

Appendix 5

Protected areas that can be significantly affected by investments under the PL - RU Cross-Border Cooperation Programme 2014-2020.

Symbols: **PLB (SPA)** - Special Protection Areas, **PLH (SAC)** – Special Areas of Conservation

Code	Type of investment	Main elements of the environment on which the project can have a negative impact	Identification of the protected areas, including Natura 2000 sites	Potential threats ¹	Remedial, minimisation and compensatory measures ²
2.3.a	Development of water management infrastructure, waste management, air protection, etc. a) water and wastewater management	Nature, humans, marine waters	Since the Programme does not include specific investments and their locations, in case of proposing specific projects, it is recommended to use map of protected areas from subsection 5.2.1 to determine project impact.	<ul style="list-style-type: none"> - potential physical occupation of the natural habitats area for the purpose of the planned infrastructure facilities - removal of forest trees and bushes, - the negative impact on wetland ecosystems and relating species of amphibians as a result of lowering groundwater level in the construction phase 	<ul style="list-style-type: none"> - reduction of construction works and soil transformation to a necessary minimum, - removal of the soil layer for the protection against pollution and its re-use, - construction work performance in a manner ensuring water protection, - implementation of a monitoring system for the completed sewerage network, - reducing tree and bush removal to a minimum, - ensuring protection of trees from damage during the construction works (e.g. shielding tree trunks in the immediate vicinity of earthworks, manual groundworks within the root system), - carrying out works relating to tree removal outside the breeding season, - preservation of valuable natural habitats in the form of isolation green.

¹For projects of unknown location in the Programme, the given potential threats are exemplary, and their detailed scope will be analysed in each case on the basis of specific projects. They were based on own analyses and the Standard Data Form of the GDEP. For DPI with known location, the authors also tried to use available sources relating to a specific area of protection.

²The given remedial, minimisation and compensation measures are exemplary, and should be specified the stage of design solutions for specific projects.

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2.3.b	Development of water management infrastructure, waste management, air protection, etc. b) waste management	Nature, humans, water, air, climate	Since the Programme does not include specific investments and their locations, in case of proposing specific projects, it is recommended to use map of protected areas from subsection 5.2.1 to determine project impact.	<ul style="list-style-type: none"> - potential physical occupation of the natural habitats area for the purpose of the planned infrastructure facilities - removal of forest trees and bushes, - air (odours) and water pollution 	<ul style="list-style-type: none"> - reduction of construction works and soil transformation to a necessary minimum, - removal of the soil layer for the protection against pollution and its re-use, - implementation of solutions to protect waters against pollution, both in normal operation and in case of emergency (protection against penetration of contaminants into the water), - preservation of valuable natural habitats in the form of isolation green.
2.8.a	Joint projects supporting energy saving, and the use of renewable energy sources. a) wind power.	Nature, birds, humans, climate	Since the Programme does not include specific investments and their locations, in case of proposing specific projects, it is recommended to use map of protected areas from subsection 5.2.1 to determine project impact.	<ul style="list-style-type: none"> - possibility of location in migration corridors for birds and bats, - low noise pollution. 	<ul style="list-style-type: none"> - localisation of wind farms should not intersect migration corridors for birds and bats, particularly near the protected areas (e.g. Natura 2000), - Location conditions must take into account type, size and number of turbines to minimise their negative impact on the environment, - adjusting windmills' colouring to the landscape, and avoiding locations that could obscure culture heritage objects of a local spatial dominant nature, - reduction of construction works and soil transformation to a necessary minimum,

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2.8.b	Joint projects supporting energy saving, and the use of renewable energy sources. b) biomass energy.	Air, humans, climate, soil	Since the Programme does not include specific investments and their locations, in case of proposing specific projects, it is recommended to use map of protected areas from subsection 5.2.1 to determine project impact.	<ul style="list-style-type: none"> - emissions of air pollutants, - in the case of energy plantations there is a threat of alien invasive species and land taking 	<ul style="list-style-type: none"> - promoting use of non-conflicting types, i.e.: waste biomass, landfill biogas and sewage treatment plants and, - because of the large emission of dust and benzo(a)pyrene from biomass combustion, the biomass use should be recommended primarily in high-power boilers or power plants (CHP) where the combustion process takes place at high temperatures and there is a possibility of high-performance waste gas dedusting, - preferred biomass from mowing of meadows and reeds, - avoiding location of large-scale energy plantations in areas of great natural value, especially in the protected areas - selection of plants for energy crops, that will take into account the prohibition of alien, invasive, genetically modified species, - reduction of construction works and soil transformation to a necessary minimum, and removal of the soil layer for the protection against pollution and its re-use,

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2.8.c	Joint projects supporting energy saving, and the use of renewable energy sources. c) geothermal energy.	Water, soil, humans, climate,	Since the Programme does not include specific investments and their locations, in case of proposing specific projects, it is recommended to use map of protected areas from subsection 5.2.1 to determine project impact.	<ul style="list-style-type: none"> - disruption of the aquatic environment, - the possibility of lowering groundwater level - the possibility of surface water pollution 	<ul style="list-style-type: none"> - reduction of construction works and soil transformation to a necessary minimum, and removal of the soil layer for the protection against pollution and its re-use, - performing construction works in a manner minimising threat to groundwater and surface water, - during exploitation, due to the dynamic nature of changes occurring at the water injection and collection, monitoring of groundwater and surface water is needed.

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2.8.d	Joint projects supporting energy saving, and the use of renewable energy sources. d) hydropower.	Water, climate, nature,	Since the Programme does not include specific investments and their locations, in case of proposing specific projects, it is recommended to use map of protected areas from subsection 5.2.1 to determine project impact.	<ul style="list-style-type: none"> - change of the aquatic environment, - the barriers to fish migration, - possibility of accumulation of pollutants in water reservoirs 	<ul style="list-style-type: none"> - reduction of construction works and soil transformation to a necessary minimum, - in the case of works on watercourses - perform them at a time when their impact on aquatic organisms is minimal (exact date depends on the location and type of the watercourse), - in the case of damming objects - consider the rationality of constructing passes, however, of such a type that is appropriate to the needs of aquatic organisms, - Consider construction of side reservoirs instead of partitioning the entire river bed, - for water reservoirs it is important to limit runoff of nutrients from the catchment area - necessary restrictive compliance with the prohibition of discharging poorly treated wastewater into the water of the reservoir catchment, - in general, a solution should be chosen, that involves smaller environmental impact than construction of new damming facilities (especially in wetlands and forests), - projects associated with enlargement of small retention can be valuable.

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5.4	Construction of a sewage treatment plant or a sewage system in the town of Gusev	Nature, humans, marine waters	n/a	<ul style="list-style-type: none"> - threats to urban greenery and the city's surroundings, - lowering of water level, - water pollution 	<ul style="list-style-type: none"> - reduction of construction works and soil transformation to a necessary minimum, - removal of the soil layer for the protection against pollution and its re-use, - construction work performance in a manner ensuring water protection, - implementation of a monitoring system for the completed sewerage network, - reducing tree and bush removal to a minimum, - ensuring protection of trees from damage during the construction works (e.g. shielding tree trunks in the immediate vicinity of earthworks, manual groundworks within the root system), - carrying out works relating to tree removal outside the breeding season, - preservation of valuable natural habitats in the form of isolation green

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5.5	Construction of a sewage treatment plant or a sewage system in the town of Tolkmicko	Nature, humans, marine waters	The Elbląg Upland Landscape Park, SPA Vistula Lagoon (PLB280010), SAC Vistula Lagoon and Vistula Spit (PLH280007)	<p>- water pollution, - lowering of water level, - threat to urban greenery.</p> <p>Threats and pressures in the area of the Vistula Lagoon SPA were defined as medium and low acc. to data and sources of SDF card. The object of protection is bird sanctuary of European rank E 14. There are at least 27 species of birds listed in Annex I of the Birds Directive, at least 9 species from the Polish Red Book (PRB).</p> <p>Threats and pressures within the SAC Vistula Lagoon and Spit defined acc. to SDF card data as high include measures in the area of transport, mining, forestry and tourism. No high threats identified in the E area (urbanisation). 18 habitats and 13 species of Annexes I and II of Directive 92/43/EEC were found to be present</p> <p>7</p>	<p>- reduction of construction works and soil transformation to a necessary minimum, - removal of the soil layer for the protection against pollution and its re-use, - construction work performance in a manner ensuring water protection, - implementation of a monitoring system for the completed sewerage network, - reducing tree and bush removal to a minimum, - ensuring protection of trees from damage during the construction works (e.g. shielding tree trunks in the immediate vicinity of earthworks, manual groundworks within the root system), - carrying out works relating to tree removal outside the breeding season, - preservation of valuable natural habitats in the form of isolation greenery</p> <p>Additional data sources: Zalewski W., Narwojsz A. 2001. The state of and threats to the environment, a review of selected issues. In: Gerstmannowa E. (ed.). 'Vistula Spit' Landscape Park. Materials for a monograph of the environment of Gdańsk region. Ed. Gdańskie, Gdańsk. 7 Gerstmannowa E. et al. 1987. Natural problem study to the spatial development plan of the Vistula Spit. IEP Division Gdańsk, Gdańsk. Msc. Gerstmannowa E. et al. 1998. Vistula Spit Landscape Park Protection Plan Institute of Env. Protection, Division Gdańsk, Gdynia. Gromadzki M., Błaszczowska B., Chylarecki P., Gromadzka J., Sikora A., Wieloch M., Wójcik B. 2002. Bird refugia network in Poland Implementation of EU Directive on the conservation of wild birds. OTOP, Gdańsk. Gromadzki M., Dyrz A., Głowaciński Z., Wieloch M. 1994. Bird refugia in Poland OTOP, Environmental Monitoring Library, Gdańsk</p>

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5.7	Reconstruction of provincial road 512	Nature, fauna, humans, air	<p>protected landscape area of the Walsza River, SPA Ostoja Warmińska (Warmia Refugium) (PLB280015), protected landscape area of the Elma Valley,</p> <p>In Bartoszyce road runs near the protected landscape area of the Lower Łyna Valley</p>	<p>- removal of trees, - transformation of land, - pollution from the road, - dewatering and drainage.</p> <p>Threats and pressures in the area of Ostoja Warmińska (Warmia Refugium) acc. to data and sources of SDF card are high for measures in the area: agriculture, forestry ,. The subject of the main conservation is the white stork, moreover, there are 93 species of birds, 38 species listed in Annex I of the Birds Directive, 15 species from the Polish Red Book of Animals.</p>	<p>- reduction of construction works and soil transformation to a necessary minimum, - economical use of rock raw materials and construction materials at the stage of construction, - works should be performed in a manner ensuring water protection, - considerable attention should be paid to rainwater management. In addition to rainwater treatment, the possibility of its storage should be taken into account in order to reduce surface runoff. It is important to consider not only a specific area, but the area located lower in the basin.</p> <p>- reduce the removal of trees to a minimum - adjust the timing of work to white storks breeding season</p> <p>Additional data sources: Cenian Z., Sikora A. 1995. Distribution, abundance and efficiency of white stork (<i>Ciconia ciconia</i>) breeding in the northern regions of Warmia in 1994. 51.6: 39-56. Gromadzki M., Błaszowska B., Chylarecki P., Gromadzka J., Sikora A., Wieloch M., Wójcik B. 2002. Bird refugia network in Poland. Implementation of EU Directive on the conservation of wild birds. OTOP, Gdańsk.</p>

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5.8	Reconstruction of national road 65, section Kowale Oleckie - Olecko	Nature, fauna, humans, air	protected landscape area of Olecko lakes	<ul style="list-style-type: none"> - removal of trees - transformation of land, - pollution from the road, - dewatering and drainage no threats and pressures determined for the area. Due to the nature of the area, mainly birds are under protection	<ul style="list-style-type: none"> - reduction of construction works and soil transformation to a necessary minimum, - economical use of rock raw materials and construction materials at the stage of construction, - works should be performed in a manner ensuring water protection, - considerable attention should be paid to rainwater management. In addition to rainwater treatment, the possibility of its storage should be taken into account in order to reduce surface runoff. It is important to consider not only a specific area, but the area located lower in the basin.
5.9	Bypass of Filipów (provincial road 652)	Nature, fauna, humans, air	SAC Upper Rospuda Valley (PLH200022), protected landscape area of the Rospuda Valley	<ul style="list-style-type: none"> - removal of trees - transformation of land, - pollution from the road, - dewatering and drainage Threats and pressures in the area of the Upper Rospuda Valley were classified as medium and low acc. to data and sources of SDF card. High threats were identified only in the area of agricultural measures. Natural value is highest for aquatic habitats, non-forest peat bogs, including soligenous, forests and swamp forests and xerothermic grasslands.	<ul style="list-style-type: none"> - reduction of construction works and soil transformation to a necessary minimum, - economical use of rock raw materials and construction materials at the stage of construction, - works should be performed in a manner ensuring water protection, - considerable attention should be paid to rainwater management. In addition to rainwater treatment, the possibility of its storage should be taken into account in order to reduce surface runoff. It is important to consider not only a specific area, but the area located lower in the basin. Additional sources of details: Danowski J. et al. 2003 Environmental Programme for Suwałki Poviát 2004-2012 Suwałki Poviát Management Board

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5.10	Reconstruction of Buczka street in the city of Suwałki	Nature, fauna, humans, air	n/a	<ul style="list-style-type: none"> - threat to urban greenery and the suburban areas - removal of trees - transformation of land, - pollution from the road, - dewatering and drainage 	<ul style="list-style-type: none"> - reduction of construction works and soil transformation to a necessary minimum, - economical use of rock raw materials and construction materials at the stage of construction, - works should be performed in a manner ensuring water protection, - considerable attention should be paid to rainwater management. In addition to rainwater treatment, the possibility of its storage should be taken into account in order to reduce surface runoff. It is important to consider not only a specific area, but the area located lower in the basin.

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5.11	BALTCON improvement of road connections at the mouth of the Vistula River	Nature, fauna, humans, air	The Vistula Spit Landscape Park, Vistula Lagoon and Vistula Spit (PLH280007)	<ul style="list-style-type: none"> - removal of trees - transformation of land, - pollution from the road, - dewatering and drainage, - improved access to the area – increased pressure of tourism. <p>Threats and pressures within the SAC Vistula Lagoon and Spit defined acc. to SDF card data as high include measures in the area of transport, mining, forestry and tourism. No high threats identified in the E area (urbanisation). 18 habitats and 13 species of Annexes I and II of Directive 92/43/EEC were found to be present</p>	<ul style="list-style-type: none"> - reduction of construction works and soil transformation to a necessary minimum, - economical use of rock raw materials and construction materials at the stage of construction, - works should be performed in a manner ensuring water protection, - considerable attention should be paid to rainwater management. In addition to rainwater treatment, the possibility of its storage should be taken into account in order to reduce surface runoff. It is important to consider not only a specific area, but the area located lower in the basin. <p>Additional details: Gerstmannowa E. et al. 1987. Natural problem study to the spatial development plan of the Vistula Spit. IEP Division Gdańsk, Gdańsk. Msc. Gerstmannowa E. et al. 1998. Vistula Spit Landscape Park Protection Plan Institute of Env. Protection, Division Gdańsk, Gdynia. Gromadzki M., Błaszowska B., Chylarecki P., Gromadzka J., Sikora A., Wieloch M., Wójcik</p>