

5. Nature and Biodiversity

Refer to Section 2.5 of the Guidance Note

5A. Present Situation

Indicator	Number	Total Area (ha)	Year of Data Provided
Number and total area of Natura 2000 sites that are located in the city or nearby (i.e. within 10 km)	5	14.5686 km ² * (SCI 10,6467 km ² , SPA 12.4824 km ²)	2017
Number and total area of designated sites of national biodiversity importance within the city (habitat/species management areas)	3	913.53 ha (of which: 828 ha of PLA Poodri within city boundaries)	2017
Number and total area of designated sites of local (city) biodiversity importance within the city (habitat/species management areas)	8	569.78 ha	2017
Date and time horizon of your city's Biodiversity Action Plan	**		

*SCI and SPA partially overlap one another

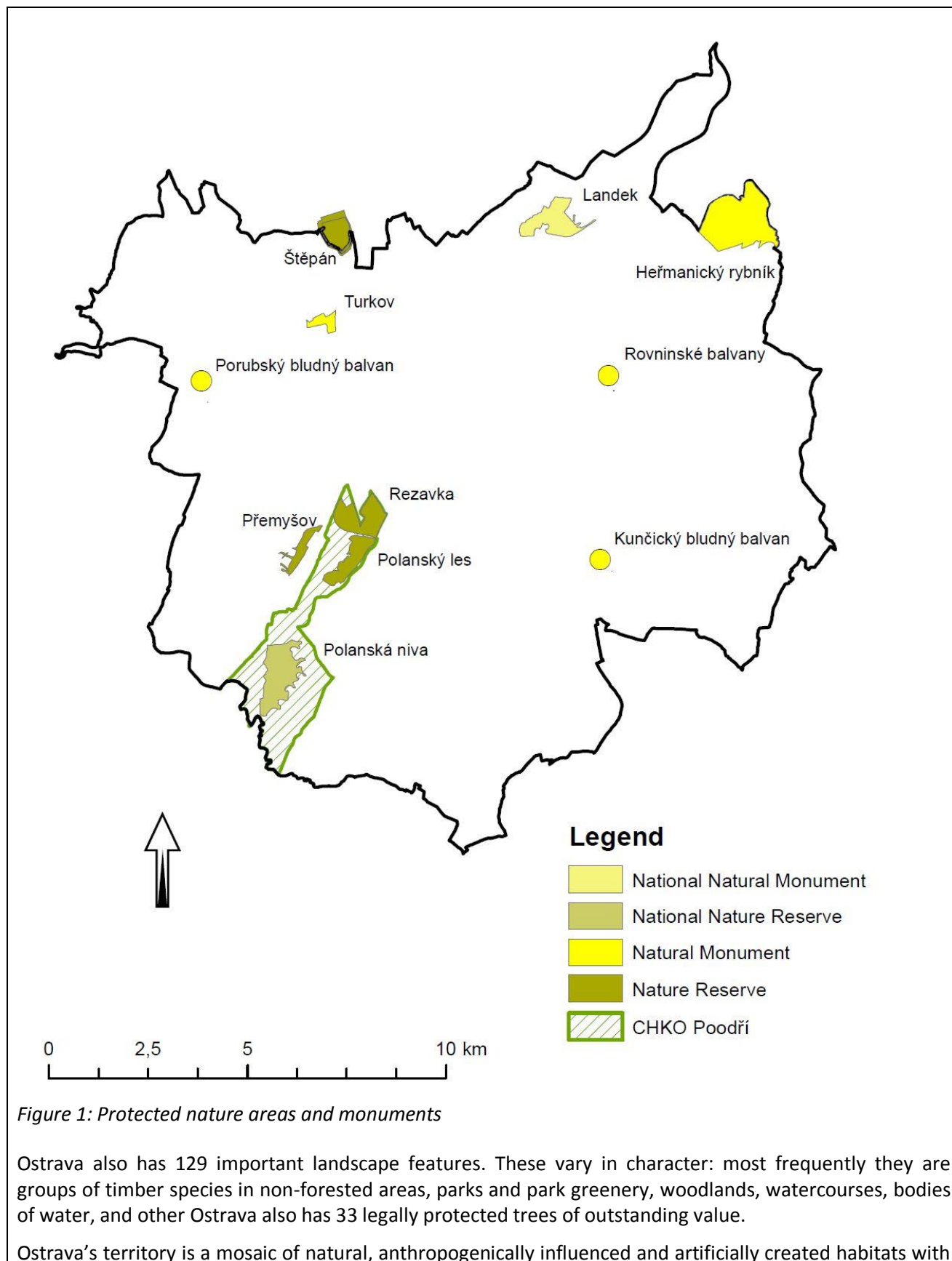
**Territorial Ecostability System (TES) is a territorial projection of biodiversity part of the Land Use Plan, horizon is equal to its version valid from 2014 (with amend. of 2017). However, there is no separate BAS.



Image 1: Heřmanice Pond

In comparison with other Czech and European cities, Ostrava has an exceptional number (and scale) of protected areas (each of them has its own management plan, including monitoring). These are:

- 3 sites of national importance (PLA Poodri, NNM Landek, plus NNR Polanska niva within PLA Poodri)
- 9 sites of local importance (2 NR, 5 NM + NR Rezavka, plus NR Polansky les within PLA Poodri)



varying degrees of biodiversity. The most diverse systems are the aquatic and riparian ecosystems at the PLA Poodri and other protected sites.

The skeleton of the entire system of protected sites is Ostrava's TES, which is a territorial projection of the City's Biodiversity Action Plan. The TES is built around three supra-regional biocorridors (of national importance), running along rivers. The TES is marked in the City's Land Use and Zoning Plan, and it is taken into consideration when assessing all development plans.

Protected sites of national importance:

The **Protected Landscape Area (PLA) Poodri** ('Odra river valley') was created in 1991. In 1993 the site was classified as a wetland area of international importance under the Ramsar Convention. It covers 81.5 km². The core of the PLA is the Odra River floodplain with raised river terraces. Currently the PLA includes 9 smaller protected sites: 1 Nature Reserve (NNR), 7 Nature Reserves (NR) and 1 Natural Monument (NM) and Natura 2000 sites.



Image 2: NNR Poodri

NNR Polanska niva ('Polanka floodplain')

Part of the supra-regional Odra valley biocentre, declared a NNR in 1969, total area 122.3 ha. part of the Poodri SCI and SPA (PLA). Protected riparian forests make up almost a third of its area.



Image 3: Polanska niva

NNM Landek (85.7 ha) is a site of European importance; it is one of the most valuable natural and cultural monuments in the Czech Republic. Legally protected since 1966, it has become a NNM since 1993. Protected features include valuable woodland, exposed coal seam outcrops and archeological sites.

Protected sites of regional importance:

NR Polanský les is protected mainly due to its riparian forests (with a representative range of timber species) and the Odra River oxbow lake system.

NR Rezavka is a continuation of the PLA Poodri. The main axis of this riparian forest and extensive reed-beds is a flooded channel that was formerly the main course of the Odra River.

NR Přemyšov is a uniquely conserved river terrace on the left bank of the Odra. The site of riparian forests and alder carrs with numerous small springs transitioning into marshes and bodies of water.

NR Stepan s Tis is the site of an original pond and marshes with pools surrounded by fragments of riparian forests, oak/elm woodland and alder carrs in the floodplain of the Opava River.

NM Turkov is located close to residential areas and industrial sites. It consists of remnants of original riparian forests formerly typical of the area around the confluence of the Opava and Odra.

NM Hermanický rybník ('Heřmanice pond')



Image 4: Hermanický rybník

5B. Past Performance

Expansion of the PLA Poodri

With effect from 1 March 2017, the PLA Poodri (originally delineated in 1991) was expanded on the basis of Government Regulation 51/2017. This step was taken in order to provide better protection for the site and open up opportunities for collaboration with local people and other key actors. There was also a change to the internal zonation of the protected area in order to ensure better protection of the natural values at the site while enabling the sustainable economic exploitation of some of the land. The PLA Poodri has retained its naturally and architecturally valuable landscape with numerous meadows, oxbow lakes, periodic and permanent ponds and pools, scattered vegetation (small copses and free-standing trees), and biodiverse vegetation along the course of the river including near-vertical earth banks and extensive gravel deposits in the meanders and their tributaries, plus important vegetation flanking ponds, dykes and roadways.

The PLA was also extended within the city boundaries (to include the NR Rezavka). This new area is part of zone 1 within the PLA (the area with the highest level of protection); a nature trail has been built to ensure conservation and good visitor management. In the past 5 years an automated visitor monitoring system has been operating in the PLA (and at 2 NRs during part of this time) in order to provide data for conservation management purposes.

Natura 2000

As part of the implementation of the Natura 2000 system in the Czech Republic, in 2004 the following sites in Ostrava were classified as Natura 2000 sites:

SCI Poodri (code CZ 0814092). The purpose of the protection is to ensure optimum habitats for protected species: the lesser ramshorn snail, the European fire-bellied toad, the large copper butterfly, the dusky large blue butterfly, the European weather loach, the hermit beetle, the great crested newt, and the thick-shelled river mussel. The SCI covers the Odra River plus other valuable biotopes in the PLA Poodri and its vicinity. The SCI has an area of 5235 ha, and falls into the national protection categories of PLA and NM.

The boundaries of the **SPA Poodri** are identical to those of the PLA Poodri. The SPA makes up a narrow strip along the Odra River (32 km long and 4 km wide, area 8042.6 ha). Protected species are the great bittern (*Botaurus stellaris*), the western marsh harrier (*Circus aeruginosus*), the common kingfisher (*Alcedo atthis*) and the gadwall (*Anas strepera*).

SCI Heřmanický rybník – created by 5 ponds (243,3 ha in total). The habitats consist of types M1.1 and T1.5. The newt (*Triturus cristatus*) is among protected species under Natura 2000.

SPA Heřmanský stav – Odra – Poolší

The backbone is formed by Odra (10 km) and Olše rivers (16 km) including adjacent flood plains. The total area covers 3100,8 ha. The kingfisher (*Alcedo atthis*), (*Ixobrychus minutus*), nightingale (*Luscinia svecica cyaneola*) are protected species.

Implementation of Territorial Ecostability System (TES) projects

Recently Ostrava's TES Development Plan was partially implemented on the basis of the TES set out in Ostrava's Land Use and Zoning Plan; previously missing biocentres and biocorridors (which form the spatial basis of the TES) were added. The purpose of the TES is to protect natural plant and animal habitats. However, this does not mean simply conserving the current state, but rather supporting the natural development of the habitat. Especially in newly created biocentres/biocorridors, the emphasis is on enabling habitats to develop in line with the existing ecological conditions. Biocentres have been created in technically complex natural environments on slag-heaps and similar sites; even in these anthropogenically influenced environments it is essential to allow habitats to develop naturally.

Tree planting

Thanks to the large area of greenery per head of population, Ostrava ranks among the Czech Republic's greenest cities. The City has implemented plantings on a huge scale (at a cost of tens of millions of EUR) in order to mitigate the impact of air pollution and increase ecostability. In just three years (2013–2015), a total of 120 000 trees and 330 000 shrubs/bushes were planted in Ostrava, at a cost of 3,4 million EUR. An important contribution to biodiversity was the planting of 111 trees by ArcelorMittal Ostrava, a major local air polluter, in 2008-2009 (cost 231 000 EUR). ArcelorMittal agreed this planting with the City as part of its voluntary efforts to reduce its own environmental impact.

The planting of 'green screens' (greenery shielding residential areas from busy transport arteries and industrial sites) also helps to reduce air pollution. Green screens have recently been planted at a total cost of approx. 43 million EUR, co-financed by the City and EU structural funds (EUSF).



Image 5: Tree planting in Ostava

Removal of invasive plant species and collaboration with NGOs

In 2009–2011 a programme was implemented (by local towns and cities including Ostrava) to remove an invasive plant species (*Reynoutria* sp.) from the Odra valley; the programme also involved an NGO (the Czech Union for Nature Conservation 'Salamandr') and the PLA Poodri management. This EUSF-financed programme aimed to protect valuable ecosystems threatened by this invasive species. This was the largest area in the Czech Republic where *Reynoutria* sp. was removed.

Another NGO active at the PLA Poodri is the **Czech Union for Nature Conservation 'Studenka'**, which has built a nature trail along a section of the floodplain; its main activity is landscape conservation by planting biocorridors/biocentres and installing interactive features. These activities were launched over a decade ago. During that time, the NGO has planted thousands of trees and recultivated dump sites covering several hectares, as well as maintaining greenery. The NGO has recently installed information panels along the nature trail in Proskovice.

Another NGO active in Ostrava is the **Czech Union for Nature Conservation 'Alces'**, which (with support from the City) is involved in various nature conservation activities including maintenance of protected sites, valuable locations and elements in Ostrava's Territorial Ecostability System. The NGO also organizes public educational events and campaigns (including cleaning-up events, bird festivals, events for Earth Day, etc.) as well as maintaining the nature trail at the NR Rezavka.

The NGO 'Arnika' also works closely alongside the City in planning the replacement and reconstruction of urban green areas.

The City has recently begun to incorporate public meetings and discussions into the decision-making process for all major changes to urban green areas. Projects are modified to take into account suggestions from local people and NGOs (e.g. the felling of superannuated trees in the Ostrava-Poruba urban heritage zone and the Komenského Sady park, etc.).

Nature trails in Ostrava

Valuable sites of natural interest (including protected areas) were made accessible to the public via nature trails. Trail locations include Proskovice in the PLA Poodří (1.7 km, giving information on the local wetland environment); Landek (on the cultural and historical features of the NNM Landek); Stary Zábřeh (created by a local primary school, passing through the oxbow lakes of the Odra and a former sand quarry); Turkov and Rezavka.



Image 6: Guided walk on educative nature trail

Projects on separation greenery

The aim of these project is to create „green filters“ to separate residential areas from industrial areas and/or frequent roads. There were ten of thousands trees and shrubs planted during last 5 phases of planting in the period 5/2013-12/2015.

5C. Future Plans

The main purpose of the **PLA Poodri** will continue to be the conservation of exceptionally valuable and well-preserved alluvial wetland ecosystems and riparian forests. The conservation management plan for this important protected site in Ostrava sets out the following key areas of activity:

- preservation of the dynamic aquatic regime of the Odra River, which enables the conservation of specific habitats in the floodplain;
- preservation and protection of the aquatic regime of river terrace springs and marshes;
- restoration of a near-natural aquatic regime in selected parts of the Odra valley;
- maintenance and increase of biodiversity via management of existing natural and near-natural habitats by creating conditions enabling their restoration or development;
- preservation (or creation) of suitable living conditions for rare and protected plant and animal species and their communities;
- maintenance (or creation) of suitable living conditions for the development of bird populations;
- protection of existing near-natural forests (riparian forests, forests typical of rolling landscapes);
- encouragement and support for eco-friendly, near-natural exploitation of ponds, agricultural land and forests.

The management will continue to use data from its ongoing automated visitor monitoring system to adjust its conservation management plans; this system will be expanded to other locations depending on requirements (including recommendations from the City of Ostrava).

A number of plans will be implemented at the **Landek** site. The oldest near-natural forests will be left to develop naturally (with the exception of the removal of non-indigenous species, especially black locust trees and red oaks) as an example of a dynamically changing forest ecosystem in the middle of the Ostrava industrial conurbation. The remaining parts of the site will be gradually replanted in accordance with the site development plans, to create natural and near-natural woodland communities. The aim is to create a model site combining nature conservation with leisure use, located in close proximity to the Ostrava conurbation. In 1998 a viewing tower was built at Landek. The first step in the future plans for the site will be the modernization of the nature trail depicting the historical development and current natural value of Landek.



Image 7: Landek

Municipal parks reconstruction and Adaptation Strategy Projects

There are 6 municipal parks which has to be revitalized soon. The concept on development of parks in the city is being prepared, which covers comprehensive management of all significant parks including their maintainance, priorities and reconstruction plan.

There are further projects based on the being prepared Action Plan of the Strategy on Adaptation to Climate Change (Strategy elaborated in 2017), which will consist of particular projects to increase biodiversity in the City. They are a.o.:

- Butterfly Meadow in Komenský park
- Green tram tracks
- Revitalization of Svinov valley
- Revitalization of several river banks
- Separation green along the streets with intensive traffic.

5D. References

EGC Ostrava: <https://egc.ostrava.cz/>

NNR Polanská niva: http://www.cittadella.cz/euoparc/index.php?p=index&site=NPR_polanska_niva_cz

Natura 2000: <https://www.ostrava.cz/cs/o-meste/zivotni-prostredi/ochrana-prirody/natura-2000-1>

PLA Poodří: <http://poodri.ochranaprirody.cz/nove-vyhlaseni-chko/>

NNM Lanek: <https://petrkovice.ostrava.cz/cs/o-petrvovicich/zajimavosti/npp-landek>

Invasive plants elimination – press release: http://salamandr.info/wp-content/uploads/2011/11/Tiskova_zprava_Likvidace_kridlatky_v_povodi_Odry_ukonceni_1._etapy.doc

PLA Poodří: <https://iszp.msk.cz/cz/priroda/natura/ptaci-oblasti/ptaci-oblast-poodri-1359/>

Reynoutria removal (leaflet): <http://salamandr.info/wp-content/uploads/2011/08/Letak-Jak-znicit-kridlatku1.bmp.pdf>

the Czech Union of Nature Conservation: <http://www.csop-studenka.cz/>

Nature trail Starý Zábřeh: <http://www.turistik.cz/cz/kraje/moravskoslezsky-kraj/okres-ostrava-mesto/ostrava/stary-zabreh/>

Nature trail Rezavka: https://www.geocaching.com/geocache/GC57XT6_pr-rezavka-naucna-stezka-1

Nature trail Lanek: <https://www.venkazdyden.cz/tip-na-vylet/naucna-stezka-landek/667>

Territorial analytical data Ostrava: https://gisova.ostrava.cz/dokumenty/pruvodni_zprava_uap_2016.pdf

Stakeholder Arcelor Mittal greenery planting: https://ostrava.arcelormittal.com/pdf/61_1_cz.pdf

Isolation greenery project: <http://www.ostrava.cz/cs/podnikatel-investor/projekty-mesta-ostravy/projekty-mesta-ostravy/projekty-izolacni-zelene>

PLA Poodří magazine: <http://www.casopispoodri.cz/starsicisla/pdf/POODRI%203-2009.pdf>

Earth Day in Ostrava: <https://www.ostrava.cz/cs/o-meste/aktualne/ostrava-se-zapojiuje-do-dne-zeme>