Potential impacts on biodiversity

Industrial sites

2024 assessment

dexco

deca portinari Hydra duratex castelatto ceusa durafloor

Context

Dexco has industrial activities in many regions throughout Brazil and Colombia, by means of transformation processes of raw materials from natural sources (wood, clay, metals and minerals) into products (wood panels, sanitary ware, ceramic tiles and metal fittings). It also has processes that use materials from natural sources, but previously transformed (plastic and cement).

Its products are destined to further transformation (wood panels) or direct use by consumers as final products (sanitary ware, metal fittings, electric showers, ceramic tile and concrete tiles).

According to SICS (Sustainability Industry Classification System), Dexco is classified into the consumer goods and building materials and furnishings sectors.

The objective of this study is to identify potential direct impacts on biodiversity related to Dexco's industrial operations. The scope of this assessment covers Dexco's own industrial plants and does not evaluate dependencies, risks and opportunities.

Suppliers, clients, and OEM products marketed by Dexco are also outside the boundaries of this study.

Method

LEAP approach

It is a protocol aiming to guide organizations on identifying and assessing nature-related impacts, dependencies, risks and opportunities from their operations.

The LEAP approach (Locate, Evaluate, Assess, Prepare) was developed by the TNFD (Taskforce for nature-related financial disclosures) as a way to help organizations to follow its recommendations. Its first official version was published in 2023.

The protocol is divided in steps, which allow organizations to continuously improve their reports as they become more mature on the subject. This study covers steps L1 to E4 of LEAP protocol.

Locate	Evaluate	Assess	Prepare
L1. Span of the business model and value chain	E1. Identification of environmental assets, ecosystem services and impact drivers	A1. Risk and opportunity identification	P1. Strategy and resource allocation plans
L2. Dependency and impact screening	E2. Identification of dependencies and impacts	A2. Adjustment of existing risk mitigation and risk and opportunity management	P2. Target setting and performance management
L3: Interface with nature	E3. Dependency and impact measurement	A3. Risk and opportunity measurement and prioritization	P3. Reporting
L4: Interface with sensitive locations	E4. Impact materiality assessment	A4. Risk and opportunity materiality assessment	P4. Presentation

Products classification: SICS and ENCORE

Dexco's products were classified into sectors and industries according to SICS, as usual reporting practices (SASB follows the same classification).

Data available on the ENCORE platform was used for impact screening and assessment, which is a tool that helps organizations to explore their exposure to nature-related risks and to understand their dependencies and impacts on nature. This is one of the tools listed by TNDF as source of information. The classification system used by ENCORE differs from SICS, as shown on the table below.

Business *(in Portuguese)*	**Product**	**SICS**		**ENCORE**	
		Sector	**Industry**	**Sector – Sub-industry**	**Production process**
Painéis	Wood panels and flooring	Consumer goods	Building products and furnishings	Materials – Forest products	Production of forest and wood-based products
Metais	Metal fittings	Consumer goods	Building products and furnishings	Industrials – Building products	Building products production
Louças	Sanitary ware	Consumer goods	Building products and furnishings	Industrials – Building products	Building products production
Hydra	Electric showers	Consumer goods	Building products and furnishings	Consumer discretionary – Household appliances	Manufacture of machinery, parts and equipment
Castelatto	Concrete tiles	Consumer goods	Building products and furnishings	Industrials – Building products	Building products production
Revestimentos Cerâmicos	Ceramic tiles	Consumer goods	Building products and furnishings	Industrials – Building products	Building products production

Interface with nature

Sites location (production units)

Business unit	Site	State	City	Biome	IUCN-GET functional group	Area (hectares)
Painéis	Agudos	São Paulo	Agudos	Cerrado	T7.4 Urban and industrial ecosystems	42.64
	Itapetininga	São Paulo	Itapetininga	Cerrado	T7.4 Urban and industrial ecosystems	57.19
	Uberaba	Minas Gerais	Uberaba	Cerrado	T7.4 Urban and industrial ecosystems	35.71
	Taquari	Rio Grande do Sul	Taquari	Pampa	T7.4 Urban and industrial ecosystems	8.20
Metais	São Paulo	São Paulo	São Paulo	Mata Atlântica	T7.4 Urban and industrial ecosystems	4.17
	Jundiaí	São Paulo	Jundiaí	Mata Atlântica	T7.4 Urban and industrial ecosystems	13.25
	Jacareí	São Paulo	Jacareí	Mata Atlântica	T7.4 Urban and industrial ecosystems	2.00
Hydra	Aracaju	Sergipe	Aracaju	Mata Atlântica	T7.4 Urban and industrial ecosystems	2.38
Castelatto	Atibaia	São Paulo	Atibaia	Mata Atlântica	T7.4 Urban and industrial ecosystems	6.81
Louças	Jundiaí	São Paulo	Jundiaí	Mata Atlântica	T7.4 Urban and industrial ecosystems	25.73
	Recife	Pernambuco	Cabo de Santo Agostinho	Mata Atlântica	T7.4 Urban and industrial ecosystems	7.93
	Paraíba	Paraíba	João Pessoa	Mata Atlântica	T7.4 Urban and industrial ecosystems	6.10
Revestimentos	Criciúma (RC1)	Santa Catarina	Criciúma	Mata Atlântica	T7.4 Urban and industrial ecosystems	64.22
	Criciúma (RC 2)	Santa Catarina	Criciúma	Mata Atlântica	T7.4 Urban and industrial ecosystems	14.58
	Urussanga	Santa Catarina	Urussanga	Mata Atlântica	T7.4 Urban and industrial ecosystems	15.79
	Botucatu	São Paulo	Botucatu	Cerrado	T7.4 Urban and industrial ecosystems	79.84
					TOTAL	**386.54**

Interfaces with sensitive locations

Location sensitivity analysis

The assessment for identification of sensitive areas for biodiversity was conducted considering the geographical location of each productive unit site and its surroundings.

The sensitivity level is defined by overlapping the sites with publicly available biodiversity-related databases and satellite imagery. Each site was assessed through 18 databases and criteria. Examples include: perimeters of official protected areas, key biodiversity areas, intact forest landscapes, mangroves, endemic bird areas, water streams proximity and native vegetation fragments.

The assessment results are summarized on the table below. The complete relation of the criteria and detailed results are registered in a separated spreadsheet.

Sensitivity level for biodiversity – Locations of Dexco's industrial sites											
Painéis		**Hydra**		**Louças**		**Metais**		**Rev. Cerâmicos**		**Castelatto**	
Agudos	Low	Aracaju	Low	Recife	Medium	Jundiaí	Low	Criciúma 1	Low	Atibaia	Medium
Itapetininga	Low			Paraíba	Low	Jacareí	Low	Criciúma 2	Low		
Taquari	Low			Jundiaí	Low	São Paulo	Very low	Urussanga	Low		
Uberaba	Very low			Queimados	Low			Botucatu	Low		

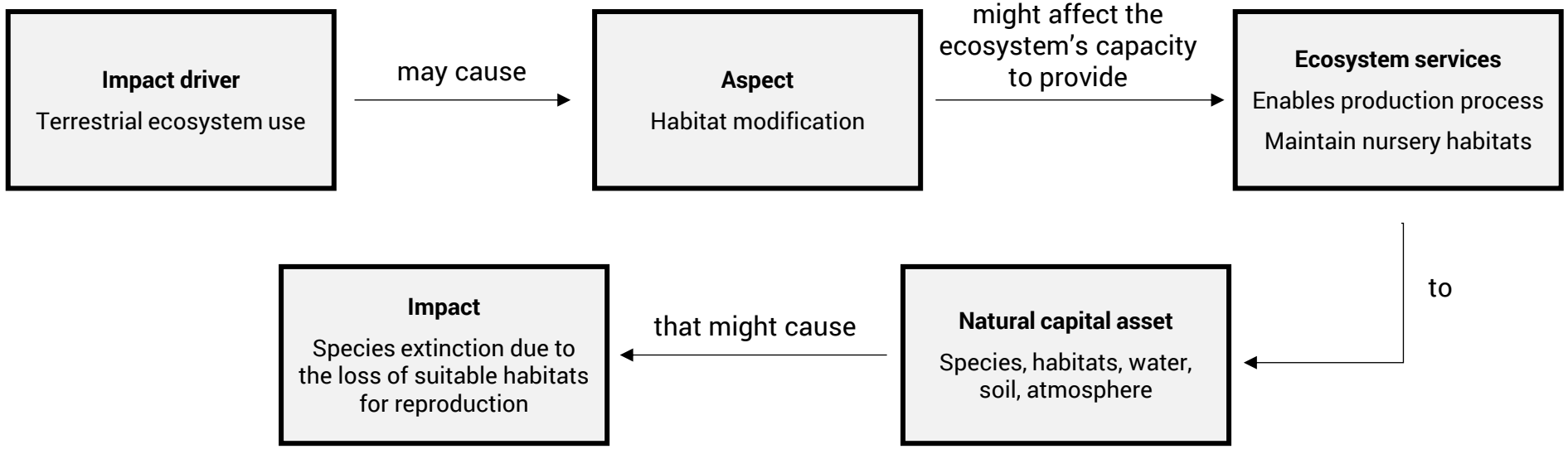
Impact identification and screening

Materiality of impact drivers for sectors and processes

The ENCORE platform materiality analysis of impact drivers was used to get a relation of possible impacts from the industrial operations of each sector. Due to their close correlation to biodiversity, only impacts to the Species and Habitats natural capital assets categories were assessed.

The impact drivers are activities that might be held by an organization and could have the potential to generate environmental aspects and impacts. The environmental aspects describe changes on the natural capital asset caused by the driver, while the impacts describe the way the aspect affects the natural capital asset's capacity to provide an ecosystem service.

In this assessment, only drivers with medium or higher materiality levels for each sector were considered.



Impact measurement and materiality assessment

Impact classification

The material impacts were identified through the assessment of each impact and its driver characteristics and severity and if Dexco's activities could directly cause them or only indirectly.

Each of the seven criteria was given a score from 0 to 3. If the math product of all scores is 12 or higher, the impact is considered material. Material impacts can be direct or indirect.

When the impact driver is classified as "not occurring", the assessment ends and the impact is considered immaterial (score 0).

The assessments of every criterion to each impact and the detailed results are registered in a separate spreadsheet. Also, this database lists the natural capital assets possibly affected, the ecosystem services involved and the drivers for each assessed impact.

Impacts identified	Madeira	Metais	Louças	Revestimentos cerâmicos	Hydra	Castelatto
Material direct	6	9	9	9	9	9
Material indirect	38	75	75	75	75	75
Immaterial	338	473	473	473	562	473
Total	**382**	**557**	**557**	**557**	**646**	**557**

Identification of impacts

Direct material impacts – Madeira (wood panels)

Driver	Aspect	Impact	Natural capital assets impacted	Ecosystem services affected
Water pollutants	Pollution	Excess nutrient loads and sunlight cause imbalances in micro algae concentrations. Harmful toxins produced by the bloom kill beneficial cyanobacteria.	Species Habitats	Direct physical input *Fibers and other materials*
		Habitat loss due to overfertilization and toxics contamination	Species Habitats	Enables production process *Maintenance of nursery habitats*
		Increases in nutrients, sediments and changes in chemical composition of freshwater bodies, decreased species survival.	Species	Enables production process *Water quality*

Identification of impacts

Direct material impacts – Metais (metal fittings)

Driver	Aspect	Impact	Natural capital assets impacted	Ecosystem services affected
Water pollutants	Pollution	Habitat loss due to overfertilization and toxics contamination	Species Habitats	Enables production process *Maintenance of nursery habitats*
		Increases in nutrients, sediments and changes in chemical composition of freshwater bodies, decreased species survival.	Species	Enables production process *Water quality*
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Species Habitats	Enables production process *Soil quality*
Solid waste	Pollution	Habitat loss due to overfertilization and toxics contamination	Species Habitats	Enables production process *Maintenance of nursery habitats*
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Species Habitats	Enables production process *Soil quality*

Identification of impacts

Direct material impacts – Louças (sanitary ware)

Driver	Aspect	Impact	Natural capital assets impacted	Ecosystem services affected
Water pollutants	Pollution	Habitat loss due to overfertilization and toxics contamination	Species Habitats	Enables production process *Maintenance of nursery habitats*
		Increases in nutrients, sediments and changes in chemical composition of freshwater bodies, decreased species survival.	Species	Enables production process *Water quality*
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Species Habitats	Enables production process *Soil quality*
Solid waste	Pollution	Habitat loss due to overfertilization and toxics contamination	Species Habitats	Enables production process *Maintenance of nursery habitats*
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Species Habitats	Enables production process *Soil quality*

Identification of impacts

Direct material impacts– Revestimentos cerâmicos (ceramic tiles)

Driver	Aspect	Impact	Natural capital assets impacted	Ecosystem services affected
Water pollutants	Pollution	Habitat loss due to overfertilization and toxics contamination	Species Habitats	Enables production process *Maintenance of nursery habitats*
		Increases in nutrients, sediments and changes in chemical composition of freshwater bodies, decreased species survival.	Species	Enables production process *Water quality*
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Species Habitats	Enables production process *Soil quality*
Solid waste	Pollution	Habitat loss due to overfertilization and toxics contamination	Species Habitats	Enables production process *Maintenance of nursery habitats*
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Species Habitats	Enables production process *Soil quality*

Identification of impacts

Direct material impacts – Castelatto (concrete tiles)

Driver	Aspect	Impact	Natural capital assets impacted	Ecosystem services affected
Water pollutants	Pollution	Habitat loss due to overfertilization and toxics contamination	Species Habitats	Enables production process *Maintenance of nursery habitats*
		Increases in nutrients, sediments and changes in chemical composition of freshwater bodies, decreased species survival.	Species	Enables production process *Water quality*
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Species Habitats	Enables production process *Soil quality*
Solid waste	Pollution	Habitat loss due to overfertilization and toxics contamination	Species Habitats	Enables production process *Maintenance of nursery habitats*
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Species Habitats	Enables production process *Soil quality*

Identification of impacts

Direct material impacts – Hydra (electric showers)

Driver	Aspect	Impact	Natural capital assets impacted	Ecosystem services affected
Water pollutants	Pollution	Habitat loss due to overfertilization and toxics contamination	Species Habitats	Enables production process *Maintenance of nursery habitats*
		Increases in nutrients, sediments and changes in chemical composition of freshwater bodies, decreased species survival.	Species	Enables production process *Water quality*
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Species Habitats	Enables production process *Soil quality*
Solid waste	Pollution	Habitat loss due to overfertilization and toxics contamination	Species Habitats	Enables production process *Maintenance of nursery habitats*
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Species Habitats	Enables production process *Soil quality*

Interface with sensitive areas

Impact management on sites with higher sensitivity levels

Due to their location in areas with higher sensitivity levels, the direct material impacts applicable to the Louças Recife and Castelatto Atibaia sites were assessed once more, aiming to identify management practices for these impacts and to classify them according to the mitigation hierarchy (avoid, minimize, restore, offset).

The existing actions for managing those impacts on these sites are adequate to avoid their occurrence or minimize their impacts.

Interface with sensitive areas

Impact management on sites with higher sensitivity levels – Louças Recife

Driver	Aspect	Impact	Impact management	Mitigation approach
Water pollutants	Pollution	Habitat loss due to overfertilization and toxics contamination	Wastewater treated before its discharge on water streams or to external treatment.	Avoid
		Increases in nutrients, sediments and changes in chemical composition of freshwater bodies, decreased species survival.	Maintenance and cleaning of rainwater drainage systems. Cleaning of industrial area. Containment barriers.	Minimize
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Compliance to legal quality standards for wastewater discharge, as set by environmental agencies.	Avoid
Solid waste	Pollution	Habitat loss due to overfertilization and toxics contamination	Maintenance and cleaning of rainwater drainage systems. Cleaning of industrial area. Containment barriers.	Minimize
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Compliance to legal quality standards for wastewater discharge, as set by environmental agencies.	Avoid

Interface with sensitive areas

Impact management on sites with higher sensitivity levels – Castelatto Atibaia

Driver	Aspect	Impact	Impact management	Mitigation approach
Water pollutants	Pollution	Habitat loss due to overfertilization and toxics contamination	Wastewater treated before its discharge on water streams or to external treatment.	Avoid
		Increases in nutrients, sediments and changes in chemical composition of freshwater bodies, decreased species survival.	Maintenance and cleaning of rainwater drainage systems. Cleaning of industrial area. Containment barriers.	Minimize
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Compliance to legal quality standards for wastewater discharge, as set by environmental agencies.	Avoid
Solid waste	Pollution	Habitat loss due to overfertilization and toxics contamination	Maintenance and cleaning of rainwater drainage systems. Cleaning of industrial area. Containment barriers.	Minimize
		Microbiota are sensitive to metal pollution. Toxicity of heavy metals displaces exchangeable nutrients from binding sites.	Compliance to legal quality standards for wastewater discharge, as set by environmental agencies.	Avoid

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