Biodiversity Analysis – Short report

Location: Demo-Standort Pfaueninsel (52.438217 / 13.131724)

Object type: Immobilie (IMCL02)

Environmental Factors

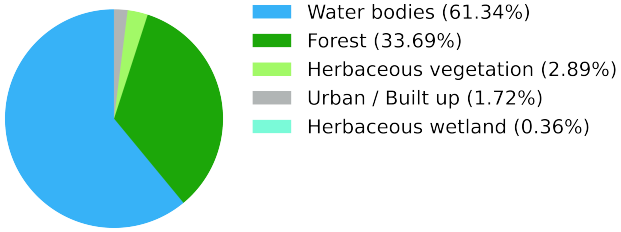
Environmental parameter	Value	Classification[1]
Drought	3.2	Drought index (0-10)
Soil erosion	0.2 Mg/ha/Year	Soil erosion rate (0 - 50)
Water availability	159.1 mm/Year	Water availability (0 - 1000)

Biodiversity conservation areas

Conservation area type	Number of surrounding conservation areas			
	Within	**< 0.5 km**	**0.5 - 1.0 km**	**1.0 - 2.5 km**
Nature Reserve	1	0	0	0
Biosphere Reserve	0	0	0	0
Natura 2000 Areas	2	0	0	0
National Parks	0	0	0	0
Wetlands	0	0	0	0
Drylands	0	0	0	0
Landscape conservation areas	0	0	3	0

Land use

Land use pattern[2] (%)



Impervious surfaces

1.72 % impervious surface within a radius of 1 km

Species Richness

Critically endangered					
–	–	–	–	–	–
Endangered					
Vertigo moulinsiana (Invertebrates)	Lucanus cervus (Invertebrates)	Cerambyx cerdo (Invertebrates)	Lutra lutra (Mammals)	Osmoderma eremita (Invertebrates)	–
Not critically endangered					
Helix pomatia (Invertebrates)	Leucorrhinia pectoralis (Invertebrates)	Aspius aspius (Fish)	Misgurnus fossilis (Fish)	Triturus cristatus (Amphibians)	+ 35

Influence

Influence of the object under investigation

Office and multi-storey buildings (3–7 stories) generally have a **high** impact on biodiversity. This assessment is based on general assumptions regarding building footprint, degree of land sealing, and environmental impacts associated with usage.

Glossary

Biodiversity parameter	Definition
Drought	Drought is defined as an exceptional period of water scarcity caused by low precipitation, high temperatures, and/or wind. This analysis uses a drought stress index defined by KA to examine the impact of drought. This index includes precipitation-related parameters, such as annual precipitation, the duration of a drought, and the mean annual maximum temperature. The index values range from 0 to 10, with 0 representing no stress and 10 representing extreme and frequently recurring stress.
Soil erosion	Soil erosion refers to the excessive loss of soil material through water, wind, or human intervention. Soil functions such as soil fertility or storage capacity can decrease due to erosion until the entire soil substance is destroyed. Soil erosion is commonly induced through water, with heavy rainfall being the main cause. Anthropogenic influences, such as deforestation and agricultural tillage, can also contribute to soil erosion.
Water availability	Water availability is defined as the difference between annual precipitation and effective evaporation (evapotranspiration). The impact of human activities on water availability, such as the intensive extraction of groundwater for industrial and agricultural purposes, is not considered.
Nature Reserve	As defined in § 23 of the Federal Nature Conservation Act (BNatSchG), nature reserves are legally designated areas established for the special protection of nature and landscapes. Interventions such as destruction or alteration are prohibited in these areas, and only uses compatible with the protection objectives are permitted.[3]
Biosphere Reserve	According to § 25(1) of the BNatSchG, biosphere reserves are large areas that primarily meet the criteria for nature or landscape conservation areas. These areas are intended to preserve, develop, or restore diverse landscapes and test sustainable economic practices.[3]
Natura 2000 Areas	Natura 2000 is a Europe-wide network of protected areas based on the Flora-Fauna-Habitat (FFH) and Birds Directives, which serves to preserve biological diversity. FFH areas protect particularly valuable habitats and species through targeted measures and management plans, while bird sanctuaries serve to protect endangered and migratory bird species.
National Parks	According to § 24 of the BNatSchG, national parks are large, unspoiled landscapes of national importance where nature develops without human intervention and which serve to protect species richness.[3]
Wetlands	Wetlands are water-dominated habitats, such as moors, floodplains, and swamps, which are characterized by periodic or permanent waterlogging. These habitats are home to a high level of biodiversity, including numerous specialized and endangered species. Wetlands also fulfill important ecological functions, such as water retention, nutrient filtration, and carbon storage and are therefore particularly worthy of protection.[3]
Drylands	Drylands are important habitats characterized by low precipitation, high solar radiation, and extreme temperatures. These regions are home to highly specialized, mostly endangered species, that are closely linked to the extreme conditions of these regions. Because of their ecological uniqueness and high sensitivity to disturbances, these regions are considered particularly worthy of protection.[3]
Landscape conservation areas	Landscape conservation areas are legally designated areas in accordance with § 26(1) of the BNatSchG. These areas require special protection due to their ecological, cultural, aesthetic, and recreational significance. Actions that alter the area's overall character, such as construction, are prohibited.[3]
Land use pattern	Land use in the area surrounding the study site is analyzed using ESA WorldCover data. The evaluation was conducted within a 1 km radius of the site. The land use classes are presented as percentages to assess the site's landscape ecology.
Impervious surfaces	Sealing soil through development destroys natural habitats and leads to significant biodiversity loss. This disrupts the ecological balance and diminishes nature's capacity to carry out vital functions, such as carbon storage and water regulation. The figure shows the percentage of the area within a 1 km radius of the site that has been sealed.
Species Richness	Species occurring at the site according to the Flora-Fauna-Habitat Directive (Habitats Directive (92/43/EEC)), categorised according to the European Red List's threat classification as "not critically endangered", "endangered" and "critically endangered".

Sources

Borelli, P., Robinson, D.A., Panagos, P., Lugato, E., Yang, J.E., Alewell, C., Wuepper, D., Montanarella, L., Ballabio, C., 2020. Land use and climate change impacts on global soil erosion by water (2015-2070), PNAS Vol. 117 (36), 21994-22001. doi:10.1073/pnas.2001403117 The data was provided under the Creative Commons Attribution 4.0 International Licence. Further licence information at: https://creativecommons.org/licenses/by/4.0/

Bundesamt für Naturschutz (BfN) (2025): Biotopverbund Feuchtlebensräume (WFS); Biotopverbund Trockenlebensräume (WFS); Schutzgebiete (WFS). Bonn: BfN. Available at: https://geodienste.bfn.de/. License: Terms of use for the provision of federal geodata, available at: https://sg.geodatenzentrum.de/web_public/gdz/lizenz/geonutzv.pdf

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European Environment Agency (EEA) (2020): Conservation status of habitat types and species: datasets from Article 17, Habitats Directive 92/43/EEC reporting (2013–2018). Available at: https://sdi.eea.europa.eu/data/.[4]

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[1] *The colour scales are for illustrative purposes only and do not indicate the degree of pressure on biodiversity.*
[2] *Very small percentages are not shown in the diagram for illustrative reasons, but are instead noted in the legend.*
[3] *Only data for Germany was used here.*
[4] *License: EEA Standard Re-use Policy, available at: https://www.eea.europa.eu/legal/copyright*

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Imprint

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