

Soy Risk Assessment Bolivia

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COUNTRY RISK
ASSESSMENTS



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A. Introduction

The world demand for soy is rapidly growing and is driving deforestation and other negative Corporate Social Responsibility (CSR) related impacts e.g., biodiversity loss, greenhouse gas emissions, corrupt and illegal behaviour, and violation of civil rights including workers' rights, traditional and indigenous peoples' rights.

Each of the CSR categories are considered minimum legal, environmental and social responsible criteria that should met for soy plantation establishment and management. The criteria are in line with key CSR International Guidelines Content Areas as identified, analysed and published by the Danish Business Authority: A comparison of 4 international guidelines for CSR OECD Guidelines for Multinational Enterprises, ISO 26000 Guidance on Social Responsibility, UN Global Compact and UN Guiding Principles on Business and Human Rights, January 2015. This risk assessment used the methodology detailed in the Corporate Social Responsibility (CSR) Soy Risk Assessment Framework Guidelines (November 2015).

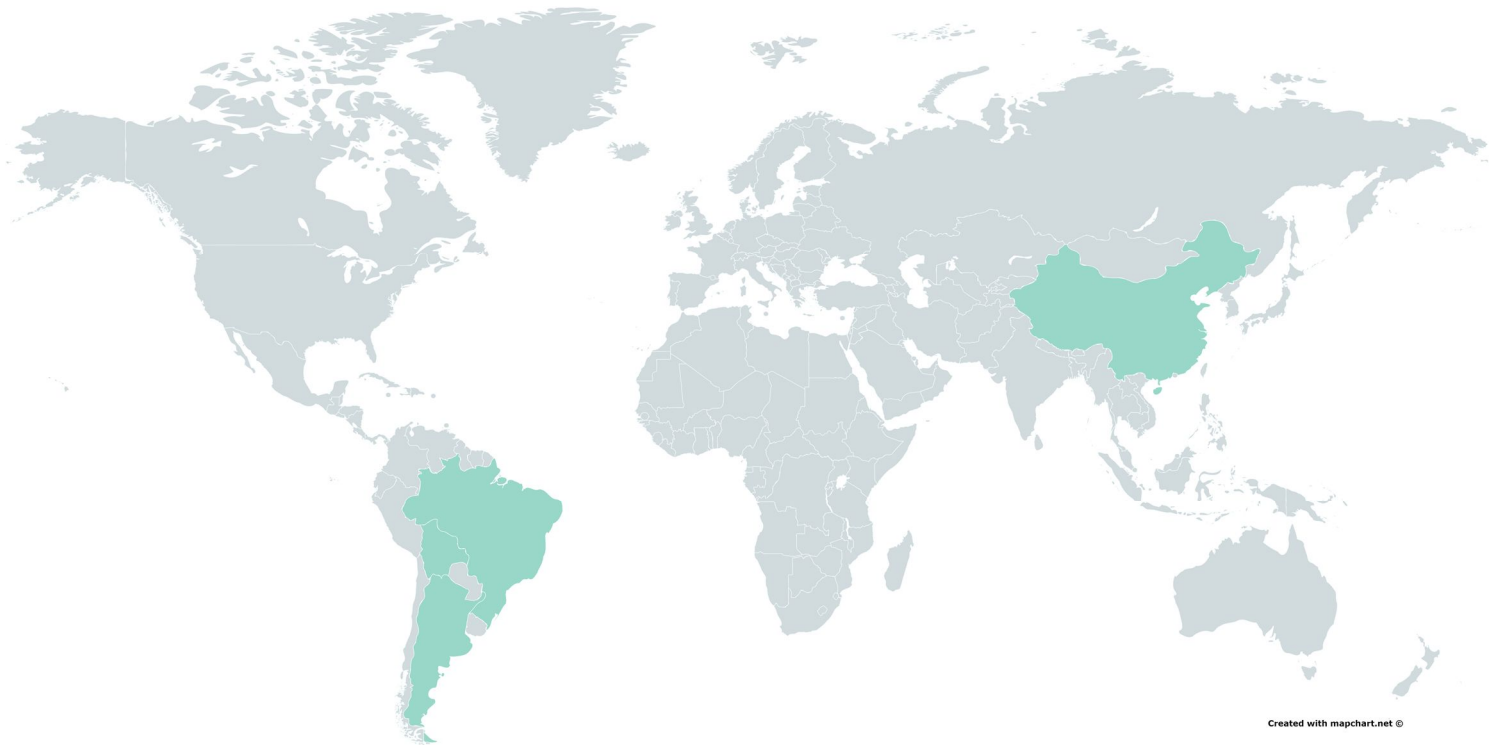


Figure 1. Countries for which NEPCon have developed a risk assessment for soy

B. Overview of sourcing risks for soy from Bolivia

Soy Risk Score: 23 / 100 in 2017

This report contains an evaluation of the CSR risks in Bolivia for five categories and 21 sub-categories. We found:

- Specified risk in 18 sub-categories.
- Low risk for 2 sub-category
- No requirements for 1 sub-category

Soy source types and risks

There are three soy source types found in Bolivia. Knowing the “source type” that soy originates from is useful because different source types can be subject to different legal requirements and have attributes that affect the risks.

Small producers	Soy from small family owned and managed mono-crop farms (up to 50 hectares), which are mainly managed for subsistence. Small producers represent 84% of the total number soy producers and control roughly 24% of the soy crop area.
Medium producers	Soy from medium sized commercial mechanized mono-crop farms (50 to 500 hectares). Medium producers represent 13% of the producers and control 21% of the crop area. Farms are mechanized, and are linked to the supply chain via local traders or mills.
Large producers	Soy from large company-owned commercial industrial plantations (over 500 hectares). Large producers make up only 3% of producers and occupy 56% of the area. Farms are professionally managed, usually via foreign capital.

We have analysed the risks for all source types and found the risks differ between the different source types. The CSR risks identified in this report occur in relation to business issues, social issues, environmental issues, conversion and GMOs.

Regarding **business issues**, there is a risk of:

- Illegal land tenure being held by a soy farmer in the state of Santa Cruz’s soy production expansion zone (sub-category 1.1). Despite the Land titling process in the Santa Cruz province almost being complete there are outstanding land tenure conflicts related to indigenous communities and rights in the soy production expansion zone.
- Non-compliance with the main management regulatory requirements such as the Property Zoning Plan and deforestation by large and medium soy farms (1.2). This risk is mainly linked to the lack of public information on how these producers are meeting the relevant requirements.

- tax evasion (of value added taxes, 1.4 and income and profit taxes 1.5) because there is of a high degree of informality regarding the payment of taxes in Bolivia particularly with large producers and/or companies who do not fall under the Unified Farming Regime (Régimen Agrario Unificado (RAU, Spanish acronym)) tax regime.
- corruption by large producers trying to appear as medium producers in their financial statements to access tax benefits given to small and medium producers under the RAU tax regime (1.6).

Regarding **social issues**, there is a risk of:

- informal labour is being used in soy farms (2.1). It is estimated that 60 to 70% of the population in Bolivia work in the informal sector and the estimates are even higher for youth employment.
- the ILO conventions are not complied with (2.3). The most serious aspects of noncompliance include the existence of child labour, forced labour practices, job discrimination and lack of compliance with the rights of women and indigenous peoples and a large proportion of workers' wages not being sufficient to meet their basic needs linked soy farm practices.
- Health and safety regulations are not being met (2.2). In general, the mandatory occupational health, hygiene and safety plans are not submitted to the relevant authorities and the required audits are not conducted. Also, public information on H&S plans and audit results are not available thus it is difficult to determine the risk of soy farm non-compliance with the H&S regulations.
- indigenous and traditional peoples' rights are not being upheld due to ongoing land tenure conflicts particularly in the Santa Cruz expansion zone (2.4,3.3: 3.3.5 – 3.3.6). The conflict is generally linked to the unfinished processes of awarding of land titles and/or difficulties defining property rights for farmland. This in turn is also connected to conflicts around use rights, easements, and hunting and gathering of food.

Regarding **environmental issues**, there is a risk of

- environmental pollution/damage to water, soils etc. due to the lack of governance connected to the import, manufacturing, distribution and sale of agrochemicals (3.1). This in turn leads to a lack of compliance against relevant regulations thus consequently agrochemicals that are prohibited or restricted at the national and international levels are commonly used by soy farms.
- a loss of biodiversity because of the conversion of natural forests and ecosystems, controlled and uncontrolled burns to clear land, and lack of enforcement of relevant legislation (3.2, 3.3.1 – 3.3.4). In some cases, there is uncontrolled expansion of soy production in protected areas and/or on indigenous traditional territories.

Regarding **conversion**, there is a risk of:

- deforestation, both legal and illegal, primarily due to the production of soy in the northern (Integrated Zone) and eastern (Expansion Zone) regions of the state of Santa Cruz (4.1). Furthermore, under the relevant regulations a certain amount of deforestation is permitted for the sustainable development of land.

- illegal fires being used to clear and prepare land for soy production (4.2). Despite the use of controlled burns requiring authorization from the Authority for Auditing and Socialization of Forests and Lands (ABT), recent 2016 data indicated only 13% of fires are authorized. Illegal burning activities often become uncontrolled fires, especially during dry years.

Regarding **GMOs** (5.1), there is a risk of GMO soy being produced in Bolivia both legally and illegally. Ninety-eight percent of the soy produced in eastern Bolivia, which includes the state of Santa Cruz, is transgenic and 2% is organic. Bolivia only permits the use of glyphosate-resistant genetically modified soy (RR soy). Any person managing GMO soy must obtain a certificate by the relevant authorities. However, it is estimated that approximately one third of the soy seeds being used in Bolivia are illegal. This can be also linked to a lack of resources to sufficiently the control of GM seed use in Bolivia.

This matrix summarises the findings of the CSR risk assessment set out in this report.

Legal Category	Sub-category	Risk Conclusion						
		Integrated Zone			Expansion Zone			
		Large Producers	Medium Producers	Small Producers	Large Producers	Medium Producers	Small Producers	
Business Issues	1.1. Land tenure	Low	Low	Low	Specified	Specified	Specified	
	1.2. Plantation registration & management rights	Specified	Specified	Low	Specified	Specified	Low	
	1.3. Payment of royalties & required fees	N/A	N/A	N/A	N/A	N/A	N/A	
	1.4. Value Added taxes & other sales taxes	Specified	Non-RAU registered	Non-RAU registered	Specified	Non-RAU registered	Non-RAU registered	
	1.5. Income and profit taxes	Specified	Non-RAU registered	Non-RAU registered	Specified	Non-RAU registered	Non-RAU registered	
	1.6. Disclosure of Information	Specified	Non-RAU registered	Non-RAU registered	Specified	Non-RAU registered	Non-RAU registered	
Social issues	2.1. Legal employment	Specified	Specified	Specified	Specified	Specified	Specified	
	2.2. Health and safety	Specified	Non-RAU registered	Non-RAU registered	Specified	Non-RAU registered	Non-RAU registered	
	2.3. ILO Fundamental Conventions are upheld.	Specified	Specified	Specified	Specified	Specified	Specified	
	2.4. IP and TP rights are upheld.	Low	Low	Low	Specified	Specified	Specified	
Environmental issues	3.1. Environment	Specified	Specified	Specified	Specified	Specified	Specified	
	3.2. Protected sites and species	Specified	Specified	Specified	Specified	Specified	Specified	
	3.3. HCV	3.3.1 Species diversity.	Specified	Specified	Specified	Specified	Specified	Specified
		3.3.2 Landscape-	Low	Low	Low	Specified	Specified	Specified

	level ecosystems & mosaics.						
	3.3.3 Ecosystems and habitats	Specified	Specified	Specified	Specified	Specified	Specified
	3.3.4 Critical ecosystem services.	Specified	Specified	Specified	Specified	Specified	Specified
	3.3.5 Community needs	Low	Low	Low	Specified	Specified	Specified
	3.3.6 Cultural values.	Specified	Specified	Specified	Specified	Specified	Specified
Conversion	4.1. New plantations since November 2005 have not replaced natural forest or ecosystems.	Specified	Specified	Specified	Specified	Specified	Specified
	4.2. Fire avoidance is being practiced	Specified	Specified	Specified	Specified	Specified	Specified
GMOs	5.1. No GMO's	Specified	Specified	Specified	Specified	Specified	Specified

C. Overview of the soy sector in Bolivia

Mass production of soy in Bolivia is related with the plan for the empowerment of lowland areas for agricultural production implemented in 1993 to adapt lowlands for farming. Soy crops have increased significantly since then, and both transgenic soy (RR) and direct planting in 1996 have also seen the production increase from 1.9 million tons in 2009 to 3 million tons in 2014.

Soy is currently being cultivated in an approximate area of one million hectares, with a total yield between 2.1 and 3 million tons (1, 2). Roughly 70% of the total soy production is designated for exportation and 30% for the internal market (3). The export of soy (paste, oil and soybeans) generated an income of over one billion dollars US in 2014 (4).

95 per cent of the area being cultivated with soy is in the state of Santa Cruz, in zones called the Integrated Zone and the Expansion Zone (Integrado and Expansión). These zones encompass 6 provinces (see Table 1). The "Integrated Zone" is the traditional agricultural area, where deforestation occurred before 2005. The main area that is currently being deforested in Bolivia is the "Expansion Zone" (low zones) (map 5). The natural boundary between both zones is the Grande or Guapay River which encloses the Integrated Zone between the river and the Andean foothills. The state of Santa Cruz has a total area of 370,621 km², which represents 33.7% of the territory of Bolivia and contributes approximately 9 billion dollars US to the Gross Domestic Product (INE Bolivia, Spanish acronym).

In Bolivia, and particularly in the state of Santa Cruz (map 3), there are the following property types:

- a **small property**, defined as producers who possess up to 50 hectares (ha);
- a **medium property**, between 50 and 500 hectares; and
- a **large property** is over 500 ha.

In Santa Cruz, small producers represent 84% of the total soy producers and control roughly 24% of the soy crop area. Medium producers represent 13% of the producers and control 21%, and large producers make up only 3% of producers and occupy 56% of the area. Sixty-seven percent of large and medium producers are foreign, while only 33% are Bolivian (according to the 2010 Soy Observatory (Observatorio de Soja) (5).

Governance

Bolivia is a plurinational country, and the organization of the territory is characterized by a unitary and decentralized state. The political and administrative territories in Bolivia are divided into states, provinces, municipalities and indigenous native farming territories (map 4).

At the national level:

- the **farming sector** is governed by the Ministry of Rural and Land Development (Ministerio de Desarrollo Rural y Tierras) (6), which is part of the National Agrarian Reform Institute (Instituto Nacional de Reforma Agraria). The National Agrarian Reform Institute (Instituto Nacional de Reforma Agraria) is responsible for the registration and recording of rural property (7).

- the **forestry sector** is controlled by the Auditing and Socialization of Forests and Land (Fiscalización y Control Social de Bosques y Tierra) (8),.
- **protected areas** fall under the responsibility of the Forest and Land Authority (Autoridad de Bosque y Tierra) with the Department of Basic Sanitation (Superintendencia de Saneamiento Básico) (9). One of the objectives of the Ministry of the Environment and Water (Ministerio de Medio Ambiente y Agua) is to ensure the generation of mechanisms for the preservation and sustainable use of biodiversity, forest resources with environmental quality (10).
- **tax** matters fall under the Federal Taxation Service (Impuestos Nacionales) (11).

Bolivia has 12 eco-regions, 5 of which are subdivided, resulting in 23 different ecological regions. The state of Santa Cruz has 9 ecoregions (map 1). Those most affected by deforestation are the Chiquitano and Chaco dry forests (Map 2).

The expansion of the soy crop in Bolivia over the past 15 years has contributed to the deforestation of over one million hectares of forest for soy production. Roughly, 60,000 hectares per year are deforested to adapt land for soy crops (12). According to data from Global Forest Watch, Bolivia has lost 2.3 million ha between 2005 and 2014 (13). While indigenous lands have been mapped and registered (see Map 3) (14), it has been claimed that only 57% of this area has been awarded titles and registered in the name of the communities (15).

The CPI (Corruption Perception Index) for Bolivia in 2016 was 33 (on a scale from 0 to 100 where 100 is lowest level of corruption) and ranked 113 out of 176 countries (16). This means there is high perception that Bolivia is a corrupt country (16).. See map 1 Ecoregions in Bolivia (17), map 2 Ecoregions in Santa Cruz (20), map 3 Bolivia State Subdivisions, map 4 Geobolivia 2015 (14)

State	Province	Capital	Municipal	Integrated	Expansion
Santa Cruz	Andrés Ibáñez	Cotoca	1 Santa Cruz de la Sierra	ZI	
			2 Cotoca	ZI	
			3 Porongo o Ayacucho		
			4 La Guardia	ZI	
			5 El Torno		
	Chiquitos	San José de Chiquitos	9 San José de Chiquitos		ZE
			10 Pailón		ZE
			11 Roboré		
	Guarayos	Ascensión	26 Ascensión de Guarayos		ZE
			27 Urubichá		
			28 El Puente		ZE
	Ñuflo de Chaves	Concepción	34 Concepción		
			35 San Javier		
			36 San Ramón		
			37 San Julián		ZE
			38 San Antonio de Lomerío		
			39 Cuatro Cañadas		ZE
	Obispo Santistevan	Montero	43 Montero	ZI	
			44 Saavedra	ZI	
			45 Mineros	ZI	
			46 Fernández Alonso	ZI	
			47 San Pedro	ZI	
	Warnes	Warnes	56 Warnes	ZI	
			57 Okinawa I	ZI	

Table 1: State of Santa Cruz, Provinces with soy production (2016)

Sources:

- (1) Noriboliviarrural: http://www.notiboliviarrural.com/index.php?option=com_content&view=article&id=12369:anapo-cosecha-de-verano-2015-finalizo-con-21-millones-de-toneladas-de-soya&catid=293:agricola&Itemid=543
- (2) National Statistic Institute (Instituto Nacional de Estadística Bolivia): <http://www.ine.gob.bo/indice/general.aspx?codigo=40104>
- (3) EJU TV: <http://eju.tv/2015/02/acuerdo-del-mercosur-afecta-la-exportacion-boliviana-de-soya/> (3) Instituto Boliviano de Comercio Exterior: <http://ibce.org.bo/userfiles/file/notas-archivos/COMERCIO-EXTERIOR-BOLIVIA-INFORME-ANUAL-22-DIC-2015.pdf>
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- (5) Soy Observatory (Observatorio de Soja): <http://observatoriosoja.org/nota-breve/tenencia-de-la-tierra-en-bolivia/>
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- (7) National Agrarian Reform Institute (INRA Instituto Nacional de Reforma Agraria): <http://www.ruralytierras.gob.bo/planificacion/pei2014-2018.pdf>
- (8) Authority for Auditing and Socialization of Forests and Land (Autoridad de Fiscalización y Control Social de Bosques y Tierra): http://www.abt.gob.bo/index.php?option=com_content&view=article&id=59&Itemid=198&lang=es
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- (13) Forest Global Watch: <http://www.globalforestwatch.org/country/BOL>
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- (19) Land Foundation (Fundación Tierra): <http://es.slideshare.net/FTIERRA2010/el-agronegocio-de-la-soya-en-bolivia-impactos-e-implicaciones>
- (20) Santa Cruz Atlas of Potentialities (Atlas de potencialidades Santa Cruz): <http://www.bivica.org/upload/atlas-potencialidades-Santa-Cruz.pdf>
- (21) FCBC: <http://www.fcbc.org.bo/Website/>
- (22) Bivica: <http://www.bivica.org/upload/atlas-potencialidades-Santa-Cruz.pdf>
- (23) Probioma: <http://www.probioma.org.bo/drynet/exito1.htm>

Spatial Scale

Ninety-five percent of soy production in Bolivia is in the state of Santa Cruz. Therefore, the only region under observation in this report is Santa Cruz, which has two official zones: the northern Integrated Zone and the eastern Expansion Zone.

The Integrated Zone is the oldest and contains primarily small and medium properties. Deforestation occurred in this zone before 2005, while the Expansion Zone is amid growth and undergoes the highest amount of current deforestation in Bolivia. This area is dominated by large national and foreign companies. The natural division between the two zones is the Grande or Guapay River which encloses the Integrated Zone between the river and the Andean foothills and, therefore, it cannot grow any further.

The states of Beni, Tarija and Cochabamba contain approximately 5% of the soy production, but the soy expansion is mainly occurring in the state of Santa Cruz. See map 5.

D. CSR Risk Assessment

BUSINESS ISSUES

1.1. Land Tenure

Legislation covering land tenure rights that includes the use of legal methods to obtain tenure rights. Risk may be encountered where land rights have not been issued according to prevailing regulations and where corruption has been involved in the process of issuing land tenure rights. The intent of this indicator is to ensure that any land tenure rights have been issued according to the legislation.

1.1.1. Applicable laws and regulations

- CPE, Art. 398, 407 - Political Constitution of the State (Constitución Política del Estado (CPE, Spanish acronym) - [link](#)
- Law 1715 (Full Text) - National Agrarian Reform Service Law (Ley de Servicio Nacional de Reforma Agraria), October 18, 1996 - [link](#)
- Law 3545 (Full Text) - MODIFICATION OF LAW 1715 REDIRECTION OF AGRARIAN REFORM (MODIFICACION DE LEY 1715 RECONDUCCION DE LA REFORMA AGRARIA) - [link](#)
- D.S. N° 29215 (Full Text) - REGULATION OF LAW 1715 OF THE NATIONAL AGRARIAN REFORM SERVICE MODIFIED BY LAW 3545 OF THE COMMUNAL REDIRECTION OF AGRARIAN REFORM (REGLAMENTO DE LA LEY No. 1715 DEL SERVICIO NACIONAL DE REFORMA AGRARIA MODIFICADA POR LA LEY No. 3545 DE RECONDUCCION COMUNITARIA DE LA REFORMA AGRARIA) - [link](#)
- D.S. N° 24447 (Full Text) - Regulatory Decree for the Law for the People's Participation and Decentralization (Decreto Reglamentario a la Ley de Participación Populay Descentralización) - [link](#)
- D.S. N° 26559 (Full Text) - RECOGNITION OF WHAT IS CALLED "INTERNAL LAND TITLE PROCESS" AS AN INSTRUMENT FOR CONCILIATION AND RESOLUTION OF CONFLICTS APPLICABLE IN FARMER, INDIGENOUS AND NATIVE COLONIES AND COMMUNITIES, AS PART OF THE LEGAL PROCESS TO AWARD TITLES FOR FARM PROPERTY (RECONOCE EL DENOMINADO "SANEAMIENTO INTERNO", COMO INSTRUMENTO DE CONCILACION Y RESOLUCION DE CONFLICTOS APLICABLES AL INTERIOR DE COLONIAS Y COMUNIDADES CAMPESINAS, INDÍGENAS Y ORIGINARIAS, COMO PARTE DEL SANEAMIENTO DE LA PROPIEDAD AGRARIA) - [link](#)
- Law 1333, Article 64 - Environmental Law (Ley de Medio Ambiente) - [link](#)
- Law 450, Article 6 - Law for the protection of Native Indigenous Nations and Peoples in highly vulnerable situations (Ley de protección a Naciones y Pueblos Indígena Originarios en situación de alta vulnerabilidad) - [link](#)
- D.S N° 1954 (Full Text) - The suspension of field activities engaged in quiet title actions and title award processes and the reversion of farm property - [link](#)

1.1.2. Legal authority

- Ministry of Rural Development and Land (Ministerio de Desarrollo Rural y Tierras)
- National Agrarian Commission (La Comisión Agraria Nacional)
- National Agrarian Reform Institute (El Instituto Nacional de Reforma Agraria (INRA, Spanish acronym).

1.1.3. Legally required documents or records

- Cadastral Certificate (the document that attests or testifies as to the current rights held, providing legal security to private parties (landowners) and the state, as the single and unrepeatable registration with the Rural Cadastral Management System of the INRA, containing the physical, legal and economic characteristics of the property, registered in the name of a specific landowner and identified by a unique cadastral code).
- Transfer Registration (the document that shows the updating of the current cadastral registry recorded in the name of a specific landowner, by the name of the new acquirer, the product of the transfer (purchase-sale, exchange, donation, acknowledgement of rights, inheritance, advance gift to heirs, etc.), division or fusion of the property registered).
- Property of Title (Titulo Ejecutorial)

1.1.4. Sources of information

Non-Government sources

- (1) Ministry of Rural Development and Land: National Agrarian Reform Institute (Ministerio de Desarrollo Rural y Tierras: Instituto Nacional de Reforma Agraria (INRA Spanish acronym)) - <http://www.ruralytierras.gob.bo/>
- INRA - <http://www.inra.gob.bo/InraPb/paginaController;jsessionid=0DEEEDBAD6C8B69649139AF4259C3B44?cmd=contenido&id=6668>
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- National Agrarian Reform Institute (Instituto Nacional de Reforma Agraria (INRA, Spanish acronym)) - <http://www.ruralytierras.gob.bo/>
- INRA, Legal framework (Marco Legal) - <http://www.inra.gob.bo/InraPb/paginaController?cmd=contenido&id=5065#15>
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- (5) Telam - <http://www.telam.com.ar/notas/201310/38922-el-presidente-de-bolivia-promulgo-una-ley-que-extiende-en-saneamiento-de-tierras-por-cuatro-anos.html>
- (7) Monographs (Monografías) - <http://www.monografias.com/trabajos104/propiedad->

[agraria-bolivia/propiedad-agraria-bolivia.shtml](#)

- (8) Transparency International - <https://www.transparency.org/country/#BOL>
- (9) Fundación Tierra (Land Foundation) - <http://www.ftierra.org/index.php/reforma-agraria-y-titulacion-de-tierras/622-el-saneamiento-no-acabo-con-la-gran-propiedad-agraria-ni-redujo-el-minifundio>
- (10) El Periodico - <http://elperiodico-digital.com/2016/06/15/conflictos-impiden-saneamiento-de-tierras-en-varias-comunidades/>
- (11) Map 1 - <http://www.ftierra.org/index.php/reforma-agraria-y-titulacion-de-tierras/622-el-saneamiento-no-acabo-con-la-gran-propiedad-agraria-ni-redujo-el-minifundio>
- (12) Fundación Tierra (Land Foundation) - <http://www.ftierra.org/index.php/publicacion/libro/142-serie-la-problematica-de-la-tierra-a-18-anos-de-la-ley-inra-territorios-minifundio-e-individualizacion>

1.1.5. Risk determination

Overview of Legal Requirements

The Bolivian government promotes progress towards food security as part of the framework for integral and sustainable rural development. The old logic of only exporting is sought to be replaced by a new paradigm involving diversifying and industrializing production designated for exportation, to strengthen the internal market and establish clear rules and requirements for foreign investment. Latifundia (a large landed estate) have been prohibited, and property size have been capped at a maximum of 5000 hectares is permitted since 2009. This resolution is not retroactive but demonstrates that a property over 5000 hectares does not fulfil the social economic function linked to sustainable rural development policies. The agricultural properties that are in the title process or have clear titles may obtain financing with the provision of real guarantees (mortgage or collateral). Lands with clear titles can be registered in the Rural Property Registry and inherited or sold.

Community or indigenous lands are indivisible, imprescriptible, unseizable, inalienable and irreversible, as are small rural properties. The government is the owner of the subsoil and all natural resources, and can at any moment revert land use into agricultural use (8, 10).

The National Institute of Agrarian Reform (Instituto Nacional de Reforma Agraria (INRA, Spanish acronym)) is the Bolivian institute responsible for title processes and cadastral records (1).

The size of Bolivia is 109,858,100 ha. The process of awarding titles is considered applicable to an area of 106,751,723 ha, not including urban zones and freshwater and saltwater bodies. Of the 106 million hectares that make up the agricultural zones in the country, 55% are Native Community Land (Tierras Comunitarias de Origen ((TCOs) As of December 2010, the TCO's Origin Community Lands have been renamed to Native Peasant Indigenous Territories (TIOC's). In practice, many organizations continue to refer to their territories as TCOs/TICOs. As both TIOC and TCO terms and acronyms are still in use, both will be referred to in this document) which is owned by native indigenous farmers. 6,7% of the total TOCs/TICOs belongs to small and medium companies and 38.3% is owned by large agricultural companies or by the government.

Law 1715 (the INRA Lw) was approved in October 1996. It proposes that land titles be awarded to regularize and perfect agrarian property rights. The law was modified by Law 3545 and contains regulation D.S. N° 29215. The political aspect of a second agrarian reform has been brought about only by the awarding of titles for Native Community Lands (Tierras Comunitarias de Origen (TCO, Spanish acronym)). After several problems with the process of awarding titles, the concept of an internal land title process was introduced, regulated by D.S. N° 26559. This process is defined as a communal participatory process aimed at organizing and registering community properties, establishing external communal boundaries and solving

conflicts over farm properties, with the participation of the natural authorities through conciliation, existing applicable laws and the usage and customs of each community (7).

A common procedure exists, according to Law 1715 (Art. 64) and 3545 (28-11-2006) and supreme decree (Decreto Supremo, DS, Spanish acronym) DS 29215 (02-08-2007), which requires carrying out three stages to determine land tenure:

- a) the preparatory stage in which a diagnostic is performed and the area and plan is determined in order to define the number of workers who will participate;
- b) the field stage which consists of collecting field information, reports containing conclusions (with the award prices from the Authority for Auditing and Socialization of Forests and Land (Autoridad de Fiscalización y Socialización de Bosques y Tierras (ABT, Spanish acronym)) and the Resolution project; and
- c) the stage pertaining to the resolution and awarding of the title, which is issued by the government.

Legally this process and communications shall be performed through a written request submitted to the Department Director of the INRA for an agreement to begin the title process for the property. In the case of communities or unions, the legal capacity must be presented. A list of beneficiaries and a map with coordinates also must be submitted, along with the possession of title (título ejecutorial) (when applicable) and other documents that demonstrate property rights (Source, Official Gazette Summary of the INRA (Resumen Gaceta Oficial INRA)).

The process related to quiet title actions and the awarding of titles for land in Bolivia increased 72% in the year 2015. The result encompasses 76,686,952 ha of the total 106,771,041 ha to which the awarding of titles is applicable. Overall, in late 2015, a total of 29,611,823 ha had titles pending, 18,050,295 ha was in process of being awarded and 11,561,528 ha had not been awarded or was halted due to conflicts (3).

Medium and large properties (between 501 and 50.000 hectares) represent 16.233 estates and cover 56.6 million hectares. Properties between 1 and 500 hectares represent 42,404 estates and cover 2.5 million hectares. Native Community Land in lowland areas covers 22.1 million hectares. The rest is government land. In adherence with the current law, the process to award land titles in Bolivia is estimated to conclude in 2017. To ensure transparency in the agreements signed between the INRA and producers, to generate liquidity for the state and end corruption, the beneficiaries pay 70% when beginning the process and 30% when the final document is issued (4,6).

According to the national director of the INRA, Jorge Gómez, the particular situation in the state of Santa Cruz is favourable in terms of progress in the title process. Santa Cruz, which is known for its high farming activity and productivity, has stood out for two consecutive years as the region with the largest area having completed the title process. And the National Agrarian Reform Institute (INRA, Spanish acronym) has established 2016 as the end of the entire process to award land titles in Santa Cruz. The process is expected to conclude in Chuquisaca and Oruro by the first trimester of 2016, and the biggest challenge is reaching 100% coverage for land titles in Santa Cruz by the end of this year (3,5).

The Bolivian government shall regulate the land market, avoiding the accumulation of areas larger than those recognized by the law (as well as their division into smaller areas than that established for a small property). Foreigners may not under any title acquire land from the government.

The fourth and ninth chapters (Articles 393 and 403) of the Political Constitution of Bolivia established the framework for Land and Territory matters.

According to the constitution, land serves a social and social economic function. Article 56 establishes that each person has the right to individual private or collective property as long as it complies with a social function, and article 393 states that the government recognizes,

protects and guarantees individual and community or collective land ownership as long as it serves a social function or a social economic function, as applicable.

There is a restriction on the maximum size of *latifundia*. Article 398 says: Latifundia and dual titles are prohibited for being contrary to the collective interest and the development of the country. Latifundia is understood as: unproductive land tenure; land that does not serve the social economic function; the exploitation of land that applies to a system of servitude, semi-slave or slave in terms of labour relations or property that exceeds the maximum zoned area established by law. The maximum area may not in any circumstances exceed 5,000 hectares.

Description of risk

There is a risk of illegal land tenure being held by a soy farmer in the state of Santa Cruz's soy production expansion zone.

- Despite the Land titling process in the Santa Cruz province almost being complete there are outstanding land tenure conflicts related to indigenous communities and rights in the soy production expansion zone.
- According to the Eastern Agriculture Chamber (Cámara Agropecuaria del Oriente (CAO, Spanish acronym)), the Association of Oil and Wheat Producers (Añapa) (2), the Santa Cruz Cattle Association (Federación de Ganaderos de Santa Cruz (Fegasacruz, Spanish acronym)) and the National Agrarian Reform Institute (INRA, Spanish acronym), several problems exist that cause the title process to take up to 3 years, whereas under normal conditions it would take 12 months. The primary problems that delay the process of conducting quiet title actions and subsequently awarding titles for productive lands are: constant turnover in the technicians in charge of the title process; lack of financing; the takeover of land; usurping the landowner's rights; poor interpretations in previous procedures; and the lack of documentation (2).
- According to the property law, the process to award titles must be completed by the end of October 2017. By that date, the title process for the 29% of the remaining national area must be concluded. Nevertheless, the tasks involved have become complex because most are properties that are embroiled in intra-family conflicts that are difficult to solve.
- With regard to the TCO's awarding of titles, the report "La problemática de la tierra" (12) states that the trends indicate that once the titles to 23.7 million hectares are awarded in favour of the indigenous peoples' territories, this modality will decrease to a minimum and the same will likely occur with other powers pertaining to the prerogative recognized in the Constitution, in favour of indigenous peoples (12).
- Bolivia has a high level of corruption (8), and there are criticisms of civil society, for example by the Land Foundation (Fundación Tierra) (9) and information from news outlets shows various problems and a lack of compliance as well as unresolved conflicts (10). Currently, conflicts over tenure of the land continue exist in the expansion zone of soy production in Bolivia. The conflict is generally caused by unfinished processes involving quiet title actions and the awarding of titles, and difficulties defining property rights for farmland (also see 2.4 for more details).
- Despite, the process for awarding titles for agricultural property is advancing, and as of the year 2017 most of the properties will hold clear titles, be registered and have reliable cadastral records there are still land tenure conflicts related to indigenous communities and rights in the expansion zone of soy production.

Risk conclusion

Despite the Land titling process in the Santa Cruz province almost being complete there are outstanding land tenure conflicts related to indigenous communities and rights in the expansion zone thus this indicator is deemed Specified risk in the Expansion zone for all farm sizes and low risk in the Integrated zone for all farm sizes.

1.1.6. Risk designation and specification

Integrated Zone - Low risk

Expansion Zone – Specified risk

1.1.7. Control measures and verifiers

- Check Farm registration in the Rural Cadastral Management System of the INRA

Verifiers:

- INRA Report - Catastro del Instituto Nacional de Reforma Agraria
<http://www.inra.gob.bo/InraPb/paginaController?cmd=contenido&id=6668>

- Check that the Farm has all the legally required documents or records.

Verifiers:

- Property of Title (Titulo Ejecutorial)
- Cadastral Certificate
- Record of Transfer (Transfer Registration)

- Apply for a map with the traditional communities TIOCs close to the soy farm, to help identify potential conflicts over land use – especially for medium and large enterprises.

Verifiers:

- INRA
- Amnesty International: <http://www.territorioindigena.com.ar/Pueblos-Originarios>

- Check land rent and leasing form, what kind of contract is used.

Verifiers:

- Long term rental contract
- Record of rent payments

1.2. Plantation registration and management rights

Legislation covering land management rights including customary rights and any legal requirements for management planning. It also covers legal business registration and tax registration, including relevant legal required licenses. Risk may be encountered where land rights have not been issued according to prevailing regulations and where corruption has been involved in the process of issuing land tenure and management rights. The intent of this indicator is to ensure that any land management rights have been issued according to the legislation. Low quality of the management plan resulting in illegal activities may be a risk factor for this indicator as well.

1.2.1. Applicable laws and regulations

- CPE (Constitución Política del Estado) - Political Constitution Of The State (Constitución Política Del Estado) Art. 398 - [LINK](#)
- Law 1715 (Full Text) - National Service Agrarian Reform Law (Ley Del Servicio Nacional De Reforma Agraria) - [LINK](#)
- LAW 3545 (FULL TEXT) - Modification Of Law 1715, Redirection Of Agrarian Reform, November 28, 2006 (MODIFICACION DE LA LEY N° 1715
- Reconduccion de la reforma agraria) - [link](#)

- Law 2029 (full text) - waters law (ley de aguas) - [link](#)
- Law 337 - law to support the production of food and restitution of forests (ley de apoyo a la producción de alimentos y restitución de bosques) - [link](#)
- Law 1700 (full text) - forest law (ley forestal) - [link](#)
- D.S. N° 24453 - Approval of the General Regulation of the Forest law (Apruébase el Reglamento General de la Ley Forestal) - [link](#)
- Government Resolution (Resolución Ministerial) No 130/97 (Full Text) - Technical Norms for Property Zoning Plans (Normas técnicas sobre Planes de Ordenamiento Prediales) - [link](#)
- Government Resolution (Resolución Ministerial) No 131/97 (Full Text) - Special Deforestation Regulation (Reglamento Especial de Desmontes) - [link](#)
- Law 741 (Full text) - Law For The Authorization Of Deforestation Of Up To 20 Hectares For Small Properties And Community Or Collective Properties, For Agricultural And Livestock Activities (Ley De Autorización De Desmonte Hasta 20 Hectáreas Para Pequeñas Propiedades Y Propiedades Comunitarias O Colectivas Para Actividades Agrícolas Y Pecuarias) - [link](#)
- Law 1333 (Full Text) - Environmental Law (Ley del Medio Ambiente). - [link](#)
- Law 843 (Texto Ordenado Vigente) - Bolivian Tax Code (Código Tributario Boliviano) - [link](#)
- DS N° 27190 (Full Text) - Regulation of the Law for Modifications to Law 843 (Reglamento a la Ley de Modificaciones a la Ley 843) - [link](#)
- Regulatory Resolution (Resolución Normativa) No 10-0009-11 (Full Text) - Procedures And Requirements For Registration With And Modifications To The National Biometric Digital Taxpayer System (Procedimiento Y Requisitos Para La Inscripción Y Modificaciones Al, Padrón Nacional De Contribuyentes Biométrico Digital) (Pbd-11) - [link](#)

1.2.2. Legal authority

- Ministry of Rural Development and Land: National Agrarian Reform Institute (Ministerio de Desarrollo Rural y Tierras: Instituto Nacional de Reforma Agraria (INRA))
- Ministry of the Environment and Water (Ministerio de Medio Ambiente y Agua)
- Authority for Auditing and Socialization of Forests and Land (Autoridad de Fiscalización y Socialización de Bosques y Tierras (ABT))
- National Taxation Service (Impuestos Nacionales)

1.2.3. Legally required documents or records

- Current Identity Card (Cedula de identidad)
- Taxpayer Identification Number (Número de Identificación Tributaria (NIT, Spanish acronym))
- Registration of the Unified Farming Regime (Régimen Agrario Unificado (RAU, Spanish acronym)) for small and medium producers
- Property of Title (Titulo Ejecutorial)
- Authorized Plan for Land Use Changes
- Property Zoning Plan (Plan de Ordenamiento Predial)

1.2.4. Sources of information

Government sources

- Ministry of Rural Development and Land: National Agrarian Reform Institute (Ministerio de Desarrollo Rural y Tierras: Instituto Nacional de Reforma Agraria (INRA))
<http://www.ruralytierras.gob.bo/>
- Ministry of the Environment and Water (Ministerio de Medio Ambiente y Agua):
<http://www.mmaya.gob.bo/>
- National Taxation Service (Impuestos Nacionales): www.impuestos.gob.bo/
- NRA: <http://www.ruralytierras.gob.bo/planificacion/pei2014-2018.pdf>
- (5) Authority for Auditing and Socialization of Forests and Lands (Autoridad de Fiscalización y Socialización de Bosques y Tierras (ABT)): <http://www.abt.gob.bo/index.php?lang=es>
- (4) ABT: http://www.abt.gob.bo/index.php?option=com_content&view=article&id=912:5-8-millones-de-hectareas-fueron-deforestadas&catid=116:pacto-social&Itemid=101&lang=es

Non-Government sources

- (10) CEJIS: <http://cejis.org/>
- (9) ANAPO: <http://www.anapobolivia.org/leyes-decretos-supremos.php>
- (1) Bolivia Forestry Chamber (Cámara Forestal de Bolivia): <http://www.cfb.org.bo/bolivia-forestal/bosques-en-bolivia>
- (2) El diario:
http://www.eldiario.net/noticias/2016/2016_03/nt160322/economia.php?n=15&en-bolivia-deforestacion-llega-a-350-000-hectareas-al-anio
- (7) CEDLA: <http://cedla.org/content/21428>
- (6) Friends of Nature Foundation (Fundación Amigos de la Naturaleza):
https://issuu.com/fundacionamigosdelanaturaleza/docs/sintesis_ambiental_bosque_ley_337
- (3) CEBID: http://www.cedib.org/post_type_titulares/la-aprobacion-de-los-planes-de-desmonte-crece-en-81-por-ciento-los-tiempos-21-6-15/
- (8) Monographs, Agrarian Property in Bolivia (Monografías, Propiedad Agraria en Bolivia):
<http://www.monografias.com/trabajos104/propiedad-agraria-bolivia/propiedad-agraria-bolivia.shtml>

1.2.5. Risk determination

Overview of Legal Requirements

Bolivia does not have specific agricultural planning legislation. Nevertheless, there are laws that intervene and regulate the management of farm property, such as Law 1700 (Forest Law) and Law 1333 (Environmental Law).

To manage deforestation (conversion) of native forests, a Property Zoning Plan (Plan de Ordenamiento Predial (POP, Spanish acronym) is required as the first stage and prior the conversion is approved by the ABT, which is an instrument for the zoning of lands on a property according to different usage and productive capacities. The land must be used in accordance with its highest potential use capacity, regardless of its property regime or tenure. The property zoning plan shall be subject to approval and auditing by the Authority for Auditing and Socialization of Forests and Lands (ABT), as well as to the control of ecological, forest and forest land easements on private property.

Environmental Law 1333, in Article 66 of Chapter IX, Agricultural and Livestock Activity, says: Farming production must be developed in such a way that sustainable usage and production systems are achieved, considering the following:

- The use of soil for farming shall be subject to practice norms that ensure the conservation of agro-ecosystems.
- The Ministry of Farmer and Farming Affairs shall help to implement plans for the restoration of soil subjected to agricultural usage in the different regions in the country.(9).

Obligations related taxpayer registration exist. The National Digital Biometric Taxpayer Registry (Padrón Nacional de Contribuyentes Biométrico Digital) is a mandatory registry for all Natural Persons, One-Person Companies, pro indivisos and Legal Persons, regardless of whether the legal personality of the latter is recognized, citizens, foreigners, residents in the country, who conduct taxable activities and are required to pay any of the taxes established by Law 843 (Current Taxation Text), as well as all persons who are not required to pay taxes but are required to act as agents of withholding and/or payment of taxes established in the Law mentioned, are required to register in the National Digital Biometric Taxpayer Registry in order to obtain their Taxpayer Identification Number (Número de Identificación Tributaria).

Specifically, obligations related taxpayer registrations for rural areas are::

- If still conducting the title process, they must provide information each year about their land through the cadastral file.
- Submit an annual report to National Taxation Service of changes in production area for the regulation of their tax payments.
- Submit a monthly report to auditors of the use of controlled substances (gasoline, diesel and others depending on their use).

Medium properties or agricultural companies must comply yearly and show their Economic-Social function (Función Económico-Social (F.E.S. , Spanish acronym)). Lands owners or companies representative shall submit their Property Zoning Plan (Plan de Ordenamiento Predial (POP, Spanish acronym)) to National Taxation Service, which demonstrates the sustainable use of the land for the development of productive activities or other uses through contracts with salaried staff, registration of livestock, authorization for performing forest or conservation activities, accreditation for improvements, etc. Farmer property, small property, community property and Native Community Lands comply with the social function, so they only must demonstrate that they are living on the location or are performing some type of productive activity.

In general terms, Environmental Law 1333 regulates the requirement to practice farming activities in a responsible and sustainable manner.

The Forest Law 1700 (in the regulation pertaining to the Forestry Law 1700) states:

- Article 26 establishes forest rights harvesting only when its performance meets with protection and sustainable use of forest lands.
- Art. 27 establishes that classifications of land based on land use plans will be generally valid if there are no property zoning plans that determine definitive uses.
- Art. 29 establishes that, for lands with forest cover that are designated for uses that involve the forced degradation of the ecosystem, such as farming, only zoning at the property level will technically and legally constitute the definitive determination of permitted uses, according to the different formations, characteristics and particularities within the property.

To request permission and authorization for the conversion of native forests (Forestry Law 1700), a Property Zoning Plan must be submitted as well as an Integral Forest and Land Management Plan. Deforestation Authorization also must be requested.

For small landowners and communities, Article 1 of Law 741 states:

- the Authority for Auditing and Socialization of Forests and Land – AB may authorize the

deforestation of up to twenty hectares (20 ha) on land:

- with forest cover that is suitable for diverse uses and on land with permanent forest production, without the submittal of Property Zoning Plans (POP, Spanish acronym); or
- on small properties, community or collective properties and human settlements with the Authorization Resolution, in an expedited and simplified form. In these cases the deforestation authorisation of up to twenty hectares (20 ha) will be provided on a household basis.

The Agrarian Law 1715 requires the sustainable management of land in accordance with that law.

Description of risk

There is a risk that soy farmers are not registered taxpayers, in accordance with the law.

- The National Digital Biometric Taxpayer System is a mandatory registry for all persons, and the basis for registering in the National Taxation Service to obtain a Taxpayer Identification Number.
- The Unified Farming Regime (Régimen Agrario Unificado (RAU, Spanish acronym)) exists in the agricultural sector for small and medium producers (see explanation in section 1.3). In general, there is compliance with this registration because it is economically beneficial for producers. The main problem is abuse by large producers who try to register under the RAU though they are General Regime taxpayers.
- Large producers who are only involved in soy production or stakeholders who have industrialized processes in addition to farming activity must register under the General Regime. Those who are not small or medium producers or are only involved in agricultural production must register with the Bolivia Commerce Registry (see section 1.6). According to the experts consulted, there is a tendency to create a legal status that makes one appear to be a medium producer in order to participate in the economically attractive RAU regime.
- The requirement to register with Internal Taxes (RAU System) is generally complied with because of the economic advantages provided to agricultural producers.

There is a risk of a noncompliance with the main management regulatory requirements such as the Property Zoning Plan and deforestation by large and medium soy farms.

- This risk is mainly linked to the lack of public information on how these producers are meeting the relevant requirements.
- Bolivia does not have any regime that regulates the management and cultivation of soy. Limits exist in terms of the maximum amount of land and foreign property and the requirement to fulfil the social economic function, but this is more closely related to the maximum size of the property (see section 1).
- The current management restrictions on soy crops relate to the requirements in the forestry legislation and deforestation for increasing the productive area of land containing forest cover. It signifies compliance with the submission of a Property Zoning Plan and requesting Authorization for management activities and/or authorization for the deforestation of forests.
- The deforestation index in Bolivia has remained moderate, nevertheless it has been increasing since 1990 at a rate that is cause for concern, primarily due to the production of soy in the northern (Integrated Zone) and eastern (Expansion Zone) regions of the state of Santa Cruz. Eighty-two percent of deforestation occurs in the state of Santa Cruz and 80% of the forests have been deforested illegally, according to the Authority for Auditing and Control of Forests and Land (ABT, 4) (note the high rates of deforestation in the other

states are mainly driven by the cattle ranching sector and not the soy farming sector).

- According to the data from the ABT, during the first half of 2015 illegally deforested areas were identified on 80 properties, with a total area of 28,714 hectares. In the year 2014, 166,511 hectares were substituted, of which 88% were illegal and only the remaining 12% were authorized (4). In summary, Nevertheless, the requirements related to management tools, such as the Property Zoning Plan and the procedures to request and obtain authorization for deforesting are often ignored.
- As the management planation, regulatory requirements for small plantations are minimal and 20 hectares of deforestation is permitted and small soy plantations usually do not deforest beyond this limit it is considered Low risk for small soy plantations.

Risk conclusion

This indicator has been evaluated as **elevated risk** for medium and large soy plantations in Santa Cruz's integrated and extension zones due to high level of non-compliance with key management regulatory requirements such as the Property Zoning Plan (and authorised deforestation see Category 4.1 for more details on deforestation risks).

As the management planation, regulatory requirements for small plantations are minimal and normally upheld across Santa Cruz this indicator is deemed **low risk** for small soy plantations.

1.2.6. Risk designation and specification

Santa Cruz Integrated Zone - Elevated risk for large and medium soy plantations, low risk for small plantations

Santa Cruz Extension Zone - Elevated risk for large and medium soy plantations, low risk for small plantations.

1.2.7. Control measures and verifiers

- Demonstrate that the soy farm is legally established and is accurately registered in the National Taxation Service.

Verifiers:

- Identity Card (current)
- Taxpayer Identification Number (NIT, Spanish acronym)
- Property title or equivalent document; (property card or establishment file) pertaining to the farm property or properties; if a property document is lacking, include a certificate of the association affiliation (for example, anapo, fegasacruz, etc.)
- Demonstrate that the soy farm has all the documents required to obtain authorization for the management of the land, and verify on-site that it is complying with these documents and has not performed any illegal deforestation (demonstrate compliance with Law 1700 (Forestry) and its regulation D.S. Nº 24453).

Verifiers:

- Authorized Plan for Land Use Change
- Property Zoning Plan
- Official maps from ATB

1.3. Payment of royalties and required fees

Legislation covering payment of all legally required commodity fees such as royalties and other volume based fees. It also includes payments of the fees based on correct classification of quantities, qualities

and species. Incorrect classification of products is a well-known issue often combined with bribery of officials in charge of controlling the classification.

1.3.1. Royalties and Fees

There are no specific fees or royalties for soy or soy production.

1.3.2. Applicable laws and regulations

N/A

1.3.3. Legal authority

N/A

1.3.4. Legally required documents or records

N/A

1.3.5. Sources of information

Government sources

- National Taxation Service (Impuestos Nacionales): <http://www.impuestos.gob.bo>
- National Taxation Service (Impuestos Nacionales): <http://www.impuestos.gob.bo/culturatributaria/index.php/impuestos-en-facilito/principales-impuestos>

Non-Government sources

- (1) CIAT: <http://www.ciat.org/index.php/productos-y-servicios/ciatdata/perfil-de-los-paises/bolivia.html#pie>
- (2) Community of Authorized Public Accountants (Comunidad de Contadores Públicos Autorizados): <http://auditoresycontadores.blogspot.com.ar/>; <http://auditoresycontadores.blogspot.com.ar/2012/09/regime-agrario-unificado-rau.html>
- (8) ANAPO, RAU: http://www.anapobolivia.org/images/publicacion_documentos/Preguntas%20frecuentes-RAU.pdf
- (3) Auditors and Accountants (Auditores y Contadores): <http://auditoresycontadores.blogspot.com.ar/>
- (4) Auditors and Accountants (Auditores y Contadores): <http://auditoresycontadores.blogspot.com.ar/2012/09/regime-agrario-unificado-rau.html>
- (5) UCCS: http://www.uccs-america.org/uccs-america/files/Documentos/Impuestos/2016/Impuestos_Bolivia_esp.pdf
- (6) Expert consulted: Marlene Ibanez
- (7) Soy Observatory (Observatorio de Soja): <http://observatoriosoja.org/nota-breve/tenencia-de-la-tierra-en-bolivia/>

1.3.5. Risk determination

There are no specific fees or royalties for soy or soy production as such this indicator is considered not applicable.

Risk conclusion

This indicator has been evaluated as not applicable.

1.3.6. Risk designation and specification

N/A

1.3.7. Control measures and verifiers

N/A

1.4. Value added taxes and other sales taxes.

Legislation covering different types of sales taxes which apply to the material being sold. Risk relates to situations where products are sold without legal sales documents or far below market price resulting in illegal avoidance of taxes.

1.4.1. Applicable laws and regulations

- Law 843 (Full Text) - (Tax Law) Ley de Impuestos - [http://www2.congreso.gob.pe/sicr/cendocbib/con4_uibd.nsf/90BD224B9F128EF405257DF70075842D/\\$FILE/Ley_843_TextoOrdenadoDiciembre_2005.pdf](http://www2.congreso.gob.pe/sicr/cendocbib/con4_uibd.nsf/90BD224B9F128EF405257DF70075842D/$FILE/Ley_843_TextoOrdenadoDiciembre_2005.pdf)
- Law 2492 (Full Text) - Bolivian Tax Code (Código Tributario Boliviano) - https://ciatorg-public.sharepoint.com/SiteAssets/EstudiosTributarios/CIATData/CodigosTributarios/es/Bo-CT_Ley249_2-30_09_14.pdf
- DS No. 21530 (Full Text) - Regulation pertaining to the Value-Added Tax (Reglamento del Impuesto al Valor Agregado) - <http://www.lexivox.org/norms/BO-DS-21530R1.xhtml>
- Law 1715 (Full Text) - NATIONAL SERVICE AGRARIAN REFORM LAW (LEY DEL SERVICIO NACIONAL DE REFORMA AGRARIA) - [link](#)
- Law 3545, Article 3 - MODIFICATION OF LAW 1715, REDIRECTION OF AGRARIAN REFORM, NOVEMBER 28, 2006 (MODIFICACION DE LA LEY N° 1715
- RECONDUCCION DE LA REFORMA AGRARIA) - [link](#)
- DECRETO SUPREMO N° 24.463 (Full Text) - UNIFIED FARMING REGIME (REGIME AGROPECUARIO UNIFICADO RAU) - [link](#)
- LEY GENERAL DE ADUANAS, N° 1990 (Full text) - TAXES ON FOREIGN COMMERCE (IMPUESTOS SOBRE EL COMERCIO EXTERIOR) - [link](#)

1.4.2. Legal authority

- National Taxation Service (Impuestos Nacionales)

1.4.3. Legally required documents or records

- RAU Registration (it enables one to determine whether VAT applies)

For large producers and companies:

- Taxpayer Identification Number (Número de Identificación Tributaria (NIT))
- Monthly submission of Forms 200 and/or 210 (exporters, for tax refunds)
- Purchase/Sales Journal (Libro de Compras y Ventas (LCV, Spanish acronym)) and monthly summary of VAT

1.4.4. Sources of information

Government sources

- National Taxation Service (Impuestos nacionales): <http://www.impuestosnacionales.gov.bo>

- National Taxation Service (Impuestos nacionales): <http://www.impuestos.gob.bo/culturatributaria/index.php/impuestos-en-facilito/principales-impuestos>

Non-Government sources

- (1) CIAT: <http://www.ciat.org/index.php/productos-y-servicios/ciatdata/perfil-de-los-paises/bolivia.html#pie>
- (2) CIAT: http://www.estimacionestributarias.com/archivos/Incumplimiento%20AL%20pecho_pelaez_sanchez.pdf
- (3) Auditors and Accountants (Auditores y Contadores): <http://auditoresycontadores.blogspot.com.ar/>
- (4) Auditors and Accountants (Auditores y Contadores): <http://auditoresycontadores.blogspot.com.ar/2012/09/regime-agrario-unificado-rau.html>
- (5) UCCS: http://www.uccs-america.org/uccs-america/files/Documentos/Impuestos/2016/Impuestos_Bolivia_esp.pdf
- (6) Expert consulted: Marlene Ibanez
- (7) Soy Observatory (Observatorio de Soja): <http://observatoriosoja.org/nota-breve/tenencia-de-la-tierra-en-bolivia/>
- (8) ANAPO, RAU: http://www.anapobolivia.org/images/publicacion_documentos/Preguntas%20frecuentes-RAU.pdf
- Community of Authorized Public Accountants (Comunidad de Contadores Públicos Autorizados): <http://auditoresycontadores.blogspot.com.ar/>
- Auditors and Consultants (Auditores y Consultores): <http://auditoresycontadores.blogspot.com.ar/2012/09/regime-agrario-unificado-rau.html>
- Taxes in Bolivia (Tributos en Bolivia): <http://boliviaimpuestos.com/tributos-en-bolivia-para-principiantes/>
- Taxes Made Easy (Impuestos facilito): <http://www.impuestos.gob.bo/culturatributaria/media/k2/attachments/IMPUESTOSENFACILITO.pdf>
- Corporations (Sociedades comerciales): <http://www.monografias.com/trabajos93/sociedades-comerciales-bolivia/sociedades-comerciales-bolivia.shtml>

1.4.5. Risk determination

Overview of Legal Requirements

Two laws regulate taxes in Bolivia, Law 843 (updated) and the Tax Code (Law 2492, updated). Law 2492, or the Bolivian Tax Code, is the fundamental legal norm for tax law in Bolivia and regulates the legal relationship between the treasury and taxpayers. The previous Tax Code was approved on May 28, 1992 as Law 1340 and was substituted by Law 2492 on August 2, 2003.

For the farming sector, there is a simplified regime which pertains to nearly all those involved in farming. The large producers dedicated only to soy production or those who also use industrialized processing in their farming activity are governed by the General Regime. The points below explain the key aspects for soy producers.

- **Duties:** Taxes are classified as: taxes, fees (tasas), special payments and municipal taxes

(patentes municipales).

- **Responsible Parties:** the responsible party is the Ministry of the Economy and Public Finances (Ministerio de Economía y Finanzas Públicas), who formulates and designs policies to obtain resources for the government by means of taxes. This Ministry governs the Tax Administration (Administración Tributaria) which is composed of the Federal Taxation Service (Servicio de Impuestos Nacionales) and the Federal Customs of Bolivia (Aduana Nacional de Bolivia).
- **Taxpayers:** Taxes are paid according to the income of each person or institution, in proportion to their financial capacity as established by Law. Taxpayers may be Natural or Legal Persons. The National Digital Biometric Taxpayer Registry (Padrón Nacional de Contribuyentes Biométrico Digital) is a mandatory registry for all who conduct taxable activities and are required to pay any of the taxes established by Law 843 (Current Taxation Text). A Taxpayer Identification Number (Número de Identificación Tributaria) is allocated. The Digital Biometric Registry is the taxpayer registry of the Taxpayer Administration which enables increasing the security of the registration process and facilitates the taxpayers' operations by recording their fingerprints, photographs, signatures, the georeferenced location of their residence and the digitalization of supporting documents. The service enables the taxpayer to conduct processes from the comfort of their home or office through Oficin@ Virtual.
- **Registration:** Registration in the National Taxation Service (Servicio de Impuestos Nacionales) is required in order to fulfil their tax obligations. The General Regime corresponds to all taxpayers with a Taxpayer Identification Number (NIT, Spanish acronym) and who issue the corresponding invoices.
- **Taxes:** Three types of taxes exist for agricultural producers who are not registered under RAU: value-added tax (VAT), Transactions Tax (IT, Spanish acronym) and Corporate Income Tax (IUE, Spanish acronym, Impuesto sobre las Utilidades de las Empresas).
- **Tax regimes:** Two tax regimes exist for the soy sector, the **Unified Farming Regime (RAU)**, which includes nearly all soy producers in Bolivia (specifically if they declare agricultural and livestock production, which in general permits them to exceed the total limit established by legislation of 5,000 hectares (see section 1) when dividing their property among the various members; and the General Regime, which regulates large properties and those that include some type of transformation process on their properties, and must pay the value-added tax VAT (13%), the transaction tax IT (3%) and the Corporate Income Tax IUE.

Unified Farming Regime (RAU, Spanish acronym)

- The Unified Farming Regime (RAU, Spanish acronym) (D.S. 24463 and 24988) is a special tax payment regime through which federal taxes corresponding to the value added (VAT), transaction (IT), complementary value-added tax regime (RC-VAT) and corporate income (IUE) are paid annually, in simplified form.
- The regulation is application to:
 - Natural or individual persons and joint land tenants who perform agricultural or livestock activities on properties whose area falls within the established boundaries to belong to this regime.
 - Farm cooperatives (with specific characteristics)
 - Natural persons or individuals who, regardless of the size of their property, perform activities in the areas of poultry farming, apiculture, flower cultivation, rabbit breeding and fish farming.
- Those required to pay under the RAU tax regime (soy producers with agricultural farms between 51 and 1.000 ha) must register and obtain a Taxpayer Identification Number (NIT,

Spanish acronym). To this end, residence must be established within the urban radius of the cities or towns in the country for all fiscal matters, and the corresponding paperwork must be completed with the federal tax service administration (free and in person).

- After registering with the RAU, which must be done through a sworn statement made in the presence of the entity authorized by the National Taxation Service, as in the case of ANAPO (Oil and Wheat Producers Association), the RAU tax is paid annually at the tax collection entities, in a single payment using Form 701. The requirements are: photocopy of the NIT registration certificate for the Unified Farming Regime (RAU) and property title or equivalent document.
- The tax amount is based on the area affected by the agriculture or livestock activity. The established fees per hectare must be paid, which are published yearly by the National Taxation Service in the Regulatory Resolutions Directorate (Resolución Normativa de Directorio). The change in regime is irreversible and, therefore, those who change to the general tax regime may not later request reincorporation under RAU.
- Small landowners (from 0 to 50 ha), established by agrarian legislation and for RAU matters, are excluded (exempt) from the payment established by the Unified Farming Regime, but must submit the corresponding legal certificate of exemption, which is demonstrated with Form 280v2, along with the property Title (or certificate of possession, if applicable). The Exemption Certificate must be submitted annually.
- A special RAU tax tool has been created for small and medium producers, defined as:
 - 0-50 hectares (small landowners) do not pay any taxes
 - 51-1000 hectares of agricultural use must pay an RAU tax of 25.5 Bs/hectare used. This is the Rural Property Goods Tax (Propiedad de Bienes inmuebles Rurales (IPBI-R, Spanish acronym)). This tax is paid every year to the authorized financial entities. Taxpayers belonging to the Unified Farming Regime are required to present Form 701 once per year, up to October 31 (3, 4, 5).
 - All sales of products require that the certificate of registration in the RAU be shown, as well as proof of tax payments from the last tax period be displayed.

Quantity of producers per the distribution of land and belonging to the RAU regime

Size (Hectares)	Percentage	Number of Properties	Area in ha	RAU
Small (0 to 50)	78%	10,900	100,000	Yes
Medium (50 to 1,000)	20%	2,800	200,000	Yes
Large (>1,000)	2%	300	700,000	No

Table 1: Estimated number of soy producers based on data from ANAPO and the Soy Observatory (7,8)

Producers Not Registered under the Unified Farming Regime (RAU): Corporate Income Taxes and taxes for transfers apply to all producers and companies in the soy sector that are not regulated by the RAU (see contexts and considerations pertaining to “Taxation”). The Tax Law (Law 843) regulates all taxes for the government of Bolivia, including the payment of Corporate Income Taxes by companies (IUE, Spanish acronym), through Title III, Chapters I through V, beginning with Art. 36 and DS 24051.

Value-Added Tax (Impuesto al Valor Agregado (VAT))

- This Value-Added Tax is paid for all sales of goods, construction contracts, service contracts and imports. The value-added is the additional value acquired by goods or services when

transformed during the production process. In other words, it is the economic value that a particular production process adds to the raw material used in production.

- The tax is applied to all natural and legal persons who perform the abovementioned operations. The percentage on sales is 13%, which is applied to fiscal debits and credits.
- The tax is paid monthly in accordance with the due date indicated by the last digit in the NIT, using Forms 200 or 210 for exporters who request a tax refund.
- To calculate this tax, all sales and purchases must be registered in a book called a Sales/Purchases Journal (Libro de Compras y Ventas (LCV)), and supported by the corresponding invoices.
- VAT (Tax Law Article 1) is set at 13% and monthly payments of the tax are required, in accordance with the Purchase/Sales Journal (Compra y Venta (LCV, Spanish acronym)) and the corresponding invoices. DS No. 21530 is the regulation pertaining to the value-added tax.
- Companies registered in the Unified Farming Regime (RAU) are not required to pay VAT, while large companies over 1,000 hectares or companies with transformation processes pay the value-added tax.
- For properties registered under the RAU that do not comply with the conditions established by this regime, the landowner shall be responsible for the obligations established by Law 843 and its Regulatory Decrees. If the RAU is not presented when selling a product, the company will subtract 8% (3%IT and 5%IUE retentions) from the payment, or 3.5 % for export companies. The company registered under RAU does not pay VAT, while large companies or those with transformation processes do pay the value-added tax.

Transactions Tax (Impuesto a las Transacciones (IT))

- The Transactions Tax (IT) is regulated by Law 843, Title VI, Chapters I through IV and in DS No. 21532. Gross earned income obtained from any activity regardless of whether it is profitable. This includes agriculture companies with any degree of industrial transformation.
- This tax is paid for economic activities performed in the national territory, and includes trade, industry and professional or rental activities, among others.
- Transaction is understood as any purchase or sale of a good and/or service within the territory of Bolivia. All natural or legal persons who perform the activities mentioned above pay the IT monthly in accordance with the due date indicated by the last digit in the NIT, using Forms 400 for recurring transactions. The rate is 3% of the transaction amount.

Description of risk

There is a risk of tax evasion, particularly with large producers and/or companies who do not fall under the Unified Farming Regime (Régimen Agrario Unificado (RAU, Spanish acronym)) tax regime.

Small landowners (between 0 – 50 ha)

- are exempt from the payment established by the Unified Farming Regime (RAU), and are also exempt from paying taxes. However, they have to submit a legal certificate of exemption corresponding to the NIT and property Title (or Certificate of possession when applicable).
- Small properties generally comply with the requirements established by the RAU regime.

Medium properties (50-1.000 ha)

- are generally registered under the RAU. They are required to pay the Rural Property Tax (Impuesto a la Propiedad de Bienes inmuebles Rurales (IPBI-R, Spanish acronym)).
- Given how the RAU is designed, the advantages provided to the producer, and the small

economic volume corresponding to this tax payment, there is not considered a relevant risk for medium properties to be registered in RAU.

Large properties (+1000 ha)

- Large properties and companies who produce soy must operate according to the general regime and comply with its established tax obligations, in which no tax payment is established for production rights.
- Large soy producers pay VAT and IT taxes, the RAU does not apply. Agricultural producers and companies with transformation processes are also subject to taxation requirements.
- According to the experts consulted, many large landowners divide their properties so that they fall under the RAU regime in order to avoid paying VAT taxes.
- Just for VAT, the study "Estimation of Non-Compliance with Taxes in Latin America (2000 - 2010)" ("Estimación del Incumplimiento Tributario en América Latina") (2) performed by Gómez Sabatini and Jiménez (2011) found a lack of compliance of 29% of the total VAT paid in the year 2004 in Bolivia (2, page 13)
- Bolivia has a level of informality of 44.9% (2, page 17) in the payment of taxes, which indicates that tax evasion is considerable.

Risk conclusion

This is considered low risk for small and medium producers who fall under the RUA regime, since they are not required to pay VAT, IT, or any other tax or fee associated with the sales of the product.

Given the high degree of informality/lack of enforcement in the payment of taxes in Bolivia, this is considered elevated risk for large producers or companies who do not fall under the RAU and who are required to pay taxes associated with the sale of the product.

1.4.6. Risk designation and specification

Santa Cruz Integrated Zone – RAU registered producers: (Small Family subsistence agriculture / Medium Commercial Mechanized) - Low Risk

Santa Cruz Integrated Zone - Large producers and companies (large company, industrializer) - Elevated risk

Santa Cruz Extension Zone - RAU: (Small Family subsistence agriculture / Medium Commercial Mechanized) - Low Risk

Santa Cruz Extension Zone - Large producers and companies (large company, industrializer) - Elevated risk

1.4.7. Control measures and verifiers

Risk of unlawful diversion of land into separate estates to come under RAU applicability as a way of avoiding taxes.

To detect this, ensure correct registration of the farmer/producer/company in the National Taxation Service.

Verifiers:

- Photocopy of NIT registration certificate
- Certificate of registration under RAU to verify whether they are exempt from VAT and IT
- Property title, property card, endowment or land grant or consolidation file or equivalent document

- Check last year's balance sheet of the farmer/producer/company
 - Verifiers:*
 - Annual company report
 - Purchase/Sales Journal (Libro de Compras y Ventas (LCV))
 - Invoices
 - Demonstrate that the monthly VAT and IT payments have been made. The rates paid must correspond with the production volumes and prices that are show by the sales documents (invoices and receipts)
 - Verifiers:*
 - Forms 200 or 210
 - Sales documents shall include applicable VAT
 - Form 400 (IT Tax)
- b) Risk of non-payment of fees due to low compliance enforcement.
- Demonstrate that the monthly VAT and IT payments have been made. The rates paid must correspond with the production volumes and prices that are show by the sales documents (invoices and receipts)
 - Verifiers:*
 - Forms 200 or 210
 - Sales documents shall include applicable VAT
 - Form 400 (IT Tax)

1.5 Income and profit taxes

Legislation covering different types of sales taxes which apply to the material being sold. Risk relates to situations where products are sold without legal sales documents or far below market price resulting in illegal avoidance of taxes.

1.5.1. Applicable laws and regulations

- Law 843 (Full Text) - Tax Law (Ley de Impuestos) - [link](#)
- Law 2492 (Full Text) - Bolivian Tax Code (Código Tributario Boliviano) - [link](#)
- DS No 24051 (Full Text) - Regulation pertaining to Corporate Income Taxes (Reglamento al Impuesto a las Utilidades) - [link](#)
- DS No 21532 (Full Text) - Reorganización de Empresas - [link](#)
- Regulatory Resolution (Resolución Normativa) No 10001012 - PHYSICAL PRESENTATION OF ELECTRONIC FINANCIAL STATEMENTS, REGULATORY RESOLUTION DIRECTORATE (PRESENTACIÓN FÍSICA Y DIGITALIZADA DE ESTADOS FINANCIEROS)
- RESOLUCIÓN NORMATIVA DE DIRECTORIO)
- La Paz, May 11, 2012 - [link](#)

1.5.2. Legal authority

- National Taxation Service (Impuestos Nacionales): <http://www.impuestos.gob.bo>

1.5.3. Legally required documents or records

For Companies

- NIT Number
- Accounting records
- Financial statement or year-end report.

1.5.4. Sources of information

Government sources

- National Taxation Service (Impuestos Nacionales): <http://www.impuestosnacionales.gob.bo>
- National Taxation Service (Impuestos Nacionales): <http://www.impuestos.gob.bo/culturatributaria/index.php/impuestos-en-facilito/principales-impuestos>
- National Taxation Service (Impuestos Nacionales): <http://www.impuestos.gob.bo/culturatributaria/media/k2/attachments/CUADROGENERALD EIMPUESTOS.pdf>

Non-Government sources

- (1) Community of Authorized Public Accountants (Comunidad de Contadores Públicos Autorizados): <http://auditoresycontadores.blogspot.com.ar/>
- (3) CIAT: <http://www.ciat.org/index.php/productos-y-servicios/ciatdata/perfil-de-los-paises/bolivia.html#pie>
- (2) CIAT: http://www.estiacionestributarias.com/archivos/Incumplimiento%20AL%20pecho_pelaez_sanchez.pdf
- (4) Taxes in Bolivia (Tributos en Bolivia): <http://boliviaimpuestos.com/tributos-en-bolivia-para-principiantes/>
- (5) Taxes Made Easy (Impuestos facilito): <http://www.impuestos.gob.bo/culturatributaria/media/k2/attachments/IMPUESTOSENFACILITO.pdf>
- (6) Corporations: <http://www.monografias.com/trabajos93/sociedades-comerciales-bolivia/sociedades-comerciales-bolivia.shtml>
- (7) ICT-CIAT: <http://www.ciat.org/index.php/productos-y-servicios/encuestas/percepciones-sociales-sobre-el-incumplimiento.html>

1.5.5. Risk determination

Overview of Legal Requirements

The Tax Law (Law 843) and the Bolivian Tax Code (Law 2492) regulate all taxes in Bolivia. The Tax Law regulates the payment of corporate income taxes (IUE, Spanish acronym) in Title III, Chapters I through V beginning with Art. 36 and DS 24051.

The Corporate Income Tax is applied to all producers and companies in the soy sector that are not regulated by the RAU (see 1.4.5).

Corporate Income Tax (Impuesto sobre las Utilidades de las Empresas (IUE)(1,4,5))

Agricultural and livestock properties that perform any kind of transformation process on their properties and that do not fall under the RAU regime must pay Corporate Income Tax (IUE). The rate is 25% of profits, whether determined or presumed.

The IUE is the tax paid for profits gained upon the closing of each accounting cycle (gross profit minus deductible expenses). This tax will be calculated if profits exist, otherwise no tax is

paid. This amount is usually included in the financial statements of natural and legal persons, which show the result of annual operations.

The IUE is applied to public and private companies as well as one-person companies and branches that perform some of their activities in the country. The payment is made through the National Taxation Service using the following forms:

- F500 for companies that are required to keep accounting records *(According to Regulatory Resolution No. 10001012) (Also see section 1.6).
- F605 for the submission of financial statements or annual reports.
- F520 for companies not required to keep accounting records.

They are paid yearly, up to 120 days after the close of the fiscal cycle.

* Those required to pay IUE categorized as PRICOS and GRACOS taxpayers, as well as the remaining taxpayers with sales and/or gross income equal to or over 1,200,000 Bs (172,785,93 USD) are required to physically submit Financial Statements along with an External Audit Report or Annual Report and other relevant documents.

Description of risk

There is a risk of tax evasion, particularly with large producers and/or companies who do not fall under the Unified Farming Regime (Régimen Agrario Unificado (RAU, Spanish acronym)) tax regime.

- According to the survey performed in 2013 by ICT and CIAT (2), just half of those surveyed (50.3%) consider Bolivians to be "responsible in terms of the tax payments." Only 4 out of 10 people (39.4%) surveyed consider Bolivians to "comply with the laws."
- The Corporate Income Tax is virtually unknown by two out of three Bolivians (62.7%). Based on the survey and given the high level of corruption in Bolivia (see introduction) and due to the lack of sufficient supporting information to the contrary, the conclusion is that the taxes are not properly paid.
- According to the study "Estimation of Tax Non-Compliance in Latin America (2000 -2010) (Estimación del Incumplimiento Tributario en Latina América)" (7) by Gómez Sabatini and Jiménez (2011), a lack of compliance of 29% has been detected for VAT alone (page 13). Bolivia has a level of informality of 44.9% (page 17) which indicates a significant rate of non-compliance with tax payments.

Risk conclusion

This is LOW RISK for small and medium producers who are registered under RAU, since they are exempt from paying this type of tax.

Due to the high degree of informality in the payment of taxes in Bolivia, this is an ELEVATED RISK for large producers or companies who do not fall under the RAU regime.

1.5.6. Risk designation and specification

Santa Cruz Integrated Zone - RAU: (Small Family subsistence agriculture/Medium Commercial Mechanized) - Low Risk

Santa Cruz Integrated Zone - Large producers and companies (Large Company, Industrializer) - Elevated risk

Santa Cruz Expansion Zone - RAU: (Small Family subsistence agriculture/ Medium Commercial Mechanized) - Low Risk

Santa Cruz Expansion Zone - Large producers and companies (Large Company, Industrializer) - Elevated risk

1.5.7. Control measures and verifiers

- Consult the National Taxation Service and verify the supplier is abiding by the relevant corporate income tax requirements:
 - NIT (Número de Identificación Tributaria) Registration number
 - National Taxation Service (Impuestos Nacionales) Report
 - Form 701 for RAU taxes payment - Submission of sworn statements
- Verify that Corporate Income Tax (IUE) payments have been made through seeking the following relevant forms:
 - Form 500 for companies required to keep accounting records or Form 520 for companies not required to keep accounting records.
 - Form 605 to submit financial statements or annual reports.
- Consultation with stakeholders and neighbours about the ethical behaviour of the farmers, producers, companies.

1.6. Disclosure of information

Legislation covering requirements for regular business reporting to ensure information disclosure and transparency. Risk relates to lack of business transparency and/or incorrect disclosure of legally required business information.

1.6.1. Applicable laws and regulations

- Decree-Law 14379; Art. 127 - Commercial Code (Código de Comercio) - [link](#)
- Law 356 - General Law for Cooperative Corporations (Ley General de Sociedades Cooperativas) - [link](#)

1.6.2. Legal authority

- National Taxation Service (Impuestos nacionales): <http://www.impuestosnacionales.gov.bo>
- Chamber of Commerce Registry of Bolivia (Registro de Comercio de Bolivia): <http://www.registrodecomercio.bo/registro-de-comercio-de-bolivia/como-inscribir-una-empresa-en-bolivia/>
- Authority for Taxation and Socialization of Companies (Autoridad de Fiscalización y Control Social de Empresas (AEMP)): <http://www.autoridadempresas.gob.bo/>

1.6.3. Legally required documents or records

- NIT Number
- Registration in the Trade Registry
- Accounting records.
- Financial statements or annual reports

1.6.4. Sources of information

Government sources

- National Taxation Service (Impuestos nacionales): <http://www.impuestosnacionales.gov.bo>
- National Taxation Service (Impuestos nacionales): <http://www.impuestos.gob.bo/culturatributaria/index.php/impuestos-en-facilito/principales-impuestos>

- (1) Commerce Registry of Bolivia (Registro de Comercio de Bolivia): <http://www.registrodecomercio.bo/registro-de-comercio-de-bolivia/como-inscribir-una-empresa-en-bolivia/>

Non-Government sources

- (2) National Association of Oil and Wheat Producers (ANAPO- Asociacion Nacional de Productores de Oleaginosas): <http://www.anapobolivia.org/>
- (3) Community of Authorized Public Accountants (Comunidad de Contadores Públicos Autorizados): <http://auditoresycontadores.blogspot.com.ar/>
- (4) Monographs (Monografias): <http://www.monografias.com/trabajos93/sociedades-comerciales-bolivia/sociedades-comerciales-bolivia.shtml>
- (5) Fundeempresa: <http://wsservicios.lapaz.bo/infoempresa/docs/fundguia%20de%20tramite%20para%20inscribir%20una%20sociedad%20de%20responsabilidad%20limitada%20srl%20en%20el%20reg%20de%20comercio%20Bolivia.pdf>
- (6) Taxes Made Easy (Impuestos en facilito): <http://www.impuestos.gob.bo/culturatributaria/media/k2/attachments/IMPUESTOSENFACILITO.pdf>
- (7) Fundaempresa: <http://www.fundaempresa.org.bo/registro-de-comercio-de-bolivia/como-inscribir-una-empresa-en-bolivia/>
- (8) Americaeconomia: <http://www.americaeconomia.com/economia-mercados/comercio/numero-de-empresas-en-bolivia-aumentan-661-en-una-decada-pero-con-poca-ge>
- (9) ICT-CIAT:: <http://www.ciat.org/index.php/productos-y-servicios/encuestas/percepciones-sociales-sobre-el-incumplimiento.html>
- (10) Fundaempresa: http://www.fundaempresa.org.bo/docs/content/febrero_1027.pdf

1.6.5. Risk determination

Overview of Legal Requirements

Art. 125 and 126 of the Commercial Code regulates corporations and their different configurations. The Commerce Code was approved through Law 14379. The legal rules require the registration of the corporation in the Commerce Registry of Bolivia and (in the case of large properties in the soy sector and those with some transformation process performed on their property) the companies must submit their annual reports and balance statements to the National Taxation Service. 67% of medium and large agricultural producers in the soy sector are foreigners and the majority of these companies are registered as corporations. To establish a corporation, the interested parties must sign a document that addresses in detail the points required by law, in Commerce Code Art. 127. When the articles of incorporation correspond to a collective, a publicly-traded partnership, once written it must be registered with the Commerce Registry of Bolivia (SENAREC) (1). Before requesting the registration of the corporate charter, public limited companies and publicly-traded partnerships must obtain approval of the articles and their social statutes from the Department of Incorporation (Dirección de Sociedades por Acciones), along with founding charter and other required records. The founding of the corporation must be published immediately in a national newspaper.

Article 126 (Law 14.379), also stipulates that Commercial corporations, regardless of their mission, can only be constituted in one of the following forms: a) collective corporation, b) limited partnership, c) professional limited liability corporation, d) public limited corporation, e) publicly traded partnership and f) joint ventures.

Description of risk

There is a risk of non-compliance with the legal requirements for disclosure of information, specifically relating to annual report and balance statements:

- Reports of corruption by large producers, who trying to appear as medium producers in their financial statements to access tax benefits given to small and medium producers under the RAU tax regime.
- In 2005, the Active Business Base (Base Empresarial Activa) was 19,774 companies registered. This grew to 274,000 by March 2016 (Santa Cruz 76.000), of which 220.000 (85%) of the total are one-person companies and, therefore, only 54,000 of the total are required to submit financial statements and accounting records to the National Taxation Service (8,10).
- Soy is now an economically significant sector in Bolivia. The data corresponding to registered soy producers shows that 300 of the 14,000 registered are registered as large properties that do not fall under the special tax regime known as RAU. These 300 companies, 67% of which are foreign capital, control roughly 700,000 ha and 1.4 million tons of productions, representing the largest economic factor in the soy sector in Bolivia. Since the special RAU tax regime has attractive advantages, large producers try to make themselves appear to be medium producers to thereby avoid paying taxes, avoid registration in the Merchant Registry (Inscripción Registro Comerciantes), and avoid presenting Financial Statements and accounting records to the National Taxation Service).

Risk conclusion

This is LOW RISK for small and medium producers who are registered under RAU, since they are exempt from submitting financial statements and accounting records to the National Taxation Service.

This indicator has been evaluated as Elevated risk for large producers and companies. Identified laws are not upheld consistently by all entities, are often ignored, are not enforced by relevant authorities.

1.6.6. Risk designation and specification

Integrated Zone - RAU: (Small Family subsistence agriculture / Medium Commercial Mechanized) - Low Risk

Integrated Zone - Large producers and companies (Large Company, Industrializer) - Elevated risk

Extension Zone - RAU: (Small Family subsistence agriculture/Medium Commercial Mechanized) - Low Risk

Extension Zone - Large producers and companies (Large Company, Industrializer) - Elevated risk

1.6.7. Control measures and verifiers

- Verification of Certificate of registration under RAU. Unlawful diversion of company classification to come under RAU applicability as a way of avoiding taxes: Control of the correct registration of the company in the National Taxation Service.

Verifiers:

- Photocopy of NIT registration certificate
- Certificate of registration under RAU to verify whether they are exempt from VAT and IT
- Property title, property card, endowment or land grant or consolidation file or

- equivalent document
- Operating License
- Check last year's balance sheet of the company
 - Verifiers:*
 - Annual company report
 - Purchase/Sales Journal (Libro de Compras y Ventas (LCV))
 - Invoices
- Verify that the corporation, companies are officially registered in the official Chamber of Commerce Registry of Bolivia (Registro de Comercio de Bolivia (SENAREC)).
 - Verifiers:*
 - Certificate of current registration
 - Operating License
- Consult the National Taxation Service about their compliance with their tax requirement.
 - Verifiers:*
 - NIT (Número de Identificación Tributaria) Registration number
 - Tax Exemption Certificate
 - National Taxation Service (Impuestos Nacionales) Report
 - Sworn declarations submitted according to [form 701](#) for taxes payment under RAU.
- Review publications to verify whether the soy farm corporations have met the requirement to publish their annual reports and balance statements.
 - Verifiers:*
 - Required public reports (Reports and balance statements)
 - Fundempresa Registration <http://www.fundempresa.org.bo/inicio/>

SOCIAL ISSUES

2.1. Civil rights - legal employment

Legal requirements for employment of personnel involved in plantation activities including requirement for contracts and working permits, requirements for obligatory insurances, requirements for competence certificates and other training requirements, and payment of social and income taxes withhold by employer. Risk relates to situations/areas where systematic or large scale noncompliance with labour and/or employment laws. The objective is to identify where serious violations of the legal rights of workers take place, such as forced, underage or illegal labour.

2.1.1. Applicable laws and regulations

- CPE, Art. 157 and 158 - Political Constitution of the State (Constitución Política del Estado) - [link](#)
- General Labour Law (Ley General del Trabajo) (Full Text) - General Labour Law (Ley General del Trabajo) - [link](#)
- Supreme Decree (Decreto Supremo) N° 21060, Art 55 - Title III of the social regime, Chapter I of labour and relocation - (Título III, Del régimen social Capítulo I, Del empleo y de la relocalización) - [link](#)
- Law 1182, Art 13 - Law for Promotion of Investments (Ley de Promoción de Inversiones) - <http://www.lexivox.org/norms/BO-L-N516.xhtml>
- D.S. 28699 (Full Text) - Regulatory Rule for the General Labour Law (Disposición Reglamentaria a la Ley General del Trabajo) - [link](#)
- D.S 29292 (Full Text) - Inter-Governmental Council for the Eradication of Debt Bondage, Forced Labour and Similar Forms of Exploitation and approval of the Plan (Consejo Interministerial para la Erradicación de la Servidumbre, el Trabajo Forzoso y Formas Análogas de Explotación y aprueba el Plan)
- Transitory Inter-Governmental (Interministerial Transitorio) - [link](#)
- Law 548. CHILD AND ADOLESCENT CODE (CÓDIGO DEL NIÑO, NIÑA Y ADOLESCENTE) (2014).Full text - CHILD AND ADOLESCENT CODE (CÓDIGO DEL NIÑO, NIÑA Y ADOLESCENTE) - [link](#)
- D.S. 27443(2004) (Full Text) - Regulation pertaining to the Child and Adolescent Code (Reglamento a la Ley de Código Niño, Niña y Adolescente) - [link](#)
- D.S. 2748 (Full Text) - Establish 2016 salary increase, public and private sectors, and minimum salary (Establecer el incremento salarial gestión 2016, sector público, privado y salario mínimo) - [link](#)

2.1.2. Legal authority

- Ministry of Labour, Employment and Social Welfare (Ministerio de Trabajo, Empleo y Previsión Social)
- SANTA CRUZ LABOUR DEPARTMENT (OFICINA DEPARTAMENTAL DE TRABAJO)

2.1.3. Legally required documents or records

- Mandatory Employee Registry (Registro Obligatorio de Empleadores (ROE), Spanish acronym) Registration
- Employer NIT
- Employee Identify Card (Cédula de Identidad (CI, Spanish acronym))

- Bank certification of assets
- Labour Department Report (Oficina de empleo)
- Mandatory Social Security (Seguro Social Obligatorio)

2.1.4. Sources of information

Government sources

- MINISTRY OF LABOUR OF BOLIVIA (MINISTERIO DEL TRABAJO DE BOLIVIA): <http://www.mintrabajo.gov.bo>
- (12) National Statistics Institute (Instituto Nacional de Estadísticas (INE, Spanish acronym): <http://www.ine.gov.bo>
- SOCIAL AND ECONOMIC POLICY ANALYSIS UNIT (UNIDAD DE ANALISIS DE POLITICA SOCIALES Y ECONOMICAS (UDAPE, SPANISH ACRONYM): <http://www.udape.gov.bo>
- (1) Fundaempresa: <http://www.fundaempresa.org.bo/registro-de-comercio-de-bolivia/como-inscribir-una-empresa-en-bolivia/>
- (2) Commerce Registry of Bolivia (Registro de Comercio de Bolivia): <http://www.registrodecomercio.bo/registro-de-comercio-de-bolivia/como-inscribir-una-empresa-en-bolivia/>

Non-Government sources

- (10) BBC: http://www.bbc.com/mundo/noticias/2014/01/140110_bolivia_trabajo_infantil_vs
- (9) National Association of Wheat and Oil Producers (ANAPO- Asociacion Nacional de Productores de Oleaginosas): <http://www.anapobolivia.org/>
- SOMOSSUR: <http://somossur.net/index.php/bolivia/politica/seguimiento-al-nuevo-estado-plurinacional/921-cedla-datos-y-contexto-de-la-realidad-laboral-en-bolivia>
- (3) El Dia: https://www.eldia.com.bo/index.php?cat=357&pla=3&id_articulo=138697
- (4) UNAPE: http://www.udape.gob.bo/portales_html/Documentos%20de%20trabajo/DocTrabajo/2007/DT-0701.pdf
- (5) COA: <http://www.cao.org.bo/> OK:
- (6) El Diario: http://www.eldiario.net/noticias/2016/2016_06/nt160602/agraria.php?n=108&cao-agropecuaria-genera-1-700-000-millon-de-empleos-en-todo-el-pais
- (7) CEPBO: http://www.cepb.org.bo/doc_economicos/economico_UAL/Boletin_032011.pdf
- (8) wsserviciios: http://wsservicios.lapaz.bo/infoempresa/docs/formalizacion_empresa.pdf
- (11) ILO: http://www.ilo.org/wcmsp5/groups/public/---americas/---ro-lima/documents/publication/wcms_435169.pdf

2.1.5. Risk determination

Overview of Legal Requirements

The Eastern Agriculture Chamber (Agropecuaria del Oriente (CAO)) estimates that the farming sector generates 1,700.000 million jobs across the country, with 1,105,000 of the jobs in the agricultural sector (including soy). The Economically Active Population (Población Económicamente Activa (PEA, Spanish acronym)) is estimated at 5.5 million nationally, one-third of which works in the farming sector (65% in agriculture and 35% in cattle farming) according to data from the National Statistics Institute (Instituto Nacional de Estadística) (12)

INE, CAO-SIPREM. (5).

In addition to workers, other professionals and companies are engaged in agricultural services, such as factories, milling companies, and oil producers, among others. Adding these together, the farming sector's employment exceeds 50% of the economically active population, which represents roughly 2.5 million sources of jobs, of which 60% of the agricultural jobs are in the state of Santa Cruz, where the work is more mechanized (6, 10,11).

The farming sector usually employs unqualified workers in generally poor social security conditions and as temporary workers for sugar and crop harvesting. Farm work usually does not provide social security or health coverage, although the property owner does provide basic medical care (Situación 2014).

Soy production generates 120,000 sources of direct and indirect jobs in Bolivia, of which 65,000 employees are direct and 55,000 are indirect. According to ANAPO (9), 60% percent of these jobs are generated in Santa Cruz.

Characteristics of Employment

Employment in Bolivia is highly informal. The data indicates that between 60 and 70% of all employees are not registered in the Mandatory Employee Registry (Registro Obligatorio de Empleadores (ROE, Spanish acronym)).

Country	Relative size of Informal sector % of GDP	Percentage of informal jobs with respect to total employment	Participation of informal workers
Chile	18	39	37
Costa Rica	22	45	41
Ecuador	21	55	66
Argentina	23	44	44
México	27	41	54
Venezuela	31	52	54
Colombia	35	62	71
Uruguay	35	39	42
Brasil	38	46	55
Honduras	47	56	64
Perú	58	56	69
Panamá	62	43	50
Bolivia	65	67	77

Source: Developed by investigators based on data from Loayza (1997), ILO (2004) and Tornaroili (2006)

Table 1. Comparison of the Informal Sector by Country (2005)

According to UNAPE (4), informal work is generally related to jobs considered to be "bad jobs" while "good jobs" are related to a high rate of formal work. In turn, this situation is also related to discrimination, since this type of "bad" informal work involves all those who do not have access to the "formal" and quality workforce (children, women and rural workers).

The predominant work model in the agricultural sector corresponds to work considered "bad jobs," which is usually accompanied by a very high rate of informal work for both salaried workers and those working for others (analysis made specifically for the urban sector, which according to experts consulted in the rural sector is even more serious and engrained).

Bolivian Labour legislation is based on Articles 157 and 158 of the Constitution and the 1942 Labour Law. The legislation is updated by the various Supreme Decrees (DS, Spanish acronym) that regulate and modernize overall labour conditions, especially DS 21060 and 28699.

Employee registration

- Every six months, all employers are required to register their employees and report to and

update their information with the Mandatory Employee Registry (Registro Obligatorio de Empleadores (ROE, Spanish acronym)), of the Ministry of Labour, Employment and Social Welfare (Ministerio de Trabajo, Empleo y Previsión Social).

- Article 4 of Government Resolution 704/09, issued on September 21, 2009 stipulates that the only two requirements that must be submitted to register in the ROE are:
 - a) the Mandatory Employer Registry Form, filled out and signed by the legal representative of the institution (original and two copies) and
 - b) a deposit of 145 Bs (Bolivian pesos) in the Union Bank (Banco Unión).
- In addition to registration in the ROE, all workers, employees must be registered with the National Health Bank (CAJA NACIONAL DE SALUD) so that the personnel are covered by insurance in the case of common illnesses and accidents. It is also mandatory to enrol employees in the PENSION FUNDS ADMINISTRATORS (ADMINISTRADORAS DE FONDOS DE PENSIONES (AFP, Spanish acronym)), which must be registered with the long-term Mandatory Social Security (Seguro Social Obligatorio (SSO, Spanish acronym)), to guarantee the wellbeing of their employees through fair and dignified pensions (8).

Employer registration

- Decree 288 establishes the requirement that all *employers* register with the Ministry of Labour, Employment and Social Welfare (Ministerio de Trabajo, Empleo y Previsión Social).
- Employers are any individual or legal person with one or more dependent workers, that is, with one or several persons who perform functions under SUBORDINATE conditions (in relation to a hierarchical superior (boss)). DEPENDENCE means economic dependence on someone who pays their wages or salaries and INDEPENDENT WORKER is one who provides services for someone other than themselves.
- All companies registered in [FUNDEMPRESA](#) must be registered in the ROE (1): all corporations, one-person companies, cooperative corporations, civic organizations and associations and public companies, regardless of their sector or nature.
- The registration in the ROE must be submitted to renew the registration in the Trade Registry of Bolivia (2), which is a mandatory requirement. Companies that need to apply for credit from the financing system are also required to submit their certificate of registration in the ROE.
- Companies already registered with the Ministry of Labour, Employment and Social Welfare must also update their data in the ROE. If an employer has branches in the country, when registering they must indicate the locations where they operate, the exact address and the name of their legal representative; branches do not need to register with the ROE separately.
- Companies that in fact do not have workers or dependent personnel of any kind are not required to register in the ROE.
- The Ministry of Labour, Employment and Social Welfare verify that all companies established in the national territory are registered in the ROE. The information in the Mandatory Employer Registry (ROE) must be updated every six (6) months through the Virtual Office (Oficina Virtual de Trámites (OVT, Spanish acronym)).

Description of risk

There is a risk that informal labour is being used in soy farms.

- It is estimated that 60 to 70% of the population in Bolivia work in the informal sector and the estimates are even higher for youth employment.
- The labour situation in Bolivia is dominated by the informal sector, or “bad” jobs (see context and considerations for more details on “bad” jobs linked to informal employment).

The study performed by CEPBO and GTZ (7), based on a government report (2010), indicates that "bad" jobs, or the informal sector, represents 57%, not including small companies (farming sector) that are considered self-employed workers and would be included in the category of "bad" jobs.

- In a similar report, the ILO (2004) indicated that the informal labour sector in Bolivia is 67% (11). Different studies note that between 60 and 70% (3, 2013) of the population in Bolivia work in the informal sector, but the situation is more dramatic for youth, with as much as 87.4%, according to a report by the International Labour Organization (ILO). According to analysts, these data reveal a reality and a problem regarding economic performance in Bolivia. According to ILO, the situation with child and adolescent labour is dramatic (see section 2.2).

Risk conclusion

This indicator has been evaluated as Elevated risk as the agricultural sector is known to be associated with using a high level of informal labour. Identified laws are not upheld consistently by all entities and/or are often ignored, and/or are not enforced by relevant authorities.

2.1.6. Risk designation and specification

Elevated risk

2.1.7. Control measures and verifiers

- Verify whether the employer is the owner of the land, lessor of the land or service companies *

Verifiers:

- ROE Registration
- Updating of the ROE
- Employer's NIT

- Request from the employer their payroll or a list of all workers registered in the ROE to verify that they are all registered.

Verifiers:

- Compare with the ROE registry
- Identification Card (CI) of employees

- Interview the employees and ask what kind of activity they perform, how much the employer pays for the activity, how the payment is made (daily/hourly, monthly, piecework/production), the length of the work day, how many days of work per week.

Verifiers:

- Bank certification of assets

- Consult with neighbours and interested parties and the Employment Office (the Ministry of Labour, Employment and Social Welfare (*Ministerio de Trabajo, Empleo y Previsión Social*) and/or Santa Cruz Labour Department (*Oficina Departamental De Trabajo*) about the labour situation involving the employer/producer.

Verifiers:

- Employment Office feedback
- Check to see if there are any outstanding lawsuits against the employer

regarding labour issues.

- Check the payslip to verify that the base for the category corresponds to at least the minimum established by law.

Verifiers:

- A sample of payslips to be cross checked and confirmed they are in accordance with law DS 2748

2.2. Health and Safety

Legally required personnel protection equipment for persons involved in farming activities and safety requirements to machinery used. Legally required safety requirements in relation to chemical usage. The health and safety requirements that shall be considered relate to operations on the farm. Risk relates to situations/areas where health and safety regulations are consistently violated to such a degree that puts the health and safety of farm workers at significant risk throughout farm establishment and management operations.

2.2.1. Applicable laws and regulations

- Political Constitution (Constitución Política) Article 46 - Political Constitution (Constitución Política) - [link](#)
- Law 16998 (full text) - General Law on Occupational Health, Safety and Wellbeing (Ley General de Higiene y Seguridad Ocupacional y Bienestar) - [link](#)
- SUPREME DECREE 29894 (Full text) - ORGANIZATION OF THE EXECUTIVE BRANCH (ORGANIZACIÓN DEL ÓRGANO EJECUTIVO) - <https://www.minsalud.gob.bo/images/Documentacion/normativa/D.S%2029894.pdf>
- SUPREME DECREE 108 (Full text) - Ensure compliance with the existing regulations related occupational health, safety and wellbeing - [link](#)

2.2.2. Legal authority

- Executive Departments of the Ministry of Labour (Ministerio de Trabajo Direcciones departamentales)
- National Institute of Occupational Health (Instituto Nacional de Salud Ocupacional (INSO, Spanish acronym))

2.2.3. Legally required documents or records

- Identification Card (CI, Spanish acronym) (employer and employee)
- Mandatory Employer Registry (Registro Obligatorio de Empleadores (ROE))
- Pre-occupation exam
- Mandatory registration of Social Security
- Record of accidents
- Mixed occupational health, safety and wellbeing hygiene, occupational safety and wellbeing committees
- Occupational health and safety plan
- First Aid Manual

2.2.4. Sources of information

Government sources

- Ministry of Labour (Ministerio de Trabajo): <http://www.mintrabajo.gob.bo/Principal.asp>
- National Institute of Occupational Health (Instituto Nacional de Salud Ocupacional): <https://www.minsalud.gob.bo/contactos/guia-telefonica/50-instituto-nacional-de-salud-ocupacional-inso>

Non-Government sources

- ILO: http://www.ilo.org/wcmsp5/groups/public/@ed_protect/@protrav/@safework/documents/publication/wcms_117460.pdf
- La Razon: http://la-razon.com/index.php?url=/ciudades/INSO-todas-fumigadoras-ilegales_0_1462053839.html
- Trabajonopolis: <http://www.trabajopolis.bo/blog/archivo/derechos-y-obligaciones-del-empleado-en-bolivia.html>
- Americaeconomia: <http://www.americaeconomia.com/economia-mercados/comercio/numero-de-empresas-en-bolivia-aumentan-661-en-una-decada-pero-con-poca-ge>
- El Dia: https://www.eldia.com.bo/index.php?cat=357&pla=3&id_articulo=138697
- UNAPE: http://www.udape.gob.bo/portales_html/Documentos%20de%20trabajo/DocTrabajo/2007/DT-0701.pdf
- CEPB: http://www.cepb.org.bo/modulos/sensibilizacion/implementacion_sistema_gestion.pdf
- DECISION 584, Substitution of Decision 547, Andean Instrument for Occupational Safety and Health: <http://www.sice.oas.org/trade/junac/decisiones/DEC584s.asp>
- (National Health Bank) Caja Nacional De Salud: <http://www.cns.gob.bo/ProgamaOcupacional.aspx>
- KAS: http://www.kas.de/wf/doc/kas_31119-1522-4-30.pdf?120523164657
- Opinion <http://www.opinion.com.bo/opinion/salud/2016/0505/suplementos.php?id=9000&calificacion=2>
- Bolivia Emprende: <http://boliviaemprende.com/publicaciones/reporte-estadistico-cantidad-de-empresas-en-bolivia-crece-en-80>
- Fundaempresa: http://www.fundaempresa.org.bo/docs/content/febrero_1027.pdf
- (14) CEPB: <http://www.cepb.org.bo/modulos/archivos/REQ.MIN.%20DE%20APROBACION%20DE%20PLANES%20DE%20HIGIENE%20Y%20SEGURIDAD.pdf>

2.2.5. Risk determination

Overview of Legal Requirements

The General Law on Occupational Health and Safety is from 1979 and has not been updated. It contains a total of 411 articles, but the most notable is the obligations of employers found in Chapter 1, Article 6.

Article 1 (of 5) of Supreme Decree 108 includes requirements pertaining to occupational hygiene, safety and wellbeing. Included as requirements that must be met by those providing services to public entities are the acquisition of work clothes and personal equipment to protect against occupational risks. The legal obligations are aimed at official companies and

businesses.

According to the law, the prevention of occupational risks must be part of the company's general management system through the establishment and application of an **Occupational Health, Hygiene and Safety Plan** (14). This document must establish and formalize the company's policy on this matter, and be based on applicable legislation. The document shall also include prevention goals and the designation of responsibilities and functions of the different workers in the organization. This plan must be constituted as a basic tool that integrates prevention activities into the general administration system (10). Although all Bolivian companies are required to submit an Occupational Hygiene, Safety and Wellbeing Plan and the First Aid Manual to the Ministry of Labour, few comply (11).

Description of risk

There is a risk that the health and safety regulations are not being met, in particular the requirement for businesses to have Occupational Health, Hygiene and Safety Plans, and submit them to the relevant authorities, and the required audits are not conducted.

- The well documented problem with the informal workforce in Bolivia (see section 2.1) contributes to the lack of access to the minimum legally established measures for hygiene and safety. At least 70% of the workers in the agricultural sector (soy) are not legally registered and therefore there is not even minimal compliance with hygiene and safety requirements see section 2.1 and (4).
- The data from the Active Business Base (Base Empresarial Activa) shows that the number of legally registered companies increased significantly between 2005 (19,774 companies) and 2016 (274,000 companies) (4). Of the total companies, 220,000 are one-person and only 54,000 are required to register in the ROE, of which 2,900 are in the farming sector. Given the established obligation and control, this should result in the registration in the ROE of the personnel employed by these companies (not the case for the 220,000 one-person companies) and, lastly, should involve a controlled health and safety regime. The majority that are in the farming sector are registered with the RUA (see section 1.2) and therefore the health and safety norms stipulated in Article 3 of the General Hygiene and Safety law do not apply.
- There has not been found evidences related to the mandatory occupational health, hygiene and safety plans presented to the Ministry of Labour and the audits required of the institution conducted.
- In Bolivia, none of the companies that offer pest control are authorized to perform this work, according to Nicanor Jové, Director of the National Occupational Health Institute (Instituto Nacional de Salud Ocupacional (INSO)). (2) For Alfredo Castillo, expert in Occupational Medicine, in spite of the existence of a law passed in 1979, actions to ensure occupational health and safety are still precarious and have many inequalities.
- Very little information exists and there is little control over the application of the legal requirements for occupational Hygiene and Safety in Bolivia. It is also not a matter of importance for the Association of Wheat and Oil Producers (Asociación de Productores de Oleaginosas y Trigo) (soy sector).

Risk Conclusion

This indicator has been evaluated as Elevated risk for companies that are not RAU registered. Laws in Bolivia are not updated and Identified laws are not upheld consistently by all entities and/or are often ignored, and/or are not enforced by relevant authorities.

Note - even though H&S laws are not required for RAU registered companies we encourage supply chain buyers of soy from RAU registered companies still require H&S be comply with.

2.2.6. Risk designation and specification

Santa Cruz Integrated Zone - Elevated risk for non-registered RAU companies

Santa Cruz Expansion Zone - Elevated risk for non-registered RAU companies

2.2.7. Control measures and verifiers

- Verification of RAU registration certificate, if registered, the H&S requirements do not apply.
- Verify that the employer and workers are officially registered (important due to the high informality in the workplace) to ensure the enforcement of H&S legislation.

Verifiers:

- Identification Card (CI)
- Mandatory Employers Registry (ROE)
- Updated ROE registration
- Verify that the Occupational health and safety plan was conducted.

Verifiers:

- Santa Cruz office of the Ministry of Labour, Employment and Wellbeing (Ministerio de Trabajo, Empleo y Previsión Social)
- H&S (combined occupational hygiene, safety and wellbeing) committees
- Occupational health, hygiene and safety plan
- First Aid Manual
- Interview employees and consult with them about occupational health and safety, delivery of informative material, training, etc.

Verifiers:

- List of personal safety equipment delivered
- List of events and training
- Review the pre-occupational medical exams and enrolment in the Mandatory Social Security system.

Verifiers:

- Medical exams
- Registration in the Mandatory Social Security system (National Occupational Health Institute (Instituto Nacional de Salud Ocupacional (INSO))
- Verify record of accidents.

Verifiers:

- Accident records

2.3. ILO Fundamental Conventions are upheld

National and sub national laws and regulations incorporation of the ILO Fundamental Conventions. This is to ensure minimum employment requirements cover an observance of minimum working age, legislation against forced and compulsory labour, and discrimination and freedom of association etc.

2.3.1. Applicable laws and regulations

- Forced Labour Convention, 1930 (No. 29).
- Ratified in 2005. In force - No specific law exists; General Labour Law (Ley General del

Trabajo), May 24, 1939 and its modifications (in force) - [link](#)

- Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87).
- Ratified in 1965 (in force) - Law 194. Ratifying the convention (No. 87) on freedom of association and protection of the right to organize, approved in San Francisco on July 9, 1948 at the 31st General Conference of the International Labour Organization. - [link](#)
- Right to Organise and Collective Bargaining Convention, 1949 (No. 98).
- Ratified in 1973 (in force) - No specific law exists; General Labour Law (Ley General del Trabajo), May 24, 1939 and its modifications (in force) - [link](#)
- Equal Remuneration Convention, 1951 (No. 100)
- Ratified in 1973 (In force) - Supreme Decree 2748. Establishes salary increases for 2016, public and private sector and minimum salary. - [link](#)
- Abolition of Forced Labour Convention, 1957 (No. 105).
- Ratified in 1990 (In force) - SUPREME DECREE 29292. Inter-Governmental Council for the Eradication of Debt bondage, Forced labour and Similar Forms of Exploitation, and approval of the plan.
- Transitory Inter-Governmental - [link](#)
- Discrimination (Employment and Occupation) Convention, 1958 (No. 111).
- Ratified in 1977 (in force) - Law 2120, Article 1- According to Article 59, clause 12 of the Political Constitution of the State (Constitución Política del Estado), approve and enacted into Law the following international labour conventions - [link](#):
- Number 111 on employment and occupational discrimination.
- LAW 045. LAW AGAINST RACISM AND ALL FORMS OF DISCRIMINATION (LEY CONTRA EL RACISMO Y TODA FORMA DE DISCRIMINACIÓN) -
- [link](#)
- Minimum Age Convention, 1973 (No. 138)
- Minimum age specified: 14 years
- Ratified in 1997 (in force) - Law 321 (in force).
- Bolivia ratified ILO Convention 138 which establishes 14 years as the minimum age for child labour, for the respective legal recognition (in force) - [link](#)
- Worst Forms of Child Labour Convention, 1999 (No. 182)
- Ratified in 2003 (in force) - Law 2428 (in force) in accordance with Article 59, clause 12 of the Political Constitution of the State (Constitución Política del Estado), ILO convention 182 is approved and ratified (Convention concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour, adopted in Geneva in June 1999). - [link](#)
- Law 548. CHILD AND ADOLESCENT CODE (CÓDIGO DEL NIÑO, NIÑA Y ADOLESCENTE) (2014) - [link](#)
- D.S. 27443. Regulation pertaining to the Child and Adolescent Code (2004). (Repealed by Law 548.(2014)) - [link](#)

http://www.ilo.org/dyn/normlex/es/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102567 (Table with all the conventions and date of ratification)

ILO conventions 29,87, 98, 100, 105, 111, 138, 182 are ratified and in force, nevertheless on occasion the Bolivian legislation that enforces them is not consistent, and contradictions exist between this legislation and the ILO conventions, such as Law 2428 which establishes the legal

minimum working age.

2.3.2. Legal authority

- Ministry of Labour, Employment and Social Welfare (Ministerio de Trabajo, Empleo y Previsión Social)
- Santa Cruz Labour Department (Oficina Departamental De Trabajo)

2.3.3. Legally required documents or records

- See sections 2.1.3

2.3.4. Sources of information

- Ratifications by country: <http://www.ilo.org/dyn/normlex/en/f?p=1000:11001:0::NO::>
- Ratification by Convention: <http://www.ilo.org/dyn/normlex/en/f?p=1000:12001:0::NO::>
- (IPEC): <http://www.ilo.org/ipecc/Regionsandcountries/lang--en/index.htm>
- Global March Against Child Labour: <http://www.globalmarch.org/>
- (3) Human Rights Watch: <http://www.hrw.org/>
- (4) Amnesty International: <https://www.amnesty.org/en/latest/news/2015/07/un-tests-bolivia-on-women-s-rights/>
- Mundogremial: <http://mundogremial.com/analisis-y-opinion/trabajo-infantil-en-bolivia-4624>
- Humanium: <http://www.humanium.org/es/nueva-ley-sobre-el-trabajo-infantil-en-bolivia-cuando-la-ilegalidad-se-legaliza/>
- UNICEF: http://www.unicef.org/bolivia/legislation_28729.htm
- (5) OIT: http://www.ilo.org/ipecc/news/WCMS_250393/lang--es/index.htm
- (6) CEDLA: <http://cedla.org/content/718>
- (7) BBC: http://www.bbc.com/mundo/noticias/2014/01/140110_bolivia_trabajo_infantil_vs
- (8) People's Advocate (Defensoria del Pueblo): <http://www.defensoria.gob.bo/>
- (9) El Deber: <http://www.eldeber.com.bo/economia/hallan-forzoso-empresas-gran-chaco.html>
- (10) Rosa Loxenburg: <http://rosaluxspba.org/es/la-oit-y-el-trabajo-infantil-en-bolivia-dogmatismo-en-vez-de-argumentos/>
- (11) La Razon: http://www.la-razon.com/nacional/ONU-Bolivia-discriminacion-indigenas-emigrantes_0_1685231542.html
- (12) INE: <http://www.ine.gob.bo/publicaciones/visorPdf.aspx?codigo=4314&tipo=0>
- (13) Ministry of Labour (Ministerio de Trabajo): <http://www.mintrabajo.gob.bo/PrincipalPublicaciones.asp?target=1149>
- (14) <https://es.scribd.com/document/193850914/Informe-El-derecho-a-la-libertad-de-asociacion-y-reunion-en-Bolivia-Ecuador-y-Nicaragua>
- (15) http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_decl_wp_22_sp.pdf

2.3.5. Risk determination

Overview of Legal Requirements

Eight ILO Conventions were considered fundamental and were ratified by Bolivia:

- Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)
- Right to Organise and Collective Bargaining Convention, 1949 (No. 98)
- Forced Labour Convention, 1930 (No. 29)
- Abolition of Forced Labour Convention, 1957 (No. 105)
- Minimum Age Convention, 1973 (No. 138)
- Worst Forms of Child Labour Convention, 1999 (No. 182)
- Equal Remuneration Convention, 1951 (No. 100)
- Discrimination (Employment and Occupation) Convention, 1958 (No. 111)

Full list of all ILO Conventions ratifications for Bolivia:

http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11200:0::NO::P11200_COUNTRY_ID:102567

Bolivian labour legislation is based on the Bolivian Constitution (Articles 157 and 158) and the Labour Law of 1942. Notable elements in the farming sector that respect the conventions are not permitting insecticides or substances hazardous to women. While the government of Bolivia has signed all the ILO conventions related to labour, although national regulations are not consistent, and contradictions exist between this legislation and the ILO conventions. One clear example of this is the legal situation around the legal minimum working age:

- Law 2428 establishes the legal minimum working age. In 1997, Bolivia ratified Convention 138 on the minimum working age and stipulated that it be 14 years old. This decision is contained in the Child and Adolescent Code, in accordance with the General Labour Law.
- Although the Child and Adolescent Code, Law 2026, permits working as of 12 years of age, children under 14 years of age are not employed (conditions of ILO convention 138) in jobs involving the harvesting of soy, according to the experts consulted.
- In the year 2002, Convention 182 was ratified through the passage of Law 2428, on the prohibition of the worst forms of child labour, and thereby a commitment was made to adopt the measures needed to immediately eliminate these. (1)
- Despite the ratification of these conventions 138 and 182, a new child and adolescent code was passed into law on July 17, 2014 (Law 548, Chapter VI) which officially authorized 10 years of age as the minimum age for child labour.
- This decision has brought about strong indignation and concern on the part of international organizations as well as the NGOs that work to eradicate child labour.
- It is not unusual to see a large number of children working in the streets or rural areas of Bolivia. In fact, of a population of 10 million inhabitants, roughly 850,000 children are working in Bolivia today, half of which work in the worst child labour conditions. (2)

Description of risk

There is a risk of noncompliance with the ILO conventions.

- Aspects of noncompliance include the existence of child labour, forced labour practices, job discrimination and lack of compliance with the rights of women and indigenous peoples and a large proportion of workers' wages not being sufficient to meet their basic needs linked soy farm practices.
- Bolivian legislation partially recognizes the ILO's key conventions. The fundamental problem is that the Labour Law is obsolete, having been passed in 1942. Even though it has been modified by several Supreme Decrees, these do not satisfactorily cover the contents of the conventions due to it doesn't contain the specific convention requirements. On other

occasions, such as conventions 138 and 182, where a specific legislation on the matter exists (321 and 2428), that contradicts what has been set forth in the convention.

Minimum working age / child labour

- Human Rights Watch reported that in 2014, the Plurinational Assembly adopted legislation allowing children as young as 10 years old to work, violating international standards and making Bolivia the first country in the world to legalize employment at such a young age.
- This is a case which generates conflicts, and has been denounced internationally because of the use of another definition of the minimum age and for not limiting child labour to light work, which is established by Bolivian legislation. The farming sector employs a large number of children as workers for heavy and frequently forced labour, without a contract (legal informality as high as 80%, see section 2.1).
- In February 2015, the Ombudsman's Office said that 850,000 children worked in Bolivia, most of them under 14 years of age (3). Since the minimum working age of 14 was legally reduced to 10 years old, the number of boys, girls and adolescents working in Bolivia has been estimated to be 1 million. (7,10).
- The age for mandatory education has been raised to 17 years old (Law of Education No. 70 (Avelino Siñani – Elizardo Pérez, 2010)). All of these measures clearly demonstrate the intention and willingness of Bolivian authorities to promote dignified human and economic development for all its citizens (5).
- According to the United Nations and media information (9), forced labour is practiced in Bolivia. According to the newspaper "El Deber," the Ministry of Labour showed evidence of the existence of forced labour on four estates (farming sector), where workers did not receive regular pay for their work.

Discrimination

- The United Nations Special Rapporteur on racism, Mutuma Ruteere from Kenya, stated in 2012 that discrimination against indigenous people and emigrants "still persists" in Bolivia and there are communities that are subjected to debt bondage and forced labour (11).
- There is evidence of groups feeling that their basic rights are not adequately protected, especially women. Women and girls in Bolivia need the government to implement practice concrete mechanisms to ensure they can access basic rights such as contraception, maternal health care and safe abortions when needed (4).

Equal pay

- According to a survey conducted by the Centre for Studies for Labour and Agricultural Development (Centro de Estudios para el Desarrollo Laboral y Agrario (CEDLA, Spanish acronym)) (6), 56% of the total male workers do not cover their Basic Needs Basket (BNB). And this percentage is higher for women, with 77% of women who live in Bolivia having a salary under the BNB. Meanwhile, 74% of mothers work in the informal economic sector, according to data provided by the National Statistics Institute (Instituto Nacional Estadística (INE, Spanish acronym)) (12).
- The results from the unemployment and income survey performed by CEDLA in five cities in the country (La Paz, El Alto, Santa Cruz, Cochabamba and Potosí) show that 7 of every 10 workers, many mothers and heads of households, are not able to cover the minimum requirements for feeding their families. Sixty-seven percent of all workers earn less than Bs. 1.288 (13).

Right of assembly and association

- Although a legal framework on the right of assembly and association in Bolivia exists and COI conventions have been ratified, a number of cases of vulneration to the right of assembly and peaceful assembly as the TIPINIS case described by alianza regional in

source 14 or the exclusion of agricultural workers from the labour code and thus the right to exercise collective bargaining as it is described by [ILO report in 2004](#) (15). This report also states that public workers are excluded from the right of association.

- Some limitations have been identified about trade union organizations: about its legal recognition, it is made based on a supreme resolution of the Executive Branch (Article 124 of the Regulatory Decree of the Law). In Article 126 of the regulatory decree states the recognition will be made after a report from the General Labour Inspectorate and the opinion of the Government Prosecutor. Article 101 of the General Labour Law authorizes labour inspectors to participate in the deliberations of trade union organizations which can be seen as a control of trade union activity.

Risk conclusion

The key concern regarding non-compliance with ILO conventions is related but not limited to the high degree of informality in the workforce in Bolivia (see section 2.1). Informality creates a large gap in total insecurity over the control of this, and thus also over the application of the basic rights contained in the ILO conventions (10). The most serious aspects in Bolivia are child labour, the existence of forced labour practices and job discrimination and lack of compliance with the rights of women and indigenous peoples (3, 4).

In Bolivia, the laws related to the ILO Fundamental Conventions are not consistently upheld by all entities and are systematically ignored. They are not enforced by the relevant authorities, especially conventions 138 and 182. There is also a significant degree of non-compliance with women's rights.

2.3.6. Risk designation and specification

Santa Cruz Integrated Zone - Elevated risk

Santa Cruz Expansion Zone - Elevated risk

2.3.7. Control measures and verifiers

- Demonstrate that all workers meet the minimum age established (verify the age of employees)
- Demonstrate the existence of work contracts and the registration of workers in the ROE.

Verifiers:

- DNI
- Mandatory Employer Registry (Registro Obligatorio de Empleadores (ROE, Spanish acronym)
- Updating of the ROE registry
- Ministry of Labour, Employment and Social Welfare (Ministerio de Trabajo, Empleo y Previsión Social) (Santa Cruz office)
- Verify that no forced labour exists at the establishment, that is, that all employees receive the legal minimum wage and verify housing and food conditions

Verifiers:

- Housing conditions
- Quality of food
- Interviews with employees
- Payslip
- Verify that right of assembly and associations enforced

Verifiers:

- Payslip (if applicable)
- Interviews with staff and relevant trade union to ensure that no conflicts, limitations or restrictions have been found.

Verify that there is no discrimination with gender equality or indigenous peoples

Verifiers:

- Written policies of the company, hiring contract procedures
- The code of conduct of the organization
- Disaggregated data, including by sex and age, which supports no discrimination procedures implementation. This records can include: work positions, training events between others.
- Job descriptions and recruitment initiatives that encourage women/indigenous people to apply, including to managerial positions
- Records of regular wages and other benefit reviews
- Interviews with female employees, indigenous workers and another stakeholder.

- Consult records of complaints against the employer

Verifiers:

- Ministry of Labour, Employment and Social Welfare (Ministerio de Trabajo, Empleo y Previsión Social) (Santa Cruz office)

2.4. The rights of indigenous and traditional peoples are upheld

Legislation requirements addressing: i) customary rights relevant to plantation activities including requirements covering sharing of benefits and indigenous rights ii) "free prior and informed consent" in connection with transfer of farm management rights and customary rights to the organisation in charge of the plantation operation iii) Legislation that regulates the rights of indigenous/traditional people as far as it's related to farm activities. When there is no or inadequate legislation addressing the rights of traditional and indigenous peoples, their rights are still upheld according to ILO's Convention Indigenous and Tribal Peoples Convention No.169b y the relevant farm operation(s). Risk relates to the violation of indigenous and traditional peoples' rights including land tenure rights, resource access and use rights, a due process has been follow in cases of transference of rights, a recognised dispute conflict resolution process exists etc.

2.4.3. Legally required documents or records

See 1.1.3 and 1.2.3

2.4.4. Sources of information

- Survival International: <http://www.survivalinternational.org/>
- Global Platform of Indigenous and Community lands: <http://www.landmarkmap.org/>
- Bolivia Rural: <http://www.boliviarrural.org/legislaciones/documento/43-ley-450>
- Indigenous Territories and Governance (Territorios Indígenas y Gobernanza): http://www.territorioindigenaygobernanza.com/bov_06.html
- Human Rights Council on indigenous peoples rights (Consejo de Derechos Humanos sobre los derechos de los pueblos indígenas), Victoria Tauli-Corpuz: <http://unsr.vtaulicorpuz.org/site/index.php/es/documentos/informes-anuales/149-report-ga-2016>

- National Protected Areas Service of Bolivia (Servicio Nacional de Areas Protegidas de Bolivia): <http://www.sernap.gob.bo/>
- Indigenous Territories and Governance (Territorios Indígenas y Gobernanza): http://www.territorioindigenaygobernanza.com/bov_06.html
- ILO: http://www.ilo.org/wcmsp5/groups/public/@ed_protect/@protrav/@safework/documents/publication/wcms_117460.pdf
- CEBEM: Rights of Bolivian Indigenous Peoples (los derechos de los pueblos indigenas de Bolivia): http://www.bivica.org/upload/pueblos-indigenas-derechos_bolivia.pdf
- Indigenous Territories and Governance (Territorios Indígenas y Gobernanza): Process for awarding titles to TCOs (Proceso de titulacion de TCOs): http://www.territorioindigenaygobernanza.com/bov_06.html
- INE: http://www.ine.gob.bo/pdf/boletin/NP_2014_83.pdf
- Traditional Peoples Free Press (Prensa Libre Pueblos Originarios): <http://prensalibrepueblosoriginarios.blogspot.com.ar/2011/10/bolivia-en-conflicto-territorio.html>
- AGTER: http://www.agter.org/bdf/fr/corpus_chemin/fiche-chemin-338.html
- BIVICA: http://www.bivica.org/upload/pueblos-indigenas-derechos_bolivia.pdf
- Cypergeo: <https://cybergeo.revues.org/26207>
- (1) Land Foundation (Fundación Tierra): <http://www.ftierra.org/index.php/reforma-agraria-y-titulacion-de-tierras/398-conflictos-por-tierra-y-recursos-naturales>

2.4.5. Risk determination

Overview of Legal Requirements

The indigenous legislation in Bolivia is comprehensive. Rights are established in Article 2 of the Political Constitution of the State (Constitución Política del Estado (Spanish acronym, CPE).

Indigenous and traditional indigenous farmer nations have been in place since pre-colonial times. Their ancestral possession of the territories and their free determination is enshrined in the law that consists of the right to autonomy, self-governance, culture, recognition of their institutions and the establishment of territorial entities, in accordance with this Constitution.

Bolivia signed ILO Convention 169 (Conference 7) on Tribal and Indigenous Peoples, and has implemented the Convention through the passage of Law 1257 on July 11, 1991.

In addition, on November 7, 2007 Bolivia enacted into law (Law 3760). The 46 Articles in the United Nations Declaration on the Rights of Indigenous Peoples, approved at the 62nd UN General Assembly on September 13, 2007 are reflected in this law. Other laws also contain regulations regarding the particular rights of indigenous peoples, such as Environmental Law 1333 and Forestry Law 1700, among others.

The right to their land is addressed by the land title process controlled by the INRA.

Description of risk

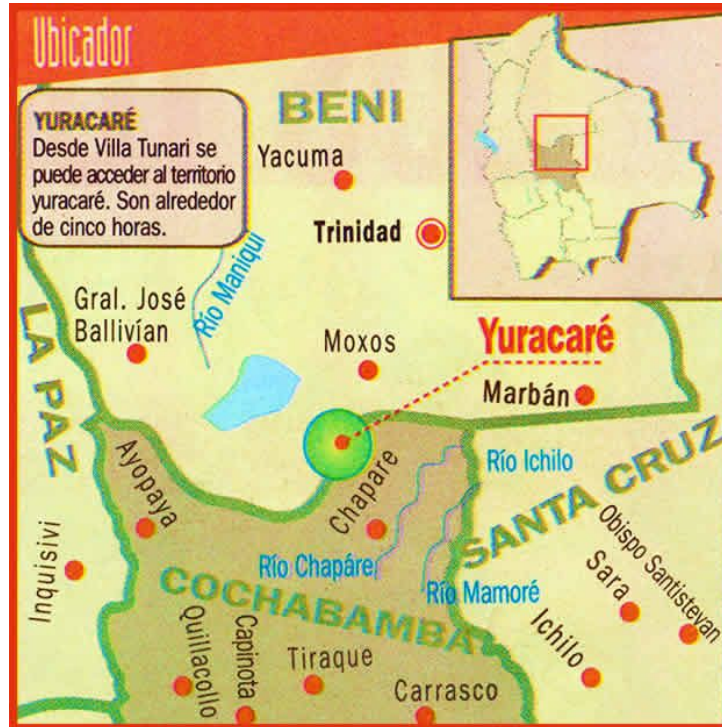
There is a risk that the Risk of indigenous and traditional peoples' not being upheld due to ongoing land tenure conflicts particularly in the Santa Cruz expansion zone.

- The conflict is generally linked to the unfinished processes of awarding of land titles and/or difficulties defining property rights for farmland. This in turn is also connected to conflicts around use rights, easements, and hunting and gathering of food.
- Section 1.1 of this report describes the overall situation with land tenure and the process to

award titles, in which the state of Santa Cruz is immersed. According to official sources, the process of awarding titles will conclude by the end of 2017.

- According to the Fundación Tierra (Land Foundation) (1), two key problems exist that cause a lack of compliance with the rights of indigenous peoples and communities. In 2014, 52% of the conflicts were related to mining activity and 38% to access to land and tenure, of which 8% of the conflicts over land and indigenous rights occurred in Santa Cruz (the majority in the Expansion Zones). According to Land Foundation, the conflict is generally caused by unfinished processes involving quiet title actions and the awarding of titles, and difficulties defining property rights for farmland.
- Indigenous peoples continue to present land tenure claims in the Expansion Zone, but they are often related to use rights, easements, and hunting and gathering of food, which with the change in land use have simply been lost or they have changed in such a way that they do not provide the earlier traditional benefits.
- The landscape of the Integrated Zone has been subject to such radical changes that today it is simply an agricultural landscape dominated by soy crops, in which all forms of traditional life of indigenous peoples have been lost.
- Santa Cruz has a total population of 2.6 million inhabitants, 250,000 of which belong to one of 6 indigenous nations that exist in the territory: Ayongo, Chiquitao, Guarrani, Guarayo, Mojeno and Yacaré.
- The institutional political advances by these nations (Dirección de Pueblos Indígenas y Originarios (DPIN, Spanish acronym,) are currently up against a series of obstacles. These include structural weakness in the representation of indigenous peoples. In addition, sustainable development production models must be sought by each of the indigenous nations involved. And financial resources (10% of state royalties) are needed for projects or programs regulated by Bolivia's public investment system. The DPIN, which depends on the Ministry of Productive Development, of the Autonomous Government of Santa Cruz, is responsible for coordinating and managing the process.
- Charagua is a municipality in the province of Cordillera, located in the state of Santa Cruz, in the geographic region of Chaco in south-eastern Bolivia. This is the largest municipality in Bolivia, with an area of 71,745 km². It covers approximately 23% of the state of Santa Cruz and 6.53% of the Bolivian territory. On December 6, 2010, the population of the municipality of Charagua approved the referendum for the establishment of the Traditional Indigenous Farmers Autonomies (Autonomías Indígenas Originarias Campesinas), which received 55.66% votes in favour.
- The state of Santa Cruz produces the majority (97%) of soy in Bolivia and is the state with the most significant expansion in farming area. The expansion of agricultural production is occurring particularly in what is called the Expansion Zone of Santa Cruz. According to several sources, conflicts over tenure of the land exist while at the same time land title processes in Bolivia registered a 72% increase in the year 2015. According to the government, the title process in Santa Cruz will likely conclude by the end of 2017 (see section 1.1).
- All Lowland indigenous territories are considered uninhabited or in disuse since it is difficult for Indigenous Peoples to "occupy" these territories due to their low population density. As a result, they are often threatened by the arrival of farmers or indigenous persons from other areas, which generates environmental, cultural and social impacts. Settlement processes can be planned and promoted by the government in order to populate lands that are considered uninhabited, thereby addressing the growing pressure on farmers to gain access to land.
- Settlements are also created by spontaneous movements of farmers and indigenous peoples who are looking for land for subsistence. In Bolivia, this is the situation with the Guarani in the province of Guarayos, which has been affected since the 1970s by the

growing arrival of Quechuas and Aymaras settlers from the Andean region, who have occupied, invaded and deforested indigenous Guarani territories. The settlers have also been arriving in Santa Cruz ever since the 1960s due to the resistance of the Yucarcares, Trinitarios peoples. The resistance took place in the NW of Yucararé territories(see blue circled area in in the map below).



Risk conclusion

The presence of indigenous and/or traditional peoples has been confirmed or is likely within the area. The legislation applicable to the soy farm plantations cover ILO provisions governing the identification and rights of indigenous and traditional peoples and UNDRIP, but the risk assessment corresponding to the relevant indicator confirms "elevated risk" for the right to use certain farm-related resources or to practice traditional activities, and/or access to resources and use rights in the Expansion zone.

Low risk for the Integrated Zone where land tenure and land use rights are established.

2.4.6. Risk designation and specification

Santa Cruz Integrated Zone - Low risk

Santa Cruz Expansion Zone - Elevated risk

2.4.7. Control measures and verifiers

- Request a map of the location of indigenous peoples and neighbouring local communities and consult interested parties about the existence and location of the indigenous peoples and communities and local villages.

Verifiers:

- Obtain a map (if available a GIS map) identifying the location and borders of indigenous peoples' territories and/or traditional local communities.
- Interview of interested parties: Land Foundation, Indigenous Territory Initiative and Governance

- Interviews with indigenous communities and local populations and neighbours
- Verify land tenure in compliance with 1.1 and evidence of the absence of significant disputes over land use rights. Verify the application of laws related to the land, in particular, Law 1700 Art, 35 and Law 3545.

Verifiers:

- Control measures, see 1.1
- Detailed report of existing legislation and its application on the establishment.
- Ask if there is a survey of sites and resources that are key to the satisfaction of local communities and indigenous peoples. Verify Property Zoning.

Verifiers:

- Report and map of the location of sites and resources that are key to the satisfaction of local communities and indigenous peoples.
- GIS map with borders of the settlements and the location of all areas that have a high conservation value.
- Verify whether a conflict management mechanism has been established.

Verifiers:

- Copies of negotiated agreements detailing the process of free, prior and informed consent are available.
- Evidence of a mutually agreed upon and documented system for dealing with complaints and grievances and that it is accessible and agreed upon by all affected parties.

THE ENVIRONMENT

3.1. Environment

National and sub national laws and regulations related to the identification and/or protection of environmental values including but not limited to those relating to water use, air and green-house gas emissions, chemical, fertilizer and pesticide use. Risk relates to systematic and/or large scale non-compliance with legally required environmental protection measures that are evident to an extent that threatens natural resources or other environmental values.

3.1.1. Applicable laws and regulations

- Political Constitution of the State (Constitución Política del Estado) CPE Art.: 2, 191 to 193, 289, 385, 381 II, 382, 383, 390 y 391 and Art 373 to 376 (Water and Watersheds) - Political Constitution of the State (Constitución Política del Estado) - <http://bolivia.justia.com/nacionales/nueva-constitucion-politica-del-estado/>
- Law 1333: (Full text) Specifically, Environmental Impact Study (Estudio Impacto Ambiental) Articles 12, 24-28) - Environmental Law (Ley del Medio ambiente) - http://www.mmaya.gob.bo/uploads/documentos/ley_1333.pdf
- REGULATION PERTAINING TO ENVIRONMENTAL LAW 1333 (Full Text) - Regulation pertaining to Prevention and Environmental Control (Reglamento de Prevención y Control Ambiental) - http://biblioteca.unmsm.edu.pe/redlieds/Recursos/archivos/Legislacion/Bolivia/reglamento_prevencion.pdf
- Law 1700: (Full Text) - FORESTRY LAW (LEY FORESTAL) - <http://www.inra.gob.bo/InraPb/upload/DBL-3-5-57634.pdf>
- Supreme Decree 24453: (Full Text) - Approval of the General Regulation pertaining to the Forestry Law (Reglamento General de la Ley Forestal) - <http://www.lexivox.org/norms/BO-DS-24453.xhtml> ;
- Text of Regulation: [http://www2.congreso.gob.pe/sicr/cendocbib/con4_uibd.nsf/29C02ACDA16F561A05257DCB00544B53/\\$FILE/Ley_Forestal_varios_bolivia.pdf](http://www2.congreso.gob.pe/sicr/cendocbib/con4_uibd.nsf/29C02ACDA16F561A05257DCB00544B53/$FILE/Ley_Forestal_varios_bolivia.pdf)
- Government resolution 130/97 (Full Text) - Technical norms for Property Zoning Plans (Planes de Ordenamiento Prediales) - <http://www.estrucplan.com.ar/producciones/entrega.asp?identrega=1538>
- Government resolution 131/97; also see (13) (Full Text) - Special Regulation pertaining to Clearing and Burning (Reglamento Especial de Desmontes y Quemadas) - <http://estrucplan.com.ar/Producciones/entrega.asp?IdEntrega=1540>
- Law 337 (Full Text) - The object of the present Law is to establish a system to treat properties with clearings that were authorized between July 12 1996 and December 31, 2011 - <http://www.lexivox.org/norms/BO-L-N337.xhtml>
- Law 739 , Single article - Support the production of food and restitution of forests - <http://www.lexivox.org/norms/BO-L-N739.xhtml>
- Law 741 (Full Text) - Clearing authorization for up to 20 ha for PYMP and communities - http://senado.bo/sites/default/files/leyesdiputados/Ley%28741%29_0.PDF
- Law 300 (Full Text) - Framework Law for Mother Earth and Integral Development for Living Well (Ley Marco de la Madre Tierra y Desarrollo Integral para Vivir Bien) - <http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/92468/107732/F-1782935448/BOL92468.pdf>

- Law 602 (Full Text) - The present law is aimed at regulating the institutional and authoritative framework for managing risks that include the reduction of risk through prevention, mitigation and recovery. - <http://faolex.fao.org/docs/pdf/bol139286.pdf>
- Supreme Decree 1954 (Full Text) - The suspension of field activities involved in title processes and reverting farmland and the establishment of a special procedure to verify compliance with the Social Economic Function (Función Económico Social – FES, Spanish acronym) for properties affected by floods; and clearing authorization exceptions for properties affected by climatic events - <http://www.lexivox.org/norms/BO-DS-N1954.xhtml>
- Supreme Decree 24124 (Full Text) - Land Use Plan for the state of Santa Cruz (Plan de Uso del Suelo) - <http://www.lexivox.org/norms/BO-DS-24124.xhtml>
- Supreme Decree 24176 (Full Text) - REGULATION FOR ACTIVITIES WITH HAZARDOUS SUBSTANCES (REGLAMENTO PARA ACTIVIDADES CON SUSTANCIAS PELIGROSAS) (Solid wastes) - <http://www.estrucplan.com.ar/producciones/entrega.asp?identrega=1551>
- <http://www.lexivox.org/norms/BO-DS-24176.xhtml>
- Law 12301: (Full Text) - Wildlife, National Parks, Hunting and Fishing Law (Ley de Vida Silvestre, Parques Nacionales, Caza y Pesca) - <http://www.estrucplan.com.ar/producciones/entrega.asp?identrega=1560>
- DS N° 24781: (Full Text) - General Regulation for Protected Areas (Reglamento General de Áreas Protegidas) - <http://www.lexivox.org/norms/BO-DS-24781.xhtml>
- Legal regulations for 22 Protected Areas: (Full Text) - Legal basis for Protected Areas (Base Legal de las Áreas Protegidas) - http://www.sernap.gob.bo/index.php?option=com_content&view=article&id=230&Itemid=330
- Law 3525 (Ecological Production), Art. 13 - LAW FOR THE REGULATION AND PROMOTION OF FARMING AND ECOLOGICAL NON-TIMBER FOREST PRODUCTION (LEY DE REGULACION Y PROMOCION DE LA PRODUCCION AGROPECUARIA Y FORESTAL NO MADERABLE ECOLOGICA) - <http://www.ine.gob.bo/indicadoresddhh/archivos/alimentacion/nal/Ley%20N%C2%B0%203525.pdf>
- Law 3525 (Full Text) - REGULATION FOR THE NATIONAL SYSTEM TO CONTROL ECOLOGICAL PRODUCTION IN BOLIVIA (REGLAMENTACIÓN DEL SISTEMA NACIONAL DE CONTROL DEPRODUCCIÓN ECOLÓGICA EN BOLIVIA) - <https://es.scribd.com/doc/51838404/Bolivia-Ley-3525-y-Reglamentos-SNCPE>
- DS N° 25729, Art 7 - National Farming Health and Alimentary Innocuousness Service (Servicio Nacional de Sanidad Agropecuaria e Inocuidad Alimentaria) - <http://www.lexivox.org/norms/BO-DS-25729.xhtml>
- Law 144, (Art. 15 y 19). - Farming Production Law (Ley De Producción Agropecuaria) - <http://www.wipo.int/edocs/lexdocs/laws/es/bo/bo042es.pdf>
- Supreme Decree 29611 (Full Text) - This Supreme Decree is aimed at creating the National Institute for Farming and Forestry Innovation (Instituto Nacional de Innovación Agropecuaria y Forestal – INIAF, Spanish acronym), establishing its structure, objectives, functions and defining and creating the National Seed Program (Programa Nacional de Semillas – PNS, Spanish acronym) - <http://www.ine.gob.bo/indicadoresddhh/archivos/alimentacion/nal/Decreto%20Supremo%20N%C2%BA%2029611.pdf>
- Supreme Decree 28218: (Full Text) - Establishes the national importance of supporting the implementation of activities and projects to mitigate climate change in forest sectors - <http://www.lexivox.org/norms/BO-DS-28218.xhtml>

International Conventions

- Article 409 of the Political Constitution of the State (Constitución Política del Estado) - Political Constitution of the State (Constitución Política del Estado) - <http://bolivia.justia.com/nacionales/nueva-constitucion-politica-del-estado/quinta-parte/titulo-unico/>
- Laws 1698 and 2777: (Full Text) - Basel Convention on the Control of Transboundary Movements of Hazardous Wastes (Convenio de Basilea sobre Movimientos Transfronterizos de Desechos Peligrosos) and their elimination, ratified and approved - http://www.oas.org/dil/esp/Constitucion_Bolivia.pdf
- Law 874: (Full Text) - Treaty on Amazonian Cooperation, regional agreement to promote the development of Amazonian territories, ratified - <http://www.lexivox.org/norms/BO-L-874.pdf>
- Law 2417: (Full Text) - Stockholm Convention, global agreement to protect human health and the environment from Persistent Organic Pollutants, ratified and approved - <http://www.lexivox.org/norms/BO-L-2417.xhtml>
- Law 1988: (Full Text) - Kyoto protocol, global agreement to stabilize greenhouse gas emissions and establish mechanisms to reduce it, ratified and approved - <http://www.lexivox.org/norms/BO-L-1988.xhtml>
- Law 1688: (Full Text) - Convention to Combat Desertification and Drought, approved (Convenio de Lucha contra la Desertificación y la Sequía) - <http://www.derechoteca.com/gacetabolivia/ley-1688-del-27-marzo-1996/>
- Law 1584: (Full Text) - Vienna Convention for the Protection of the Ozone Layer, Montreal Protocol, London and Copenhagen amendments - <http://www.lexivox.org/norms/BO-L-1584.xhtml>
- Law 1576: (Full Text) - Approval and ratification of the UN Framework Convention on Climate Change - <http://www.lexivox.org/norms/BO-L-1576.xhtml>
- Law 1580: (Full Text) - In accordance with Article 59, statement 12 of the Political Constitution of the State, the Convention on Biological Diversity is approved and ratified - <http://www.lexivox.org/norms/BO-L-1580.xhtml>
- Law 1933: (Full Text) - In accordance with Article 59, statement 12 of the Political Constitution of the State, adherence to the 1987 Montreal Amendment on substances that deplete the ozone layer is approved and ratified. - <http://www.lexivox.org/norms/BO-L-1933.xhtml>
- Law 1255: (Full Text) - Convention on International Trade in Endangered Species of Wild Fauna and Flora (Convención sobre Comercio Internacional de Especies Amenazadas de Flora y Fauna Silvestres) (CITES) <http://www.lexivox.org/norms/BO-L-1255.xhtml>
- Law 2274: (Full Text) - Cartagena Protocol on Biosafety - <http://www.lexivox.org/norms/BO-L-2274.xhtml>
- Law 2357: (Full Text) - Convention on Wetlands of International Importance especially as Waterfowl Habitat (RAMSAR) - <http://estrucplan.com.ar/Producciones/entrega.asp?IdEntrega=1511>

3.1.2. Legal authority

National Authority:

- Ministry of the Environment and Water (Ministerio de Medio Ambiente y Agua): <http://www.mmaya.gob.bo/>
- Ministry of Rural Development and Land: National Agrarian Reform Institute (Ministerio de

Desarrollo Rural y Tierras: Instituto Nacional de Reforma Agraria (INRA, Spanish acronym))
<http://www.ruralytierras.gob.bo/>

- INRA: <http://www.ruralytierras.gob.bo/planificacion/pei2014-2018.pdf>
- Authority for Auditing and Socialization of Forests and Lands (Autoridad de Fiscalización y Socialización de Bosques y Tierras (ABT, Spanish acronym)):
<http://www.abt.gob.bo/index.php?lang=es>
- National Institute for Farming and Forestry Innovation (Instituto Nacional de Innovación Agropecuaria y Forestal (INIAP, Spanish acronym): <http://www.iniaf.gob.bo/>

Regional Authority:

- DEPARTMENT OF SUSTAINABLE DEVELOPMENT AND THE ENVIRONMENT (SECRETARÍA DE DESARROLLO SOSTENIBLE Y MEDIO AMBIENTE):
http://www.santacruz.gob.bo/acerca/secretaria_contenido/120005
- Seed Committee (Comité de Semilla):
<http://www.santacruz.gob.bo/sczproductiva/cultivo/4422/400100#ancla>

3.1.3. Legally required documents or records

- Environmental Impact Study (Law 1300 and its regulations)
- Property Zoning Plan (Plan de Ordenamiento Predial) (Law 1700)
- Authorization of burns (131/97) (13)

3.1.4. Sources of Information

- (5) Ministry of the Environment and Water (2014-2018 Institutional Strategic Plan) (Ministerio de Medio Ambiente y Agua) (Plan Estratégico Institucional):
<http://www.ruralytierras.gob.bo/planificacion/pei2014-2018.pdf>
- (6) GEO: <http://geo.gob.bo/mapfishapp/>
- (3) Sites: <https://sites.google.com/site/marconormativoambiental/bolivia>
- (1) KAS: http://www.kas.de/wf/doc/kas_45918-1522-4-30.pdf?160719230838
- (4) El Diario:
http://www.eldiario.net/noticias/2016/2016_01/nt160129/nacional.php?n=29&-la-situacion-del-medio-ambiente-en-bolivia
- (2) Expert consulted: Marlena Ibanez (See Annex 5)
- (8) SENASAG; STATE OF AGROCHEMICAL PRODUCT REGISTRY (ESTADO DEL REGISTRO DE PRODUCTOS AGROQUÍMICOS): <http://www.senasag.gob.bo/egp/productossv4.html>
- (7) Agroingeniero: <http://agroingeniero.blogspot.com.ar/2008/11/registro-oficial-de-agroquimicos-en.html>
- (9) FAO: <http://www.fao.org/3/a-a0220s.pdf>
- (10) CEBEM: http://cebem.org/cmsfiles/articulos/REDESMA_09_art02.pdf
- (11) Government of Santa Cruz:
http://www.santacruz.gob.bo/sczturistica/medioambiente/calidad_programasproyectos/contenido/7919/300530
- (12) Bolivian Journals: http://www.revistasbolivianas.org.bo/scielo.php?pid=S1995-10782010000200004&script=sci_arttext
- (13) Requirements for the authorization of controlled pasture burns under 500 ha:
http://www.abt.gob.bo/index.php?option=com_content&view=article&id=477&Itemid=293

[&lang=es](#)

- (14) 2013 Farming Census (Censo Agropecuario): http://www.ine.gob.bo/pdf/cna_BOLIVIA_final.pdf
- (15) Science: <http://www.sciencedirect.com/science/article/pii/S0013935115301092>
- (16) Prudencio Bórth.J. (2008): Agriculture and Poverty in Bolivia, Impact of the Structural Adjustment Program in the Bolivian Agricultural Sector (Agricultura y Pobreza en Bolivia, Los Impactos del Programa de Ajuste Estructural en el Sector Agrícola Boliviano), ANDES, La Paz

3.1.5. Risk determination

Overview of Legal Requirements

A new Political Constitution of the State (Constitución Política del Estado (NCPE) was approved through public consultation on January 25, 2009. The New Political Constitution of the State, approved January 25, 2009, establishes guidelines for the environmental rights and obligations of citizens, authorities and organizations, as well as for the ownership of natural resources (of the Bolivian people).

Environmental Law 1333 is in force (27/04/1992), which in Article 1 establishes, "The purpose of the present Law is the protection and conservation of the environment and natural resources, regulating actions by man in relation to nature and promoting sustainable development in order to improve the quality of life of the population (5)." Environmental Law 1333 enacted April 27, 1992 is general in nature. Its main objective is to protect and preserve the environment without affecting the development of the country, procuring a better quality of life for the population, according to Article 1 cited above (General Environmental Framework 1.1). The regulations pertaining to the law make environmental impact evaluation studies mandatory.

Supreme Decrees 267075 (July 10, 2002) and 28499 (December 10, 2005) complement and modify the regulation of the environment to improve auditing and implement environmental audits.

Water

- The NCPE defines the basic criteria related to water resources, including water as a fundamental right for life and that it cannot be privatized. Its use through licensing is possible, under the government's authorization and control (Art. 373). Its use and management shall be based on the sustainable exploitation of hydrographic basins (Art. 375).
- The Environmental Law's Regulation Pertaining to Water Pollution (Reglamento en Materia de Contaminación Hídrica) (December 8, 1995) is in force. Its objective is to regulate the prevention of pollution and control the quality of water resources. It defines the water pollution control system and permissible limits for potential polluting elements.

Climate Change

- The responsibility for climate change sits with the Vice-Ministry of the Environment, Biodiversity and Climate Change. DS 28218 (June 24, 2005) establishes support for implementing climate change mitigation activities as a national priority, including for the energy sector.

Environmental planning and assessment

- The Environmental Prevention and Control Regulation (Reglamento de Prevención y Control Ambiental) establishes the legal technical framework for the obtainment of:
 - Environmental Form (Ficha Ambiental)

- Environmental Statement (Manifiesto Ambiental)
- Environmental Impact Evaluation Studies,
- Environmental audits
- Environmental Law 1333 and its regulations (Articles 1 and 2) define the Environmental Impact Evaluation (Evaluación de Impacto Ambiental (EIA, Spanish acronym)) and Environmental Quality Control (Control de Calidad Ambiental (CCA, Spanish acronym)).
- Regarding the EIA:
 - It applies to all public and private works, activities and projects; and is the prevention instrument for the environmental management of new projects.
 - Four categories of projects exist in terms of the EIA. All projects require participation in the process and three categories require conducting EIA studies (except as mentioned in DS 27173). Category 4 only requires an Environmental Form (Ficha Ambiental). For agricultural projects, farms under 50 ha are exempt.
 - The EIA study represents a "sworn statement" (Declaración Jurada) (legally binding) and constitutes the basis for granting the environmental license, called the "Environmental Impact Statement."
 - This license is granted after the procedure is conducted and completed; the "ENVIRONMENTAL IMPACT STATEMENT" is an official authorization.
- Regarding the CCA:
 - It applies to all public and private works, activities and projects that are in the implementation, operations, maintenance or abandonment process.
 - The owner of a project must fill out an "Environmental Statement" form reflecting the environmental situation involving the activities developed, and an Environmental Adjustment Plan (Plan de Adecuación Ambiental) when applicable.
 - The Environmental Statement also is a sworn statement and constitutes the basis for granting the environmental license called the "Environmental Adjustment Statement" (DECLARATORIA DE ADECUACION AMBIENTAL (DAA, Spanish acronym)). The DAA is the document that approves the project to be pursued.
- In both cases, the goal is to obtain the environmental license, which is the legal administrative document granted by the relevant environmental authority responsible for evaluating compliance with all the requirements stipulated in the law (in force for 10 years).

Solid Wastes

- The Regulation pertaining to the Environmental Management of Solid Wastes (Gestión Ambiental de Residuos Sólidos) (Supreme Decree 24176) establishes the legal regime for the regulation and monitoring of the Management of Solid Wastes, their management, regulations and final disposal.
- It defines the norms to be followed by solid waste management in order to ensure adequate conditioning as well as to prevent the contamination of soil and water. In addition, the Bolivian Regulatory Institute (Boliviano de Normalización (IBNORCA, Spanish acronym) has issued norms for the management of domestic solid wastes, in the framework of environmental management systems.

Hazardous substances

- The Regulation for Activities with Hazardous Substances establishes management, control and risk reduction activities for hazardous substances (corrosives, explosives, flammables, pathogenic-bio infectious, radioactive, reactive or toxic).

- It establishes the procedures for registering activities with hazardous substances in order to monitor and control them, requiring compliance with basic norms in order to prevent damage to the environment due to the improper handling of these substances. The United Nations list is established as a reference for the country (3).
- The functions of the National Registry of Agricultural Inputs (Área Nacional de Registro de Insumos Agrícolas) are the following:
 - Agrochemical Companies Registry (Empadronamiento de Empresas de Agroquímicos) along with its different categories,
 - Registration of chemical pesticides for agricultural use (formulas) and substances used in agriculture,
 - Issuance of permits to import agrochemicals for agricultural use, and
 - Control of the proper use and handling of pesticides, fertilizers, and substances used in agriculture, in order to prevent damages to the health of persons and the environment, as well as
 - Training in the proper use and handling of these consumables and facilitating internal and external trade in accordance with National and International norms.
- Manufacturers, formula makers, importers, exporters, packaging companies and distributors of pesticides, fertilizers and substances for agricultural use must be registered with the SENASAG (7, 8, 9), regardless of whether they are natural and/or legal persons

Soil

- According to the NCPE, soil is to be used in accordance with its highest use capacity and according to the organization and occupation of the space. In addition, biophysical, socioeconomic and cultural characteristics and political institutions are to be taken into account (Art. 380, II).
- Land use changes in forests shall only be possible in legally designated spaces. The Environmental Law refers to soil as a resource and is aimed at its appropriate management and conservation.

Description of Risk

There is a risk of environmental pollution/damage to water, soils etc. due to the lack of governance connected to the import, manufacturing, distribution and sale of agrochemicals.

- The Ministry on the Environment and Water and other institutions responsible for environmental matters must issue reports about the environmental situation in Bolivia, according to Environmental Law 1333 (General Regulation for Environmental Management, Articles 35, 36). However, no official reports exist.
- The Millennium Foundation and the Konrad Adenauer (KAS) Foundation have addressed the issue of the environment in Bolivia, identifying environmental problems and proposals to solve them based on the analysis of different sectors. According to Konrad Adenauer, various notable environmental problems exist in the farming and soy sector in Bolivia:
 - Between 1992 and 2006, the crop area in Bolivia increased 93%, from 1.2 to 2.4 million ha, 75% of which was industrial crops such as soy or sunflower. In the state of Santa Cruz, soy expanded from 172,334 ha in 1990 to 1 million ha in 2008 (14). This state represents 95% of Bolivia's soy crop.
 - The farming sector's crop area increased by 100,000 ha just from the year 2012 to 2013. Nevertheless, the yields per hectare dropped.
- Bolivia is among the top 12 countries with the most deforestation, according to a study by 15 research centres, published by the United States journal Science (15). In November 2013, the country lost 29,867 km² of forests between the years 2000 and 2012. Over 46%

of the territory of Bolivia is covered by forests, which requires the application of different management and protection levels (1).

- Contrary to current legislation, these activities generate an enormous loss of biodiversity resulting from the destruction of forests. For the communities, the loss of flora and fauna means a large reduction in access to food such as wild fruits, medicinal plants, fish and animals for hunting, leading to malnutrition and disease (4).
- The systematic large-scale failure by agricultural producers and companies to comply with environmental protection measures that are legally required by the Bolivian government is of concern. This can be seen by the high rate of clearing, yearly uncontrolled fires (see section 4.1 and 4.2) and activities such as the channelling of rivers and irrigation ditches for plantations, affecting access to water. These modifications increase the risk of fires and floods (See sources of references in section 4.1 - ABT (2)).
- Insecticides and waste from mono-cropping are discharged into rivers, irrigation canals and estuaries, which become severely polluted. The aerial dispersion of insecticides pollute soil, air and rivers, creating the risk of poisoning humans and aquatic fauna, including in adjacent areas (4, 10 and 11).
- According to the Autonomous State Government (Gobierno Autónomo Departamental), 42.45% of the total population of the country is estimated to live in rural areas, where 2.5 million inhabitants work in agriculture and 17 million tons of pesticides are applied each year. The intensive use of pesticides is applied primarily to sugar cane and soy crops in eastern Bolivia, and in considerable quantities. An estimated 60% of the pesticides used are herbicides and 27% are insecticides (Palenque J., 2003) (11). As a mitigation measure, the Autonomous Government of Santa Cruz has launched an initiative called Project: "Analysis and Control of Agrochemical Products in the State of Santa Cruz, Provinces and Municipalities with farming activities" (Proyecto: "Análisis y Control de Productos Agroquímicos en el Departamento de Santa Cruz, Provincias y Municipios con vocación agropecuaria") (11), which has strengthened control inspections, the review of environmental monitoring reports and training activities.
- Although there is a norm that regulates importation, manufacturing, distribution and sale of pesticides, compliance and a control network are lacking. Consequently, pesticides that are prohibited or restricted at the national and international levels are often used (10).
- In Bolivia, pesticides are applied throughout the entire production and commercial chain, from planting to the sale of food products, more in some parts of the chain than in others. The use of agrochemicals, including products that are banned, is so great that damage to persons, animals and the environment is undeniable (11). Regarding the EIA, according to source 4, it is possible to measure the incorporation of the environmental instruments in the management of the different productive sector of the economy using EIA licences statistics. Examining the number of licenses granted per sector, it is noticed that the activities with the highest number of environmental licenses are energy, hydrocarbons and mining, agriculture has the lowest number of licenses considering the intense activity that develops and that generates a high impact on the Environment and the economy. (4)
- Marco Ribera (1) defines what he calls the Gradient of major environmental impacts, with a more drastic effect on ecosystems, among those considers the high level of fragmentation and multiple deforestation and large scale mechanized monoculture intensive agriculture for agroindustrial purposes (1).
- In general, auditing of compliance with the environmental legislation is low, according to the expert consulted (2).
- The situation with non-compliance with current environmental legislation is very similar in the two soy production zones in the state of Santa Cruz, the Integrated and the Expansion Zone.

Risk conclusion

This indicator has been evaluated as Elevated risk. Identified laws are not upheld consistently by all entities and/or are often ignored, and/or are not enforced by relevant authorities.

3.1.6. Risk designation and specification

Elevated risk

3.1.7. Control measures and verifiers

- Verify that implementation of the environmental impact management complies with current legislation.

Verifiers:

- Environmental Impact Study (According to Law 13000 and its Regulations)
- Property Zoning plan (Plan de Ordenamiento Predial)
- Mitigation Plan
- Licenses permit for Chemical use issued by National Registry of Agricultural Inputs (if applicable)

- Verify that native forests are treated according to Law 1333, Law 1700 and its regulation DS 24453 on conservation, management and conversion of forests.

Verifiers:

- Property title or equivalent document; (property card or establishment file) pertaining to the farm property or properties; if a property document is lacking, include a certificate of the association affiliation (for example, Anapo, Fegasacruz, etc.)
- Property Zoning Plan (Plan de Ordenamiento Predial)
- Official ATB maps
- Authorized Plan for Land Use Changes (ATB)

- Verify that chemicals are handled and controlled in accordance with current legislation.

Verifiers:

- Conditions of agrochemical disposal grounds and safe application techniques are verified in the field
- Verify how agrochemicals are applied and how they are stored.
- A valid license permit for Chemical use issued by National Registry of Agricultural Inputs.

- Verify that the fire protection plan complies with current legislation.

Verifiers:

- Approved of burning permit (Government Resolution 131/97 and Law 741) (13).

3.2. Protected sites and species

International, national, and sub national treaties, laws, and regulations related to protected areas allowable forest uses and activities, and/or, rare, threatened, or endangered species, including their habitats and potential habitats. Risk relates to illegal plantation establishment and/or management within protected sites. Note that protected areas may include protected cultural sites, including sites with

historical monuments.

3.2.1. Applicable laws and regulations

- CPE Art.: 385, 381 II, 382 and 383, 390 and 391 - Political Constitution of the State (Constitución Política del Estado) (CPE) - [link](#)
- Law 1333: Full text - Environmental Law (Ley del Medio ambiente) - [link](#)
- REGULATION PERTAINING TO ENVIRONMENTAL LAW 1333 (REGLAMENTACION DE LA LEY Nº 1333 DEL MEDIO AMBIENTE): Full text - Regulation for Environmental Prevention and Control (Reglamento de Prevención y Control Ambiental) - [link](#)
- Law 1700: Full text - FORESTRY LAW (LEY FORESTAL) - [link](#)
- Law 12301: Full text - Law for Wildlife, National Parks, Hunting and Fishing (Ley de Vida Silvestre, Parques Nacionales, Caza y Pesca) - [link](#)
- DS 24781: Full text - General Regulation for Protected Areas (Reglamento General de Áreas Protegidas) - [link](#)
- Legal regulations for the 22 Protected Areas: Full text - Legal Basis for Protected Areas (Base Legal de las Áreas Protegidas) - [link](#)
- Law 1580: Full text - Global agreement to preserve biological diversity - [link](#)
- Law 1255: Full text - Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) - [link](#)
- Law 2274: Full text - Cartagena Biosafety Protocol - [link](#)
- Law 2357: Full text - Convention on Wetlands of International Importance especially as Waterfowl Habitat (RAMSAR) - [link](#)

3.2.2. Legal authority

National Authority:

- Ministry of the Environment and Water (Ministerio de Medio Ambiente y Agua): <http://www.mmaya.gob.bo/>
- National Protected Areas Service (Servicio Nacional de Áreas Protegidas (SERNAP)): <http://www.sernap.gob.bo/>
- General Department of Biodiversity and Protected Areas (Dirección General de Biodiversidad y Áreas Protegidas (DGBAP)): http://www.mmaya.gob.bo/index.php/informacion_institucional/DGBAP,1470.html

Regional Authority:

- DEPARTMENT OF SUSTAINABLE DEVELOPMENT AND THE ENVIRONMENT (SECRETARÍA DE DESARROLLO SOSTENIBLE Y MEDIO AMBIENTE): http://www.santacruz.gob.bo/acerca/secretaria_contenido/120005

3.2.3. Legally required documents or records

It is illegal to establish farms for the cultivation of soy in protected areas and, therefore, no documents are required since the establishment itself is not permitted.

In areas with high conservation values (HCV) that do not belong to the protected areas service, the legal documents required are the same as for the rest of the farms and the documentation required is described in other indicators (3.1 and 4.1) found in this report. This includes a clearing request, Property Zoning Plan, environmental impact study, etc.

3.2.4. Sources of Information

Government sources

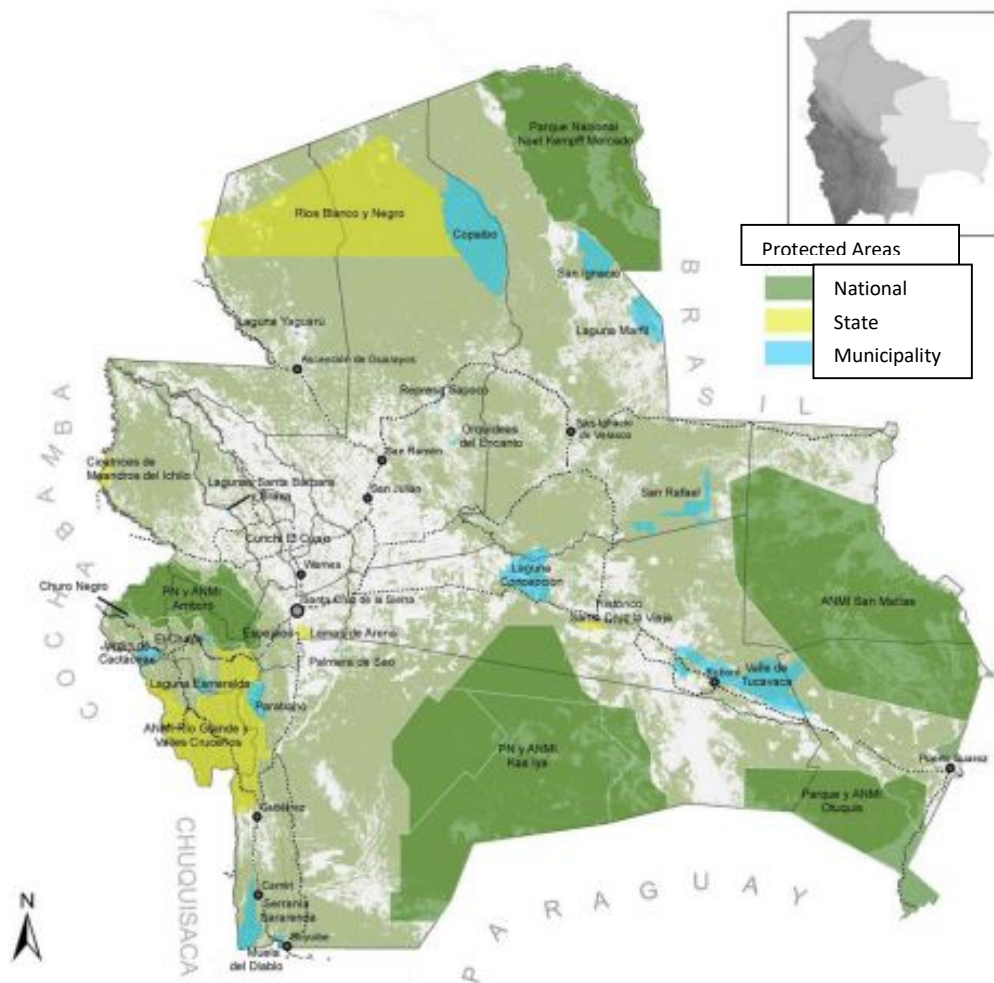
- Ministry of the Environment and Water (Ministerio de Medio Ambiente y Agua): <http://www.mmaya.gob.bo/>
- National Protected Areas Service (Servicio Nacional de Áreas Protegidas (SERNAP)): <http://www.sernap.gob.bo/>
- General Department of Biodiversity and Protected Areas (Dirección General de Biodiversidad y Áreas Protegidas (DGBAP)): http://www.mmaya.gob.bo/index.php/informacion_institucional/DGBAP,1470.html

Non-Government sources

- (1) Bolivian Council for Voluntary Forest Certification (Consejo Boliviano para la Certificación Forestal Voluntaria): 1. <https://www.hcvnetwork.org/resources/national-hcv-interpretations/BAVC%20Bolivia%20contenido.pdf> ; 2. <https://www.hcvnetwork.org/resources/national-hcv-interpretations/BAVC%20Bolivia%20anexos.pdf>
- (2) Monographs: <http://www.monografias.com/trabajos90/areas-protegidas-bolivia/areas-protegidas-bolivia.shtml>
- (3) Mountainpeople: <http://www.mountain-people.org/>
- (4) Sites.google: <https://sites.google.com/site/marconormativoambiental/bolivia>
- (5) Government of Santa Cruz: <http://www.santacruz.gob.bo/archivos/AN05102012182816.pdf>
- (6) IV National Report – Convention on Biological Diversity: <https://www.cbd.int/doc/world/bo/bo-nr-04-es.pdf>
- (7) Conservation International (Conservación Internacional): <http://www.conservation.org/Pages/default.aspx>
- (8) Friends of Nature Foundation (Fundación amigos de la naturaleza): <http://www.fan-bo.org/mapa-de-deforestacion-de-las-tierras-bajas-y-yungas-de-bolivia-2000-2005-2010/>

3.2.5. Risk determination

The state of Santa Cruz has a total area of 37 million ha, 13.4 million (36.2%) of which are protected areas.



Map: Protected Areas in the State of Santa Cruz (National, State and Municipal Levels)

National Protected Areas				
N°	Categories	Area	Location	Legal Basis
1	Noel Kempff Mercado National Park	1.523.446	Velasco /San Ignacio de Velasco	DS 16646 (28/06/1979) Ley 978 (04/03/1988) DS 24457 (23/12/1996)
2	Amoro National Park and Nature Area Joint Management (*)	637.600	Ichilo, M.M. Caballero, Florida, Andrés Ibáñez /Yapacaní, San Carlos, Buena Vista, Parongo, El Torno, Samaipata, Mairana, Pampagrande, Comarapa	DS 11254 (20/12/1973) DS 20423 (16/08/1984) DS 22939 (11/10/1991) DS 24137 (03/10/1995)
3	Kaa Iya del Gran Chaco National Park and Nature Area Joint Management (*)	3.441.500	Cordillera y Chiquitos /Charagua, San José de Chiquitos, Pailón	DS 24122 (21/09/1995)
4	Pantanal de Otuquis National Park and Nature Area Joint Management (*)	1.005.950	Germán Busch y Cordillera /Puerto Suárez, Charagua, Puerto Quijarro	DS 24762 (31/07/1997)
5	San Matias National Park and Nature Area Joint Management (*)	2.918.500	Germán Busch, Ángel Sandoval, Chiquitos y Velasco /San Rafael, San José de Chiquitos, San Matias, Puerto Suárez, Puerto Quijarro	DS 24734 (31/07/1997)

State Protected Areas				
1	Lomas de Arena Regional Park (*)	13.326	Andrés Ibañez / La Guardia, Santa Cruz	DS 22911 (25/09/1991)
2	Santa Cruz la Vieja Historic National Park	17.080	Chiquitos/ San José de Chiquitos	DS 22140 (22/02/1989)
3	Espejillos Nature Monument (*)	1.258	Andrés Ibañez / Parango	RP 138/00 (22/03/2000)
4	Rios Blanco y Negro Wildlife Reserve (*)	1.400.000	Ñunflo de Chávez/ Concepción, Asunción de Guarayos, Urubichá	RM 139/90 (10/08/1990)
5	State Wildlife Reserve in Cicatrices de Meandros Antiguos del Rio Ichila (*)	20.919	Ichilo /Yapacaní	DS 24124 (21/09/2005)
6	Rio Grande Valles Cruceños Jointly Managed Nature Area	734.000	Cordillera, Florida y Vallegrande / Cabezas, Gutiérrez, Samaipata, Moro Moro, Vallegrande, Postrervalle y Pucará	RP 059/07 (13/03/2007)

Municipal Protected Areas				
1	Valle de Tucavaca Wildlife Reserve (*)	262.305	Chiquitos / Rorobé	LM 001/2011 (11/04/2011)
2	Quebrada El Chape Micro-basin (*)	3.583	Florida / Mairana	OM 21/2004 (22/09/2004)

3	Orquídeas del Encanto	2.861	Ñunflo de Chávez / Concepción	OM 056/2005 (19/07/2005)
4	Jardín de Cactáceas de Bolivia (*)	22.491	Manuel María Caballero / Comarapa	OM 006/2005 (11/04/2005)
5	Parabanó (*)	38.878	Cordillera / Cabezas	OM 020/2004 (20/10/2004)
6	Serranía de Sararenda	66.403	Cordillera /Camiri Cordillera / Cuevo	OM 031/2005 (10/05/2005) OM 019/2005 (09/09/2005)
7	Palmera de Saó (*)	758	Cordillera / Cabezas	Ley 3491 (26/09/2006)
8	Curichi Cuajo Nature Reserve	380	Ichilo / Buena Vista	OM 009/2002 (18/06/2002)
9	Concepción Lagoon (*)	135.567	Chiquitos / Pailón y San José de Chiquitos	LM 001/2011 (04/07/2011) OM 59/2009 (10/10/2009)
10	Wildlife Sanctuary and ANMI Esmeralda Lagoon	13.439	Florida / Quirusillas	OM 11/2011 (23/05/2011)
11	Yaguaru Lagoon	1.190	Ñunflo de Chávez / Urubichá	OM 009/2002 (05/12/2002)
12	Santa Barbara and Brava Lagoons	1.624	Ichilo / San Carlos	OM 013/2002 (12/08/2002)
13	San Ignacio Reserve	76.693	Velasco / San Ignacio de Velasco	OM 045/2001 (08/06/2001)
14	San Rafael Reserve	69.143	Velasco / San Rafael	OM 015/2004 (13/12/2011)
15	Sapaco Dam Lagoon	1.946	Ñunflo de Chávez / Concepción	OM 035/007 (05/06/2007)
16	Copaibo Reserve	347.037	Ñunflo de Chávez / Concepción	OM 15/2011 (31/05/2011)

18	Marfil Lagoon	71.055	Velasco / San Ignacio de Velasco	OM140/2010 (06/10/2010)
19	Churo Negro	3.092	Manuel María Caballero / Comarapa	OM 68/2007 (10/09/2007)

(5,7)

Overview of Legal Requirements

Protected Areas: The CPE stipulates that Protected Areas constitute a common good, they fulfill different functions for sustainable development and are part of the natural heritage and culture of the country (Art. 385). The National Parks, Wildlife, Hunting and Fishing Law (Ley de Vida Silvestre Parques Nacionales Caza y Pesca) is also in force (DL 12301, March, 14, 1975) as is the Protected Areas Regulation (DS 24781, July 31, 1997). Harvesting of natural resources is permitted only in exceptional cases and when the national interest is declared (Article 33, General Regulation for Protected Areas (Reglamento General de Áreas Protegidas, DS 24781, July 31, 1997).

According to the CPE, the government shall protect all genetic resources, microorganisms and related knowledge. It provides for the establishment of an intellectual property registration system in favour of the government (Art. 381, II). It provides for defence actions and the recovery of biological material (Art. 382), establishing restrictions on extractive uses and issuing fines for the illegal possession, management and trafficking of species (Art. 383). Special attention is given to the Amazon, considered to be a strategic space (Art. 390). It also provides for sustainable comprehensive development (Art. 391). Law 1580 approves and ratifies the UN Convention on Biological Diversity. There are also Regulatory Laws: on National Parks, Wildlife, Hunting and Fishing (DL N° 12301), protected areas (DS N° 24781) and the Forestry Law (1700). The signed international conventions, CITES (Law 1255) and Ramsar (Ley N° 2357) (2, 4) were also ratified.

Description of risk

There is a risk of a loss of biodiversity because of the conversion of natural forests and ecosystems, controlled and uncontrolled burns to clear land, and lack of enforcement of relevant legislation. In some cases, there is uncontrolled expansion of soy production in protected areas and/or on indigenous traditional territories.

- The risk from illegally cultivating soy crops in protected areas containing protected species is directly linked with illegal clearings, which as specified in other sections, represents 88% of clearings, according to the competent authority. We can distinguish between the situation in national protected areas and that of sub-national protected areas:
- National protected areas in lowlands and the Yungas regions cover 16.2 million ha (14.8% of the area of Bolivia). A total of 49,884 ha was lost between 2000 and 2010, which corresponds to 0.4% of the forest from in 2000 (11,322,507 ha). The protected areas that experienced the greatest loss in forest during this period were the PN Carrasco with 12,179 ha, the TIPNIS with 12,118 ha and the PN-ANMI Amboró with 10,004 ha (8). According to the same source, as for the causes that drive deforestation is the mechanized agricultural, main responsible for the conversion of forests in the last decades; however, subsistence or small-scale agriculture and livestock farming have also played an important role in forest loss in recent years.
- Loss of Forest in Sub-National Protected Areas (states and municipalities). Sub-national protected areas in lowlands and the Yungas region cover 8.3 million ha (7.6% of the total area of the country). A total of 71,107 ha was lost between 2000 and 2010, corresponding to 1.4% of the forest from the year 2000 (5,278,237 ha). The protected areas that underwent the greatest loss in forest during the period were ANMI Chiquitos with 41,678 ha, Yacuma Regional Park with 7,538 ha. Unlike the national protected areas, states and municipalities show a strong tendency towards accelerating the deforestation process (8).

- One primary threat comes from the use of fire (authorized or unauthorized) for cleaning pastures and clearing forests, which cause enormous damage in protected areas (see section 4.2) (6).
- There is an overlapping between the rights of TICOs/TOCs and National Parks and Protected Areas in Bolivia, which causes conflicts of interest and uncontrolled exploitation in protected areas (3).
- In the Integrated Zone, because of the situation with the development of soy crops, new farms are established that pose a risk to the values associated with this indicator. Namely, when the remaining forests, wetlands, swamps and other remnant ecosystems containing elements that are unique in the area are eliminated, a significant impact is created (although not in terms of the size of the area).

Risk conclusion

This indicator has been evaluated as Elevated risk. Identified laws are not upheld consistently by all entities and/or are often ignored, and/or are not enforced by relevant authorities.

3.2.6. Risk designation and specification

Elevated risk

3.2.7. Control measures and verifiers

- Verify documents related to conversion of native forests for the entire area of the establishment.

Verifiers:

- Submission of Property Zoning Plan

- Verify and monitor the location of protected areas and those officially declared as having a high conservation value in terms of the location of the farm.

Verifiers:

- GIS map of field boundaries.
- Santa Cruz Land Zoning Map
- Maps of national and provincial protected areas

3.3. High Conservation Values (HCV)

International, national, and sub national treaties, laws, and regulations related to protected areas allowable forest uses and activities, and/or, rare, threatened, or endangered species, including their habitats and potential habitats. Risk relates to illegal plantation establishment and/or management within protected sites. Note that protected areas may include protected cultural sites, including sites with historical monuments.

Overall Context

Santa Cruz is the largest state in Bolivia, with 2.4 million inhabitants. Because of its geographic position, it is very heterogeneous in terms of its physiographic and environmental characteristics which encompasses 9 of the 12 ecoregions defined in the country: Amazonía, Bosque Seco Chiquitano (dry forest), Sabanas Inundables (floodplains), Chaco, Cerrado, Chaco Serrano, Valles Secos Interandinos (Inter-Andean dry valleys), Bosque Tucumano-Boliviano (forest) and the Yungas (tropical valleys). These regions have an abundant and varied biological diversity, giving Bolivia its recognition as one of the 15 mega-diverse countries on the planet.

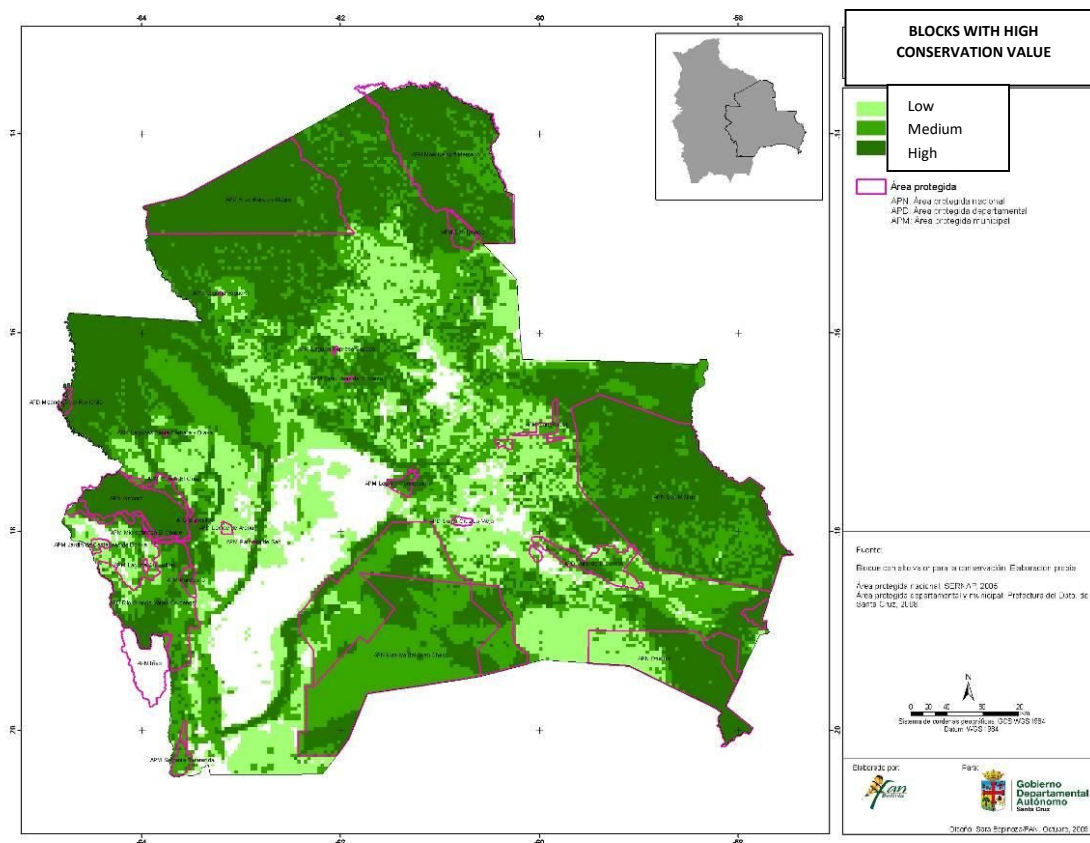
The state has a broad richness of natural resources, biodiversity and environmental services

(2).

Nevertheless, societal practices in the use and management of the natural resources generally have not been guided by environmental sustainability criteria, and this is contributing to a reduction in the quality of life of the population in the state. The main economic sectors are hydrocarbon and farming and agro-industry which occupy large areas of the land (2).

Over recent years in Bolivia, several institutions dedicated to the conservation of biodiversity have developed land zoning exercises, in coordination with state entities. Important progress has been made in ecoregion planning which makes it possible to identify priority areas for conservation. Nevertheless, most of these experiences have unfortunately consisted of work proposals, while the integration of these important technical contributions in official government planning has been weak. (2)

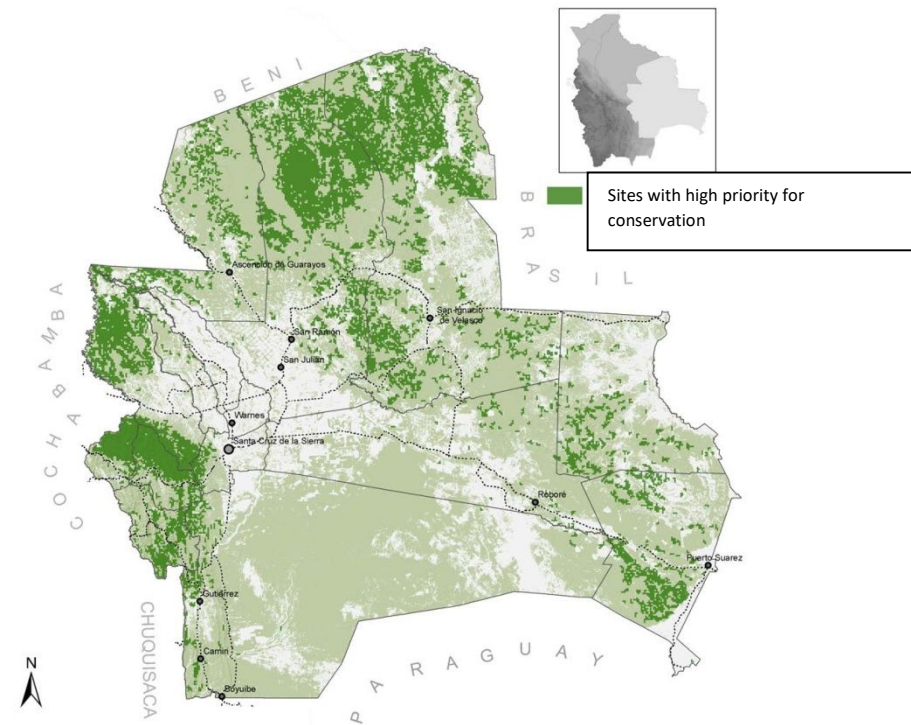
Priority conservation areas were identified during the process of developing the Territorial Zoning Plan (Plan de Ordenamiento Territorial) of the state of Santa Cruz. (2) The criteria used included HCV1 biodiversity (species richness, endemism, AICA and Ramsar sites), HCV2 landscapes (large blocks of forests or landscape in a good state of conservation) and HCV4 environmental services (areas important to hydric functions and climate regulation). In addition to the forests located in the state, other ecosystems were included that had high conservation value, thereby obtaining a general map of all the ecosystems with a high conservation value (Map 1).



Map 1: Forests and Ecosystems with High Conservation Value

A second study performed by the Autonomous Government of the state of Santa Cruz, through the Department of Sustainable Development and the Environment (Secretaría de Desarrollo Sostenible y Medio Ambiente) and its Protected Areas Department (Dirección de Áreas Protegidas), was aimed at identifying the state's priority conservation areas based on the analysis of five bio-ecological indicators: (a) potential species richness, (b), potential areas of

species concentration, (c) habitat heterogeneity, (d) vegetation cover distribution pattern and (e) rainfall and horizontal precipitation. The results are shown in Map 2. (1)



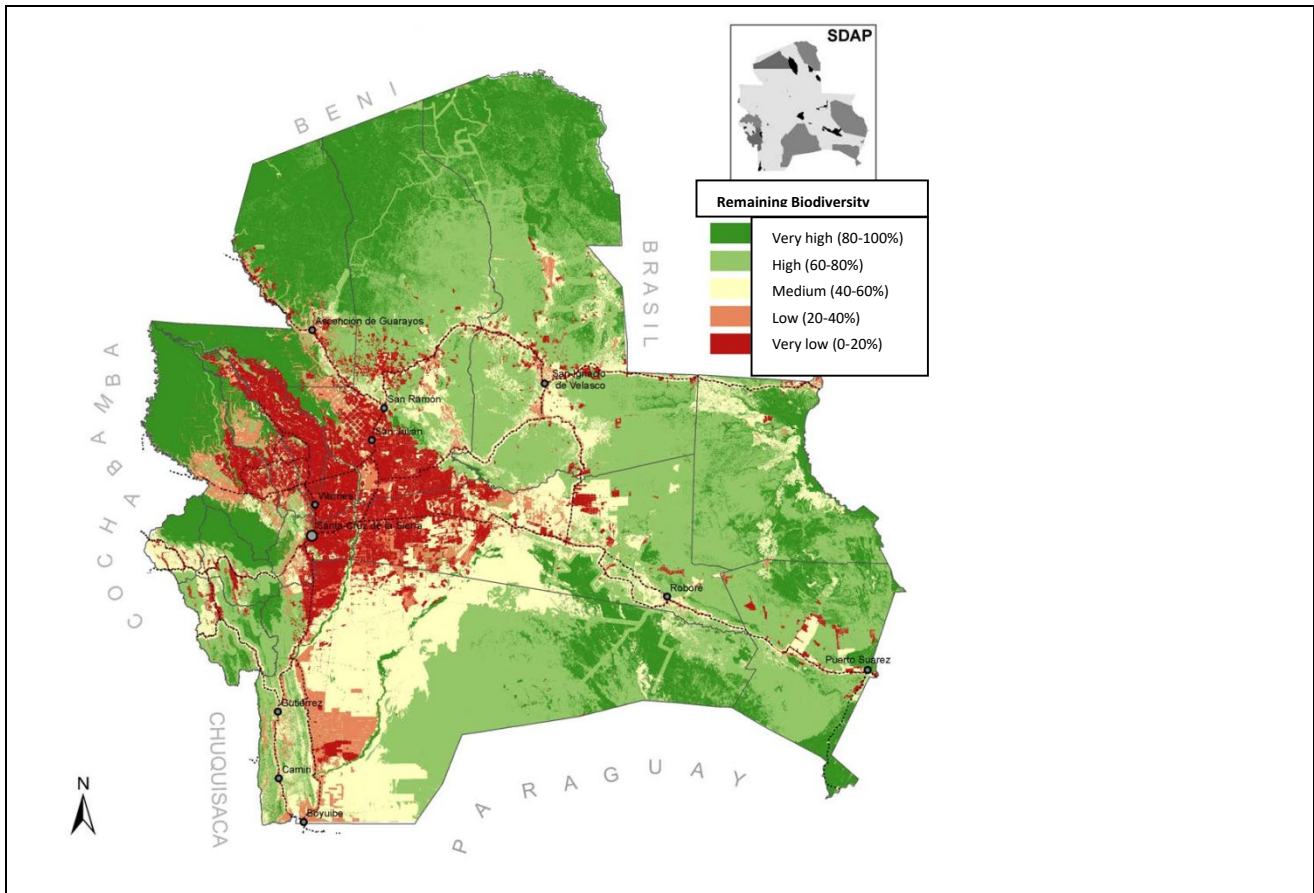
Map 2: Sites with high priority for conservation

The main threat to biodiversity in the state of Santa Cruz is the deforestation or transformation of natural habitats due to the ongoing expansion of farming boundaries. This triggers a series of stresses that directly or indirectly affect biodiversity and the stability of ecosystems: new settlements, growth of road systems, indiscriminate hunting, forest fires, etc. (2).

The elimination of forest cover is directly leading to the exhaustion of forest resources, loss in plant and animal species from the habitat, loss of carbon sequestration capacity, accumulation of greenhouse gases from the reduction in the biomass, as well as erosion, compaction of soil, sedimentation in reservoirs and rivers and climate changes (Johnson & Cabarle, 1995 (10)). (2)

The environmental consequences not only affect environmental goods and services provided by forests but also the productivity of the soil, because the intensiveness of monocrops and the lack of adequate management often cause degradation. The felling of trees that cover hydrographic watersheds deteriorates the water quality and changes the hydric regime, increasing the risks of flooding and accelerating erosion processes from both water and wind (Jack, 1999 (12); Pacheco, 1998 (11)). (2)

Information about the ecosystems' state of conservation was obtained by applying the GLOBIO3 methodology (Global Methodology for Mapping Human Impacts on the Biosphere), which was developed by the United Nations Program Environment Programme (UNEP - PNUMA). The result was that the areas with the most deterioration are in the west-central areas of the state of Santa Cruz, which is shown in red in Map 3. This implies that less than 20% of its original biodiversity remains intact. In conclusion, the impact of human activities has focused on particular regions, and in general, the remaining biodiversity ranges between moderate and very high (1).



Map 3: Remaining biodiversity

The landscape has changed significantly in the Integrated Zone and the Expansion Zone. This change is related to two main factors: a) the substitution of forests and b) drainage in the wetland and swamp areas to cultivate agricultural crops. Both very significantly affect HCV 1,3 and 4, which is interpreted as highly critical for the Integrated and Expansion Zones, specifically because the indices related to biodiversity (Map 3), ecological functions (Map 13), effect on climate (Map 14) and hydric resources continue to be very low. Therefore, the interpretation is that all the remnants of native vegetation, wooded areas, forests and wetlands and swamps have a high conservation value. The work performed by the state of Santa Cruz to identify these areas provides a valuable foundation for making interpretations on the local and property levels. However, without a detailed diagnostic of the HCV on the property level, the risk should be interpreted as very high.

The way to mitigate these risks is by complying with existing legislation, the request and approval for clearing and the development and approval of a Property Zoning Plan and an environmental impact study. Nevertheless, based on the information described below, these measures are not fully implemented.

- (1) Autonomous Government of the State of Santa Cruz: CONSERVATION PRIORITIES FOR BIODIVERSITY IN THE STATE OF SANTA CRUZ (Gobierno autónomo departamental Santa Cruz: PRIORIDADES DE CONSERVACIÓN DE LA BIODIVERSIDAD DEL DEPARTAMENTO DE SANTA CRUZ): <http://www.santacruz.gob.bo/archivos/AN05102012182816.pdf>
- (2) Autonomous Government of the State of Santa Cruz (Gobierno autónomo departamental Santa Cruz) and Friends of Nature Foundation (Fundación Amigos de la Naturaleza (FAN, Spanish acronym)): BIODIVERSITY COMPONENT FOR THE SANTA CRUZ STATE LAND ZONING PLAN (COMPONENTE BIODIVERSIDAD PARA EL PLAN DEPARTAMENTAL DE ORDENAMIENTO TERRITORIAL DE SANTA CRUZ): <http://www.fan-bo.org/que-hacemos/ciencias/planificacion-para-la-conservacion/incorporacion-de-la->

[planificacion-para-la-conservacion-a-escala-de-unidades-politico-administrativas-planificacion-del-ordenamiento-territorial-o-en-los-ambitos-de-gestion-del-desarrollo/desarrollo-de-la-vision-de-conservacion-del-departamento-de-santa-cruz-para-el-plan-departamental-de-ordenamiento-territorial/](#)

- (3) GTZ GUIDE TO IDENTIFYING ATTRIBUTES TO DEFINE FORESTS WITH HIGH CONSERVATION VALUE IN BOLIVIA (GTZ GUÍA DE IDENTIFICACIÓN DE ATRIBUTOS PARA DEFINIR BOSQUES DE ALTO VALOR DE CONSERVACIÓN EN BOLIVIA) https://www.researchgate.net/publication/278248040_Guia_de_identificacion_de_atributos_para_definir_Bosques_de_Alto_Valor_de_Conservacion_A_Guide_for_Identifying_High_Conservation_Value_Forests
- (4) Autonomous Government of the State of Santa Cruz: STATE LAND ZONING PLAN IN SANTA CRUZ PROVINCES (Gobierno autónomo departamental Santa Cruz PLAN DEPARTAMENTAL DE ORDENAMIENTO TERRITORIAL (PDOT) EN LAS PROVINCIAS CRUCEÑAS) <http://www.santacruz.gob.bo/sczturistica/medioambiente/ordenamiento/contenido/5647/30019>
- (5) Autonomous Government of the State of Santa Cruz: STATE OF SANTA CRUZ PLAN (Gobierno autónomo departamental Santa Cruz: PLAN DEPARTAMENTAL SANTA CRUZ) http://www.santacruz.gob.bo/sczturistica/medioambiente/ordenamiento_plandptal/300300
- (6) Autonomous Government of the State of Santa Cruz: STATE OF SANTA CRUZ HOMEPAGE (Gobierno autónomo departamental Santa Cruz: PAGINA PRINCIPAL DEPARTAMENTO SANTA CRUZ) <http://www.santacruz.gob.bo/sczturistica/medioambiente>
- (7) Autonomous Government of the State of Santa Cruz: PROTECTED AREAS IN SANTA CRUZ (Gobierno autónomo departamental Santa Cruz: ÁREAS PROTEGIDAS DE SANTA CRUZ) <http://www.santacruz.gob.bo/turistica/medioambiente/areasProtegidas.swf>
- (8) Convention on Biological Diversity country status report: <https://www.cbd.int/countries/profile/>
- (9) CBD Bolivia Report 2015: <https://www.cbd.int/doc/world/bo/bo-nr-05-es.pdf>
- (10) Johnson, Nels y Bruce Cabarle. 1995. Surviving the Cut: Natural Forest Management in the Humid Tropics. New York: World Resources Institute.
- (11) Pacheco, Pablo. 1998. Types of Development, Deforestation and Degradation of Forests in Bolivian Lowlands (Estilos de desarrollo, deforestación y degradación de los bosques en las tierras bajas de Bolivia). Serie Bosques y Sociedad No. 2. La Paz: CIFOR/CEDLA/TIERRA.
- (12) Jack, D. (1998). Of Markets and Forest: Certification and Sustainable Forestry in Bolivia. Watson Foundation, Providence. RI.

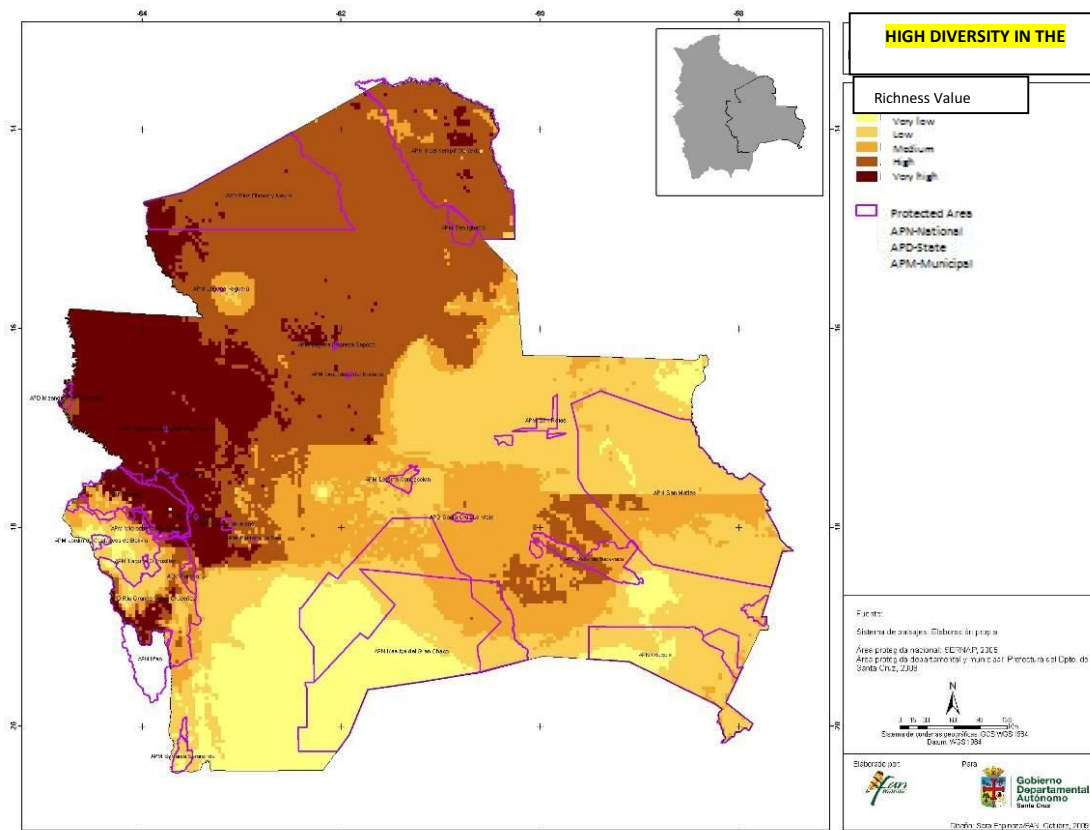
3.3.1. Species Diversity – HCV 1

Concentrations of biological diversity including endemic species, and rare, threatened or endangered species that are significant at global, regional or national levels. HCV 1 sub-categories also consider:

- a) Areas that contain species that are listed as rare, threatened or endangered by IUCN and or Official National and/or regional lists;*
- b) Centres of endemism where concentrations of endemic species occur;*
- c) Areas that contain species that are listed as depleted or poorly reserved at national or regional scale;*
- d) Areas with mapped significant seasonal concentrations of species (e.g. migratory staging areas);*
- e) Areas of high species/communities diversity*
- f) Areas that are identified in the literature as refugia.*

3.3.1.1. HCV Occurrence

Areas with HCV1 exist in the state of Santa Cruz. According to the results from the analysis, the areas with a particularly large diversity of species are located in the provinces of Guarayos (north and southwestern part of the province), nearly all of Ichilo, Santiesteban and Sara, northern parts of the provinces of Caballero and Florida and the far southern region of the province of Vallegrande. Isolated but important patches exist in the Chiquitano mountain range in the provinces of Chiquitos, Angel Sandoval, Germán Busch and Cordillera (Map 4).(2)

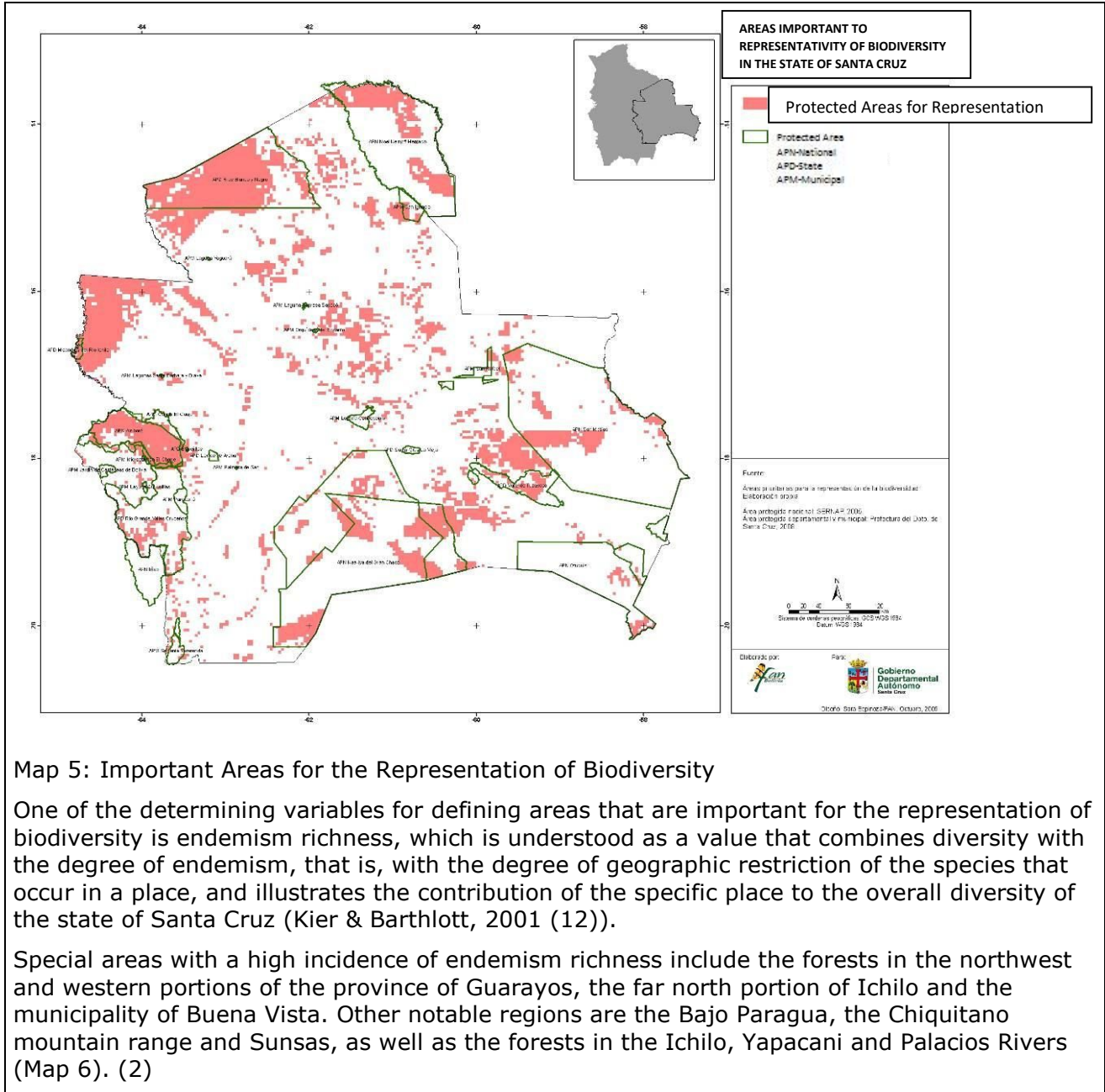


Map 4: Potential Diversity Richness in the State of Santa Cruz

To represent biodiversity, priority areas are those whose conservation is important to ensuring the representation of biodiversity at the species and ecosystem levels. Representation is associated with sites that permit the convergence of the largest quantity of species (taxons), which is used as an indicator of the existence of habitats having conditions that benefit and provide for the presence of a large quantity of species. This characteristic can also be an indicator of the irreplaceability of a particular site. These sites are therefore appropriate for the implementation of protected areas. Endemism richness is an important spatial variable for determining areas that are important in terms of representing ecosystems, although their individual size may not be optimal (remnant areas) for adequately protecting ecosystems or species.

The results from the analyses indicate that approximately 50% of the ecosystems, as well as centres of endemism and diversity, are found to be represented in the protected areas in the state of Santa Cruz. Nevertheless, large areas (50%) that are not represented in the protected areas urgently need conservation actions to be implemented in coordination with municipalities and private actors.

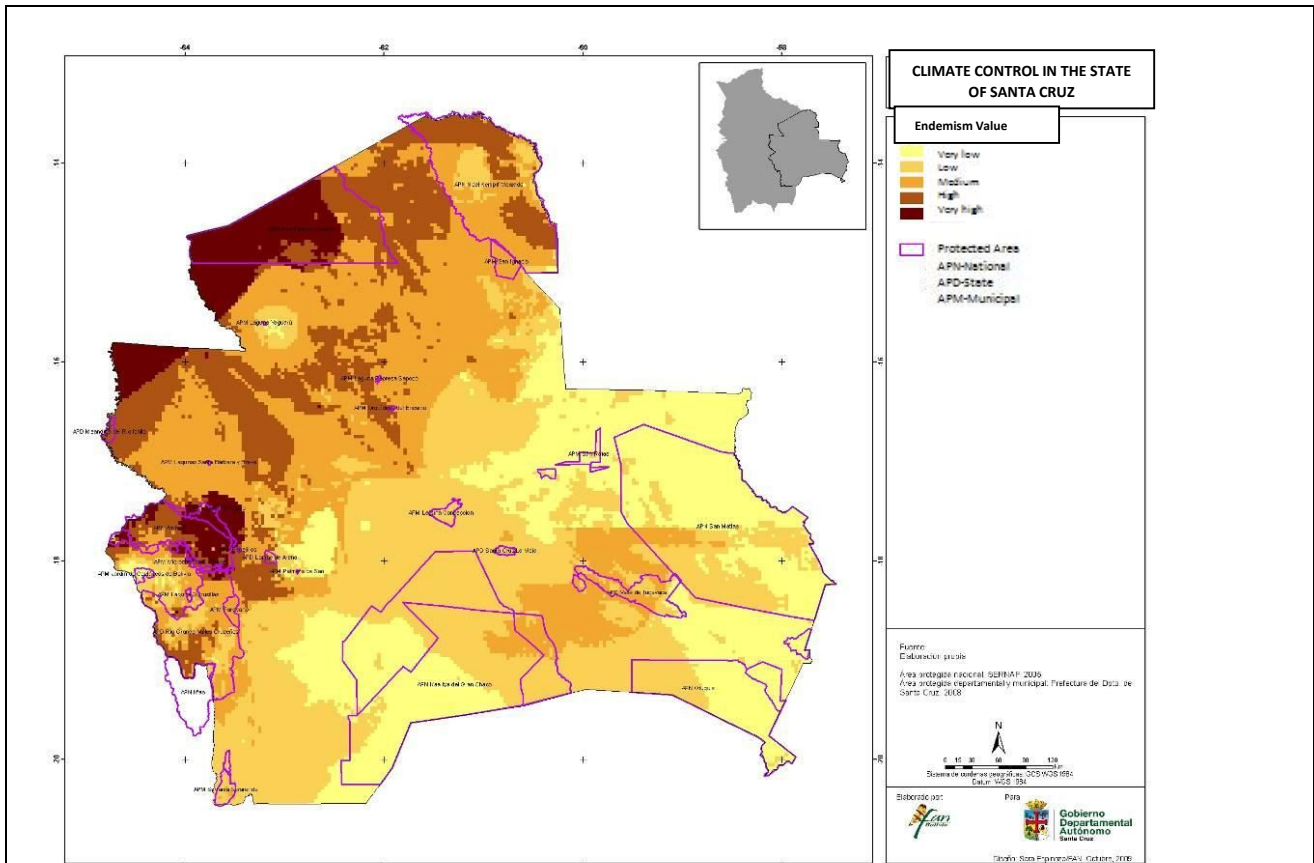
Few protected areas exist, particularly in the central region of the state where a large part of the farming activity and conversion of native forests is occurring (Map 5). (2)



Map 5: Important Areas for the Representation of Biodiversity

One of the determining variables for defining areas that are important for the representation of biodiversity is endemism richness, which is understood as a value that combines diversity with the degree of endemism, that is, with the degree of geographic restriction of the species that occur in a place, and illustrates the contribution of the specific place to the overall diversity of the state of Santa Cruz (Kier & Barthlott, 2001 (12)).

Special areas with a high incidence of endemism richness include the forests in the northwest and western portions of the province of Guarayos, the far north portion of Ichilo and the municipality of Buena Vista. Other notable regions are the Bajo Paragua, the Chiquitano mountain range and Sunsas, as well as the forests in the Ichilo, Yapacani and Palacios Rivers (Map 6). (2)



Map 6. Endemism Richness in the state of Santa Cruz

The results from the analysis of the conservation of wildlife fauna in the state of Santa Cruz, according to the categories established by CITES and the IUCN, are: 35 mammal species on the CITES list have been reported in the state (15 in appendix 1 and 20 in appendix II); 185 bird species (8 in Appendix I and 177 in appendix II); 22 reptile species (1 in appendix 1 and 21 in appendix II); 2 amphibian species (both in appendix II) (see lists in appendices). With respect to fish, none of the species registered in the appendices exist in the country (CITES, 2009; Rivero, 2008) (Table 1). (2)

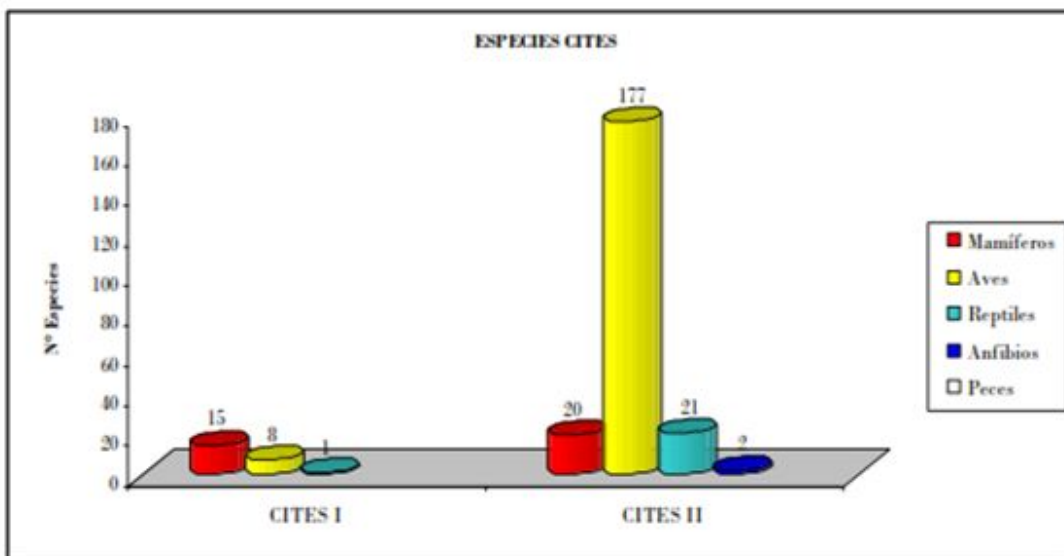


Table 1: Fauna listed in CITES, State of Santa Cruz

The publication Threatened Fauna in Bolivia, "Animals without a Future" (Fauna Amenazada de Bolivia, "Animales sin futuro") (Flores & Miranda, 2003 (13)) analyses the state of conservation of the vertebrates in Bolivia based on several at-risk parameters, including: those established by the International Union for the Conservation of Nature (IUCN, 1996), the Red Book on Vertebrates in Bolivia (Ergueta & Morales, 1996), CITES lists appendices (CITES, 1997), List of Threatened and Endangered Wildlife and Plants (USFWS, 1996), List of Mammals in Bolivia (Anderson, 1997), as well as works by Rylands et al., 1995 and Rowe, 1996 for categories of endangers primates, among other workshops with experts convoked by the Bolivian IUCN committee. Based on this analysis, the publication presents a list of species with facing some degree of threat due to different factors, ranging from indiscriminate use of the species for food, the destruction or fragmentation of habitats, illegal trade of the specimen or its derivatives, or illegal possession of the species as pets. (2) Based on this the results from the state of conservation of vertebrates in the state of Santa Cruz was systematized, which resulted in the following (2):

THREATENED	BOLIVIA TOTAL (No. of species)	SANTA CRUZ (No. of species)
Mammals	70	46
Birds	70	12
Reptiles	56	34
Fish	43	13
Amphibians	75	15
TOTAL	314	120

Source: Bolivian Red Book of Wildlife Vertebrate Fauna (2009)

Areas that are important to bird conservation: according to Armonia/BirdLife International (2009), 1,415 bird species are registered in Bolivia, making it the fifth richest country in terms of birds worldwide. Seventy-six percent of these are found in the state of Santa Cruz, ranking it second in bird diversity nationally (1078 species), after La Paz (1112 species). Seven Important Areas for Migratory Bird Conservation (Áreas Importantes para la Conservación de Aves Migratorias) have been identified in Santa Cruz (Map 7). Knowledge about the presence of species and populations of birds in Santa Cruz is still very incipient due to a lack of inventories and adequate counts, as well as the diversity of habitats in the state.

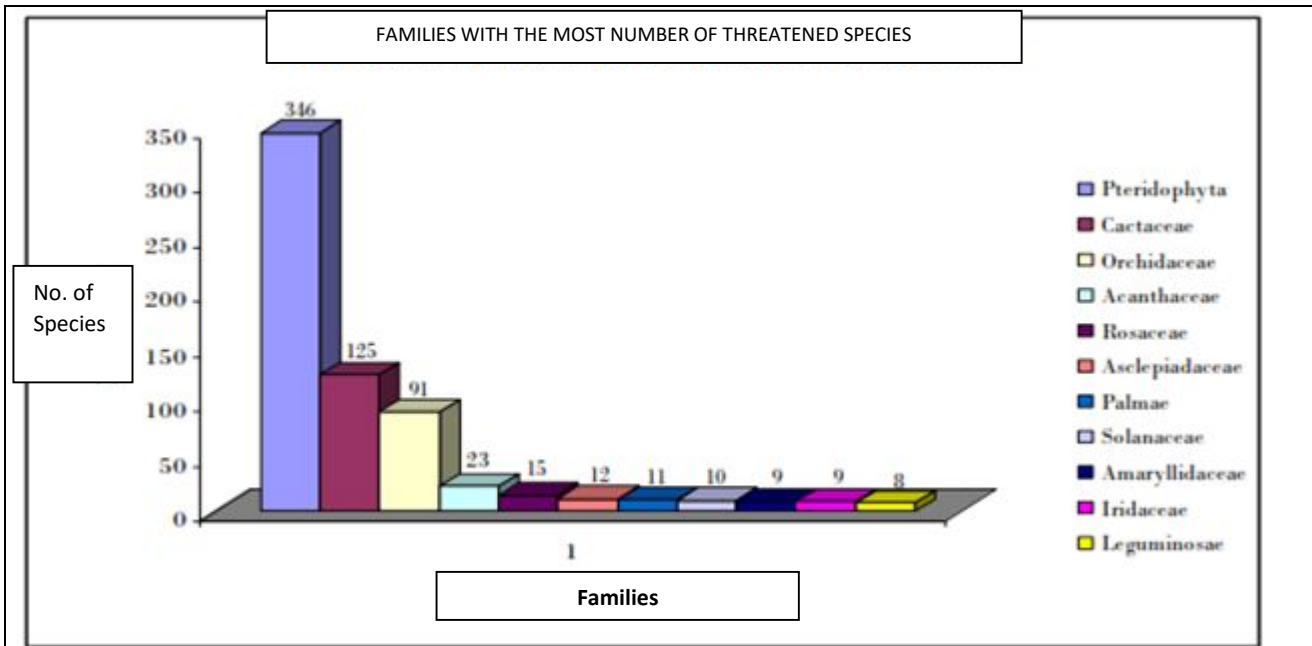


Table 3: Botanical families with the most number of threatened species, state of Santa Cruz

3.3.1.2. Sources of information

- (1) Autonomous Government of the State of Santa Cruz: CONSERVATION PRIORITIES FOR DIVERSITY IN THE STATE OF SANTA CRUZ (Gobierno autónomo departamental Santa Cruz: PRIORIDADES DE CONSERVACIÓN DE LA BIODIVERSIDAD DEL DEPARTAMENTO DE SANTA CRUZ): <http://www.santacruz.gob.bo/archivos/AN05102012182816.pdf>
- (2) Autonomous Government of the State of Santa Cruz and Friends of Nature Foundation: BIODIVERSITY COMPONENT FOR THE STATE OF SANTA CRUZ TERRITORY ZONING PLAN (Gobierno autónomo departamental Santa Cruz y Fundación Amigos de la Naturaleza (FAN): COMPONENTE BIODIVERSIDAD PARA EL PLAN DEPARTAMENTAL DE ORDENAMIENTO TERRITORIAL DE SANTA CRUZ): <http://www.fan-bo.org/que-hacemos/ciencias/planificacion-para-la-conservacion/incorporacion-de-la-planificacion-para-la-conservacion-a-escala-de-unidades-politico-administrativas-planificacion-del-ordenamiento-territorial-o-en-los-ambitos-de-gestion-del-desarrollo/desarrollo-de-la-vision-de-conservacion-del-departamento-de-santa-cruz-para-el-plan-departamental-de-ordenamiento-territorial/>
- (3) GTZ GUIDE TO IDENTIFY ATTRIBUTES FOR DEFINING FORESTS IN BOLIVIA WITH HIGH CONSERVATION VALUE (GTZ GUÍA DE IDENTIFICACIÓN DE ATRIBUTOS PARA DEFINIR BOSQUES DE ALTO VALOR DE CONSERVACIÓN EN BOLIVIA) https://www.researchgate.net/publication/278248040_Guia_de_identificacion_de_atributos_para_definir_Bosques_de_Alto_Valor_de_Conservacion_A_Guide_for_Identifying_High_Conservation_Value_Forests
- (4) Autonomous Government of the State of Santa Cruz STATE TERRITORY ZONING PLAN FOR SANTA CRUZ PROVINCES (Gobierno autónomo departamental Santa Cruz PLAN DEPARTAMENTAL DE ORDENAMIENTO TERRITORIAL (PDOT) EN LAS PROVINCIAS CRUCEÑAS) <http://www.santacruz.gob.bo/sczturistica/medioambiente/ordenamiento/contenido/5647/30019>
- (5) Autonomous Government of the State of Santa Cruz: SANTA CRUZ STATE PLAN (Gobierno autónomo departamental Santa Cruz: PLAN DEPARTAMENTAL SANTA CRUZ) http://www.santacruz.gob.bo/sczturistica/medioambiente/ordenamiento_plandptal/300300

- (6) Autonomous Government of the State of Santa Cruz: STATE OF SANTA CRUZ HOMEPAGE (Gobierno autónomo departamental Santa Cruz: PAGINA PRINCIPAL DEPARTAMENTO SANTA CRUZ) <http://www.santacruz.gob.bo/sczturistica/medioambiente>
- (7) Autonomous Government of the State of Santa Cruz: PROTECTED AREAS IN SANTA CRUZ (Gobierno autónomo departamental Santa Cruz: ÁREAS PROTEGIDAS DE SANTA CRUZ) <http://www.santacruz.gob.bo/turistica/medioambiente/areasProtegidas.swf>
- (8) Convention on Biological Diversity country status report: <https://www.cbd.int/countries/profile/>
- (9) CBD Bolivia Report 2015: <https://www.cbd.int/doc/world/bo/bo-nr-05-es.pdf>
- (10) CITES: <https://cites.org/esp/app/appendices.php>
- (11) Ibisch, P.L., y Merida, G. (2003), Biodiversity: Richness in Bolivia (Biodiversidad : La Riqueza de Bolivia). Editorial FAN, Santa Cruz, Bolivia.
- (12) Kier, G. & Barthott, W. 2001, Measuring and Mapping Endemism and species richness: A new methodological approach and its application on the flora of Africa. Biodiversity and Conservation 10, 1513 – 1529.
- (13) Flores, E. & Miranda, M. 2003, Threatened Fauna in Bolivia: Animals without a Future? (Fauna amenazada de Bolivia: ¿animales sin futuro?), Ministry of Sustainable Development (Ministerio de Desarrollo Sostenible).

3.3.1.3. Risk determination

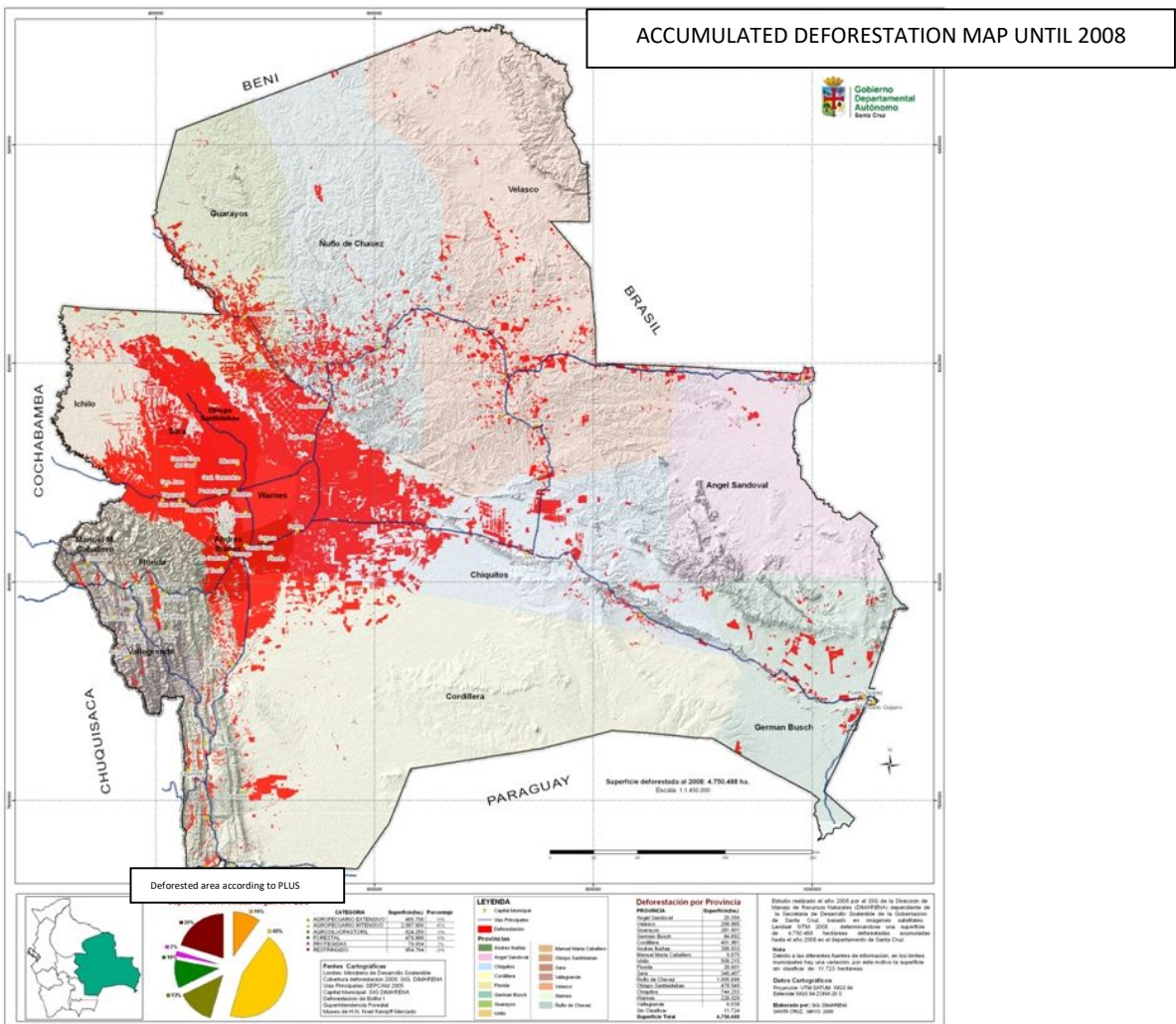
The state of conservation of wildlife flora and fauna in the state of Santa Cruz is critical, particularly in the soy crop regions.

Large areas (50%) that are not represented in the protected areas are primarily found in the central region of the state where farming activity and native forest conversion are concentrated (Map 5).

The most important factors that are drastically affecting the conservation of flora and fauna wildlife in the soy zones of the state of Santa Cruz are selective extraction for commercial purposes, deforestation, forest fires (uncontrolled agricultural burns) and the proliferation of invasive species.

The landscape in the Integrated and Expansion Zones has changed significantly due to two primary factors: a) the substitution of forests and b) drainage in the wetland and swamp areas to plant agricultural crops. Cases exist in which these priority areas are not included in the protected areas networks and therefore they are more vulnerable. Nevertheless, it is also worth mentioning that, given the high percentage of unauthorized clearing, the risk exists in all cases. While the identification developed by the state of Santa Cruz is a good foundation of information, without a detailed diagnostic of the HCV at the property level, the risk should be interpreted as very high.

Map 8 shows the degree of conversion of the Santa Cruz landscape in the Integrated and Expansion Zones, and the increasingly important remaining native vegetation habitats (Map 8).



until when

Map 8. Degree of Intervention in the Forests, State of Santa Cruz

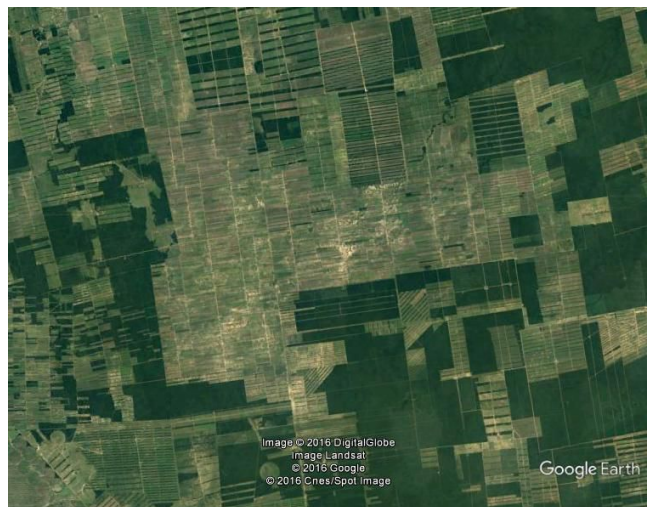
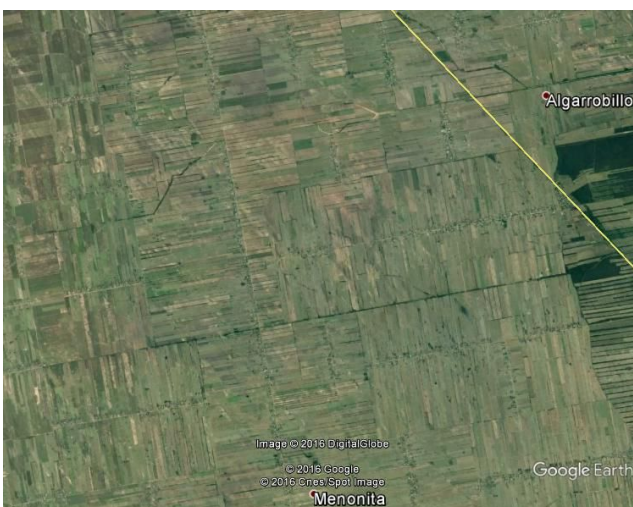


Image 1: Integrated Zone

Image 2: Expansion Zone

Images 1. Integrated Zone and 2. Expansion Zone (google earth) show high deterioration in

the quality of the natural habitats and the fragmentation of the landscape, including the total disappearance of natural habitats (Integrated Zone).

The maps described above show the overlapping of degraded and very degraded forests with protected areas, as well as overlapping in the zones with high diversity richness and in the Integrated and Expansion Zones. The landscape that was dominated by forests, wetlands and swamps has disappeared, primarily due to deforestation, conversion of forests into agricultural zones, drainage of areas for the production of soy and particularly because of the lack of enforcing existing legislation.

Although the effects and impacts in both zones may be different, the risks described above are applicable to both the Integrated Zone and the Expansion Zone.

In zones with soy crops that have already been established, it is the responsibility of the agricultural producer to identify the areas on their property that have HCV1 and develop a set of measures for their management and conservation.

3.3.1.4. Risk designation and specification

HCV 1 is identified and/or its occurrence is likely in the area under assessment and it is threatened by management activities.

Santa Cruz Integrated Zone - Elevated risk

Santa Cruz Expansion Zone - Elevated risk

3.3.1.5. Control measures and verifiers

- Verify the location of the establishment in relation to protected areas, forest remnants and established ecological corridors and recent deforestation.

Verifiers:

- Property Zoning Maps
- Map of the borders in the zone, including buffer zones

- Local study to identify the existence of HCV1 on lands occupied by the estate (Finca) as well as adjacent land (must be performed by experts and stakeholders must be consulted).

Verifiers:

- Field survey of the biodiversity of threatened fauna and flora
- List of species by threatened category, identifying rare and endemic species and those in danger of extinction and threatened, according to the national IUCN list and CITES provincial lists found at the productive establishment.
- Superimposition of GIS maps on the establishment's boundaries and the location of possible HVC 1 identified in the zone
- State Territory Zoning Plan (PDOT, Spanish acronym)

- If the existence of HCV is verified, demonstrate that an action and management plan for HCV 1 is established, with a list of identified risks and current mitigation measures.

Verifiers:

- Conservation and management plan for rare, threatened, and endangered species that includes actions to protect and improve their habitats.
- Listing of activities that are restricted on the productive establishment (hunting, fishing, use of fire, disposing of garbage, etc.)
- Evidence of measures employed to manage and control of exotic invasive

species

- Field verification. Consultation with workers about their knowledge/work practices
- Good practices management manual for soy crops related to the farm establishment.
- Restoration and/or monitoring plan for areas with HCV 1

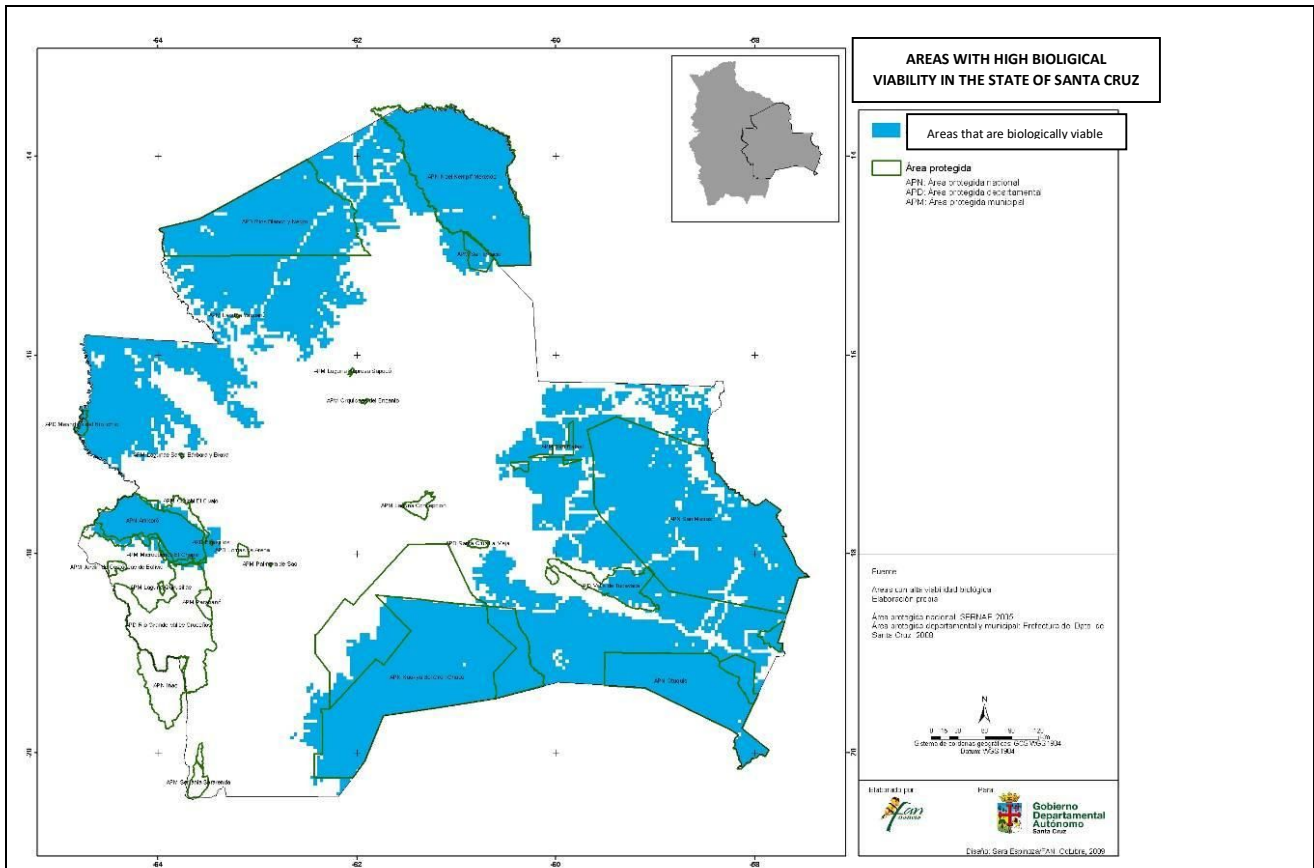
3.3.2. Landscape-level ecosystems and mosaics – HCV 2

Large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance. Sub-categories:

- a) Intact Forest Landscapes (IFL map uses the most recent coverage)*
- b) Landscape-scale natural forests that have experienced lesser levels of past human disturbance (e.g., minimal timber harvesting) or other management (e.g. fire suppression), or areas within such forests.*
- c) Forests recognised as being regionally significant at the bioregion or larger scale by conservation organisations (in formally recognised reports or peer reviewed journals) due to the unusual landscape-scale biodiversity values provided by size and condition of the forest relative to regional forest land cover and land use trends.*
- d) Forests that provide regionally significant habitat connectivity between larger forest areas or between refugia and mosaics.*
- e) Significant Roadless areas.*
- f) Significant Forests that haven't been affected by forest management activities.*

3.3.2.1. HCV Occurrence

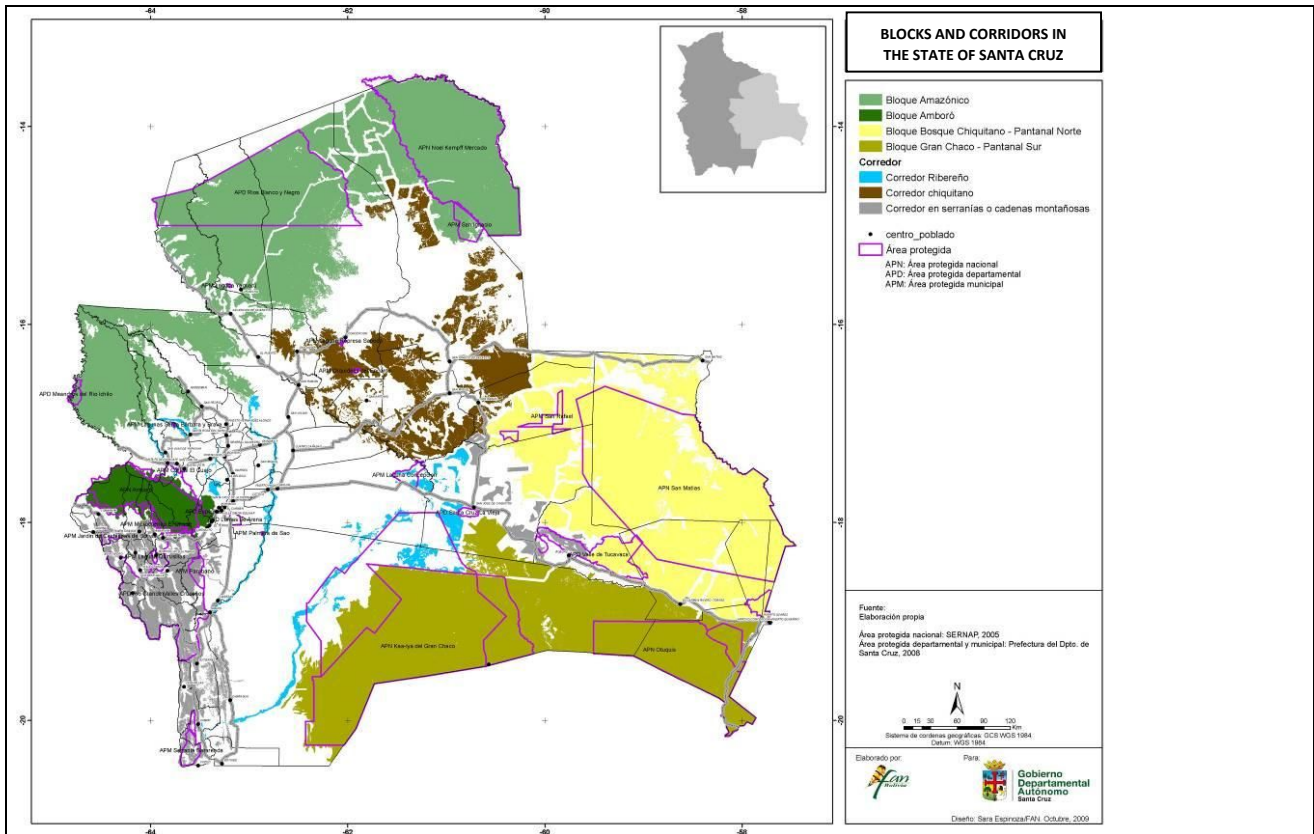
Areas with high biological viability represent large ecosystem forests in a good state of conservation. These areas offer the possibility of viably conserving populations, bio-ecological processes and ecosystems. They are excellent for the creation of biological corridors and thereby facilitate interactions, movement, speciation and other functions. The result of the analysis indicates that over 50% of the state of Santa Cruz is still composed of large blocks of continuous vegetation in a good state of conservation, which are particularly valuable for the connections among corridors and their presence. For example, the region from Chaqueña to the Bosque Seco Chiquitano (dry forest) and from there to the Amazonian. The largest areas are found in the Chiquitana, Chaqueña and the Amazonian regions, which are joined together by small blocks of forests that connect them (Map 9).



Map 9: Important Areas for Biological Viability

Thus, four large continuous vegetation blocks have been identified, where the degree of human intervention still permits connectivity among the landscape systems (low fragmentation), ensuring internal functional integrity. Only blocks over 500,000 ha were identified, which include: Amboró Block, Northern Bosque Seco Chiquitano-Pantanal Block, Southern Gran Chaco-Pantanal Block and Amazonian (Amazónico) Block. Figure 5 shows the results from the comparative analysis of each block with respect to the ecoregions that comprise them. It is worth noting in this figure the characteristics of the Amboró Block, which although it is the smallest it contains the most diversity in terms of ecoregions, constituting an important center of connection among the ecoregions: Southwestern Amazonian Forests, Yungas (Tucumano-Bolivian Forest), Inter-Andean Dry Valleys (Valles Secos Interandinos) and the Chaco Mountain Range (Chaco Serrano).

Identified among the large blocks of well-preserved ecosystems are areas in a good state of preservation and that are important to the connectivity among them (Map 10). Riverside forests are excellent biological corridors and areas of connectivity, including the forests along the Parapetir, Grande, Tucavaca, Yapacani, Ichilo and Palacios rivers, among others.

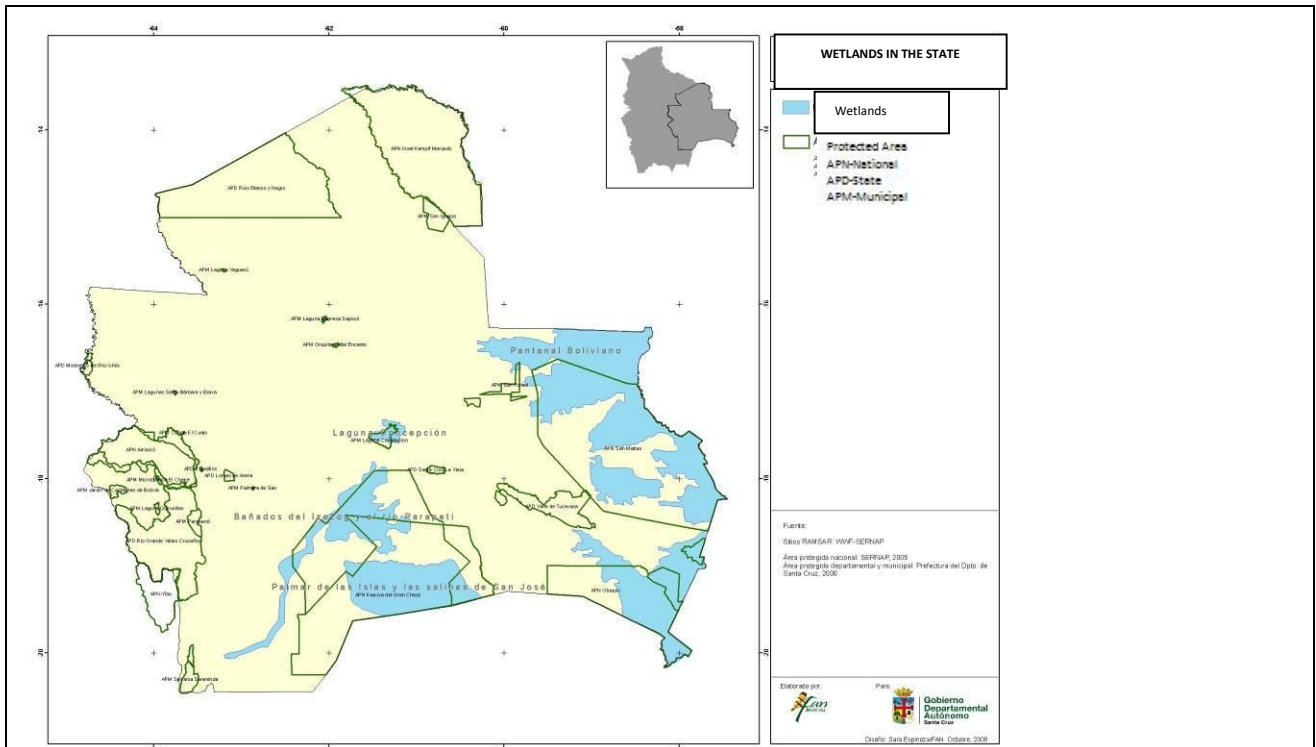


Map 10. Interconnected Blocks and Corridors

Wetlands: Constitute complex ecological ecosystems that are highly functional for the migration of species, primarily birds. The biological needs of the species (boreal and austral migrations for reproductive purposes) connect them with other habitats.

The state of Santa Cruz contains the following wetlands which were declared by the Ramsar Convention as having international importance, and are known as Ramsar Sites (Map 11):

- Pantanal Boliviano (swamp)
- Bañados del Izozog (wetlands) and the Parapetí River
- Palmar de las Islas and Salinas de San José (wetlands)
- Concepción Lagoon



Map 11: Ramsar Sites in the State of Santa Cruz

According to the international reference for the existence of forests and HCV2 landscapes, from Intact Forest Landscapes (11), the existence of HCV2 can be seen along the periphery of the soy production zones throughout the state. The situation in the Expansion Zone is especially critical, which moves near or within the HCV 2 area (eastern portion of the state) where clearing is not controlled (because of the enforcement of Law 741 and the lack of control).

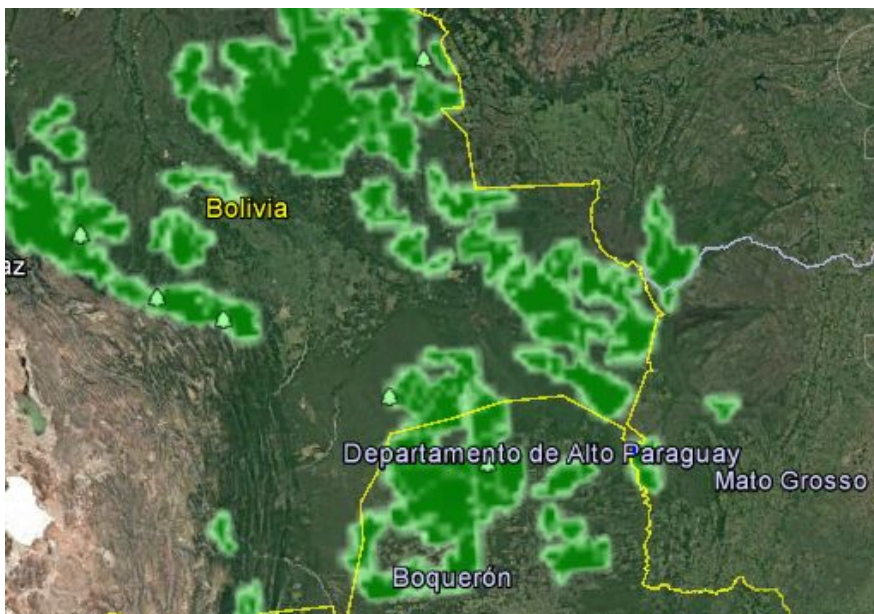


Image: Intact Forest Landscapes in southern Bolivia, state of Santa Cruz

3.3.2.2. Sources of information

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BIODIVERSITY IN THE STATE OF SANTA CRUZ (Gobierno autónomo departamental Santa Cruz: PRIORIDADES DE CONSERVACIÓN DE LA BIODIVERSIDAD DEL DEPARTAMENTO DE SANTA CRUZ): <http://www.santacruz.gob.bo/archivos/AN05102012182816.pdf>

- (2) Autonomous Government of the State of Santa Cruz (Gobierno autónomo departamental Santa Cruz) and Friends of Nature Foundation (Fundación Amigos de la Naturaleza (FAN, Spanish acronym)): BIODIVERSITY COMPONENT FOR THE SANTA CRUZ STATE LAND ZONING PLAN (COMPONENTE BIODIVERSIDAD PARA EL PLAN DEPARTAMENTAL DE ORDENAMIENTO TERRITORIAL DE SANTA CRUZ): <http://www.fan-bo.org/que-hacemos/ciencias/planificacion-para-la-conservacion/incorporacion-de-la-planificacion-para-la-conservacion-a-escala-de-unidades-politico-administrativas-planificacion-del-ordenamiento-territorial-o-en-los-ambitos-de-gestion-del-desarrollo/desarrollo-de-la-vision-de-conservacion-del-departamento-de-santa-cruz-para-el-plan-departamental-de-ordenamiento-territorial/>
- (3) GTZ GUIDE TO IDENTIFYING ATTRIBUTES TO DEFINE FORESTS WITH HIGH CONSERVATION VALUE IN BOLIVIA (GTZ GUÍA DE IDENTIFICACIÓN DE ATRIBUTOS PARA DEFINIR BOSQUES DE ALTO VALOR DE CONSERVACIÓN EN BOLIVIA) https://www.researchgate.net/publication/278248040_Guia_de_identificacion_de_atributos_para_definir_Bosques_de_Alto_Valor_de_Conservacion_A_Guide_for_Identifying_High_Conservation_Value_Forests
- (4) Autonomous Government of the State of Santa Cruz: STATE LAND ZONING PLAN IN SANTA CRUZ PROVINCES (Gobierno autónomo departamental Santa Cruz PLAN DEPARTAMENTAL DE ORDENAMIENTO TERRITORIAL (PDOT) EN LAS PROVINCIAS CRUCEÑAS) <http://www.santacruz.gob.bo/sczturistica/medioambiente/ordenamiento/contenido/5647/30019>
- (5) Autonomous Government of the State of Santa Cruz: STATE OF SANTA CRUZ PLAN (Gobierno autónomo departamental Santa Cruz: PLAN DEPARTAMENTAL SANTA CRUZ) http://www.santacruz.gob.bo/sczturistica/medioambiente/ordenamiento_plandptal/300300
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- (7) Autonomous Government of the State of Santa Cruz: PROTECTED AREAS IN SANTA CRUZ (Gobierno autónomo departamental Santa Cruz: ÁREAS PROTEGIDAS DE SANTA CRUZ) <http://www.santacruz.gob.bo/turistica/medioambiente/areasProtegidas.swf>
- (8) Convention on Biological Diversity country status report: <https://www.cbd.int/countries/profile/>
- (9) CBD Bolivia Report 2015: <https://www.cbd.int/doc/world/bo/bo-nr-05-es.pdf>
- (10) CITES: <https://cites.org/esp/app/appendices.php>
- (11) Intact Forest Landscapes: <http://www.intactforests.org/data.ifl.html>
- (12) CIFOR : http://www.cifor.org/publications/pdf_files/OccPapers/OP-100.pdf (Page 11)
- (13) <http://biblioteca.clacso.edu.ar/Bolivia/cedla/20100511095256/segali.pdf>

3.3.2.3. Risk determination

For the case of HCV2, the main risk is the currently uncontrolled degradation and clearing of forests to produce soy (please see section 1.2, 4.1 and 4.2).

HCV2 is generally found or coincides with the protected areas in the state of Santa Cruz and, therefore, a low risk can be interpreted for the Integrated Zone, while the risk is high for the Expansion Zone because it is expanding towards the east where HCV2 is found in regions that

are not yet considered protected areas.

Especially important to consider is the destruction of interconnecting corridors called Ribereño and Chiquitano (Map 2), in the state of Santa Cruz, since they are connection points among large HSV2 landscapes and forests and they are in the soy production zone. One of the primary causes of the destruction is the fact that small landowners and communities are legally permitted to clear up to 20 ha in these areas without the need for prior authorization.

Another threat is from the use of burning to clean pastures, clearing of forests (88% unauthorized) and frequent uncontrolled fires (12, see section 4.2).

The policy of the government of Santa Cruz is to expand soy production areas because they are considered important sources of income for the state and it is argued that this will ensure an internal food supply. Three strategic objectives have been expressed by the MDRA and the MA: i) improve the nation's food security and sovereignty; ii) bolster the livelihood of the population and the development of the country through increasing forestry and farming production; and iii) encourage the sustainable management of natural resources within the framework of food security and sovereignty policies (13).

In this context, for example, Law 741 was passed which permits clearing of up to 20 ha, and is defined today as one of the main causes of "uncontrolled" clearing due to the lack of control and monitoring.

3.3.2.4. Risk designation and specification

HCV 2 is identified and/or their occurrences are likely in the area under assessment, and they are threatened by management activities. Especially important is the maintenance of the ecological corridors in Santa Cruz called Ribereño y Chiquitano (mentioned above) both in the main soy cultivation area.

Santa Cruz Integrated Zone - Low risk

Santa Cruz Expansion zone - Elevated risk

3.3.2.5. Control measures and verifiers

- Verify the location of the estate (Finca) in relation to the areas identified as HCV2 (Map 1) as well as the interconnecting corridors (Map 2) and illegal deforestation.

Verifiers:

- GIS map on a recent satellite image with boundaries of the establishment and the location of HCV2 and its connectivity with other areas
 - GIS map with boundaries of the establishment and the location of all the areas with attributes that represent high conservation value
 - GIS cartography of the Territorial Zoning Plan of the State of Santa Cruz
 - Field survey of HCV2 and the interconnecting corridors identified at the national (including Chaco) and international levels.
 - Superimposition of GIS maps with the boundaries of the establishment
- Local study to identify threats such as clearing, burning for HCV2 and interconnecting corridors, both on the land occupied by the estate (Finca) as well as adjacent land (must be done by experts and stakeholders consulted).

Verifiers:

- Law 741 is enforced
 - Burning authorizations exist
- If the presence of Interconnected Corridors is verified among the large HCV blocks

identified in Santa Cruz, and the estate (Finca) borders the HCV2 area, demonstrate that an action and management plan for HCV2 has been established, listing identified risks and current mitigation measures.

Verifiers:

- The establishment's conservation and management plan for HCV2 (if present) and for the biological corridors that connect HCV2 areas
- Action and management plan for corridors that connect large HCV2 blocks, with list of identified risks and mitigation measures
- Plan and procedure for restoring degraded areas.

3.3.3. Ecosystems and habitats – HCV 3

Rare, threatened, or endangered ecosystems, habitats or refugia. Sub categories:

- a) Existing forests in forest landscapes where these ecotypes are rare;*
- b) Areas of important genes or genetically distinct populations;*
- c) Ecosystems that are depleted or poorly reserved at the regional or national scale;*
- d) Old growth forests, outside of forest biomes where the concept is redundant;*
- e) Remnant natural forest vegetation in heavily cleared landscapes.*

3.3.3.1. HCV Occurrence

HCV3 has been identified in the state of Santa Cruz. HCV 3 areas or potential areas can be located in the following Maps listed in above sections:

Map 1: Forests and Ecosystems with High Conservation Value

Map 2: Sites with high priority for conservation

Map 3: Remaining biodiversity

Map 4: Potential Diversity Richness in the State of Santa Cruz

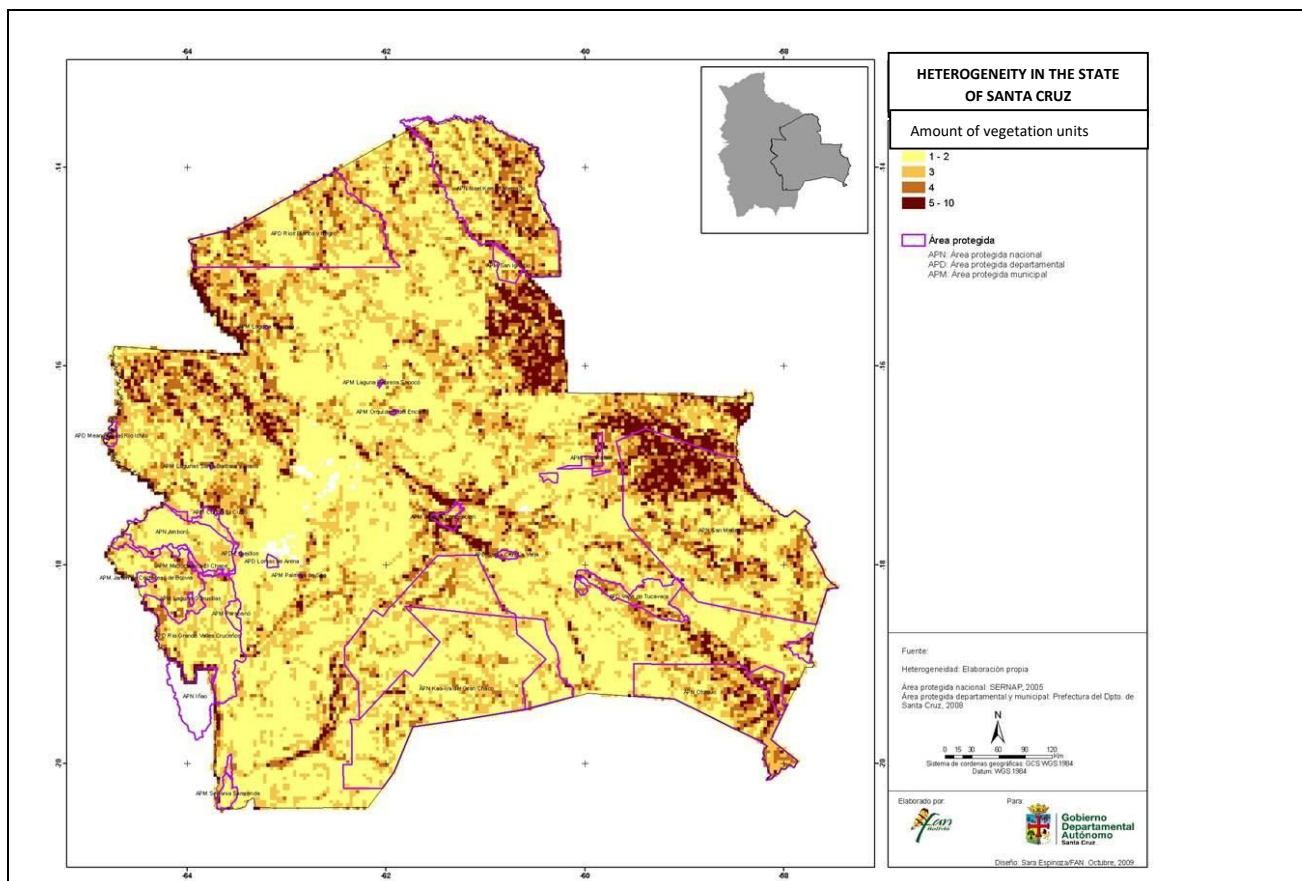
Map 5: Important Areas for the Representation of Biodiversity

Map 7. Important Areas for the Conservation of Birds in Santa Cruz

Map 9: Important Areas for Biological Viability

HCV 3 of particular interest can be also seen in the centre of the state (Map 12) which corresponds to the Expansion Zone, and where the expansion of the current agriculture boundary can be seen.

Heterogeneity identifies differences in a landscape in terms of its diversity of habitats or ecosystems, highlighting the sites that are "unique" because of their high heterogeneity. The analysis shows the following areas as having high heterogeneity: the forests and floodplains in the provinces of Angel Sandoval (west-central) and Velasco (southeast), the western portion of the province of Guarayos also associated with flooded forests, the marshland region of Isoso, the Tucavaca River and the area where it empties into the Otuquis marshland. In general, highly heterogeneous areas can be associated with the riverside forests, forests and floodplains across the state of Santa Cruz (Map 12).



Map 12: Heterogeneity of Vegetation Units

3.3.3.2. Sources of information

- (1) Autonomous Government of the State of Santa Cruz: CONSERVATION PRIORITIES FOR BIODIVERSITY IN THE STATE OF SANTA CRUZ (Gobierno autónomo departamental Santa Cruz: PRIORIDADES DE CONSERVACIÓN DE LA BIODIVERSIDAD DEL DEPARTAMENTO DE SANTA CRUZ): <http://www.santacruz.gob.bo/archivos/AN05102012182816.pdf>
- (2) Autonomous Government of the State of Santa Cruz (Gobierno autónomo departamental Santa Cruz) and Friends of Nature Foundation (Fundación Amigos de la Naturaleza (FAN, Spanish acronym)): BIODIVERSITY COMPONENT FOR THE SANTA CRUZ STATE LAND ZONING PLAN (COMPONENTE BIODIVERSIDAD PARA EL PLAN DEPARTAMENTAL DE ORDENAMIENTO TERRITORIAL DE SANTA CRUZ): <http://www.fan-bo.org/quehacemos/ciencias/planificacion-para-la-conservacion/incorporacion-de-la-planificacion-para-la-conservacion-a-escala-de-unidades-politico-administrativas-planificacion-del-ordenamiento-territorial-o-en-los-ambitos-de-gestion-del-desarrollo/desarrollo-de-la-vision-de-conservacion-del-departamento-de-santa-cruz-para-el-plan-departamental-de-ordenamiento-territorial/>
- (3) GTZ GUIDE TO IDENTIFYING ATTRIBUTES TO DEFINE FORESTS WITH HIGH CONSERVATION VALUE IN BOLIVIA (GTZ GUÍA DE IDENTIFICACIÓN DE ATRIBUTOS PARA DEFINIR BOSQUES DE ALTO VALOR DE CONSERVACIÓN EN BOLIVIA) https://www.researchgate.net/publication/278248040_Guia_de_identificacion_de_atributos_para_definir_Bosques_de_Alto_Valor_de_Conservacion_A_Guide_for_Identifying_High_Conservation_Value_Forests
- (4) Autonomous Government of the State of Santa Cruz: STATE LAND ZONING PLAN IN SANTA CRUZ PROVINCES (Gobierno autónomo departamental Santa Cruz PLAN DEPARTAMENTAL DE ORDENAMIENTO TERRITORIAL (PDOT) EN LAS PROVINCIAS

CRUCEÑAS)

<http://www.santacruz.gob.bo/sczturistica/medioambiente/ordenamiento/contenido/5647/30019>

- (5) Autonomous Government of the State of Santa Cruz: STATE OF SANTA CRUZ PLAN (Gobierno autónomo departamental Santa Cruz: PLAN DEPARTAMENTAL SANTA CRUZ) http://www.santacruz.gob.bo/sczturistica/medioambiente/ordenamiento_plandptal/300300
- (6) Autonomous Government of the State of Santa Cruz: STATE OF SANTA CRUZ HOMEPAGE (Gobierno autónomo departamental Santa Cruz: PAGINA PRINCIPAL DEPARTAMENTO SANTA CRUZ) <http://www.santacruz.gob.bo/sczturistica/medioambiente>
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- (9) CBD Bolivia Report 2015: <https://www.cbd.int/doc/world/bo/bo-nr-05-es.pdf>
- (10) Intact Forest Landscapes: <http://www.intactforests.org/data.ifl.html>

3.3.3.3. Risk determination

There are areas in the soy production zone that have been identified as HCV 3. The associated risks are like those described in the previous categories and these areas are often at risk due to frequent fires, illegal burning and the expansion of the agricultural boundary (12, 13), especially in the Expansion Zone of the state of Santa Cruz (see section 1.2 and 4.1 and 4.2).

No safety measures exist in the Integrated Zone. A management plan to limit/manage agricultural activities and maintain the HCV3 has not been implemented. The current policy on food security and sovereignty (implemented by Law 741) which authorized the clearing of up to 20 ha has created a situation that is bringing about the loss of the last refuges for HCV3, in addition to the lack of even the minimal enforcement of property zoning. Very few vegetation and ecosystem remnants in the Integrated Zone (Forests and Wetlands) are still intact. Therefore, the existing remnants that are located on the estate (property) level have high conservation value. These areas continue to be threatened by the substitution of forests and the drainage of wetlands and swamps. The situation is therefore a high risk.

In both the Integrated and Expansion zones, a process is followed of substituting forests, wetlands and swamps for agricultural use, most of which (88%) is done illegally, without Property Zoning Plans or an environmental impact study. Although the Integrated Zone contains small areas, as already mentioned the impacts are very important since these landscapes are fully exploited. Also in the case of the Expansion Zone, the expansion of the agricultural boundaries is in full motion, and this should comply with Property Zoning Plans, environmental impact studies and ABT permits. Burns and forest fires are observed in both zones, which pose the main threat to the HCV3 (see section 4.2).

3.3.3.4. Risk designation and specification

HCV 3 is identified and/or its occurrence is likely in the area under assessment and it is threatened by management activities.

Integrated Zone - Elevated risk

Expansion Zone - Elevated risk

3.3.3.5. Control measures and verifiers

- Verify the location of the estate (finca) in relation to the protected areas, established interconnecting corridors, illegal deforestation and the HCV3 identified at the local and regional levels.

Verifiers:

- GIS map on a recent satellite image with boundaries of the establishment and the location of HCV3 (Map 12) and its connectivity with other areas that have high conservation value.
- GIS cartography of the Territorial Zoning Plan of the State of Santa Cruz
- Local study to identify the existence of HCV3 on the land occupied by the estate (finca) as well as on adjacent land (must be performed by experts and stakeholders must be consulted).

Verifiers:

- Field survey of the HCV3 identified at the local and regional levels.
- Information from expert organizations at the regional and national levels. (Greenpeace, WWF, ABT, among others)
- If the existence of HCV3 is verified, demonstrate that an action and management plan for HCV3 exists, with a list of identified risks and existing mitigation measures.

Verifiers:

- Action plan with a list of identified risks and mitigation measures for HCV3 at the property level
- The establishment's conservation and management plan for HCV3 (if present) and for the biological corridors that connect HCV3 areas
- Plan and procedure to restore degraded areas
- Authorized restrictions and control measures for burns and for the prevention of forest fires
- Plan for the control of the use of agrochemicals near HCV3 areas

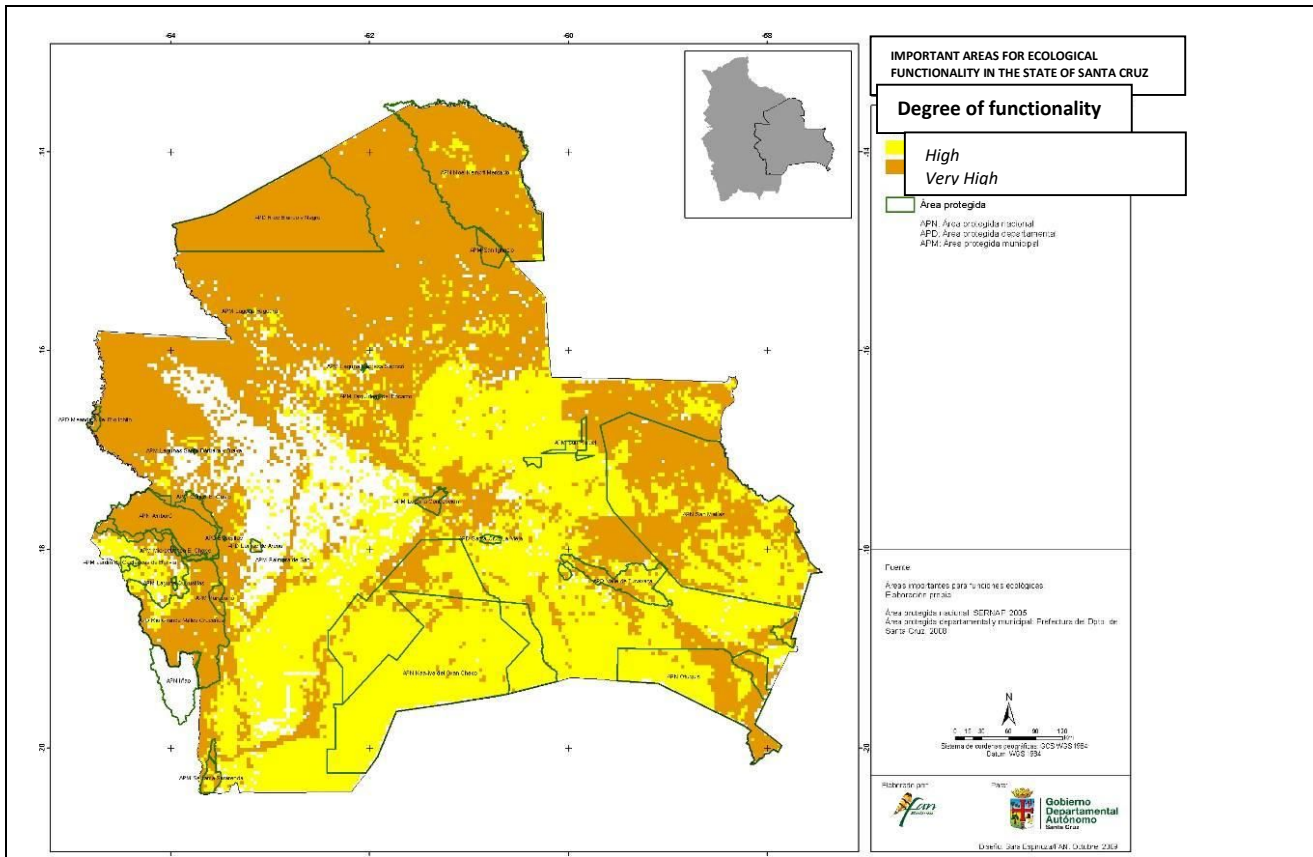
3.3.4. Critical ecosystem services – HCV 4

Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes. Sub-categories:

- a) protection from flooding;*
- b) protection from erosion;*
- c) barriers from destructive fire;*
- d) clean water catchments*

3.3.4.1. HCV Occurrence

In the process of developing the state of Santa Cruz's Territorial Zoning Plan, priority conservation areas were identified according to their importance and ecological functions. These areas are complex because of their high biodiversity richness and the generation of environmental goods and services. (2)



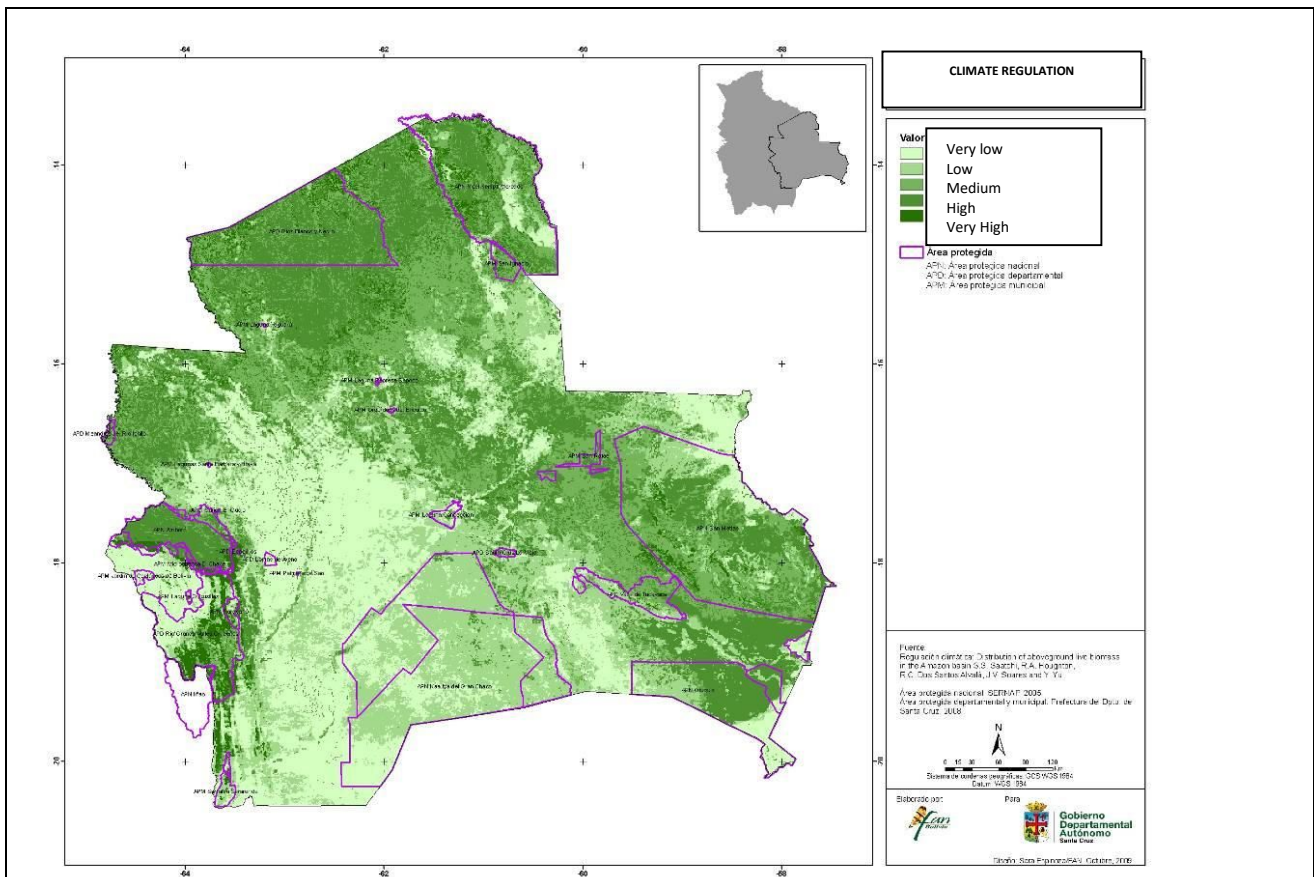
Map 13: Areas that are Important for Ecological Functions

In general, the results from the analysis of ecosystem functions (Map 13) indicate that over 50% of the area of the state of Santa Cruz is very important because of the ecological functions, especially the areas with forests in the Amazonas, pre-Andean, Bolivian-Tucumano, and floodable Chiquitano regions. Also important are all the riverside forests corresponding to the main rivers in the state, which also coincide with highly diverse biological areas and endemism richness, areas that provide very important hydric functions (water storage, protection of headwaters of basins) and present excellent conditions for climate regulation at the local and regional levels (high production of biomass living on top of the soil and carbon capture). (2)

The variables used that determine the functionality of the ecosystems were: ecosystem complexity, heterogeneity, climate regulation and hydric functions.

Climate regulation: corresponds to forest areas or ecosystems with functions that are important to regulating the global, regional and local climate, whose biomass production is directly proportional to its carbon capture capacity (Dauber et al, 2004; Gasparri & Manghi, 2004; Saatchi et al., 2007; Tejada, 2008).

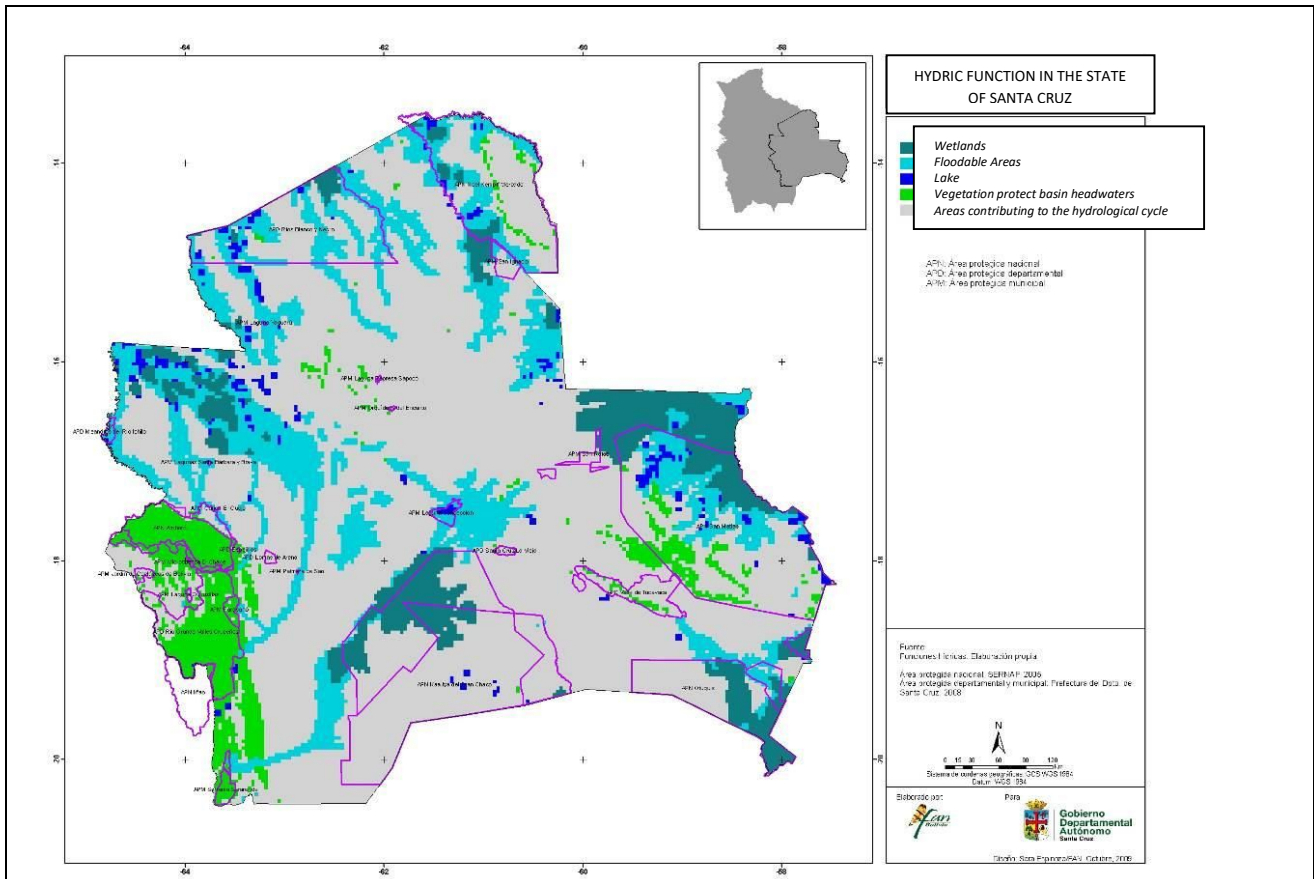
According to the analysis, the following areas are considered to be important to climate regulation, given the structural and functional characteristics of the forests: the Amazonian region of the state of Santa Cruz (northern portion of the Guarayos, Ñuflo de Chávez and Ichilo provinces), the pre-Andean forests (northern portion of the Florida and Caballero provinces), the Bolivian-Tucumano Forests (southern Vallegrande province and western Cordillera province) and the Chiquitanos dry forests in the east-central part of the state (Map 14). These are multi-stratified forests (abundant lianas and epiphytes), with a dry period of no more than four months. Some regions contain semi-deciduous forests (Chiquitano dry forest) and fog is present in the mountain region. The accumulation of biomass in these forests ranges from 150 to over 1000 or more tons per hectare (2).



Map 14: Areas that are Important for Climate Regulation.

Hydric functions: correspond to forest zones or ecosystems that are important for maintaining hydric functions (maintaining the quantity and quality of water, catchment and retention of water, storage of freshwater (wetlands), maintenance of natural hydrological regimes, aquifer recharge, etc.). They include areas that protect headwaters, riverside forests, large areas of floodable land and large lakes. Forests are excellent for collecting rainwater and protecting the soil. They slow down water runoff, thereby mitigating erosion and sedimentation processes. In Santa Cruz, these areas correspond to the mountain forests in Caballero, Florida, Vallegrande and Cordillera located in the western part of the state. The Chiquitanas and Sunsas mountain ranges, such as the Caparuch plateau, have continuous vegetation cover which is excellent for protecting soil and controlling erosion and sediment transport (Map 15).

The floodable forests of the Amazonian and Chiquitanos regions, the Pantanal and the Ioso marshes represent wetlands and important flood areas and provide important freshwater storage reserves.



Map 15: Areas Important for Hydric Functions

An important change in the landscape occurred in the Integrated and Expansion Zones, which is related to two main factors: a) the substitution of forests and b) the drainage of the wetlands and swamps to establish agricultural crops. Both very significantly affect HCV1, 3 and 4, which for the Integrated and Expansion Zone should be interpreted as highly critical.

Specifically, for HCV3, the areas that are important for ecological functions (Map 13), climate regulation (Map 14) and hydric functions (Map 15) overlap with the study areas.

The risks associated with these areas are the same as for the previous category: conversion, controlled and uncontrolled burns, drainage and lack of enforcement of existing legislation. The work performed by the state of Santa Cruz is a valuable identification tool that enables local and property level interpretation. However, without a detailed diagnostic of HCV at the property level and the implementation of comprehensive mitigation measures, the risk should be interpreted as very high.

3.3.4.2. Sources of information

- (1) Autonomous Government of the State of Santa Cruz: CONSERVATION PRIORITIES FOR BIODIVERSITY IN THE STATE OF SANTA CRUZ (Gobierno autónomo departamental Santa Cruz: PRIORIDADES DE CONSERVACIÓN DE LA BIODIVERSIDAD DEL DEPARTAMENTO DE SANTA CRUZ): <http://www.santacruz.gob.bo/archivos/AN05102012182816.pdf>
- (2) Probioma: <http://www.probioma.org.bo/drynet/exito1.htm>
- (3) Autonomous Government of the State of Santa Cruz (Gobierno autónomo departamental Santa Cruz) and Friends of Nature Foundation (Fundación Amigos de la Naturaleza (FAN, Spanish acronym)): BIODIVERSITY COMPONENT FOR THE SANTA CRUZ STATE LAND ZONING PLAN (COMPONENTE BIODIVERSIDAD PARA EL PLAN DEPARTAMENTAL DE ORDENAMIENTO TERRITORIAL DE SANTA CRUZ): <http://www.fan->

[bo.org/que-hacemos/ciencias/planificacion-para-la-conservacion/incorporacion-de-la-planificacion-para-la-conservacion-a-escala-de-unidades-politico-administrativas-planificacion-del-ordenamiento-territorial-o-en-los-ambitos-de-gestion-del-desarrollo/desarrollo-de-la-vision-de-conservacion-del-departamento-de-santa-cruz-para-el-plan-departamental-de-ordenamiento-territorial/](http://www.bo.org/que-hacemos/ciencias/planificacion-para-la-conservacion/incorporacion-de-la-planificacion-para-la-conservacion-a-escala-de-unidades-politico-administrativas-planificacion-del-ordenamiento-territorial-o-en-los-ambitos-de-gestion-del-desarrollo/desarrollo-de-la-vision-de-conservacion-del-departamento-de-santa-cruz-para-el-plan-departamental-de-ordenamiento-territorial/)

- (4) GTZ GUIDE TO IDENTIFYING ATTRIBUTES TO DEFINE FORESTS WITH HIGH CONSERVATION VALUE IN BOLIVIA (GTZ GUÍA DE IDENTIFICACIÓN DE ATRIBUTOS PARA DEFINIR BOSQUES DE ALTO VALOR DE CONSERVACIÓN EN BOLIVIA) https://www.researchgate.net/publication/278248040_Guia_de_identificacion_de_atributos_para_definir_Bosques_de_Alto_Valor_de_Conservacion_A_Guide_for_Identifying_High_Conservation_Value_Forests
- (5) Autonomous Government of the State of Santa Cruz: STATE LAND ZONING PLAN IN SANTA CRUZ PROVINCES (Gobierno autónomo departamental Santa Cruz PLAN DEPARTAMENTAL DE ORDENAMIENTO TERRITORIAL (PDOT) EN LAS PROVINCIAS CRUCEÑAS) <http://www.santacruz.gob.bo/sczturistica/medioambiente/ordenamiento/contenido/5647/30019>
- (6) Autonomous Government of the State of Santa Cruz: STATE OF SANTA CRUZ PLAN (Gobierno autónomo departamental Santa Cruz: PLAN DEPARTAMENTAL SANTA CRUZ) http://www.santacruz.gob.bo/sczturistica/medioambiente/ordenamiento_plandptal/300300
- (7) Autonomous Government of the State of Santa Cruz: STATE OF SANTA CRUZ HOMEPAGE (Gobierno autónomo departamental Santa Cruz: PAGINA PRINCIPAL DEPARTAMENTO SANTA CRUZ) <http://www.santacruz.gob.bo/sczturistica/medioambiente>
- (8) Autonomous Government of the State of Santa Cruz: PROTECTED AREAS IN SANTA CRUZ (Gobierno autónomo departamental Santa Cruz: ÁREAS PROTEGIDAS DE SANTA CRUZ): <http://www.santacruz.gob.bo/turistica/medioambiente/areasProtegidas.swf>
- (9) Convention on Biological Diversity country status report: <https://www.cbd.int/countries/profile/>
- (10) CBD Bolivia Report 2015: <https://www.cbd.int/doc/world/bo/bo-nr-05-es.pdf>
- (11) Intact Forest Landscapes: <http://www.intactforests.org/data.ifl.html>
- (12) CIFOR: http://www.cifor.org/publications/pdf_files/OccPapers/OP-100.pdf (Page 11)

3.3.4.3. Risk determination

For the case of HCV4, uncontrolled degradation and clearing of forests for the production of soy are also the most significant threat to the functions provided by forest ecosystems (please see sections 1.2, 4.1 and 4.2) which is leading to increasing soil sedimentation in waterways, soil erosion, reducing water quality etc.

Especially important to consider is the destruction of interconnecting corridors and of the vegetation found in estuaries and rivers, as well as the destruction of wetlands (Map 15). Uncontrolled clearing is related to Law 741 which permits the clearing of areas up to 20 ha for small landowners and communities.

Another devastating factor in the state of Santa Cruz is burns (88% unauthorized) used for cleaning pastures and clearing forests, and uncontrolled fires (11).

3.3.4.4. Risk designation and specification

HCV 4 is identified and/or its occurrence is likely in the area under assessment and it is threatened by management activities.

Santa Cruz Integrated Zone - Elevated risk

Expansion Zone - Elevated risk

3.3.4.5. Control measures and verifiers

- Verify the existence of a Property Zoning Plan (legally required according to Forestry Law 1700) and verify the location of the estate (finca) in relation to the basins, hydric systems and/or areas with climate functions.

Verifiers:

 - Property Zoning Plan Study
 - GIS map with boundaries of the establishment and location of water resources, natural gradients, potable water intakes, erosion sites and vulnerable slopes, zones identified as high risk for fires, water catchment basins, wetlands and basins (in relation to HCV4) and the location of all the areas that have attributes with high conservation value.
- Verify the legality of the establishment and existence of illegal activities, according to Laws 1700 and 1333.

Verifiers:

 - Property Zoning Plan (legally required in accordance with Forestry Law 1700) and the enforcement of DS 24453 (Regulation pertaining to Law 1700), specifically Art. 6, 25 and Chapter III PROTECTED LAND (A TIERRAS DE PROTECCION) Art. 30 (the existence of a Zoning Plan when forests and native vegetation (defined as such) exist).
- Request the environmental monitoring plan for the variables identified as high impact.

Verifiers:

 - Environmental property monitoring plan
- Verify the action and mitigation plan.

Verifiers:

 - Mitigation plan
- Request the results from the field survey of areas within the estate (finca) that provide ecosystem functions in critical situations, with emphasis on water, soil and erosion.

Verifiers:

 - Report from the field survey of the areas within the establishment that provide ecosystem functions
 - Soil and erosion study
 - Land management activities on the estate (finca)
- Verify the existence of a conservation and management plan for the maintenance and improvement of ecosystem functions.

Verifiers:

 - Action and management plan for HCV4 with list of identified risks and mitigation measures that have been established
 - Good farming practices plan

3.3.5. Community needs – HCV 5

Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous

peoples (e. g.: for livelihoods, health, nutrition, water, etc.), identified through engagement with these communities or indigenous peoples. Sub-categories:

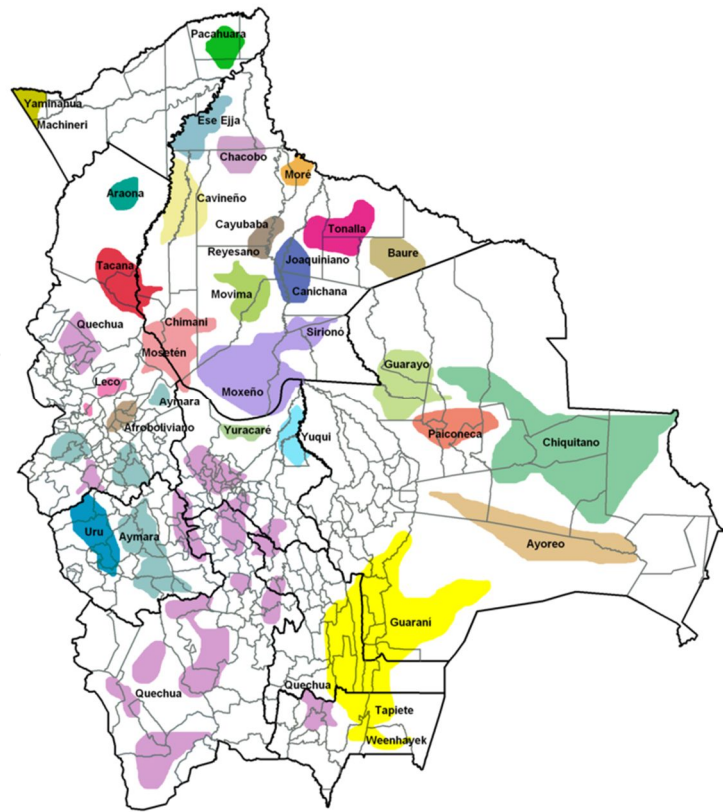
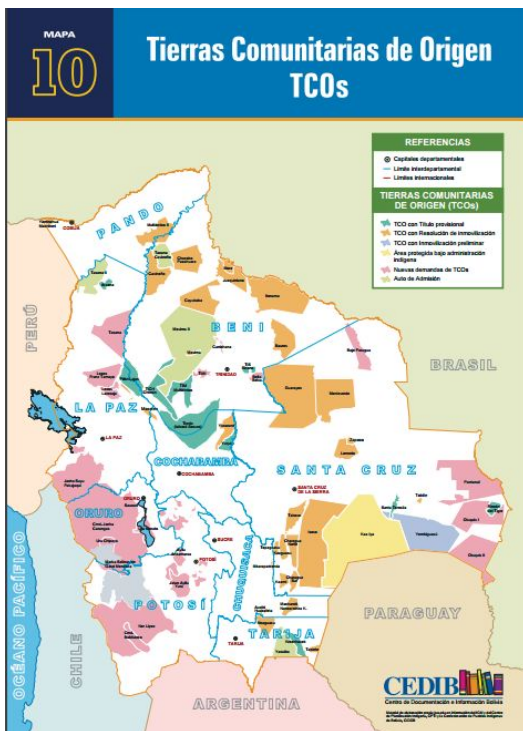
- a) Unique/main sources of water for drinking and other daily uses;
- b) Unique/main sources of water for the irrigation of food crops;
- c) Food, medicines or fuel etc. for local consumption.

3.3.5.1. HCV Occurrence

Natural forests in Bolivia are important not only for the traditional and growing timber and non-timber industry but also as sources of many resources for the daily livelihoods of traditional peoples, according to the Bolivian Forestry Chamber (Cámara Forestal de Bolivia (CFB, 2005)). (16) A large part of the Bolivian forests consists of tropical forest ecosystems that are internationally recognized for the environmental functions and services that they provide. (2)

According to the GTZ "Guide for Identifying Attributes for the Definition of High Conservation Value Forests in Bolivia" ("Guía para la identificación de atributos para definir bosques de alto valor de conservación en Bolivia"), the communities that depend on forests do not have opportunities in the society to express and defend their basic livelihood needs. In Bolivia, one of the definitions of HCV recognizes that the existing forest products provide important consumable goods for the subsistence of traditional indigenous peoples. (3)

In the guide for the identification of high conservation value forests, an example of HCV5 that is used is the Guaraní TCO in the town of Charagua, in the geographic zone of Chaco, state of Santa Cruz. The forest products harvested by the communities include timber (algarrobo, escayante, cuchí, soto, cuta, chituriqui, chañar, tusca, quebracho, among others); fruits (mistol, pachio, ulala, itajaya, sinini, tuna, primarily, and taquillo, mangara, kuepi, iguope, karaguatá, among others); and honey and firewood. The animals that are hunted include anta, urina, tatú, taitetú, jochi, peji, loro, charata, cuquisa, perdiz, torcasa, among others; and fishing includes mandí, sábalo, sardina, manguta, among others. The production preferences identified through the consultations include (in order of importance): corn, beans and peanuts, livestock, soil conservation, harvesting of timber, artisanship, hunting wild animals. Therefore, the resources considered to be critical for livelihood needs are the areas used for traditional agriculture (soil conservation) and large and small livestock. Additional resources considered to be critical are water bodies, honey and firewood. (3) It is important to consider the problem with land tenure and existing conflicts and to adequately verify land rights and traditional uses.



Map 1: Location of the TICOs/TCOs in Bolivia (12) Map 2: Traditional Peoples in Bolivia (12)

3.3.5.2. Sources of information

- (1) Autonomous Government of the State of Santa Cruz: CONSERVATION PRIORITIES FOR BIODIVERSITY IN THE STATE OF SANTA CRUZ (Gobierno autónomo departamental Santa Cruz: PRIORIDADES DE CONSERVACIÓN DE LA BIODIVERSIDAD DEL DEPARTAMENTO DE SANTA CRUZ): <http://www.santacruz.gob.bo/archivos/AN05102012182816.pdf>
- (2) Autonomous Government of the State of Santa Cruz (Gobierno autónomo departamental Santa Cruz) and Friends of Nature Foundation (Fundación Amigos de la Naturaleza (FAN, Spanish acronym)): BIODIVERSITY COMPONENT FOR THE SANTA CRUZ STATE LAND ZONING PLAN (COMPONENTE BIODIVERSIDAD PARA EL PLAN DEPARTAMENTAL DE ORDENAMIENTO TERRITORIAL DE SANTA CRUZ): <http://www.fan-bo.org/que-hacemos/ciencias/planificacion-para-la-conservacion/incorporacion-de-la-planificacion-para-la-conservacion-a-escala-de-unidades-politico-administrativas-planificacion-del-ordenamiento-territorial-o-en-los-ambitos-de-gestion-del-desarrollo/desarrollo-de-la-vision-de-conservacion-del-departamento-de-santa-cruz-para-el-plan-departamental-de-ordenamiento-territorial/>
- (3) GTZ GUIDE TO IDENTIFYING ATTRIBUTES TO DEFINE FORESTS WITH HIGH CONSERVATION VALUE IN BOLIVIA (GTZ GUÍA DE IDENTIFICACIÓN DE ATRIBUTOS PARA DEFINIR BOSQUES DE ALTO VALOR DE CONSERVACIÓN EN BOLIVIA) https://www.researchgate.net/publication/278248040_Guia_de_identificacion_de_atributos_para_definir_Bosques_de_Alto_Valor_de_Conservacion_A_Guide_for_Identifying_High_Conservation_Value_Forests
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<http://www.santacruz.gob.bo/sczturistica/medioambiente/ordenamiento/contenido/5647/30019>

- (5) Autonomous Government of the State of Santa Cruz: STATE OF SANTA CRUZ PLAN (Gobierno autónomo departamental Santa Cruz: PLAN DEPARTAMENTAL SANTA CRUZ) http://www.santacruz.gob.bo/sczturistica/medioambiente/ordenamiento_plandptal/300300
- (6) Autonomous Government of the State of Santa Cruz: STATE OF SANTA CRUZ WEBSITE (Gobierno autónomo departamental Santa Cruz: PAGINA PRINCIPAL DEPARTAMENTO SANTA CRUZ) <http://www.santacruz.gob.bo/sczturistica/medioambiente>
- (7) Autonomous Government of the State of Santa Cruz: PROTECTED AREAS IN SANTA CRUZ (Gobierno autónomo departamental Santa Cruz: ÁREAS PROTEGIDAS DE SANTA CRUZ) <http://www.santacruz.gob.bo/turistica/medioambiente/areasProtegidas.swf>
- (8) Convention on Biological Diversity country status report: <https://www.cbd.int/countries/profile/>
- (9) CBD Bolivia Report 2015: <https://www.cbd.int/doc/world/bo/bo-nr-05-es.pdf>
- (10) Intact Forest Landscapes: <http://www.intactforests.org/data.ifl.html>
- (11) CIFOR : http://www.cifor.org/publications/pdf_files/OccPapers/OP-100.pdf (Page 11)
- (12) Source of Map 10, Traditional Communities Land (Tierras Comunitarias de Origen TCOs, Spanish acronym): <http://www.cedib.org/tag/tierraterritorio/page/2/>
- (13) Bolivia Rural: <http://boliviarural.org/component/content/article?id=710:tierras-comunitarias-de-origen-en-bolivia>
- (14) Autonomous Government of the State of Santa Cruz: Department of Indigenous and Traditional Peoples (Gobierno autónomo departamental de Santa Cruz: Dirección de Pueblos Indígenas y Originarios (DPIN)) http://www.santacruz.gob.bo/sczinclusionessocial/pueblos_indigenas/contenido/4703/172#ancla
- (15) Expansion of agricultural boundaries; Battles for Control and Allocation of Land in Eastern Bolivia (Expansión de la frontera agrícola: Luchas por el control y apropiación de la tierra en el oriente boliviano) <http://www.ops.org.bo/textocompleto/bvsp/boxp68/frontera-agricola.pdf>
- (16) CFB: <http://www.cfb.org.bo/noticias>

3.3.5.3. Risk determination

As seen in the identification of the HCV5, these conservation values are highly related to land tenure. Therefore, to evaluate the associated risks, the context of land and territory in the study area needs to be established.

The relationships that the communities establish with the forests are related to the productive patterns from which basic subsistence needs can be satisfied—for example, food, medicine, clean water, religious items, fuel and construction materials provide a level of self-sufficiency. At the same time, the usual location of forest communities in remote areas means that they have poor access to basic services such as quality education and good healthcare (CIFOR 2007).

Many local communities in Bolivia rely heavily on forests for their livelihoods and income. The benefits they get from them are, for example, materials for housing construction, protein from fish and bush meat, water, fruits from several palm trees for food, etc. In addition, forests also provide other assets, such as water easements for human consumption of riparian communities (Santivañez J., Mostacedo B., 2008).

Risks associated with HCV5 and soy production will be connected with the conversion from forest lands to agricultural areas, availability of land for local communities and agricultural use and as transversal factor land tenure risks already covered in section 2.

The issue involving land and territory in Bolivia over recent years has reflected differences regarding the best way to distribute the land and recognition of territorial rights so that this resource ensures better living conditions for the people who inhabit the area. The debate centres on public policies aimed at distributing land to indigenous peoples, including high and lowlands. For several years now, the absence of the government has been a problem for territories in lowlands. As a result, properties by third parties are found to overlap with the territories belonging to traditional peoples, which can lead to conflicts, disputes over the land and conflicts over rights. The current challenge is to achieve recognition of the rights and lands of traditional peoples. (13)

The website of the Department of Traditional and Indigenous Peoples (Dirección de Pueblos Indígenas y Originarios (DPIN, Spanish acronym), part of the autonomous government of the state of Santa Cruz, publishes reports about land tenure related to native peoples in Santa Cruz. The Guarayos are in the process of recuperating the land they have lost. It also mentions that they gather a variety of resources from the forest, including timber for building houses, fruits from different palm trees, and especially cusi, which is made into oil for health and beauty. Handicrafts is another complementary activity that they conduct. The official website recognizes that land tenure involves significant social conflict. (14)

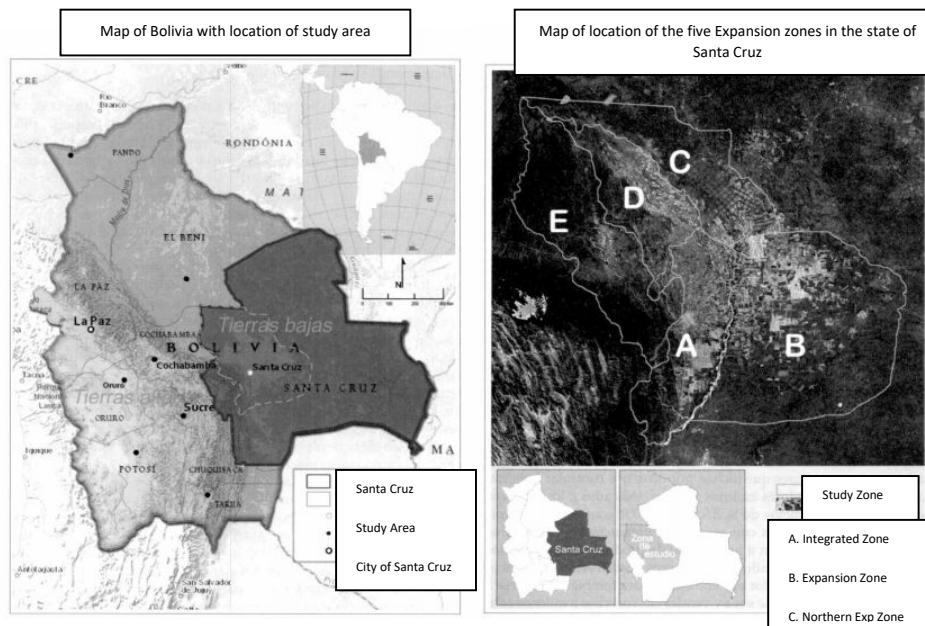
The study called "Expansion of the agricultural boundary: Battles over the control and allocation of land in eastern Bolivia" (Expansión de la frontera agrícola: Luchas por el control y apropiación de la tierra en el oriente boliviano) performed by the Social Studies Institute (Instituto de Estudios Sociales (ISS, Spanish acronym) of the University of the Hague-Netherlands arrives at the conclusion that the conflict over the land in Santa Cruz is a social challenge caused by the expansion of agricultural boundaries, particularly soy. (15)

This study recommends consulting with stakeholders and official sources of information. When compiling relevant data, they suggest differentiating the type of information obtained from each source in order to generate a complete compilation. And to primarily contact communal authorities (directors) and other local representatives, as well as specialized social scientists, academic institutions (universities, training institutes), local non-governmental organizations and state and civil groups. It is important to identify the specific forest areas where these communities are using forest resources to meet their needs, as well as key factors such as the distances people need to travel from their homes in order to obtain these resources. (15)

The landscape in the Integrated Zone is transformed to such a degree that it is no longer possible to carry out a traditional lifestyle. The landscape is that of agriculture and soy production. Traditional peoples no longer live according to traditional ways and therefore we can state that HCV5 does not exist in this study zone and the risk is low.

Nevertheless, traditional peoples do exist in the Expansion Zone and live in a traditional manner, especially in the areas near and/or within the agricultural boundaries. For these specific cases, it is very important to place emphasis on the HCV5 and involve the communities in analysis and decision-making processes. Conflicts and claims over the land and its use are more frequent in the Expansion zone.

Most of the properties do not have a definition and delimitation of the areas, for example sites with the right to hunt, fish and gather the products mentioned above.



3.3.5.4. Risk designation and specification

Santa Cruz Integrated Zone - Low risk

Santa Cruz Expansion Zone - Elevated risk

3.3.5.5. Control measures and verifiers

- Request a map of the location of the indigenous peoples and local neighbouring communities in relation to the soy producing estates (fincas), taking into account the importance of the area of influence of the communities in relation to the HCV5.

Verifiers:

- GIS map of the boundaries of the estate (finca) and the location of indigenous peoples, their territories and local communities and the location of all conservation areas, roads, facilities, buffer zones, biological corridors, among others)
 - Property Zoning Plan (POP, Spanish acronym)
 - Detailed report of the existing legislation and its enforcement on the estate (finca).
- Evaluate the existence of HCV5 using a site survey, and resources that are key to meeting the needs of local /communities and indigenous peoples (survey of HCV5 by experts).

Verifiers:

- Interviews with third parties: WWF, Fundación Tierra (Land Foundation), amongst others
 - Interviews with the local population and neighbours
 - Interviews with indigenous communities

- Verify the existence of a conservation and management plan for HCV5.

Verifiers:

- The establishment's conservation and management plan for HCV5.

3.3.5. Cultural values – HCV 6

Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples. Sub-categories:

- a) *Aesthetic values;*
- b) *Historic values;*
- c) *Scientific values;*
- d) *Social (including economic) values;*
- e) *Spiritual values.*

3.3.6.1. HCV Occurrence

According to the GTZ GUIDE TO IDENTIFYING ATTRIBUTES TO DEFINE HIGH CONSERVATION VALUE FORESTS IN BOLIVIA (Guía la de identificación de atributos para definir bosques de alto valor de conservación en Bolivia), all groups of people require a particular identity or set of identities with which they are identified, based on which the group can remain differentiated. Thus, just as forests are essential to livelihood, they can also be important to maintaining cultural identities. In Bolivia, this is an irrefutable reality given the quantity and variety of ethnic groups that continue to have strong subjective ties with the forests that they inhabit.

Several examples of HCV6 in Santa Cruz are mentioned:

Example 1. TCO Chiquitano from Lomerío (Santa Cruz): There continues to be a strong belief in the "jichis" beings who represent nature, who are considered to be the "masters" ("amos") of the "spheres" ("esferas") that are linked to the forest (water, grasslands, mountains and hunting grounds (chacos)). The jichis also are the masters of animals and plants. Therefore, before conducting any extraction activity, the Chiquitano request permission and also give thanks for the products that they obtain from their incursions into the mountain. Each jichi is connected with a specific animal. For example, jichi-tuúrsch is the master of water, which takes the shape of a large snake. To obtain and keep their permission, and have luck and protection during their incursions into the mountain, the Chiquitano make offerings of tobacco leaves to each jichi. In general, each spot has sacred attributes. Based on that, the Chiquitanos use different values (rituals, sacred and historical) to identify their surroundings: the central plazas of each community, the archaeological zones in the area (for example Piedra Marcada, which is one of the places with ancient petroglyphs), the flagstone, mountains and boulders (which not only contain archaeological remains but are also considered to be the jichis' habitat), cemeteries (located outside the urban radius of the community), sites where ancient human settlements were located and gorges or rivers (such as the Zapoco River with is vitally important to this population).

Example 2: TCO Guaraní from Charagua (Santa Cruz): For the Guaraní of Charagua, the indicators of cultural historical value that have been recorded include water bodies (river, gorges, hot springs, lagoons) and areas that have been occupied traditionally, where archaeological sites exist, as well caves, ancient settlements, mountain ranges, sites where historic events occurred (wars, refuges, etc.). The current and ancient cemeteries also have important cultural value. Their beliefs about the forest include the existence of the Iya Reta who are owners of the mountain and who govern the relationship between people and the resources that are available in the forest. According to the oral Guaraní tradition, these people inhabit different parts of the inner forests.

Example 3: TCO Guaraní from Kaami (Santa Cruz): The Guaraní continue to have a belief system centered on the Iya Reta as the "owners" of the mountains. This is part of the system of representations that govern the relationships between man and nature. This system includes the Tumpa reta (superior divine power, creator), Iya reta (gods or owners of nature, of the animals, wild plants and other resources) and the Iyangarekóá reta (custodian of nature, who are believed to be the souls of punished hunters), and other divine beings. Ever since ancient times, the Guaraní have associated the habitat that they occupy with value categories such as good and bad. Based on that, specific places such as mountains (Ñuu), hills and rivers have

attributes that determine the life of human beings and their balance with nature. Examples of this are places associated with revelations received by wise men (paye) or places where evil forces are concentrated. Specific places that are identified with these values are water bodies, rivers and gorges (Parapetí, Guatiovi, Karuputi, Itakua, Ivomi, Yaendi), ancient hunting grounds (such as the Mangariti) and places where ancient human settlements were located. The Guaraní continue to have extensive knowledge about the properties contained in plants and animals, and aspects such as foreseeing time, life and death. As in the case of the Chiquitano, the Iya Reta are associated with a specific animal, for example, Mbo Ibusu which is the Iya of the Parapeti River, and is represented in the form of a snake.

Together, the above cases allow us to see that, for indigenous peoples from the lowlands in general, forests are not a resource that can be separated from the notion of territory (Chirif et al. 1991). In addition, even though groups have different local definitions of territory and have experienced different historical realities, they have some elements in common that relate to these basic principles and that can correspond to any of the cases.

Holidays, archaeological sites, cultural heritage sites and games can be found in the cultural section of the website of the Autonomous Government of the State of Santa Cruz.

3.3.6.2. Sources of information

- (1) Autonomous Government of the State of Santa Cruz: CONSERVATION PRIORITIES FOR BIODIVERSITY IN THE STATE OF SANTA CRUZ (Gobierno autónomo departamental Santa Cruz: PRIORIDADES DE CONSERVACIÓN DE LA BIODIVERSIDAD DEL DEPARTAMENTO DE SANTA CRUZ): <http://www.santacruz.gob.bo/archivos/AN05102012182816.pdf>
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- (6) Autonomous Government of the State of Santa Cruz: STATE OF SANTA CRUZ WEBSITE (Gobierno autónomo departamental Santa Cruz: PAGINA PRINCIPAL DEPARTAMENTO SANTA CRUZ) <http://www.santacruz.gob.bo/sczturistica/medioambiente>
- (7) Autonomous Government of the State of Santa Cruz: PROTECTED AREAS IN SANTA

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- (11) CIFOR : http://www.cifor.org/publications/pdf_files/OccPapers/OP-100.pdf (Page 11)
- (12) Source for Map 10, Traditional Community Lands (Tierras Comunitarias de Origen TCOs, Spanish acronym)): <http://www.cedib.org/tag/tierraterritorio/page/2/>
- (13) Bolivia Rural: <http://boliviarural.org/component/content/article?id=710:tierras-comunitarias-de-origen-en-bolivia>
- (14) Autonomous Government of the State of Santa Cruz: Department of Traditional and Indigenous Peoples (Gobierno autónomo departamental de Santa Cruz: Dirección de Pueblos Indígenas y Originarios (DPIN)) http://www.santacruz.gob.bo/sczinclusionessocial/pueblos_indigenas/contenido/4703/172#ancla
- (15) Expansion of the agricultural boundaries: Battle for control and allocation of the land in Eastern Bolivia (expansión de la frontera agrícola: Luchas por el control y apropiación de la tierra en el oriente boliviano) <http://www.ops.org.bo/textocompleto/bvsp/boxp68/frontera-agricola.pdf>
- (16) Autonomous Government of the State of Santa Cruz: Culture: Festivals-Archaeology-Cultural Heritage-Games (Gobierno Autónomo Departamental de Santa Cruz: Cultura: Festivales- Arqueología- patrimonios culturales- juegos) <http://www.santacruz.gob.bo/sczturistica/cultura/arqueologia/30063>

3.3.6.3. Risk determination

Cultural and important attributes in the Integrated and Expansion Zones where soy is produced are directly related to the traditional peoples who have lived in this zone before the institution of forests was established, which in most cases has come about over the past 30 years. The culture, artisanship, languages and customs of traditional peoples are very fragile. Surveying the existence of cultural aspects in the context of the Estate's overall plan (Property Zoning Plan)

The relationship between HCV6 and conflicts over ownership of the land are similar to what was described in section 3.3.5.

The landscape in the Integrated Zone has been transformed to such a degree that it is no longer possible to lead a traditional lifestyle. The landscape is that of agriculture and soy production. Although traditional peoples living according to traditional ways no longer exist, they had existed previously and some cultural elements can be found, such as cemeteries, religious sites, etc.

Traditional peoples do exist in the Expansion Zone and live in a traditional manner, especially in the areas near and/or within the agricultural boundaries. For these specific cases, it is important to place emphasis on the HCV6 and involve the communities in analysis and decision-making processes. Conflicts and claims over the land and its use are more frequent in the Expansion zone.

The primary risk is the lack of identification and demarcation of the HCV6 sites on the estates (fincas). Without a detailed verification on the property level and consultation with stakeholders, the sites cannot be identified and conservation and improvement plans cannot be developed.

In conclusion, both study zones have an elevated risk with regard to HCV6. The cases described in this section show that for lowland indigenous peoples in general, forests are not a resource that can be separated from the notion of territory (Chirif et al., 1991). And, there are some common elements linked to these basic principles that can refer to any case. Referring to the examples identified in section 3.3.6.1. HCV Occurrence risk can be determined as follows:

- TCO Chiquitano de Lomerío (Santa Cruz): Until today, a strong belief in the jichis, creature representing nature, constituting themselves as masters of the "spheres" linked to the forest (water, pampa, hills and chacos) is preserved. Jichis are masters of animals and plants. For this reason, before beginning any extractive activity, the Chiquitanos ask for permission and also thanks for the products that result from the incursions carried out in the forest. To obtain and preserve permission, luck, and protection from the incursions of the mountain, the Chiquitano make offerings of tobacco leaves to each jichi. Every place has sacred attributions. Based on that, the Chiquitanos identify with different values (rituals, sacred and historical), the central places of each community, the archeological zones of the area (eg Piedra Marcada, which is one of the places where there are ancient petroglyphs); the Lajas, hills and pebbles (which in addition to containing archaeological remains, are considered as the habitat of the jichis), cemeteries (located outside the urban radius of the communities), sites where ancient settlements were located; and streams and rivers (as is the Zapocó river of vital importance for this population).
- TCO Guaraní de Charagua (Santa Cruz): The Guaraní of Charagua has identified elements of historical and cultural value of natural origin and areas of traditional occupation. Natural values include rivers, ravines, water springs and lagoons. The areas of traditional occupation correspond to existing archaeological sites such as caves, old settlements, serranías and sites where historical episodes happened. Cemeteries, current and ancient, do not represent cultural values of importance for this group. Among the beliefs linked to the forest, the existence of the Iya Reta, who owns the forest and are responsible for regulating the relationship between people with the resources available in the forest. According to the Guaraní oral tradition, these characters inhabit different parts of the forest.
- TCO Guaraní de Kaami (Santa Cruz): The Guarani maintain a system of beliefs centered on the Iya Reta, who, as "owners" of the mountain, are part of the system of representations that regulate man's relationship with nature. To this system belong Tumpa reta (superior divinity, the creator), Iya reta (gods or owners of nature, of the animals, wild plants or other resources), and Iyangarekóá reta (care of nature, about which believed to be the souls of punished hunters), and other deities. The Guarani has associated elements of the habitat they occupy with categories of values such as good and evil. Specific places like the hills (Ñuu) and the rivers have attributes that determine the life of the human beings and the balance of these with nature. Other examples are the places associated with revelations received by wise men (the paye) or places where evil forces are concentrated. The specific places identified with these values are water bodies, rivers and streams (Parapetí, Guatióvi, Karuputi, Itakua, Ivomi, Yaendi), ancient hunting sites (such as Mangariti) human settlements.
- The Guarani also maintains an extended knowledge of the properties that plants and animals have in aspects such as weather forecasts, life, and death. Like the Chiquitanos, the Iya Reta are associated with a specific animal, as is the case of Mbo Ibusu, which is the Iya of the Parapetí river, which is attributed the shape of a viper.

3.3.6.4. Risk designation and specification

Elevated risk: HCV 6 is identified and/or its occurrence is likely in the area under assessment and it is threatened by management activities.

Santa Cruz Integrated Zone - Elevated risk

Santa Cruz Expansion Zone - Elevated risk

3.3.6.5. Control measures and verifiers

Control measures:

- Ask if a field survey of sites exists, with cultural values and the location of indigenous peoples and local neighbouring communities, the productive establishment's survey of HCV6.

Verifiers:

- GIS maps with the boundaries of the establishment and the location of indigenous peoples, their territories and local communities.
 - Report and map of the location of sites with resources containing cultural values, habitats and landscapes with cultural, archaeological or historical importance (internationally or nationally) and/or cultural, ecological, economic or religious importance/sacredness for traditional cultures in local communities and indigenous peoples.
 - Survey of HCV6 sites: a) aesthetic values; b) historical values; c) scientific values; d) social (including economic values); e) spiritual values.
 - GIS map with boundaries of the estate (finca) and the location of cultural sites.
- Consult stakeholders about the existence and location of HCV 6.

Verifiers:

- Interviews with stakeholders; WWF, Fundación Tierra (Land Foundation), amongst others.
 - Interviews with local population and neighbours.
 - Interview with members of indigenous communities.
 - Interviews with local authorities.
- Ask about the risks that have been identified and mitigation measures that have been taken to prevent any risk and ensure the maintenance of sites containing resources that represent cultural values, habitats and landscapes with cultural, archaeological or historical importance (internationally or nationally) and/or cultural, ecological, economic or religious importance/sacredness for traditional cultures in local communities and indigenous peoples.

Verifiers:

- Action and management plan for HCV6 with listing of risks that have been identified and mitigation measures.
- Plan to restore HCV6 areas.

CONVERSION

4.1. New plantations have not replaced natural forest or natural ecosystems since November 2005

November 2005 has been set as the baseline of natural forest and/or ecosystem conversion. Risk relates to plantation establishment on converted natural forest and/or ecosystem areas post November 2005.

Note: The baseline of natural forests and ecosystem conversion has been set at November 2005 to be in aligned with other international benchmarks set through the Roundtable on Sustainable Soy's deforestation 2005 baseline and to complement initiatives such as Amazon Soy Moratorium establishment in 2006.

Context

The conversion of forests is directly related to the expansion of agricultural boundaries and the policy to ensure food supplies and promote rural development (1). A set of measures exists in Bolivia for the development of the farming sector which involve social control measures as well as conservation, sustainable environmental development and the protection of forests (New Constitution and related laws). Their application on the land is rapidly causing a large gap between the demand for new areas for agricultural production and the goal of conserving native forests.

Article 57 of the New Political Constitution of the State (Nueva Constitución Política del Estado) stipulates the expropriation of properties that do not meet the Economic and Social Function (see section 1 maximum size of land tenure), that is, those that are not productive. The result is an ambiguous policy in terms of the protection of native forests. Deforestation in Bolivia is and continues to be legal, legally applying and complying with existing forest and environmental legislation (see below), specifically when land is classified as suitable for agriculture. This general policy to facilitate processes that adapt land for agriculture is reflected in the implementation of Law 741 (Law on Land Clearing) which authorizes the clearing of up to 20 ha (Article 3: without a Property Zoning Plan).

Summary of the expansion of agricultural boundaries

Over the past 44 years, Bolivia has lost 5.8 million ha of native forests from the expansion of agriculture. The Friends of Nature Foundation (Fundación amigos de la naturaleza (FAN, Spanish acronym) and the Authority for Auditing and Socialization of Forests and Land (Autoridad de Fiscalización y Socialización de Bosques y Tierras (ABT, Spanish acronym)) differentiate among three observation periods (2,7,9):

1. Between 1970 and 2000 a total of 3.1 million ha was cleared.
2. Between 2000 and 2010 a total of 1.8 million ha was converted (76%, 1.4 million ha in Santa Cruz).
3. From 2010 to 2014, 912,000 ha were adapted for farming (the majority in Santa Cruz).

The ten municipalities that lost the most forest area during the period 2000-2010 are in the state of Santa Cruz: Pailón (194,172 ha), San Julián (116,933 ha), San Ignacio de Velasco (96,389 ha), San Pedro (91,008 ha), Santa Rosa del Sara (90,954 ha). Table 1 shows the total for the 10 municipalities.

The table above titled as: Fifteen of the twenty municipalities that have experienced the greatest deforestation in the period 2000-2010 are in the department of Santa Cruz

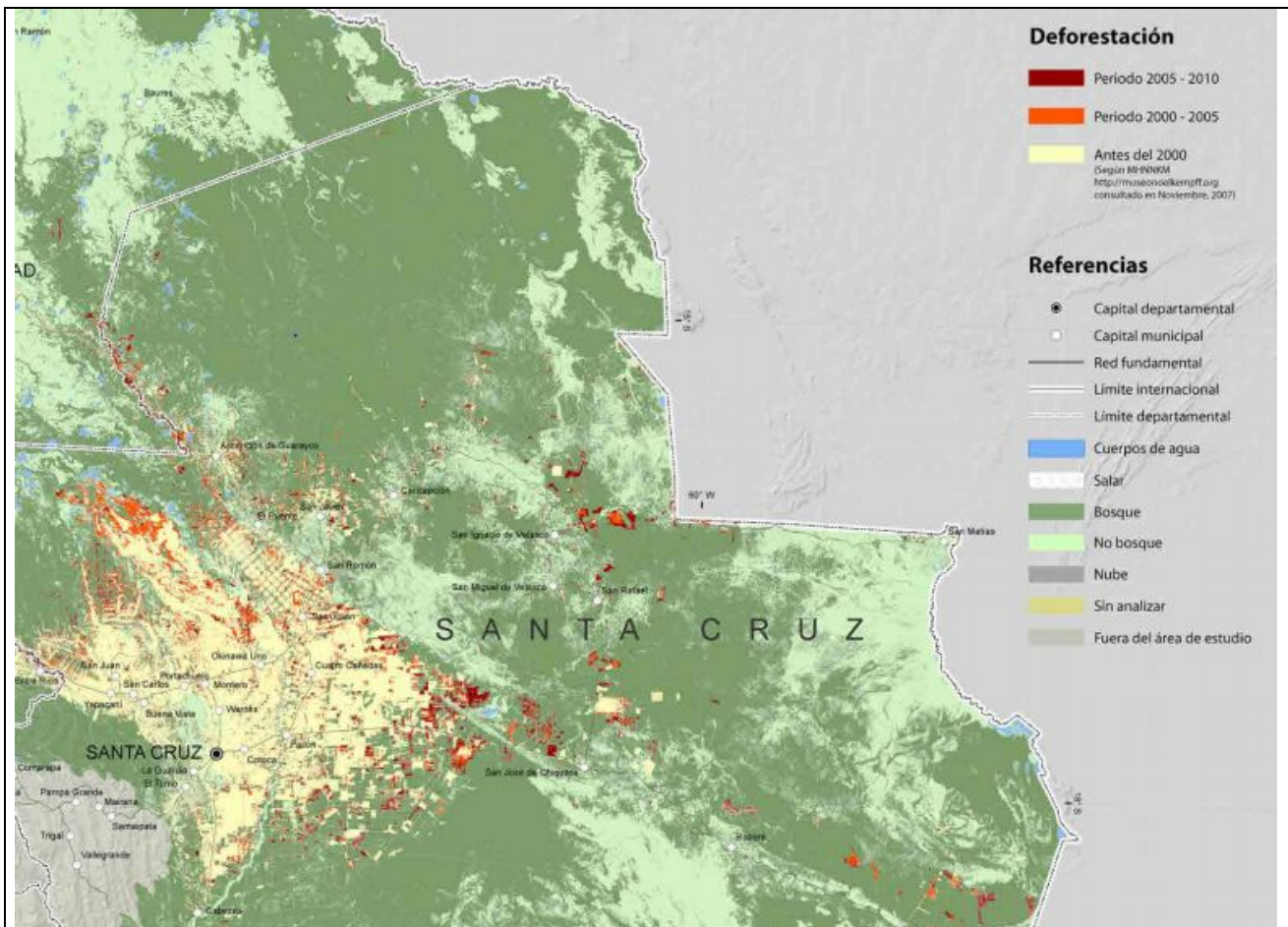
Data from Global Forest Watch (2) confirms the official data (ATB) and 2.3 million ha have been lost between 2005 and 2014, which is equal to an average annual deforestation of 210,000 ha (7). The main reasons for deforestation are livestock expansion (40%) and agricultural crops (60%, of which 30% is soy) (FAO; SOFO 2016 (3)). Compared to the

expansion of agricultural boundaries, non-agricultural activities such as infrastructure, urban development, housing, etc. are insignificant.

A Property Zoning Plan (POP, Spanish acronym) is required for the management and clearing (conversion) of native forests. This instrument is used to zone a property's land according to the different use capacities. It is mandatory that the land be used according to its best use capacity regardless of the property or ownership regime. Article 26 of the Forestry Law Regulation (Reglamento de la Ley Forestal) establishes zoning on the property level as mandatory. At the concession level, land is zoned using a forest management plan and the property level zoning. For land with forest cover allocated for uses that involve forced degradation of the ecosystem, such as farming, Article 29 of the Forestry Law Regulation establishes that property zoning is the only instrument that technically and legally constitutes the definitive determination of the uses permitted, in accordance with the different internal formations, characteristics and particularities of the property. Property zoning plans shall be subject to approval and auditing by the Authority for Auditing and Socialization of Forests and Land (ABT), (formerly Farming Department and Forestry Department), and shall also be subject to control in accordance with the ecological, forest and woodland easements within private properties.

The medium and large property or farming company must demonstrate its Social-Economic function (FES, Spanish acronym) every year by submitting a Property Zoning Plan (POP, Spanish acronym), which demonstrates the sustainable use of the land in the development of productive activities and other uses, substantiated by contracts with salaried staff, registration of livestock, authorization to perform forest or conservation activities, proof of improvements, etc. While the farmer property, small property, community property and Traditional Community Land in themselves meet the social function (8) they must demonstrate that they are living on the location or performing some type of productive activity.

For the case of small properties, community or collective properties in the process of quiet action claims or for which titles have been awarded, Law 741 passed in 2005 authorized the clearing of up to 20 ha for the development of agricultural and livestock activities in permanent forest production zones without the submission of a Property Zoning Plan or Comprehensive Forest and Land Management Plans (Planes de Gestión Integral de Bosques y Tierra).



Map 1: Deforestation in the State of Santa Cruz, 2000 to 2010 (9)

There are organizations in Bolivia that are responsible for the development and control of the Forestry Farming sector in the territory. The National Farming Reform Institute (INRA, Spanish acronym), of the Ministry of Rural Development and Land, is responsible for the expansion of productive land, while the Authority for Auditing and Socialization of Forests and Lands (ABT, Spanish acronym) is part of the Ministry of the Environment and Water (Ministerio de Ambiente y Agua). This situation itself causes coordination problems given that two key issues, Agriculture and Forests, are located in two different government departments. Added to this are the ABT's limited financial resources, not enough professionals to cover large areas of territory, inefficient approval and auditing of Property Zoning Plans and work plans for clearings, and particularly with regard to the legally authorized clearing of up to 20 ha.

4.1.1. Applicable laws and regulations

- CPE (Constitución Política del Estado) - Political Constitution of the State (Constitución Política del Estado) Art. 398 - [link](#)
- Law 1700 Article 16; 35 - FOREST LAW (LEY FORESTAL) - [link](#)
- Supreme Decree 24453 (Full Text) Approval of the General Regulation of the Forest law (Apruébase el Reglamento General de la Ley Forestal) - [link](#)
- Government Resolution 130/97 (Full Text) - Technical Norms for Property Zoning Plans (Normas técnicas sobre Planes de Ordenamiento Prediales) - [link](#)
- Government Resolution 131/97 (Full Text) - Special Clearing Regulation (Reglamento Especial de Desmontes) - [link](#)

- Law 1333 (Full Text) Environmental Law (Ley del Medio Ambiente). - [link](#)
- Law 337 (Full Text) - The purpose of this law is to establish a special regime for properties that were cleared without authorization between July 12, 1996 and December 31, 2011 - [link](#)
- Law 739 , Single Article - Support the production of food and restitution of forests, increase the time period - [link](#)
- Law 741 (Full Text) - Authorized clearing of up to 20 ha for PYMP and Communities - [link](#)
- Law 300 (Full Text) - Framework Law for Mother Earth and Comprehensive Development for Living Well (Ley Marco de la Madre Tierra y Desarrollo Integral para Vivir Bien) - [link](#)

4.1.2. Legal authority

- Ministry of Rural Development and Land: National Farming Reform Institute (Ministerio de Desarrollo Rural y Tierras: Instituto Nacional de Reforma Agraria (INRA)): <http://www.ruralytierras.gob.bo/>
- Ministry of the Environment and Water (Ministerio de Medio Ambiente y Agua): http://www.mmaya.gob.bo/index.php/informacion_institucional/ORGANIGRAMA,843.html
- Authority for Auditing and Socialization of Forests and Land (Autoridad de Fiscalización y Socialización de Bosques y Tierras (ABT)): <http://www.abt.gob.bo/index.php?lang=es>

4.1.3. Legally required documents or records

- Property Zoning Plan (Plan de Ordenamiento Predial)
- Clearing Authorization– Documentation to be submitted to obtain authorization:
 - Title that adequately substantiates the rights of the applicant
 - Property Zoning Plan duly approved by the corresponding entities, as of the date required by the regulations on the matter
 - Submission of a land clearing work plan and the specifications established in Annex 1 of the special land clearing regulation
 - Registration of companies that engage in land clearing: registration with the Forestry Department

4.1.4. Sources of information

Government sources

- Ministry of Rural Development and Land (Ministerio de Desarrollo Rural y Tierras) <http://www.ruralytierras.gob.bo/>
- Ministry of the Environment and Water (Ministerio de Medio Ambiente y Agua): <http://www.mmaya.gob.bo/>
- National Taxation Service (Impuestos Nacionales): www.impuestos.gob.bo/
- INRA: <http://www.ruralytierras.gob.bo/planificacion/pei2014-2018.pdf>
- Authority for Auditing and Socialization of Forests and Land (Autoridad de Fiscalización y Socialización de Bosques y Tierras (ABT)): <http://www.abt.gob.bo/index.php?lang=es>
- (2) ATB: http://www.abt.gob.bo/index.php?option=com_content&view=article&id=912:5-8-millones-de-hectareas-fueron-deforestadas&catid=116:pacto-social&Itemid=101&lang=es
- (8) INRA Social Function:

<http://www.inra.gob.bo/InraPb/paginaController?cmd=contenido&id=6649>

Non-Government sources

- Friends of Nature Foundation (Fundación Amigos de la Naturaleza): https://issuu.com/fundacionamigosdelanaturaleza/docs/sintesis_ambiental_bosque_ley_3_37
- (9) Friends of Nature Foundation (Fundación Amigos de la Naturaleza): <http://www.fan-bo.org/mapa-de-deforestacion-de-las-tierras-bajas-y-yungas-de-bolivia-2000-2005-2010/>
- CEJIS: <http://cejis.org/distribucion-de-la-tierra/>
- ANAPO: <http://www.anapobolivia.org/leyes-decretos-supremos.php>
- Forestry Chamber of Bolivia (Cámara Forestal de Bolivia): <http://www.cfb.org.bo/bolivia-forestal/bosques-en-bolivia>
- (7) El diario: http://www.eldiario.net/noticias/2016/2016_03/nt160322/economia.php?n=15&-en-bolivia-deforestacion-llega-a-350-000-hectareas-al-ano
- (5) CEDLA: <http://cedla.org/content/21428>
- (6) CEBID: http://www.cedib.org/post_type/titulares/la-aprobacion-de-los-planes-de-desmonte-crece-en-81-por-ciento-los-tiempos-21-6-15/
- Monographs, Farm Property in Bolivia (Monografías, Propiedad Agraria en Bolivia): <http://www.monografias.com/trabajos104/propiedad-agraria-bolivia/propiedad-agraria-bolivia.shtml>
- CIPCA: <http://www.cipca.org.bo/index.php/documentos/presentaciones-eventos/leyes-y-decretos-supremos/leyes/ley-no-300-ley-marco-de-la-madre-tierra-y-desarrollo-integral-para-vivir-bien/detail>
- FAO SOFO 2016: <http://www.fao.org/3/a-i5588e.pdf>
- Global Forest Watch: <http://www.globalforestwatch.org/country/BOL>
- Amazonian Network of Socio-Environmental Georeferenced Information (Red Amazónica de Información Socioambiental Georreferenciada): <https://www3.socioambiental.org/raisg2015/>

4.1.5. Risk determination

Overview of Legal Requirements

In general terms, Environmental Law 1333 regulates the requirement to practice farming activities in a responsible and sustainable manner.

Forest Law 1700, Article 26, Regulation pertaining to the Forestry Law, establishes as mandatory the zoning at the property and concession level, and to be paid by the titleholders. At the concession level, zoning is implemented through a forest management plan and at the property level through a property zoning plan. Art. 27 of the Regulation pertaining to the Forestry Law 1700 establishes that classifications of land based on land use plans will be generally valid as long as there are no property zoning plans that determine definitive uses. Art. 29 of the Regulation pertaining to the Forestry Law establishes that, for lands with forest cover that are designated for uses that involve the forced degradation of the ecosystem, such as farming, only zoning at the property level will technically and legally constitute the definitive determination of permitted uses, according to the different formations, characteristics and particularities within the property.

To request permission and authorization for the conversion of native forests (Forestry Law 1700), the requirement to demonstrate and fulfil the Economic Social Function (FES, Spanish

acronym) must be considered and met. For economic social function, Law 1715 stipulates the sustainable management of land in accordance with its best usage capacity. I. Farmer property, small property, communal property and native community land fulfil a social function when used for the welfare of the family or for the economic development of indigenous, farmer and native landowners, peoples and communities, in accordance with the highest potential land use capacity. II. For farming, the economic-social function established by Art. 169 of the Political Constitution of the State is the sustainable use of the land for the development of farming, forestry and other productive activities, as well as for the conservation and protection of biodiversity, investigation and ecotourism, according to its highest potential use capacity, for the benefit of society, the collective interest and the landowner. Therefore, and in accordance with Law 3545 which modifies Law 1715 (Farming Law), illegal clearing does not comply with the economic social function (FES, Spanish acronym).

Law 337, the Law to Support Food Production (Ley de Apoyo a la Producción de Alimentos y Apoyo) regulates the use of land and forests. Its objective is the production of food to guarantee the fundamental right to sovereignty and food security and the restitution of affected forest areas. It has two components: 1) Production of Food in accordance with government policies and 2) Restitution of Forest Areas that are affected, which shall be aimed at the restitution and protection of legal ecological easements and the reforestation of affected forest areas. Medium properties and farming companies undergoing the title process and that are in the field stage and have not received the Final Title Resolution have six (6) months from the date that the Regulation of the Program (Reglamentación del Programa) enters into force to register with this Program. For their evaluation in the farming process, the productive agricultural and/or livestock activity and the area of the property that has been cleared must have been identified during the field survey. A special regime exists (5 years as of the regulation) that permits the regularization of areas that were cleared without authorization between December 7, 1996 and December 31, 2001, on properties with titles, properties engaged in the title process, and those without clear titles, whose beneficiaries adhere to the "Food Production and Restitution of Forests Program."

Nevertheless, since the introduction of Laws 739 and 741, clearing of up to 20 ha is permitted for small landowners and communities. Article 1 of Law 741 says: *As of the enactment of the present Law, the Authority for Auditing and Socialization of Forests and Land – ABT, shall authorize the clearing of up to twenty hectares (20 ha) on land with forest cover that is suitable for diverse uses and on land with permanent forest production, without the submission of Property Zoning Plans (POP, Spanish acronym), or without submission of Comprehensive Forest and Land Management Plans on small properties, community or collective properties and human settlements with an Authorization Resolution, in an expedited and simplified form. In the case of a community or collective property, the authorization for the clearing of up to twenty hectares (20 ha) will be provided on a household basis.*

Description of risk

There is a risk of Risk of deforestation/conversion of land, both legal and illegal, primarily due to the production of soy in the northern (Integrated Zone) and eastern (Expansion Zone) regions of the state of Santa Cruz.

- Over 30 years, from 1970 to 2000, a total of 3,121,321 ha was deforested, 1,821,153 ha was felled between 2000 and 2010 and 912,253 ha between 2010 and 2014, resulting in a total 5.8 million ha over the past 44 years. (5) Because of Santa Cruz's productive activity, this state has engaged in this practice more than any other, representing 78% (4.4 million ha) of the total. (6)
- In 2016, the Bolivian Centre for Documentation and Information (Centro de Documentación e Información Bolivia (Cedib, Spanish acronym)) calculated an annual loss of 350,000 ha of forests due to legal and illegal deforestation. The main cause of deforestation in Bolivia is the expansion of agricultural boundaries, that is, the adaptation of land for farming activities. This has primarily occurred for the production of soy.

- Up to 20 years ago, Bolivia had maintained a moderate deforestation index. Nevertheless, this has been increasing at a worrisome rate since 2000, primarily due to the production of soy in the northern (Integrated Zone) and eastern (Expansion Zone) portions of Santa Cruz. According to the Friends of Nature Foundation (Fundación Amigos de la Naturaleza) (1) and the Authority for Forests and Land (ABT), 82% of deforestation occurs in the state of Santa Cruz, and 80% of these forests have been illegally deforested. According to ABT data, illegal clearing was identified on 80 properties (28,714 ha) during the first half of 2015. Over the entire year of 2014 a total of 166,511 ha were deforested, 88% of which was illegal and the remaining 12% was authorized. (2)
- As a result, we can conclude that the policy that currently exists in Bolivia allows and authorizes the clearing of native forest for farming uses, and has created the current situation involving deforestation and conversion of native forests.
- Five million ha are still available for farming production and the government is committed to increasing the agricultural boundaries. (5) According to the Authority for Forest and Land (ABT), (Rolf Köhler Perrogón, National Director of the ABT), a decision has been made to increase the agricultural boundaries from 3.2 million ha to 8 million. Land has been cleared from 2003 to 2013, a greater rate than in the entire history of the country. Therefore the granting of land, farming reforms and title processes are the greatest threat to forests.

Risk conclusion

Elevated risk

Integrated Zone: Most of the soy Farms were established before November 2005. These zones show a risk of native forest conversion after 2005 resulting small properties, community or collective properties being permitted to clear up to 20 ha of land. The risk is therefore considered to be elevated.

Expansion Zone: Most of the farms were established in areas that were converted from natural forests or ecosystems after November 2005 and the agricultural commodity is directly responsible for the conversion of natural forests or ecosystems after November 2005. The data substantiate that conversion is occurring on a widespread and/or systematic basis.

4.1.6. Risk designation and specification

Elevated risk

4.1.7. Control measures and verifiers

Control measures:

- Verify whether there were conversions of native forests before or after November 2005 and whether they were performed legally. (Verify compliance with Law 1700 (Forest), its regulation DS 24453 and Law 741 (clearing of up to 20 ha).

Verifiers:

- Official ATB data and maps
- Authorized Plan for Land Use Changes (ATB) before 2005
- Property Zoning Plan

- Consult with stakeholders to verify that no clearing has occurred in the zone where the soy farm is located.

Verifiers:

- Global Forest Watch
- Friends of Nature Foundation (Fundación amigos de la naturaleza)

https://issuu.com/fundacionamigosdelanaturaleza/docs/sintesis_ambiental_bos

[que ley 337](#)

- o WWF Bolivia: http://wwf.panda.org/who_we_are/wwf_offices/bolivia/

4.2. Fire avoidance is being practiced

Assess the risk of fire use in plantation establishment and/or management activities. Risk relates to assessing the role of fire use driving natural ecosystem conversion.

4.2.1. Applicable laws and regulations

- Law 1700 Article 35 - FORESTRY LAW (LEY FORESTAL) - [link](#)
- Supreme Decree 24453 (Full Text) - Approval of the General Regulation of the Forest law (Apruébase el Reglamento General de la Ley Forestal) - [link](#)
- Ley N° 1333 (Full Text) - Environmental Law (Ley del Medio Ambiente). - [link](#)
- Ley N° 741 (Full Text) - Authorization for clearing up to 20 ha for PYMP and Communities - [link](#)
- Law 3525 (Ecological Production), Art. 13 (Full Text) - LAW FOR THE REGULATION AND PROMOTION OF NON-TIMBER ECOLOGICAL FARMING AND FOREST PRODUCTION (LEY DE REGULACION Y PROMOCION DE LA PRODUCCION AGROPECUARIA Y FORESTAL NO MADERABLE ECOLOGICA) - [link](#)
- Government Resolution 131/97 (Full Text) - Special Clearing Regulation (Reglamento Especial de Desmontes) - [link](#)

4.2.2. Legal authority

- Ministry of the Environment and Water (Ministerio de Medio Ambiente y Agua): http://www.mmaya.gob.bo/index.php/informacion_institucional/ORGANIGRAMA,843.html
- Authority for Auditing and Socialization of Forests and Land (Autoridad de Fiscalización y Socialización de Bosques y Tierras (ABT)): <http://www.abt.gob.bo/index.php?lang=es>
- Santa Cruz state offices of the Authority for Auditing and Socialization of Forests and Land (Autoridad de Fiscalización y Socialización de Bosques y Tierras (ABT))

4.2.3. Legally required documents or records

Authorization of controlled burns of pastures under 500 ha

Legal Documents:

- Identity document of the landowner or legal representative, any of the following documents can be presented:
- Identity card (or Passport or similar document),
- Birth certificate.

Technical documents

- Form to request authorization of burns. Approval of burning permit (Government Resolution 131/97 and Law 741)
- Plan containing the geographic coordinates that delimit the location of the property and the area to be burned.

Authorization for controlled burns of pastures over 500 ha:

The following documents are mandatory:

- Meeting all the requirements established for pastures <500ha,
- Submit a copy of the document that demonstrates approval of the property zoning plan (POP, Spanish acronym)

4.2.4. Sources of information

- El deber: <http://www.eldeber.com.bo/santacruz/rolf-koehler-perrogon-000-quemas.html>
- Bolivia Rural: <http://www.boliviarrural.org/noticias/noticias-2016/5572-suspenden-autorizaciones-de-quema-por-los-incendios>
- ABT: http://www.abt.gob.bo/index.php?option=com_content&view=article&id=477&Itemid=293&lang=es
- La Patria en Línea: <http://www.lapatriaenlinea.com/?t=bolivia-perdio-17-6-millones-de-hectareas-por-incendios-forestales¬a=203733>
- Tierraplus: <http://tierraplus.com.bo/Bolivia/PLANETA-TIERRA/Medio-Ambiente-detectan-mas-de-500-focos-de-incendio-en-territorio-boliviano/>
- ABT: http://www.abt.gob.bo/index.php?option=com_content&view=article&id=396&Itemid=285&lang=es
- ABT Hotspot Monitoring (Monitoreo de focos de calor): http://www.abt.gob.bo/index.php?option=com_content&view=category&id=123&Itemid=407&lang=es
- ABT Monitoring, August 2016: http://www.abt.gob.bo/index.php?option=com_content&view=article&id=1027:reporte-nacional-de-focos-de-calor-al-02-de-agosto-2016&catid=123&Itemid=407&lang=es;
- (9) ABT Boletín: http://www.abt.gob.bo/images/stories/FocosCalor/2016/08-02/Boletin_01_02_08_2016.pdf

4.2.5. Risk determination

Overview of Legal Requirements

In Bolivia, using fire is a common practice to clear and prepare land for agricultural purposes. No specific national laws exist to *prohibit* using fire for clearing land, although Municipal Ordinances, administered by municipalities, prohibit this practice during hottest and driest months when the risk of fire spreading outside controlled burn areas is high (July and August).

To perform any type of controlled burn, permission must be requested from the Santa Cruz state office of Authority for Auditing and Socialization of Forests and Lands (ABT). Since illegal burning activities have created environmental problems in the lowland regions of Bolivia, an administrative prohibition order was issued in August 2016 by the director of ABT, Rolf Köhler Perrogón. It stipulated that burn authorizations would be suspended until further notice.

An analysis of the number of fire hotspots in the Pasture Burn Areas (Áreas de Quemadas de Pastizales) found that 41% of active fires were located within the area where authorized burns were permitted. When superimposing these fire hotspot locations against Bolivia's forest area, 18,607 hotspots (36%) were found to be on forest land. Furthermore, when this information was superimposed with areas with forest operations rights (Clearing Plans), 6,683 hotspots (13%) were found to be authorized by the ABT.

When analysing fire hotspots in terms of classification by stakeholders, the highest concentration was on company/private lands (28%) and lands that have not participated in the title process (57%). Meanwhile, according to land use categories, the highest percentage of fire hotspots registered correspond to land dedicated to livestock farming (49%). (8)

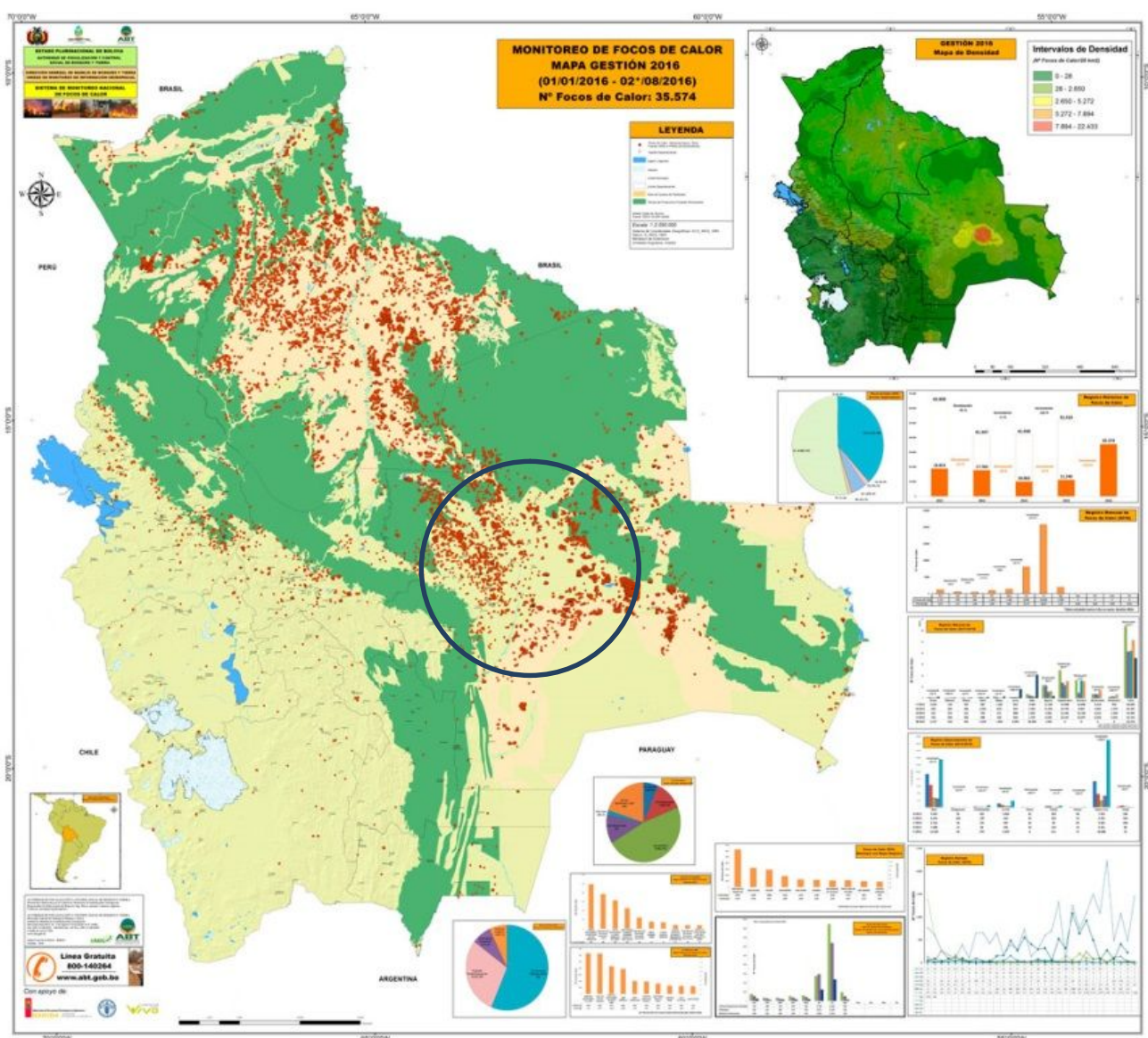
Campaign Against Illegal Burns

In 2014, ABT through the National Department of Auditing and Control (Jefatura Nacional de Fiscalización y Control (JNFyC, Spanish acronym)) implemented the Burns Identification and Penalty System (Sistema de Identificación y Sanción de Quemadas (SIS-Q, Spanish acronym)), which enables nearly real-time monitoring of unauthorized forest fires and burns. The system uses information from fire hotspots, medium-resolution satellites and cover generated by the ABT to identify disturbances in the forest zones where forestry rights have not been granted.

At the beginning of the period when normally burns are prohibited (July), prevention campaigns are performed in 12 strategic areas of the state of Santa Cruz. Over 50 officials from the ABT deliver informative material about the dangers of uncontrolled burns and the correct procedures to request authorizations for conducting slash-and-burn practices. This effort was replicated at the national level by other regional ABT offices.

In terms of the strict control and application of the existing norm, the institution has inspected 65 unauthorized burns nationally, of which 63 are in the early penalization process. The main action areas include the Chiquitano region in Santa Cruz and the plains region in the state of Beni.

The JNFyC has doubled its past efforts to develop the hotspot report and to disseminate it daily. This report educates forest users and the general public about the evolution of burns at the national level. This information is updated and published daily on the institution's website, and can be downloaded. A 24-hour toll-free line (800140211) was also set-up to report matters related to burns. (6)



Map: Monitoring of Hotspots (Fires) in August 2016(9)

The Integrated and Expansion Zones for soy production in the state of Santa Cruz are shown inside the blue circle. Fire hotspots are marked in red, indicating a direct relationship between the location of soy crop farms and agricultural burns which is likely for clearing and preparing the land.

Fire use is regulated by forestry law 1700 and its accompanying resolutions and requires authorization from the ABT (also see legally required documents or records). Government resolution 131/97 stipulates that the following norms must be met to perform controlled burning in clearings or pastures:

- Establish firewalls around the periphery of the area to be burned to prevent the spread of the fire. Also as a precaution, the owner of the property must alert neighbours about the execution of burns.
- Avoid burning when there are strong winds or high temperature conditions.
- When executing the burn, the personnel needed to control the spread of the fire must be present. In addition, it must be monitored until the fire is completely extinguished and hotspots that could reactivate it must be extinguished.

- Burns must be scheduled by the holders of the land rights and authorized by the ABT, or in the case of the delegation of functions, by the Municipal Forest Unit or Association of Municipalities.

Description of risk

There is a risk of illegal fires being used to clear and prepare land for soy production.

- Despite the use of controlled burns requiring authorization from the Authority for Auditing and Socialization of Forests and Lands (ABT), recent 2016 data indicated only 13% of fires are authorized. Illegal burning activities often become uncontrolled fires, especially during dry years.
- The practice of using controlled fires to prepare land for farming is common in Bolivia. It is usually related to the management of pasture land but it is also used for farms including soy farms. These controlled burns often get out of control and become uncontrolled fires. In general, regulations pertaining to obtaining official authorization from the ABT are regularly not sought and/or not met.
- This leads to a high number of illegal fires being started and a high number of uncontrolled fire situations (especially in hot dry periods). According to the data from the Ministry of the Environment and Water (Ministerio de Medio Ambiente y Agua (MMAyA, Spanish acronym)), between 2005 and 2013 a total of 17.6 million ha of forest were lost nationally due to forest fires, mostly in Santa Cruz. Fire hotspots are primarily observed in the states of Beni and Santa Cruz.
- The municipalities in Santa Cruz with risk of fires are primarily San José de Chiquitos, San Matías, San Ignacio de Velasco and San Rafael (5).
- Rolf Köhler Perrogón, National Director of the ABT, stated that Bolivia is facing a critical situation in the year 2016, and roughly 60,000 fire hotspots were already identified nationally. (4) with only 8,000 burning areas which had been authorized by the ABT. This situation has led to halt on authorizations for controlled burns.
- The statistics show that 85 to 90% of the fires annually (often caused of uncontrolled forest fires) are not authorized. In addition, even though the intention exists to monitor and control illegal fires and burning for clearing and land preparation, the ABT does not have enough tools or financing to sufficiently monitor this. A significant lack of coordination among the actors involved in controlling these burns also does not help. (7) There is no specific authority to issue fines for illegal burns; that is, there are norms that regulate and/or prohibit this activity locally but the low level of governability contributes to a lack of compliance with these norms.
- The fire hotspot map (see above) shows controlled and uncontrolled burn activities related to in both soy production zones (Integrated and Expansion).

Risk conclusion

Elevated risk: Identified laws are not upheld consistently by all entities, are often ignored, and are not enforced by relevant authorities.

The prevailing evidence demonstrates high incidents of uncontrolled fires connected with farm establishments and/or management. Although the use of fire always requires authorization from the ABT, only 13% of hotspots (burns) are authorized. Burns are conducted without authorization and they often become uncontrolled fires, especially during dry years.

4.2.6. Risk designation and specification

Integrated Zone - Elevated risk

Expansion Zone - Elevated risk

4.2.7. Control measures and verifiers

- Verify whether controlled burning takes place within the soy farm. If fire burning activities are used, then demonstrate that legal authorization has been obtained before conducting the burn.

Verifiers:

- Check for where active fires are taking place via the ABT Hotspot Monitoring (Monitoreo de focos de calor):
http://www.abt.gob.bo/index.php?option=com_content&view=category&id=123&Itemid=407&lang=es
 - Interview local workers and stakeholders about fires in the zone and burns conducted on the establishment.
 - Verify with the authorities responsible for monitoring the use of fire (ABT, JFNyC, municipal government) as to whether complaints or fines have been imposed on the soy farm for illegal burns, as well as whether there is an uncontrolled fire registry of fires produced by burns on the farm.
 - Check the Harvesting and Land Use Change Plan (Plan de Aprovechamiento de Cambio de Uso del Suelo) (Authorization, Property Zoning Plan (Plan de Ordenamiento Predial))
 - Authorization for the use of fire, issued by the competent administrative entity (ABT)
- If fire burn activities are conducted, evidence shall be presented that good management practices are used to control and prevent fires. Verify in the field that they are applied every time fire is used.

Verifiers:

- Existence of a manual for the use of fire and prevention measures
- Interviews with local workers and stakeholders about fires in the zone and burns conducted on the establishment.

GENETICALLY MODIFIED ORGANISMS (GMOs)

5.1. There is no commercial use of genetically modified soy.

Plantations have not been planted with genetically modified commodities and/or GMO fertiliser is not being used. Risk relates to the use of GMO plants and/or fertiliser as a potential factor influencing upstream buyers purchasing decisions based on consumer preferences.

5.1.1. Applicable laws and regulations

- CPE, Art. 408 - Political Constitution of the State (Constitución Política del Estado) - [link](#), [link2](#), [link3](#)
- Law 144 , (Art. 15 and 19) - Farming Production Law (Ley De Producción Agropecuaria) – [link](#), [link2](#), [link3](#)
- Supreme Decree 29611 - The objective of this supreme decree is to create the National Institute for Innovation in Farming and Forestry (Instituto Nacional de Innovación Agropecuaria y Forestal – INIAF, Spanish acronym) - [link](#)
- Article 409 of the Political Constitution of the State - Political Constitution of the State (Constitución Política del Estado) - [link](#),

5.1.2. Legal authority

- National Institute for Innovation in Farming and Forestry (Instituto Nacional de Innovación Agropecuaria y Forestal – INIAF, Spanish acronym): <http://www.iniaf.gob.bo/>
- Ministry of Rural Development and Land (Ministerio de Desarrollo Rural y Tierras): <http://www.ruralytierras.gob.bo/>
- Seed Council (Comité de Semilla): <http://www.santacruz.gob.bo/sczproductiva/cultivo/4422/400100#ancla>

5.1.3. Legally required documents or records

Natural or legal persons who are owners, leaseholders or traders of seeds, crops or soy beans that are genetically modified must register with the State Farming Services (Servicios Departamentales Agropecuarios), in coordination with the Departments of Natural Resources and the Environment (Direcciones de Recursos Naturales y Medio Ambiente)

Genetically modified seeds must be approved by *INAF and officially included in National Seeds Program (Programa Nacional de Semillas)-*

5.1.4. Sources of information

- Página siete.: <http://www.paginasiete.bo/miradas/2016/1/12/tira-afloja-bolivia-sobre-semillas-transgenicas-83066.html>
- Expansión: <http://www.expansion.com/latinoamerica/2016/01/11/5693cc9aca474165448b4639.html>
- Territorios en resistencia: <http://www.territoriosenresistencia.org/noticias/organismos-geneticamente-modificados-en-bolivia-derecho-a-la-informacion-o-principio-precautorio>
- EJU: <http://eju.tv/2015/04/gobierno-boliviano-deja-en-manos-de-los-productores-uso-de-transgnicos/>
- ICCA Prensa: <http://www.iica.int/es/prensa/noticias/bolivia-celebra-estudios-que-descartan-riesgos-en-el-uso-de-ogms-en-la-agricultura>
- Todo El Campo: <http://www.todoelcampo.com.uy/espanol/los-transgenicos-avanzan-en->

[bolivia-15?nid=7916](#)

- CENDA: <http://www.cenda.org/secciones/seguridad-y-soberania-alimentaria/item/330-campana-para-denunciar-los-efectos-sociales-y-ecologicos-de-los-transgenicos>
- ILO: <https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/92466/107727/F1045538051/BOL92466.pdf>
- INE: <http://www.ine.gob.bo/>
- OAS: http://www.oas.org/dil/esp/Constitucion_Bolivia.pdf
- ARBORE: <http://www.arbore.org/contido/soja-transgenica-en-argentina-desastre-social-y-economico>
- CIPCA: <http://www.cipca.org.bo/index.php/cipca-notas/cipcanotas-2015/3390-la-frontera-agricola-en-bolivia-transgenicos-deforestacion-y-seguridad-alimentaria>
- Rebellion: <http://www.rebellion.org/noticia.php?id=13841>
- Warakazo: <http://warakazo.blogspot.com.ar/2011/07/hay-mas-de-50-productos-transgenicos-en.html>
- Apia: <http://www.apia-bolivia.org/boletin/apia-informa-bolivia.php?id=2016-09-07>
- Government of Santa Cruz: <http://www.santacruz.gob.bo/>
- Fobomad: <http://www.fobomade.org.bo/>
- Propima: <http://web.probioma.org.bo/>
- Rap-al: http://www.rap-al.org/db_files/PlaguiaAL_InfoPa_Argentina_Estudio_SojaRR_abr04.pdf
- Lasojamata: http://www.lasojamata.net/files/soy_republic/10_SoyaBolivia.pdf
- Acsoja: http://www.acsoja.org.ar/images/cms/contenidos/423_b.pdf
- Ambientum: http://www.ambientum.com/documentos/general/estudio_sudamericano.pdf
- Atlas: <http://atlas.umss.edu.bo:8080/xmlui/bitstream/handle/123456789/63/cultivostransgenicos.pdf?sequence=1&isAllowed=y>
- INIAF: <http://www.iniaf.gob.bo/index.php/es/contacto>
- CEDLA: http://www.cedla.org/sites/default/files/ds28225_172005soyatrangnica.pdf
- Government institutions: <http://www.instituciones.gnb.com.bo/Programa-Nacional-de-Semillas--PNS/131940/COMITE-DE-SEMILLAS-DE-SANTA-CRUZ.html#>
- Government of Santa Cruz: <http://www.santacruz.gob.bo/sczproductiva/cultivo/4422/400100#ancla>
- INIAF: <http://www.iniaf.gob.bo/index.php/es/contacto>
- Cedla: http://www.cedla.org/sites/default/files/ds28225_172005soyatrangnica.pdf
- Government institutions: <http://www.instituciones.gnb.com.bo/Programa-Nacional-de-Semillas--PNS/131940/COMITE-DE-SEMILLAS-DE-SANTA-CRUZ.html#>
- Government of Santa Cruz: <http://www.santacruz.gob.bo/sczproductiva/cultivo/4422/400100#ancla>
- Expert consulted: Marlina Ibanez
- Agrosoftware: <https://agrosoftware.wordpress.com/2011/03/15/variedades-de-soya-en->

[santa-cruz-bolivia/](#)

5.1.5. Risk determination

Overview of Legal Requirements

Ninety-eight percent of the soy produced in eastern Bolivia, which includes the state of Santa Cruz, is GMO and 2% is organic. (6) (7)

- Article 409 of the Political Constitution of the Plurinational State of Bolivia (Constitución Política del Estado Plurinacional de Bolivia) declared that “the production, importation and trade of transgenics shall be regulated by law.” (10)
- Law 144 for farming production promotes the conservation of the genetic heritage of the country and encourages traditional, organic, ecological, and farming production using local knowledge and practices as well as technological innovation based on family, community, associative and cooperative forms of production. Technological agricultural products involving genetically modified seeds that represent species for which Bolivia is the center of origin or diversity are not permitted to enter Bolivia. Those that threaten genetic heritage, biodiversity, the health of living systems and human health are also not allowed. The use of genetically modified seeds is permitted if they do not originate in Bolivia, as in the case of soy (Law 144 Art. 15 Section 2, Art. 19 section 5). All products for direct or indirect human consumption that contain or are derived from genetically modified organisms must be identified as such and this condition must be indicated. (8)
- Decree 29511 creates the National Institute for Innovation in Farming and Forestry (Instituto Nacional de Innovación Agropecuaria y Forestal (INIAF, Spanish acronym). One of its objectives is to incorporate the National Seed Program (Programa Nacional de Semillas (PNS, Spanish acronym) under the management of the Ministry for Rural Development and Land. Its primary functions are to direct research and innovation processes involving the production of farm seeds and provide farm seed certification, auditing and registries. (9)
- Multi-governmental resolution 1 (Resolución Multiministerial Nº 1), dated April 7, 2005, authorizes agricultural and seed production, processing, internal and foreign trade of genetically modified glyphosate-resistant soy (event 40-3-2) and its derivatives. It also establishes that, as of 2005, natural or legal persons who are owners, leaseholders or traders of seeds, crops or soy beans that are genetically modified (event 40-3-2) must register with the State Farming Services (Servicios Departamentales Agropecuarios), in coordination with the Departments of Natural Resources and the Environment (Direcciones de Recursos Naturales y Medio Ambiente) [(2) and (25)].
- Genetically modified seeds that are used must be registered with the National Institute for Innovation in Farming and Forestry (Instituto Nacional de Innovación Agropecuaria y Forestal) (24), in accordance with Supreme Decree 29511. The Santa Cruz State Farming Department, in coordination with the National Seeds Program (Programa Nacional de Semillas), has a Seeds Council (Comité de semillas (COSEM, Spanish acronym)) which grants seeds certificates with a registration number. (3) (4)

Bolivia allows only one type of genetically modified seed for soy resistant to the herbicide glyphosate; the benefits of GMOs are important for coping with droughts; infestations and diseases; and for increasing productivity and producing larger quantities in smaller spaces and with less agrochemicals. The Technological Institute of Monterrey (Instituto Tecnológico de Monterrey) reported that 98% of the scientific studies substantiate that food products produced with GM seeds do not damage health. (5)

For glyphosate-resistant soy to enter Bolivia, they first needed to be registered. A commission composed of specialized professionals evaluated the agronomic characteristics of 21 varieties (Foros, p. 198) reported by the agricultural producers. The Regional Seeds Offices (Oficina Regional de Semillas) determined whether the varieties were distinct, stable and homogenous.

The second step was the certification of the seeds, which consisted of a field inspection to verify its fundamental genetic purity and the presence of infestations and diseases. Over the entire certification process, laboratory analyses were performed to verify that the glyphosate-resistant varieties were not contaminated and that conventional varieties were not mixed with RG varieties, as well as to ensure that agricultural producers obtain a minimum 80% germination and that none of the lots of seeds contained prohibited weeds. (21)

Farming companies have stated that there is a need to incorporate new biotechnologies to improve productivity and competitiveness with Argentina and Brazil. They claim that the prohibition and imperfect control of soy crops in Bolivia is a policy mistake. Eduardo Nostas, vice president of the consumable farming goods company Interagro, estimates that "one third of the seeds used are illegal." His estimate is based on the combination of the number of seeds used per hectare, the crop area and number of tons registered with the National Institute for Innovation in Farming and Livestock (Instituto Nacional de Innovación Agropecuaria y Ganadera (INIAG, Spanish acronym)), which certifies national seed producers. The EFE states, "As long as the country does not take responsibility for legal investigations, smuggling will continue since biotechnology greatly aids productivity." (1) (2) A report about the United Soy Republics (Repúblicas Unidas de la Soja) mentions the illegal entrance of transgenic soy in Bolivia. (20)

Community organizations and others have expressed their opposition to GMO based on a precautionary principle, given the lack of knowledge about the actual effects on health from the consumption of products derived from GMO. (1) (2) (3)

The Bolivian Foreign Trade Institute (Instituto Bolivia de comercio exterior (IBCE, Spanish acronym)) indicates the existence of two different production realities in Bolivia that can and must co-exist, one in the east (where the state of Santa Cruz is located) and the other in the west. In particular, to improve productivity, biotechnology should be used in eastern Bolivia where soy is produced on a commercial scale. (4)

Some of the conclusions from the forum addressing risks related to the use of GMOs in agriculture, held in La Paz in July 2016 by the Inter-American Institute for Cooperation on Agriculture (Instituto Interamericano de Cooperación para la Agroicultura), (IICA) include:

According to the sources consulted ["Genetically modified organisms: scientific and technical aspects." ("Organismos genéticamente modificados: aspectos científicos y técnicos"), page 68; Ana María Hernández Salgar, Alexander von Humboldt Institute (22); Transgenic Crops in Bolivia: Problems and Alternatives. Records from the National Seminar "Challenges with transgenic crops in Bolivia" (Cultivos transgénicos en Bolivia: Problemáticas y alternativas. Memorias del Seminario Nacional "Problemáticas de los cultivos transgénicos en Bolivia") (23)], the trade names of the most commonly cultivated varieties in Bolivia are, in order: Munasqa, Lealsen Bo 637 and La milagrosa.

Any seed that enters Bolivia must first be registered and approved by the INIAG (national institute). The following table shows the RR resistant varieties that have been authorized.

Several publications report that in the soy production region of Bolivia, in the state of Santa Cruz, 98% of the seeds used are GMO. As a conclusion, RR GMO soy (glyphosate resistant) is used in the eastern region where soy in Bolivia is cultivated. With the changes in legislation in Bolivia, the use of GMO is permitted by law. Nevertheless, evidence of illegal use of transgenic soy seeds also exists (1) (2) (11) (12) (19), varieties that are different than the only transgenic soy permitted in Bolivia, which is glyphosate resistant (RR soy).

Description of risk

GMO soy is produced both legally and illegally in Bolivia.

- Bolivia permits the use of genetically modified seeds, and for soy the country only authorizes the use of glyphosate-resistant genetically modified soy (RR soy). Nevertheless, it is estimated that "one third of the seeds being used are illegal." This calculation is based

on the combination of the number of seeds used per hectare, the crop area and the number of tons registered with the National Institute for Innovation in Farming and Livestock (Instituto Nacional de Innovación Agropecuaria y Ganadera (INIAF, Spanish acronym), which certifies national seed producers. The EFE states, "As long as the country does not take responsibility for legal investigations, smuggling will continue since biotechnology greatly aids productivity." (1) (2)

- The soy production sector in Santa Cruz has complained to the National Santa Cruz Government about the failure to implement policies related to research on new GMO soy and/or the entrance of new GMO soy to cope with droughts, infestations and diseases. As mentioned previously, Bolivia has a Seeds Council (Comité de semillas (COSEM, Spanish acronym)) that issues certificates for seeds with a registration number. (30) (31) COSEM is part of the State of Santa Cruz Farming Service (Servicio Departamental Agropecuario de Santa Cruz), in coordination with the National Seeds Program (Programa Nacional de Semillas). Nevertheless, because of the lack of staff and auditing, the control of GM seeds in Bolivia is not sufficient. In addition to the legal use of seeds that are registered and certified by COSEM, illegal GM seed varieties are also used and are not adequately controlled.

Risk conclusion

Elevated risk: GM soy is commercially used in the area under assessment, GM seeds are used, both legal and illegal seeds, in 98 % of all soy production.

5.1.6. Risk designation and specification

Integrated Zone - Elevated risk

Expansion Zone - Elevated risk

5.1.7. Control measures and verifiers

- Consult the producer about the type of seed used, verify its origin and certificates
- Verify that the seed used is officially authorized in Bolivia and is not a GM seed (Consult INIAF registry)
- Verify with the INIAF registry that the producer is registered and is a GMO producer: <http://www.iniaf.gob.bo/>
- Consult the Seeds Council (Comité de semillas (COSEM)) about delivery of certificates: <http://www.santacruz.gob.bo/sczproductiva/cultivo/4422/400100#ancla>

Annex I: Soy source types

The table **Soy Source Types in Bolivia** below identifies the different types of plantations/farms in Bolivia which supply soy to the market.

'Soy source type' is a term used to describe the different types of soy plantations in a country, in order to allow a more detailed specification of risk. The soy plantation Type is used to clarify:

- which plantation types soy can be sourced from legally;
- what the legal requirements are for each plantation type, and
- if there are risks related to certain plantation types and not others.

According to Law 1715, farmland is classified as:

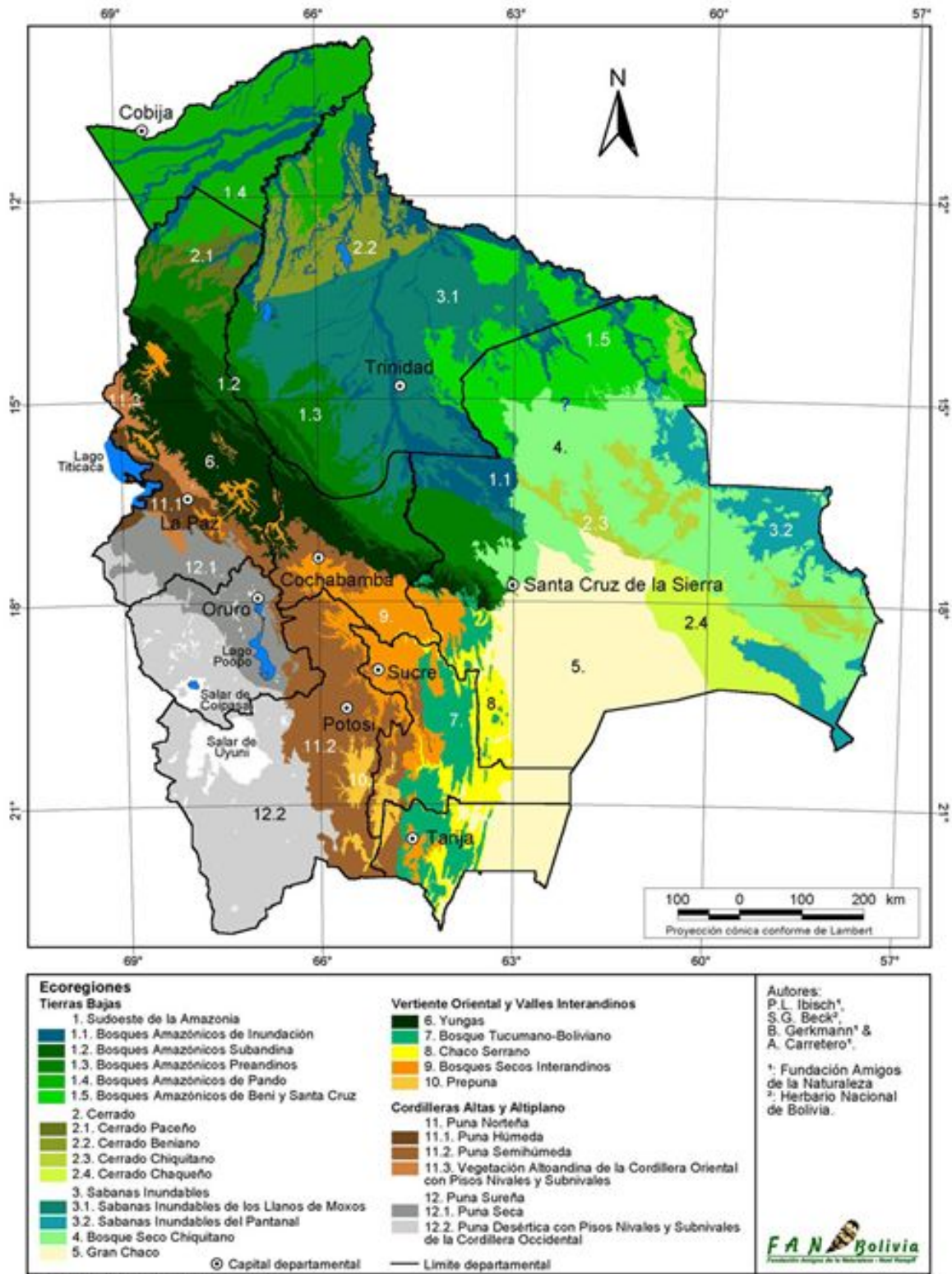
1. *Farmer Property*: the place of residence of the farmer and family. It is indivisible, and is an unseizable family asset.
2. A *Small Property* is the source of subsistence resources for the landowner and family. It is indivisible and is an unseizable family asset.
3. A *Medium Property* is property owned by natural or legal persons and is cultivated by the landowner, salaried temporary or permanent workers, using technical-mechanical means, such that the majority of production is designated for the market. It can be transferred, used as collateral or mortgaged in accordance with civil law.
4. An *Agricultural Company* is a company belonging to natural or legal persons. The land is cultivated with supplemental capital. It uses salaried workers and modern technology. It can be transferred, used as collateral or mortgaged in accordance with civil law.
5. *Native Community Land* is geographic areas inhabited by indigenous and native peoples and communities, to which they have traditionally had access and where they maintain and develop their own economic, social and cultural processes, such that survival and development are ensured. They are inalienable, indivisible, irreversible, collective, composed of communities or commonwealths, and are unseizable and imprescriptible; and
6. Communal Properties are those with titles held collectively by farmer communities and former estates. They provide subsistence for the landowners. They are inalienable, indivisible, irreversible, collective, unseizable and imprescriptible (Art. 41-I Ley 1715).

Communal Native Land and Communal Properties are not involved in the cultivation of soy, and therefore the scope of this risk analysis includes only small, medium and large landowners and agricultural companies which represent the majority of the structure of soy production in the state of Santa Cruz.

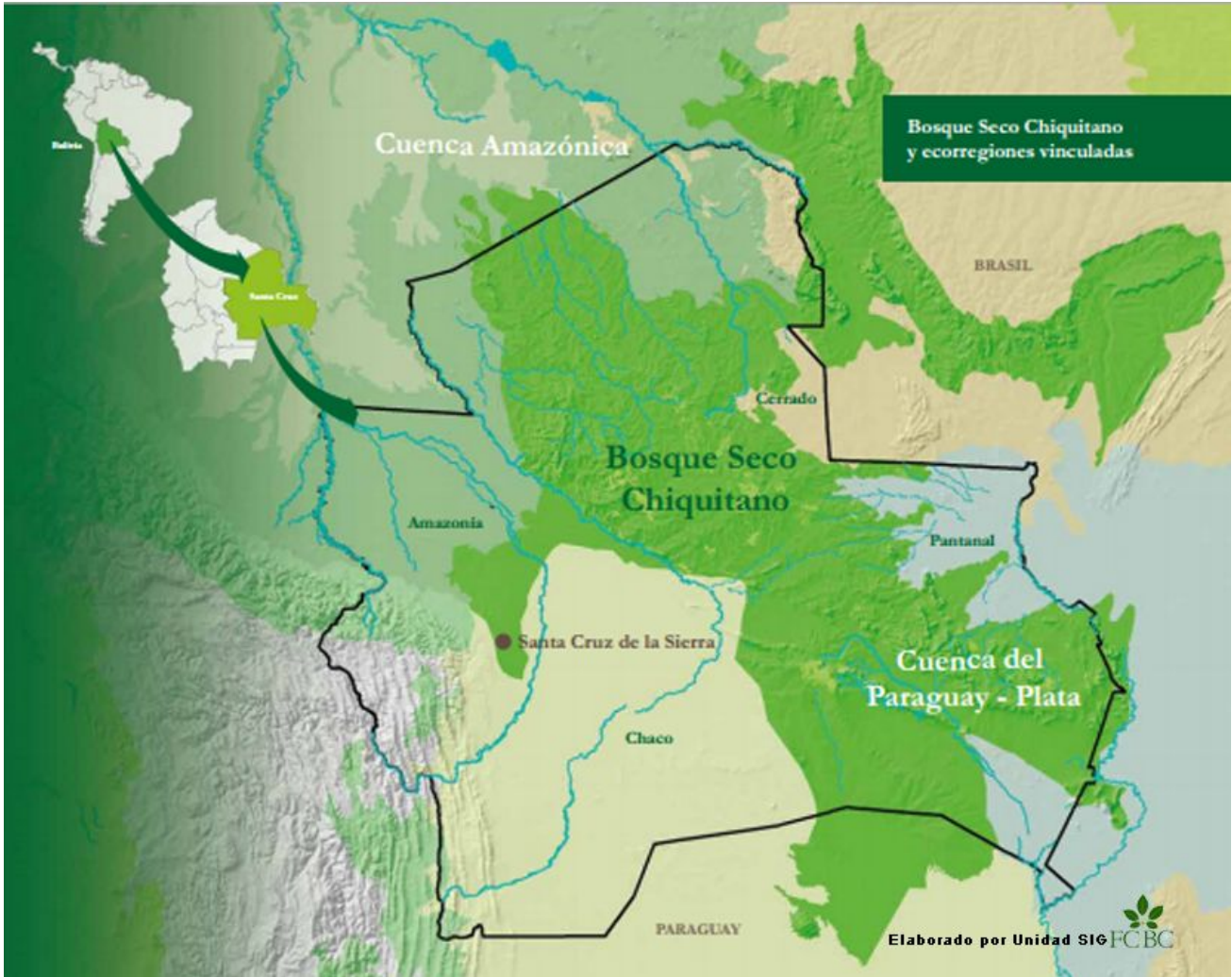
Read more: <http://www.monografias.com/trabajos104/propiedad-agraria-bolivia/propiedad-agraria-bolivia.shtml#ixzz4KdGIY0MN>

SOY SOURCE TYPES BOLIVIA			
Region and zone	Source type	Ownership and management regime	Description of source type
Santa Cruz - Integrated and expansion zone	Small producers	Privately owned and managed by the smallholder (families)	Soy from small family owned and managed mono-crop farms (up to 50 hectares), which are mainly managed for subsistence. Small producers have dependent supply chains. Small producers represent 84% of the total number soy producers and control roughly 24% of the soy crop area.
	Medium producers	Privately / commercially owned and managed	Soy from medium sized commercial mechanized mono-crop farms (50 to 500 hectares). Medium producers represent 13% of the producers and control 21% of the crop area. Farms are mechanized, and are linked to the supply chain via local traders or mills.
	Large producers	Privately owned and managed commercially via a professional administrator.	Soy from large company-owned commercial industrial plantations (over 500 hectares). Large producers make up only 3% of producers and occupy 56% of the area. Farms are professionally managed, usually via foreign capital.

Annex II: Maps

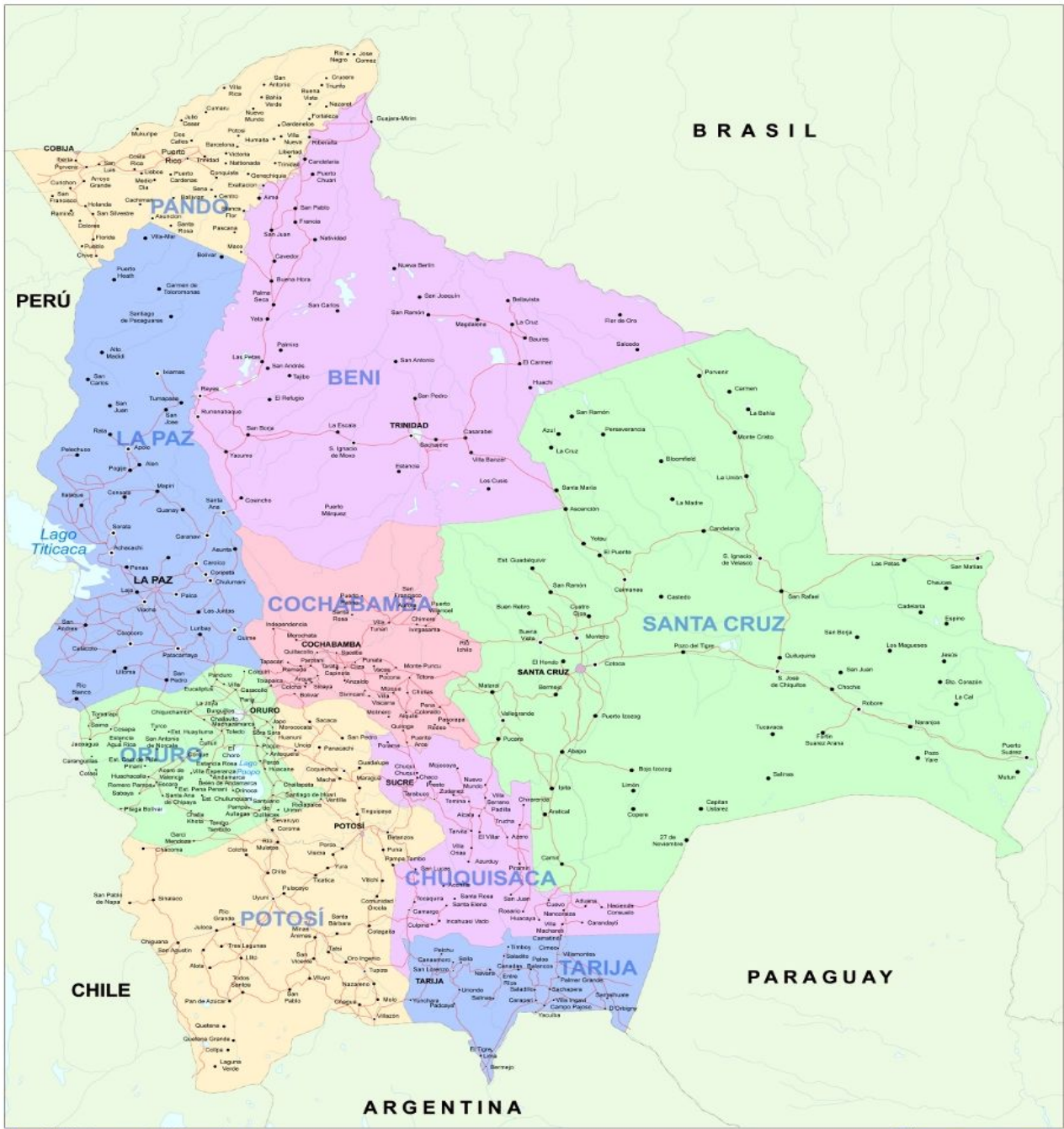


Map 1: Ecoregions in Bolivia (17)

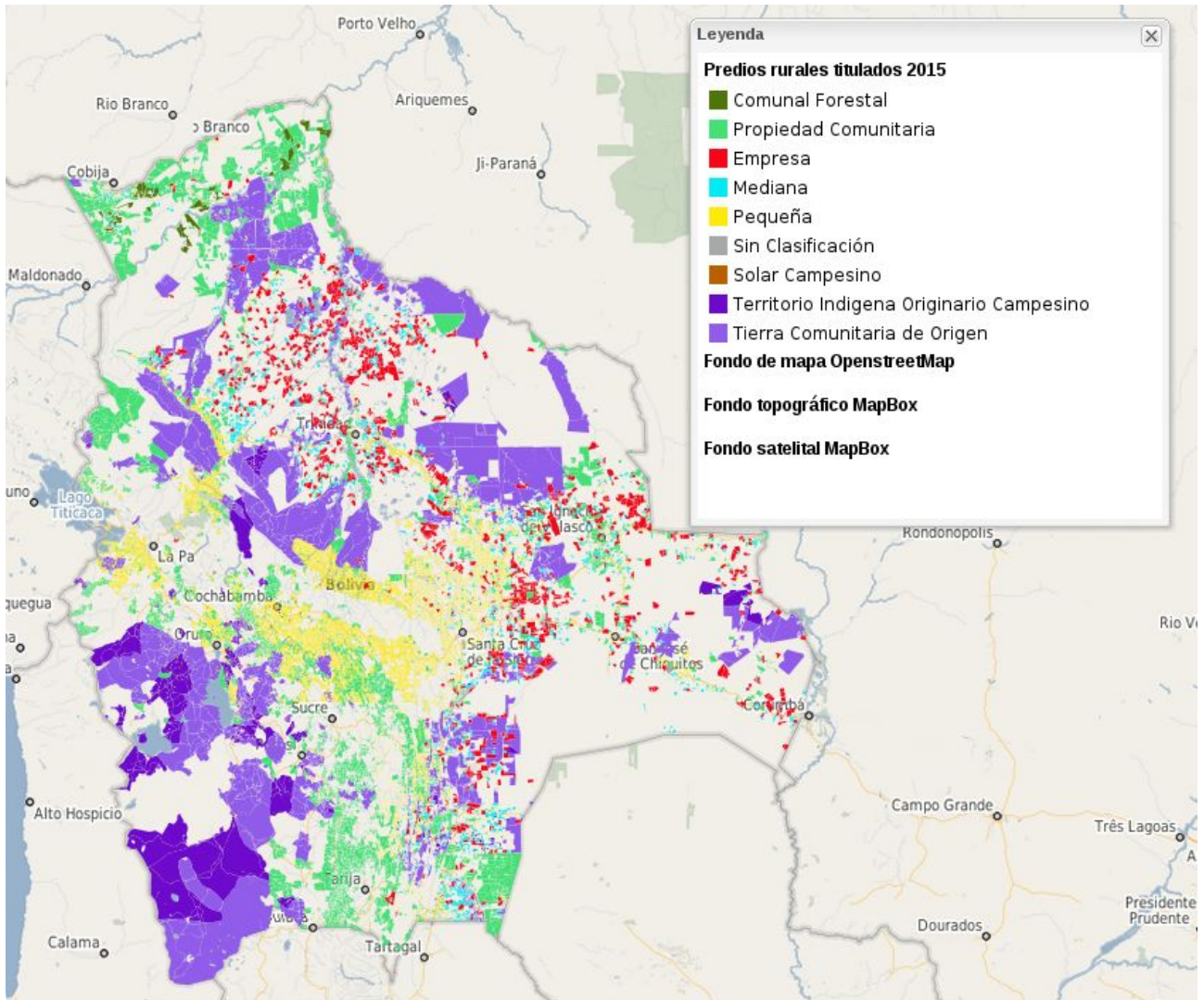


Map 2: Ecoregions in Santa Cruz (20)

MAPA DE BOLIVIA



Map 3: Bolivia State Subdivisions



Map 4: Geobolivia 2015 (14)



Map 5: State of Santa Cruz: The Integrated Zone (Green) and the Expansion Zone (Yellow) http://contenidosdigitales.ulp.edu.ar/exe/geo-politica/la_soja.html

About

Responsible Sourcing of Soy, Cattle and Palm Oil

Responsible Sourcing of Soy, Cattle and Palm Oil is a project aimed at creating awareness and capacity among Danish companies to minimise risks of social and environmental problems connected to sourcing palm oil, soy and cattle from developing countries. The project is run by NEPCon and SEGES and funded by DANIDA, Ministry of Foreign Affairs of Denmark.



NEPCon (Nature Economy and People Connected) is an international, non-profit organisation that builds commitment and capacity for mainstreaming sustainability. Together with our partners, we foster solutions for safeguarding our natural resources and protecting our climate.

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