health and Social Welfare to achieve a close relationship with local Health Centers and Family Health Units; ii) the establishment of a mechanism to obtain reliable statistical data for the region; and iii) the continuous monitoring of community health data related to waterborne, vector borne, respiratory, and sexually transmitted diseases, as well as traffic accidents, drug addiction, alcoholism, violence, abuse, and work accidents.

Also, to promote well-being and a healthy life with an emphasis on vulnerable groups, the Project will implement the following actions: i) support the campaigns of the Ministry of Public Health and Social Welfare for COVID-19, dengue, and other diseases; ii) develop prevention campaigns for waterborne, vector borne, respiratory, sexually transmitted, and non-communicable diseases such as cardiovascular diseases and diabetes; iii) train the public on the proper management and disposal of solid and hazardous waste; iv) perform campaigns, trainings, and initiatives to increase voluntary blood donors; v) organize trainings and workshops on abuse of narcotics and alcohol, sexual and reproductive health, prevention of violence against women, sexual exploitation, and abuse of children and adolescents; vi) participate in national or local programs that provide food and other essential products to vulnerable groups with a special emphasis on infant nutrition; and vii) support indigenous communities on essential health care services, the establishment of local health infrastructure, the provision of equipment and medicines, and the establishment of health posts on Parcel properties.

#### 4.4.a.v Emergency Preparedness and Response

Parcel's Forestry Masterplan includes a section on fire management, focused on prevention and control, that includes the following prevention measures: i) implementation of fire breaks into forest planning activities, as a means to decrease combustible materials and prevent spread of fire; ii) monitoring of local climatic parameters (temperature, relative humidity, wind, and the occurrence of lightning) to detect any condition that can trigger a spontaneous fire; iii) installation of observational fire towers<sup>57</sup>; iv) establishment of communications system, as a guarantee for rapid activation of the entire firefighting team and almost-real-time action; and v) carrying out fire prevention communication and community outreach in the area of influence of the plantations. The plan also lists the necessary resources for firefighting capabilities, including recommended fire brigades, equipment (e.g., water tankers, pickup trucks, firefighting kits) and training and firefighting drills. The Company is currently undertaking a procurement process for the acquisition of fire detection equipment and associated infrastructure (i.e., towers, cameras, control center), as well as firefighting response equipment.

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<sup>57</sup> This include high resolution and zoom cameras that automatically detect, in a 360-degree angle, changes in the landscape, presence of vehicles and other risk factors (allowing data to be communicated in real time to a control room that can activate fire brigades immediately).

As an early fire detection tool, Paracel is using a geographic information system (“GIS”) that includes satellite data with near-real-time fire spots<sup>58</sup>, and relying on contractor’s fire brigades and equipment to combat fire incidents.<sup>59</sup> Paracel will prepare a specific Emergency Preparedness and Response Plan for the Project’s Forestry Component to include procedures for forest fire prevention and combat management.

#### 4.4.a.vi Project-induced Immigration

The Project will maintain an average of 6,500 workers during 24 months of site construction with an estimated peak of 8,000. At least half of these workers will not be local. Project-induced immigration due to job expectations and business opportunities is therefore likely to occur, especially in Concepción, Loreto, Belén, and Horqueta. Paracel has prepared an Influx Management Plan to assess, mitigate, and monitor impacts from Project-induced immigration on public services (i.e., medical facilities, schools, water, and sanitation) and public security. This plan will be enhanced by: i) adding an emphasis on small districts with low capacity to manage impacts, including those relating to GBVH and vulnerable groups; ii) identifying additional socioeconomic indicators to be monitored<sup>60</sup>; and iii) implementing a participatory monitoring committee, aimed at small municipalities, to monitor impacts and implement mitigation measures as needed.

The influx of a large male-dominated workforce is also likely to increase the risks of GBVH in the Project’s area of influence. Paracel will therefore develop a partnership with a specialized institution to provide GBVH prevention and awareness raising. This will include: i) a diagnosis phase that foresees consultation with target populations, including children, young women, and sex workers (close to transportation routes and areas where workers are concentrated), and a mapping of health services; and ii) an implementation phase that will include internal and external training programs and the definition of social indicators.

#### 4.4.b Security Personnel

Access to Paracel’s industrial site will be controlled by unarmed security officers. No armed custody will be used for the transportation of materials and finished products.

Paracel has a Corporate Security Management Manual that includes a security risks evaluation and includes procedures for the management of: i) private security; ii) video surveillance systems; iii) perimeter security; iv) intruder detection systems; v) access control security; vi) security lighting; vii) aerial surveillance systems; viii) road security; and ix) evaluation of security systems. It also has provisions for community participation and procedures to vet security personnel for past human rights abuses and improper use of force records.

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<sup>58</sup> NASA’s Fire Information for Resource Management System (“FIRMS”) tool) <https://earthdata.nasa.gov/earth-observation-data/near-real-time>.

<sup>59</sup> During the prolonged dry season of 2021, a large fire outbreak occurred that affected about 54,000 hectares of Paracel’s *estancias* (portions of Trementina, San Liberato, Gavillan and Zanja Moroti).

<sup>60</sup> Examples of indicators that could be monitored are inflationary trends, security incidents (assaults, drugs, and alcohol abuse), GBVH incidents, early-pregnancies, school dropouts, and prevalence of communicable diseases.

#### 4.5 Land Acquisition and Involuntary Resettlement

All land acquisition of the 20 *estancias* (one for the mill site and 19 for eucalyptus production) required by the Project has been carried out under willing-buyer and willing-seller agreements. No involuntary physical or economic displacement was produced by this procedure.

The design of the Project's associated linear infrastructure prevented the generation of impacts: the alignment of the transmission line (32.7 km) runs parallel to existing roads (thus minimizing the clearance of natural forests and tree crops) and avoids the presence of houses; and the construction of the access road (4.6 km) follows the alignment of an existing internal farm road.

Although the land easement process for the transmission line and the road does not foresee any economic or physical displacement, Parcel will prepare a Land Acquisition and Easement Report to confirm this situation. Should the report identify any physical or economical displacement generated by the land acquisition or easement process, compensation, resettlement, and livelihood restoration measures compliant with PS5 will be implemented.

#### 4.6 Biodiversity Conservation and Natural Habitats

##### 4.6.a General

The Project's footprint for biodiversity is the following: i) the polygons of the *estancias* plus a 10 km buffer around them for the ADI, and a 100 km buffer for the AI; and ii) a 5 km radius around the mill site and a 25 m area from the axis of linear infrastructure. Most of the Project's lands are found within the Cerrado ecoregion, a place recognized as a global diversity hotspot and a threatened ecosystem, even though more than 67% of it has been converted to agriculture areas, and only 1% if its extension is protected.<sup>61</sup>

The Mill ESIA assessed aquatic biodiversity (phytoplankton, zooplankton, benthic invertebrates, and ichthyofauna) during two sampling campaigns (October 2019 and March 2020) on two points in the Paraguay River: one upstream of the future effluent discharge; and a second downstream of the future water intake.

For the *estancias*, the biodiversity baseline was obtained through two sampling field campaigns performed during the rainy season (December 2020 and March-April 2021), and a third carried out during the dry season (May 2021) with additional focus on bats. The baseline provides a very good overview of species and habitat types present in the Project's area of influence, allowing for a reasonable assessment of probable impacts and risks that may arise from the Project construction and implementation.

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<sup>61</sup> Although the largest area of Cerrado habitat is in Brazil, a portion of it extends into the Paraguayan northeast. <https://www.worldwildlife.org/ecoregions/nt0704>.

#### 4.6.b Protection and Conservation of Biodiversity

##### 4.6.b.i Modified habitat

The footprint of the industrial mill site occupies approximately 317 ha. Although it supports small areas of woodland, a riparian zone along the Paraguay River and a tributary, and several wetland areas, most of the area is considered a modified habitat, as it has been heavily utilized in the past for cattle ranching and its native vegetation has been replaced by African grasses (*Urochloa humidicola* or *Urochloa brizantha*), which are alien invasive species that provide biomass for cattle grazing.

##### 4.6.b.ii Natural Habitat

Vegetation in the Project area can be classified in the following class types: i) native forests; ii) gallery and riparian forests; iii) savanna, *Cerradón*, and floodable or flooded areas; iv) grasslands, pastures, and agriculture areas; and v) forest plantations (eucalyptus). The first two classes represent the areas that the Project is already committed to avoid and protect, and cover approximately 62,000 ha<sup>62</sup>, while the last two are modified habitat areas.

Vegetation cover in the savanna, seasonally inundated areas, and *Cerradón* (approximately 83,000 ha<sup>63</sup>) represent a gradient of disturbance and degradation, including both modified and natural habitats. Paracel will therefore pay special attention to their management so that an overall No-Net-Loss (versus the no-project scenario) of biodiversity can be demonstrated<sup>64</sup>.

In terms of species, the plantation *estancias* support 514 vertebrate species (102 fish, 35 amphibians, 27 reptiles, 277 birds, and 73 mammals). According to the ESAs, four endemic *Cerrado* vertebrate species have been recorded: the Cope's Toad (*Rhinella scitula*); the Clown Frog (*Dendropsophus elianae*); the Yellow-faced Parrot (*Alipiopsitta xanthops*), classified as near threatened by the International Union for the Conservation of Nature ("IUCN"); and the Black-throated Saltator (*Saltator atricollis*), which is classified as least concern by the IUCN.

Surveys recorded the presence in the area of: i) several open grassland-dependent birds; ii) the Red Macaw (*Ara chloroptera*), a flagship species of the Cerrado; iii) Turquoise-fronted Amazon (*Amazona aestiva*), considered as near threatened by the IUCN; iv) Greater Rhea (*Rhea americana*), classified as near threatened by the IUCN; v) Lesser Dog-like Bat (*Peropteryx macrotis*), a restricted range species classified as vulnerable in Paraguay; vi) Lesser Sac-winged Bat (*Saccopteryx leptura*); vii) Black-and-gold Howler Monkey (*Alouatta caraya*), classified as near threatened by the IUCN; viii) White-lipped Peccary (*Tayassu pecari*), considered vulnerable by the IUCN; ix) South American Tapir

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<sup>62</sup> At present, of the 188,000 ha of the Project, approximately 33% (62,000 ha) have already been designated as natural habitats. If wetlands are included, the total area set-aside as natural habitat to be protected increase to 47% (approximately 88,360 ha).

<sup>63</sup> The biodiversity baseline studies show the Project's *estancias* to contain many patches of potential natural habitat. This means that some of these areas may still harbor native species with fauna and flora communities of the original Cerrado ecosystem.

<sup>64</sup> No net loss is defined as the point at which project-related impacts on biodiversity are balanced by measures taken to avoid and minimize the project's impacts, to undertake on-site restoration and finally to offset significant residual impacts, if any, on an appropriate geographic scale (e.g., local, landscape-level, national, regional).

(*Tapirus terrestris*), classified as vulnerable by the IUCN; and x) Giant Anteater (*Myrmecophaga tridactyla*), classified as vulnerable by the IUCN.

There are 667 species of vascular plants in the area, belonging to 346 genera and 94 botanical families. Of the total flora species, one of particular importance is a cactus species (*Discocactus hartmannii*) that is classified as critically endangered by the IUCN.

The aquatic baseline identified 81 fish species that represent 26% of the ichthyofauna in Paraguay. None of the species is on the IUCN list. The phytoplankton community in the Paraguay River is predominantly composed of diatoms of bacillariophyceae (28.2% of the total diversity sampled<sup>65</sup>), cyanobacteria (19.7%), and chlorophyceae (16.9%). Regarding benthic invertebrates, only the Golden Mussel (*Limnoperna fortunei*), an invasive alien species, was recorded.

#### 4.6.b.iii Critical Habitat

The results of the Critical Habitat (“CH”) screening indicates that, with the data available<sup>66</sup>, no specific areas qualify as CH.

The Plantations ESIA, however, identifies the habitat of five species<sup>67</sup> with the highest likelihood of qualifying as CH. For each species considered, a rationale is provided for assignment of screening categories between four grades of “potential to qualify” features.<sup>68</sup>

Paracel will conduct a full Critical Habitat Assessment (“CHA”) focusing on the analysis of historic land-use trends in the Aquidabán ecoregion and on the species flagged as potential CH triggers. The CHA will become part of a Biodiversity Action Plan (“BAP”) aimed at offsetting any significant residual impacts and risks to CH-candidate species. The BAP will detail the biodiversity strategy, targets, and management programs, and will aim at ensuring the preservation of a representative range of the diverse physiognomies of Cerrado habitat. It will include detailed objectives and implementation protocols, such as the following: i) the establishment of a 1 km buffer zone around protected areas (e.g., national parks); ii) the conservation and enhancement of degraded riparian forests; iii) the conservation of existing forest patches and some existing savanna Cerrado patches; iv) the restoration of corridors between forest patches; v) the reestablishment of riparian forests; vi) the relocation and reintroduction of fauna; and vii) the execution of training sessions on the protection of biodiversity in the forest area upon entry of each new staff, contractor employee, or visitor.

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<sup>65</sup> Some species in this group are known for their ability to produce toxins, which can cause interference in water quality and aquatic environment, especially when they form blooms in slow moving, nutrient-rich water bodies.

<sup>66</sup> CH screening is based on the best data available at the time of analysis (September 2021), such as that provided by the global biodiversity data (IBAT, GBIF, IUCN), other on-line resources, and Project-related baseline data.

<sup>67</sup> These include: i) the Vinaceous Breasted Amazon (*Amazona vinacea*) classified as endangered by the IUCN; ii) the Crowned Solitary Eagle (*Buteogallus coronatus*) classified as endangered; iii) the Marsh Seedeater (*Sporophila palustris*) considered endangered; iv) the Colubrid Snake (*Phalotris nigrilatus*) classified as endangered; and v) the Cope’s Toad (*Rhinella spp.* or *Rhinella scitula*).

<sup>68</sup> Appropriate population surrogates, including extent of occurrence or known sites of occurrence (mainly derived from the IUCN Red List data and GBIF records), were used to determine threshold status with respect to the global population.

#### 4.6.b.iv Legally Protected Areas and Internationally Recognized Areas

No plantations occur within or overlap with national parks. However, two IUCN Category II national parks (“Parque Nacional Paso Bravo” and “Parque Nacional Bella Vista”) are adjacent to three plantation *estancias* (Soledad, Zanja Moroti, and Zapallo). The Parque Nacional Paso Bravo forms the core nucleus of the ‘Cerrado del Rio Apa Biosphere Reserve,’ an area of 267,836 hectares established to promote sustainable natural resource management and native ecosystem protection (Decree N° 14.431/2001). The reserve does not currently have a comprehensive biosphere management plan, and its final zoning is also pending because the legal status of the buffer zone is still unclear. The Project’s *estancias* do not overlap with the reserved territory’s core area<sup>69</sup>, and Paracel is treating the entire area as if it were already an official biosphere reserve (portions of the Zapallo, Santa Teresa, and by a very small amount Hermosa *estancias* overlap with the reserve). In compliance with Paraguayan law (Resolution n° 200/ 2001 art 31), 50% of the areas that overlap with the biosphere’s boundaries will be left in a natural condition.

No Ramsar sites overlap with the Project. However, two Important Bird Areas (“IBAs”)<sup>70</sup> can be found near Paracel plantations: the Tagatiya IBA, located 15 km west of the Soledad plantation; and the Cerrados de Concepción IBA, which is adjacent to three Paracel *estancias* (Soledad, Zanja Moroti, and Hermosa) and overlaps with the Cerrados del Rio Apa Biosphere Reserve and the Paso Bravo National Park.

#### 4.6.b.v Invasive Alien Species

No invasive alien species will be used or introduced by the Project. However, the outer border of forested habitats as well as pastureland left without grazing show a dominant presence of the Lead Tree (*Leucaena leucocephala*<sup>71</sup>), an exotic perennial leguminosae tree introduced as animal fodder for cattle. In addition, there is a predominance in the area of introduced, highly invasive species used as animal fodder in extensive cattle ranching pastures, specifically African grasses (*Urochloa humidicola* and *Urochloa brizantha*). The Pine (*Pinus sp.* or *P. elliotii*), although not identified in the baseline, is also considered potentially invasive.

The Golden Mussel (*Limnoperna fortunei*<sup>72</sup>) identified in the downstream sample site location in the Paraguay River is also considered an invasive species.

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<sup>69</sup> Biosphere reserves contain flexible multi-use areas, with core areas serving as officially protected areas with strict conservation measures. In this case, the core area for the Biosphere Reserve coincides with the Paso Bravo National Park, which is part of the National System of Protected Natural Areas (SINASIP).

<sup>70</sup> IBAs are Internationally Recognized Areas considered to be Key Biodiversity Areas (“KBA”) for avian conservation. However, unless within a protected areas recognized by the government, these sites often do not have official protection.

<sup>71</sup> The Lead Tree is a fast-growing, nitrogen-fixing tree shrub weed of open habitats that is cultivated as a fodder plant, for green manure, as a windbreak, for reforestation, as a biofuel crop etc. It has been widely introduced, has become an aggressive invader in many tropical and sub-tropical locations, and is listed as one of the “100 of the World’s Worst Invasive Alien Species”. The tree has become naturalized in parts of Paraguay and represents an integral part of the feeding systems in hundreds of Paraguayan farms (large-scale as well as smallholders), mainly for steer fattening and dairy cow supplementation.

<sup>72</sup> The Golden Mussel is an epifaunal mytilid, native to Chinese and south-eastern Asian rivers and creeks. It has invaded South America through the Plata basin and has spread upstream using different vectors (commercial and tourist ships, fixed to nets, buoys). The mussel alters the presence and abundance of native macro invertebrate fauna, fish diets, and its high filtration rates causes changes in the ecological conditions in the areas colonized. It also causes great economic damage to water intakes and cooling systems. <http://www.cabi.org/isc/datasheet/107775>.

Parcel has prepared an initial Invasive Exotic Species Control Program as part of the forestry ESMPs. However, the program is not yet operational and does not cover the mill site or its terrestrial and aquatic ancillary infrastructure components (e.g., transmission line, river port). The Company will therefore develop a comprehensive Invasive Alien Species Management Plan to cover all Project components.

#### 4.6.c Management of Ecosystem Services

Parcel is committed to preserving and maintaining all sensitive habitats harboring important ecosystem services, such as wetlands, water courses, and riparian areas. It will run a modern mill equipped with tertiary effluent treatment to enhance nutrient removal (nitrogen and especially phosphorus) that, coupled with efficient dispersion and high capacity for depuration of the Paraguay River, will prevent undesired effects on aquatic ecosystem services.

#### 4.6.d Sustainable Management of Living Natural Resources

Parcel's Plantation Development Plan will include an integrated land use approach that commits to: i) maintaining all natural existing forested areas; ii) restoring natural forest areas degraded by logging; iii) protecting all riparian corridors and wetlands; and iv) incorporating ecological corridors to connect forest areas.

The Company plans to restore areas of forest habitats degraded since 1986<sup>73</sup> on its acquired properties. For this purpose, it will evaluate the success of unassisted natural regeneration and, if needed, will launch a reforestation program with native species in such way that the buffers and riparian and ecological corridors will preserve a mosaic of the different Cerrado habitats.

#### 4.6.d.i Supply chain

Since for the initial mill operation (from 2023 to 2028) Parcel's plantations will not yet have reached the required 6-year maturity for harvesting, wood will be supplied from existing eucalyptus plantations in Brazil, Argentina, and Paraguay. Supply contracts for this wood will require an FSC independent supply chain certification.<sup>74</sup> Thereafter, 20% of the Project's wood needs will be supplied through existing small and medium-sized local forest producers ("outgrowers") through a "pilot and incentive project" that is already being designed in coordination with the National Forest Institute (*Instituto Forestal Nacional*, or "INFONA").

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<sup>73</sup> The Paraguayan Forest Protection Law dictates that environmental liabilities incurred by previous property owners need to be addressed by the new owners.

<sup>74</sup> Parcel plans to produce pulp in the early years under the FSC Mix label: <http://www.fsc.org/en/fsc-labels>. The FSC Mix label constitutes 70% FSC certified/30% Controlled Wood. The Controlled Wood category mitigates the risk of the material originating from unacceptable sources. During this initial production phase, Parcel has committed to assure that the two incoming streams of early supply wood, FSC certified and Controlled Wood, will be traceable to the forest of origin such that the composition of the produced pulp is verifiable as FSC Mix (70% FSC certified/30% Controlled Wood).

## 4.7 Indigenous Peoples

### 4.7.a General

Paracel retained the services of Fundación Natán, an organization that specializes in the indigenous peoples of Paraguay, to consult with, investigate, and obtain the Free, Prior, and Informed Consent (“FPIC”) of the following 10 indigenous communities in the Project’s ADI: i) Redención, located approximately 13 km from the mill site in the city of Concepción, with 105 families of different ethnicities (mostly Maskoy and Paí Tavyterá); ii) Takuarita, situated approximately 1 km from Hermosa *estancia*, inhabited by 42 families of Mbya Guaraní ethnicity; iii) Vy’a Renda, located approximately 5 km from Mandiyú *estancia*, inhabited by 43 families of Mbya Guaraní ethnicity; iv) Takuarendyju, situated approximately 5 km from Mandiyú *estancia*, inhabited by 7 families of Paí Tavyterá ethnicity; v) Jeguahaty, situated approximately 14 km from La Blanca *estancia*, inhabited by 43 families of Paí Tavyterá ethnicity; vi) Sati – Chiru Poty, located approximately 10 km from Trementina *estancia*, inhabited by 35 Paí Tavyterá families; vii) Guyra Ñe’engatu Amba, located approximately 13 km from Santa Teresa *estancia*, inhabited 24 Paí Tavyterá families; viii) Mberyvo Jaguarymi, located approximately 13 km from Santa Teresa *estancia*, inhabited by 17 Paí Tavyterá families; ix) Yvyty Rovi Cerro Po’l, located approximately 7 km from Santa Teresa *estancia*, inhabited by 15 Paí Tavyterá families; and x) Apyka Jegua, situated approximately 17 km from Zapallo *estancia*, inhabited by 18 Paí Tavyterá families.

Fundación Natán’s scope of work included a social baseline study, an impact assessment, the development of measures to mitigate identified impacts, and the development of an Indigenous Peoples Plan (“IPP”). FPIC was obtained for all 10 indigenous communities per Paraguayan regulations in December 2020 and per PS7 in June 2021.

#### 4.7.a.i Avoidance of Adverse Impacts

There is a high degree of poverty and vulnerability in all 10 of the indigenous communities. Due to its location in the city of Concepción, Redención has better access to goods and services, as well as education for their children. According to its representatives, the community’s principal needs are work and education, their level of communication with Paracel has been good, and the FPIC process led by Fundación Natán and INDI was a positive experience. Five young community members were recently selected for a Paracel program to train people to be mill operators.

The other nine rural communities practice a mixed subsistence strategy combining the hunting of wild animals and the gathering of wild plants (for food and medicine) and other resources (including wild honey and firewood) with small-scale agriculture and animal husbandry. They have a high degree of illiteracy within older age groups. Literacy rates are significantly higher in younger age groups, although most people still only achieve primary education due to a lack of secondary schools in the communities. Access to potable water and electricity are limited, and a lack of dependable transportation and the remoteness of the communities makes accessing goods and services challenging.

Only three of these nine communities collect resources from natural forests within Paracel *estancias*: Takuarita, which is surrounded by and collects resources from the Gavilan, Zanja Moroti,

and Hermosa *estancias*; and Vy'a Renda and Takuarendyju, which collect resources from the Mandiju and Trementina *estancias*. The biggest risk to perform this activity would be a restriction of access to the *estancias*. However, Vy'a Renda indicated that they continue to have access to the natural forests in Trementina, within which Parcel is already planting eucalyptus.

There are currently 35 indigenous people working on the Parcel plantations, 25 of which are from Vy'a Renda (5 are women that work in cleaning rather than agricultural capacities). Although there have been minor complaints about food provided by contractors, the salary is considered good. Parcel is the preferred employer in the region.

The biggest concern about the Project is that the work may end suddenly. The communities indicated that the Project has not impacted their ability to obtain resources from the forests within the Parcel *estancias*. They do not think that Project will impact their access to forest resources, and they were satisfied with the FPIC process conducted by Fundación Natán and INDI.

The Fundación Natán Phase 2 report identified and assessed the following potential Project impacts to indigenous communities, to be mitigated (negative impacts) and enhanced (positive impacts) via an IPP (see below): i) quality of life, uses, and customs; ii) use of subsistence-related ecosystem services; iii) social organization and political institutions; iv) working conditions; v) community health and safety; vi) gender equality; and vii) demography. The most significant potential impact is to ecosystem services.

#### 4.7.a.ii Participation and Consent

Decree N° 1039 of 2018 operationalizes the International Labor Organization (“ILO”) Convention 169 (Indigenous and Tribal Peoples Convention) through a two-phase process: Phase 1 is to obtain approval of the community to consult; and Phase 2 is to obtain their informed consent for the activity (in this case the Project).

Twelve indigenous communities were initially identified as being located within the Project’s ADI. Fundación Natán visited all these communities to obtain their permission to consult. After an explanation of the Project and its properties, two of the communities (Ita Jeguaka, located 10 km from Santa Teresa *estancia*, and Cerro Akangue, situated 11 km from Santa Teresa *estancia* and 17 km from Zapallo *estancia*) decided not to consult as they believed that the Project will not impact them since none of them utilize these or any other Project *estancias* to collect resources or for any other purpose.

Fundación Natán conducted social baseline investigations and provided the 10 remaining communities with additional information about the Project and, thereafter, obtained their written consent for the Project in November and December 2020, achieving FPIC according to Decree N° 1039. In June 2021, after completion of Fundación Natán’s Phase 2 report and the Plantations ESIA, Parcel contacted each of the 10 indigenous communities again, presented the results of these studies, and provided additional information about the Project, utilizing posters and other visual aids with culturally appropriate information, including text in Guaraní. The communities thereafter confirmed their consent to the Project, achieving FPIC under PS7.

#### 4.7.b Mitigation and Development Benefits

The IPP developed by Fundación Natán includes the following programs: i) Indigenous Communities Social Management Program; ii) Labor Inclusion Program; iii) Supplier Good Practice and Audit Program; iv) Community Health and Safety Program; v) Family Production Strengthening and Value-Added Generation Program; and vi) Women Empowerment Program. Each of the latter includes a detailed description of its objectives, activities, implementation schedule, strategies for participation and monitoring, and KPIs.

Paracel is committed to maximize employment opportunities for indigenous peoples, especially on its plantations (so far 35 indigenous people have already been hired and more will be contracted once Paracel ramps up its work on the plantations). The Company is also committed to support social investment projects to improve the standard of living of indigenous communities in the Project's ADI.

#### 4.7.c Private Sector Responsibilities Where Government is Responsible for Managing Indigenous Peoples Issues

Although INDI participated in the FPIC process, Paracel is ultimately responsible for it.

### 4.8 Cultural Heritage

#### 4.8.a Protection of Cultural Heritage in Project Design and Execution

The Mill ESIA states that no impacts to cultural heritage will be produced by the Project. The ESIA, however, notes the presence of over 200 registered and declared sites in the historic center of the city of Concepción. The Plantations ESIA found no known cultural heritage sites within the Paracel *estancias* but notes that the plantations have not been surveyed for cultural heritage.

In addition to the ESIA, Paracel conducted a standalone cultural heritage study based on documentary research rather than field survey.<sup>75</sup> The study identified 18 cultural heritage sites and 10 natural heritage protected areas within the Project's area of indirect influence. The closest sites (Ojo del mar, Kururu kua, Belencue, and Salinas Cue) are located between 10 and 20 km from the Paracel *estancias*. Although no cultural heritage sites were identified within the area that will be used by the Project, given its extension (more than 188,000 ha) and the overall historical context, there is a plausible probability that the *estancias* will contain paleontological and archaeological sites, as well as historic structures and battlefields associated with the War of the Triple Alliance (1864-1870).

Paracel has signed an interinstitutional agreement with the National Secretary of Culture (*Secretaría Nacional de Cultura*) to support the development of public policies designed to promote,

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<sup>75</sup> "Informe Complementario del Patrimonio Cultural y Natural de Sectores de Producción Forestal de la Empresa Paracel, Concepción, Paraguay," Enrique Bragayrac, April 2021.

coordinate, and execute plans, programs, projects, and guidelines in areas of revaluation and enhancement of cultural and archaeological heritage in the Project's area of influence.

#### 4.8.a.i Chance Find Procedures

The Project's ESMS includes a Program for Safeguarding and Enhancement of Cultural Heritage, which contemplates the following actions: i) establish agreements for the protection and valuation of cultural heritage; and ii) promote the revaluation and enhancement of tangible and intangible heritage, as well as the cultural identify of Concepción. Paracel will develop a Cultural Heritage Management Plan ("CHMP") for the Project, to apply to all ground-disturbing activities. The CHMP will consist of the following programs and procedures: i) archaeological monitoring program; ii) chance find procedure; iii) site protection program; and iv) cultural heritage training program.

### **5. Local Access of Project Documentation**

The ESIA is available locally at Paracel offices in Asunción, through the company's website (<http://www.paracel.com.py>) as well as through the permitting agency's (MADES) website (<http://www.mades.gov.py/expediente/fabrica-de-celulosa-y-puerto/>).