

How to overcome communication barriers in nature experience

Annex 3: Audio Guide

Żmigród City Park, Poland

Site 1. Introduction

The Park and Palace Complex in Żmigród is a historical area of approximately 5 ha, which includes an old Park, preserved ruins and a historical brick tower, which now houses a Tourist Information Center. At the entrance to the park, there is a 2-meter-long carp figure standing on two supports on the lawn. The carp is the flagship species of the Barycz Valley, as the carp breeding ponds are a refuge for many birds. The figure is made of plastic, painted in fanciful patterns depicting plant motifs in orange and white tones and is an element of the Colorful Carp Trail in the Barycz Valley. The carp can be touched, it is located at a height of about 1.20 m above the ground. You should approach it very carefully, preferably with someone's help, because there is a steep slope behind the statue.

The Barycz River flows behind the statue, and on the left side there is a road and a white-blue bridge crosses the river. At this point, Barycz flows very slowly; it is one of the slowest-flowing rivers in Europe. The water makes no sound, a slight current sets the aquatic vegetation in motion and carries small leaves and particles that have fallen into the river. A wooden, dark brown pier is located on a steep grassy slope and leads to the shore. Kayaks are launched here, as this is part of the Barycz Valley Kayak Trail. Kayaks can be rented at several places, and there are also double kayaks, so that you can explore the area from the river perspective with a sighted person.

On the right, a path leading to the Park. A row of old oaks grows along the path on the riverbank. In the distance, you can see the Park and the palace ruins. The Park is old, but well maintained. It has many natural elements as it was created on the area of a former forest. There are wooden benches along the footpaths, where you can sit and rest. You can use the toilet at the Tourist Information Center in the brick tower and at the nearby petrol station.



Site 2. Fallen tree

In the lawn, there is a fallen trunk of black locust, about 5 m long and over 1 m in diameter. On one side there are remnants of the roots, which means that it is a thrown down by the wind, and on the other side the crown has been cut off with a saw. A dead tree trunk left in the environment leads a second life, decomposing quietly and serving as food for many different animal species, the so-called saproxylophages, meaning organisms that feed on the wood of dead trees. Sedum plants have been planted on the trunk. The trunk is also covered with ivy; the tree itself is so vital that it produces small leafy spiky twigs here and there. To feel the structure of the bark, you can touch the trunk, but you should do so very carefully because the black locust has many thorns. On the side where the trunk was cut with a saw, you can feel the annual growth rings under your fingers.

Leaving deadwood in the environment is extremely important for nature. Dead trees are also left in some other places in the park. This is the result of very good management by the Žmigród municipality: it is not littering, but directly helps nature by increasing local biodiversity.



Site 3. Brick Tower

On the left side of the path, there is a brick tower, which is the oldest fully preserved building in the Park. It was built in 1560. The tower is a red-orange brick building on a rectangular ground plan, its high walls are crenellated. It used to be a defensive building so the few windows are small. A round, multi-storey brick tower directly adjoins the central part of the front wall. It is slightly higher than the rest of the building. Inside there is a staircase, which leads to the terrace on the roof of the tower.

On the left side of the tower, there are stairs that lead you to the entrance door. There is a handrail next to the stairs. A memorial plaque hangs above the entrance. There is a Tourist Information Point in the tower. The brick walls of the tower are rough and cool, you can feel decorative grooves in them. Some of them are covered with a “vine- boston ivy”.



Site 4. Permanent palace ruins

The ruins of the former 14th century palace were restored and secured in 2008. At present, they are a permanent ruin; it is not a building, but a single roughcast front wall with brick wings on both sides. The front of the ruins is about 40 meters long. The walls are two-story high. The paint on the front wall has a light cream colour. In the central part of the wall, there is a high portal with an additional storey that rises above the upper level of the wall. Several steps lead to a doorless entrance, with a small roof above. On both sides of the entrance, there are 2 rows of window openings with 5 windows each. The window openings have neither frames nor panes, and there are small decorations around the openings. You can go up the stairs, through the entrance and on the other side of the wall is a brick courtyard with columns and the entrance to the basement, which now houses a restaurant.

On the left side, the wall connects to the front part of the left wing of the building. It is higher than the front wall made of bricks. It has its own entrance in the middle with a semi-circular staircase. There are window openings above the entrance. The front part of the left wing is high; it reaches

above the second floor, is twice as high as the front wall, and tapers upwards to form a triangular top.

On the back of the wall, there is wooden staircase that leads to the viewing platform located at a height of the third floor.

On the right side, perpendicular to the front wall, there is a wooden openwork structure that imitates the walls of the building that used to be in this place. It is a pergola overgrown with roses that bloom in different colours in Summer - red, white, tea-coloured or pink.



Further, there are other brick palace buildings. The brick walls of the ruins are coloured red-orange, here and there grasses and other herbaceous plants as well as small trees grow on the brick walls - an example of secondary succession i.e. the colonisation of new, previously uninhabited places by living organisms.

Site 5. Bats wintering hide

Behind a large locust tree leaning to the left, there are brick ruins of the two-storey part of the palace. There is an open lawn with single trees around it. Under the ruins there is a cellar created by the Żmigród Commune, intended for a wintering place for bats. The bats previously hibernated in the basements covered with rubble under the main part of the palace. Since a restaurant has been built there, an alternative shelter has been made, which bats use. Behind the bend of the wall, there is an exit window, barred in a special way - horizontally, so that bats do not hit the bars with their wings when they fly in and out. The bars prevent the access of curious people who could disturb the bats.



Site 6. Oak Melchior

In the vast open lawn grows a sprawling huge English oak named Melchior, one of the nature monuments located in the Park. There is a bend in the path with benches under the tree, and a pergola covered with roses in front of it, which is part of the permanent ruins of the palace. Melchior has a very thick oak trunk, with a circumference of 632 cm, with enormous branches that spread out to all sides; the crown is lush, densely covered with green leaves. The bark on the trunk has deep vertical furrows characteristic of mature oaks, it is hard and rough to the touch. The trunk is irregular. Gray-green nesting boxes for birds hang high above our heads, and beneath there are two green metal plates with the White Eagle that designates the tree as a natural monument of Poland; one of them is barely visible as it has been tightly surrounded by callus tissue (or wound tissue) of the tree.

The pedunculated oak has long pedicels from which hang acorns, the fruits of the oak. The oak leaves have a short petiole, an oblong lamina, the edge of which is cut and the indentations are rounded - the edge creates large waves.

Several other trees grow nearby, but none is as big as Melchior.



Site 7. Yew

The second natural monument in the Park is a multi-stemmed yew tree with dark, smooth, scaly bark and dark green flat needles. It is a protected species. Warning: yew is a highly poisonous tree. Along the path, in front of the yew, there is a row of young hornbeams, and behind the yew, 30 meters away, there is the Melchior oak, and further in the background there are the palace ruins.



Site 8. Birds

Here you can see the park looking like a forest. The trees grow close to each other, such as: oak, birch, aspen, catalpa, plane tree, linden. A big aspen, which is a species of the poplar genus, grows near the path. It is characterized by tiny, round leaves with transversely flattened petioles that tremble and shake at the slightest blows of wind. Forest birds live in the dense woods; their voices can be heard from different directions. There are various species of birds, mostly the common ones, such as finch, nuthatch, some tit species, wood pigeon, starling, green woodpecker, blackbird and others. Most birds sing early in the morning, just after sunrise, which is the best time to listen to bird songs. Some species sing all day long, while the second peak of vocal activity occurs in the evening. Sometimes it is necessary to wait a while because the birds, alarmed by the presence of humans, become silent. You can sit on one of the park benches or hide in a nearby covered wooden gazebo, where you can sit and listen to the sounds of nature.

There are cuboidal nesting boxes for birds on the trees, made of sawdust concrete, with a round hole in the front wall. In the Park there are also bat boxes, which have an inlet as entrance, and usually without a bottom, so that bat droppings - guano, do not accumulate in the box, but fall directly onto the ground.

Site 9. Pond - wooden bridge

From the wooden bridge, there is a view of two parts of the pond.

On one side there is an island in the distance, and floating on the surface of the water are round, flat leaves of yellow and white water lilies that bloom in Summer. Frogs sit on the leaves, and even light birds can walk on them. Weeping willows grow on the edge of the pond, bending towards it and their long, limp, dangling branches almost touch the surface of the water. The shore is also covered with reeds with saber-shaped, long, blue-green leaves and feathery, light straw-colored inflorescences. They grow in a narrow strip, not overgrowing the pond, which may indicate that the water reservoir is quite deep. Reeds grow only on wet land or in shallow water. In the middle of this part of the pond, there is an island with a wooden gazebo. Alders, whose leaves are much darker than those of willows and whose branches point upwards, grow on the shore of the island. The island is closed from time to time as it can be rented for private events. In the

depth of the water, lush underwater plants appear and fish swim between them. There are large greenish carps, gray roaches with red fins and brindle perches. Dragonflies fly over the water, inside of which, they lay their eggs. Their larvae are predators, developing underwater and hunting other aquatic organisms such as mosquito larvae. In late Spring and Summer, frogs can be heard croaking from the side of the pond. In the center, in front of the island, there is a fountain that turns on every full hour and runs for 30 minutes. On the left side, by the shore, there is a dark green wooden pier, that serves as a harbour for kayaks that can be rented to sail the pond. It has the shape of a biconvex lens. There is a fishing ground on the part of the pond behind the island.



On the other side of the bridge, you can see a smaller part of the pond. On the right, near the bridge, there is a large weeping willow. Its trunk is tilted almost horizontally above the water, the crown reaches into the pond, and the dangling branches with tiny, oblong leaves almost touch the water surface. On the left side of the bridge, on the grassy bank, grow young alders, which have round, dark green leaves with a slightly notched edge. On the twigs of the tree, there are so-called alder cones, which are very dark brown woody infructescence. The opposite side of the pond is covered with grass, there are reeds at the edge of the water, and large trees grow on land.

Site 10. Horticultural therapy and sensory path

Directly next to the path, on the gravel area, there are four wooden tables containing spread out plants and objects that can be touched. One of the tables is divided into wooden boxes with various natural materials, such as twigs, cones, stones or bark. Objects can be examined by touching them to feel their texture, weight and shape. The other three tables are filled with soil and planted with numerous, intensely fragrant herbs such as basil, mint, rosemary, oregano and others. The plants can be gently touched, and when the leaves are rubbed between the fingers, the wonderful rich fragrances of each herb are released. Behind the tables, there is a hedge on the lawn. On the other side, there is a colorful flower bed behind the path and a pond behind it.



Site 11. Island of reeds

On the western edge of the pond there is a small island made of reeds, which proves that the pond is shallow here. Small birds, such as Eurasian reed warbler, great reed warbler and Savi's warbler build their nests in the dense reeds. Quite large birds, such as the marsh harrier or bittern, also nest in larger reed beds. On the right, there are old palace buildings densely overgrown with shrubs and vines. On the left you can see the Park, the trees are densely packed, most of them tightly entwined with ivy. One of the trees is a beech, which has the characteristic smooth silver-grey bark.



Site 12. Douglas fir overgrown with ivy

The large, stately Douglas fir has a rough, dark brown bark. As it is a conifer tree, you can feel resin leaks on the bark. The ivy encircles the Douglas fir trunk, the leaves of ivy begin at a height of about 3 m, but below that the woody ivy stalks climb vertically upwards and are tightly attached to the Douglas fir trunk. You can reach them with your hand directly from the walking path. On the stalks of the ivy there are characteristic fine clingy roots, thanks to which the plant stays upright on the tree trunk. The ivy is not a parasite, but a vine that uses tree trunks or building walls as a living environment, and does not take any nutrients from the tree. It has dark green, coarse-

toothed leaves, thanks to which it photosynthesizes itself. It is dark at the bottom of the forest, so climbing the vertical pillars is the ivy's way of reaching the light necessary for its survival.



Site 13. Hedgehogs' layer

Near the entrance to the Park and the car park, there is the so-called Jeżogród (Hedgehog town). About 50 m away there is a brick wall surrounding the Park, and a street behind it. The wall is overgrown with ivy. Along the wall you can see black elderberry bushes, which bloom white, and then produce dark blue fruit that serves as food for many species of birds. Old ivy trees grow around the lawn. In addition to numerous species of birds, there are also mammals in the Park, such as squirrels, bats, and at this point there is a special corner for hedgehogs. Hedgehogs are active mainly at night. In Winter, for their hibernation, they need a frost-proof place, e.g. a pile of rotting branches, in which they bury themselves. At a distance of 20 m from the path, there is a large pile of branches heaped under the trees in the form of a ridge. It is equipped with an information plate, thanks to which walkers know that it is not a mess, but a deliberate action for nature.

