

BOTANICAL GARDEN: COME IN!

VISITORS WITH SPECIAL NEEDS IN BOTANICAL GARDENS METHODOLOGY

2019

Prague Botanical Garden, Czech Republic
Gothenburg Botanical Garden, Sweden
Adam Mickiewicz University Botanical Garden in Poznań, Poland
Hungarian Association of Arboreta and Botanic Gardens, Hungary

Botanical Garden: COME IN! VSTUPTE! KOM IN! WEJDŹ! GYERE BE!

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Acknowledgement

We would like to thank PhDr. Pavlína Šumníková, Ph.D. from the Department of Special Education, Faculty of Education, Charles University (Prague), for her expert review, in which she states:
“... *The methodology ... meets its clearly defined objective. It is a practical guide that can inspire educators in botanical gardens, ecological education centres and in other institutions. Thus, it fills the gap within museum education that focuses on collections of living plants. Until now, materials usually focused on individual disabilities, so I appreciate the complex character of the methodology. It is a very practical guide that offers inspiration not only to workers in botanical gardens, but also to anyone who would like to implement a similar project within their own organization or facility (retirement homes, facilities for children with combined disabilities, etc.). I also appreciate the online version of the methodology, which provides users with interesting bonuses (online questionnaire, language versions, etc.). As people with disabilities say: ‘Please do not decide our future without us.’ Thanks to the publication, we realize that a barrier-free environment concerns all of us, regardless of age or disability. The creators emphasise this very well. The methodology strives really well to remove potential barriers we have in our minds.*”

Dedication

We would like to dedicate this methodology to all kind people, especially our saviours from Svatý Jan pod Skalou.

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COME IN!

The Prague Botanical Garden introduces the breath-taking world of plants using many different methods and since 1996, it has emphasised perceiving nature by all senses. We want our garden to be open to everyone,

regardless of potential disability. At present, we offer an extensive system of activities and visitor services to create a pleasant, open and inspiring space without barriers.

Year 2012 was the turning point in these activities. Our garden hosted the Botanic Gardens Conservation International (BGCI) conference preceded by the European Botanic Gardens Consortium workshop focused on the social role of botanical gardens. Here we presented our long-term experience with visitors with special needs. Our project captured the attention of colleagues from all over Europe and we were invited to share our surprising experience via a case study published on the BGCI website. After that, we created an international team, so that we could share and expand our experience. The project Botanical Garden: COME IN! VSTUPTĚ! KOM IN! WEJDŹ! GYERE BE! was created and financed by the European Union's Erasmus+ programme. Thanks to our partner organizations and the commitment, energy and passion of our colleagues and friends from the Adam Mickiewicz University Botanical Garden in Poznań, the Gothenburg Botanical Garden and the Hungarian Association of Arboreta and Botanic Gardens, we managed, within three years, to create a travelling exhibition and this methodology.

We hope this publication is not only an interesting read, but also a practical aid in making botanical gardens and other cultural and educational institutions more accessible to the general public, including visitors with special needs.

Jarmila Skružná
Project Manager
Prague Botanical Garden

HOW TO USE THIS METHODOLOGY

Botanical gardens are facing a worldwide decline in biodiversity and other global challenges. They can, however, offer their scientific and methodological potential to increase awareness about these issues. Gardens should encourage visitors to have a responsible attitude to life, the environment and also to nature as such.

Fortunately, plants themselves provide a sensorially rich experience. By their very nature, they are an excellent basis for creating a natural oasis in an urban setting. In this area, we strive to actively offer equal opportunities and experiences to everyone.

This methodology was created within the European Union's Erasmus+ international program. It is the result of cooperation between the botanical gardens in Prague, Poznań and Gothenburg and the Hungarian Association of Arboreta and Botanic Gardens. It aims to be a practical guide and inspire educators in botanical gardens, ecological education centres and other institutions. It focuses on improving their accessibility by using innovative methods of work and perceiving nature by all senses.

The methodology is divided into six chapters that logically follow one another, allowing the reader to better understand the issues of opening gardens and arboreta to visitors with special needs (hereafter "VSN").

The first part focuses on individual visitor groups and their special needs. Understanding the diversity of visitors is essential in improving the accessibility of gardens and other institutions.

The following chapter provides an overview of barriers that visitors have to face before or during their visit and advises how to eliminate or bypass them. The aim of this chapter is to identify these barriers. This is the first important step in improving accessibility. For this purpose, the reader can use not only analyses mentioned in this methodology, but also our online questionnaire, which will help them identify barriers in their own institutions.

The publication also offers examples of good practices, which are both important and useful for the reader. They can serve as inspiration for offered services, solutions of difficult situations or examples of activities for the general public. The chapter is divided into subchapters and introduces inspiring places in all our partner countries. It was created by the members of the international project team who visited or collaborated with these institutions. The chapter, like all previous chapters, is not an exhaustive overview of all available services or inspiring institutions that work with VSN. It is a selection of best practices and non-traditional solutions.

The first subchapter focuses on selected services which improve accessibility of gardens in individual partner countries. The next part deals with interesting activities intended not only for VSN. At the end of the chapter, we present a selection of inspiring places from each country.

In the last part of the methodology, you will find a list of sources, links to interesting websites or publications both in English and in the national languages of our partner countries.

The printed version of this methodology is complemented by an extended online version accessible from the project website *garden-comein.com*. Here, you will find a more detailed form for barrier analysis (mentioned above) and also complete materials used for implementing the exhibition for all senses called "Never Alone: The Secrets of Symbiosis". This exhibition took place in 2018 and was attended by all our partner organizations. It was also presented at the Botanical Garden: Green World for Everyone! international conference in Poznan, Poland. The materials contain completed texts, descriptions, photographs and information about individual displays, including a manual on how to proceed during preparation.

Our methodology aims to open botanical gardens to all visitors. It can serve not only as a guide, but also as a springboard for new methods and approaches to perceiving nature by all senses and for original activities intended not only for visitors with special needs.

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WHAT ARE THE DIFFERENCES?

One of the first joint activities within the project was to map accessibility issues and compare the situation in all partner countries. The table below is not an exhaustive overview. It only presents information related to accessibility of our partner institutions. It also lists the support and learning opportunities available to visitors with special needs in their respective countries.

OUR VISITORS

Botanical gardens are visited by all sorts of people including visitors with special needs. For them, there are many barriers within the premises. In order to remove these barriers, it is necessary to first divide visitors into groups based on their special needs (the type of disability). We do not consider these groups to be clearly defined, since the reasons for disabilities often overlap or appear together, increasing the impact.

The form of visit (individual/group) is also an important factor that must be taken into account. In all cases, we respect visitor's special needs and strive to enable them to move freely around the premises. Individual visits consist mostly of various family groups (parents with strollers, individuals of different ages and seniors). People from this group usually come to rest, relax or increase their knowledge. When passing on information, we emphasize interactivity and informality. Organized groups (schools and interest groups) are very different and have their own specifics.

Family Groups

The uniqueness of this group lies in intergenerational communication. We can observe different settings with the so-called nuclear families (parent(s) and children) and with extended families or families with friends and acquaintances, where multi-layered relationships are at work.

It is obvious that presenting information to groups diverse in age is rather difficult. In order to maintain the principle applied in most families (adult = teacher vs. child = pupil), we should present information in an understandable and often simplified form, so that everyone can understand it. Sharing an experience is very important, so the visit must not be boring, tiring, nor overloaded with information. Therefore, it is best to adapt communication and exposition elements to the youngest family member.

Practice:

Comfort

- plenty of resting places, toilets, refreshments

Non-verbal Communication

Written Information

- as simple as possible
- important information (from the visitor's perspective, not from the perspective of an expert on botany)
- texts highlighted by font size, colour, boldness and also e.g. italics
- accompanied by simple sketches or easy to understand illustrations

Illustrated Information Panels

- used in places where a long text would be needed to explain a problem
- comics or stylized drawings
- colourful illustrations in places where they improve understanding or remembering information

Models (or Sculptures)

- oversize, to highlight important details
- visitors can touch these models/sculptures
- pleasant materials will enhance the experience

Verbal Communication

- communication must be adapted to the youngest family member
- interact with the youngest member often, get their attention
- speak slower than normal
- terms must be easy to understand
- always face the visitors when speaking

Parents with Strollers or Small Children

This visitor group comes to gardens for relaxation, meeting other people and to enjoy peace and quiet. They have their own demands concerning space and information. They often see botanical information more as a bonus. What's important to parents with strollers are visitor services and facilities that cater for an all-day visit.

Practice:

Comfort

- benches, deckchairs, borrowable picnic blankets
- easy navigation to places of interest (important exposition elements, toilets, resting places, refreshments)
- toilets with changing tables, drinking water within the premises
- walking on lawns possible (at least in some places)
- planting of commonly known plants (both useful and ornamental)

Senior Citizens

Most elderly people experience deterioration of sensory perception (vision, hearing), which makes communication more difficult. Their memory and ability to absorb new information also gets worse. On the other hand, most senior citizens are active, creative and have high social intelligence. The importance of family increases with age and the role of grandparents is important to them. Last but not least, they can have problems with mobility and get tired more easily.

Practice:

Comfort

- barrier-free access, easily negotiable trails with minimum terrain
- unevenness and other obstacles
- easily accessible resting places, shading

Non-verbal Communication

- written, illustrated and three-dimensional information – the same as for families with children
- information is positioned at a reasonable distance and height (access and readability)
- a clear, visible and understandable navigation system

Verbal Communication

- verbal information – the same as for families with children
- provide longer reaction time
- speak clearly, factually, intelligibly, slowly, simply
- take into consideration their physical condition

Organized Groups (Schools, Interest Groups, etc.)

The advantages of organized groups are either similar age (schools, interest groups for children) or the same area of interest.

School groups are led by a teacher, tutor or another educator. At the beginning of the field trip / program we ask the teacher about the specifics of the group (attention or knowledge level, etc.).

Practice:

Verbal Communication

- interact with the pupils, not the teacher
- speak at a normal speed, but clearly
- use well-known terms (not too technical)
- only give the most important information (focus on understanding the topic)
- feedback based on simple questions

Non-verbal Communication

- include sensory perception

In some cases, **interest groups** can have deeper knowledge, which places higher demands on the professional training of the guide. The principles of communication are the same as for school groups. During the presentation, we interact with all age groups.

PHYSICALLY DISABLED VISITORS

Visually Impaired Visitors

The group of visually impaired people is very diverse. It includes purblind visitors (varying degrees) and also visitors who are completely blind. For communication, it is important to know whether the person has been blind since birth, or whether their sight worsened during their life. In such a case, they remember e.g. colours, sizes or shapes. Visually impaired people replace their sight with other senses, especially hearing, touch or smell. During the learning process, they proceed from details to the whole – that is in the reverse direction from seeing people. From the point of view of seeing people, this whole can be incomplete.

Visually impaired visitors can move around the garden with their families, with a personal guide or with a group. The people who accompany impaired visitors facilitate their movement and convey information. Visually impaired visitors come alone only rarely, usually with a guide dog.

For everyone in this group, the walk must be safe, pleasant and, if possible, complex. The information we want to communicate to this group must be suitably positioned and appropriately adapted in terms of design.

Practice:

Comfort

- same principles as for all previous groups

Non-verbal Communication

(signs, panels, direction signs, orientation and navigation)

- location – not far from the kerb, preferably as close as possible
- height of basic information sign (A4) – about 60 cm to 80 cm above ground
- sign tilted from 45° to 60° – comfortably readable in the Braille
- navigation to the information – e.g. through change of the road surface
- information must be understandable, accurate, short
- use a lot of sculptures and models

- size – if we use larger signs, they must be within reach
- printed or drawn information should be larger, with bold contours
- understandable and simple orientation system (pictograms)

Verbal Communication

- apply general principles from previous points
- when meeting the visually impaired person, we gently touch them and introduce ourselves
- interact with the visually impaired person, not with their guide
- comment everything that is done
- use the words “here” and “there”, “caution” or “not there” only with clear explanations
- where appropriate, use three-dimensional objects, preferably differing in size and shape
- proceed from details to the whole (that is in the reverse direction compared to seeing people)
- during presentation, it is good to know whether the visual impairment is congenital or acquired – we should not be afraid to ask
 - to describe an object, compare it to known things (e.g. as long as your forearm)
 - during presentation in a room, the intensity of light and the colour of the environment are important
 - we should describe the environment where the objects are located – “in front of you on the right side of the table”
 - do not worry about using words like “look”, “peek” or “see”

Hearing Impaired Visitors

Similar to people with visual impairment, hearing impaired visitors are not a homogeneous group. They include people who have been deaf since birth, people who lost their hearing during their lives, people with partial hearing loss or people who are hard on hearing. They visit botanical gardens alone (or with families) or in groups (school groups – children of similar age, or mixed groups – communities, hobby groups or clubs). The specifics of both verbal and non-verbal communication may be a result of reduced ability to understand complicated texts.

Practice:

Non-verbal Communication

- use simple phrasing in printed texts

Verbal Communication

- always face the people you speak to, so that they can see your mouth
- make eye contact
- use of hearing together with lip-reading
- speak loud, but do not shout
- natural or slower pace and clear pronunciation, lip movement
- use gestures and facial expressions or pantomime when appropriate
- only one person can speak at a time, do not walk while speaking
- when using sign language interpreters, talk to visitors, not to the interpreter
- interpreting creates a delay in presentation, so it is necessary to make pauses

Intellectually Challenged Visitors

The botanical garden is also visited by intellectually challenged visitors, especially by children with parents or by groups. These people can have difficulty in communicating, mainly due to problems with understanding speech and context. We can facilitate the preparation for the visit by publishing useful information on the web (photos of the garden and its facilities as well as of the people visitors are going to meet – e.g. guides and educators). During communication, we must follow correct principles even more carefully. The program should be prepared based on the needs of the participants. If possible, we should know the extent of their challenges. During presentation, we can use alternative forms of learning (photography or haptic elements, collection boxes for botanical items). And most importantly – we must not be afraid to communicate with intellectually challenged people!

Practice:

Verbal Communication

- when speaking, use simple and straightforward sentences
- often ask, if the visitors understand
- use aids that involve touch, hearing and other senses
- alternate intervals of intense concentration with relaxation or other, less demanding activity

Visitors with Neuropsychiatric Disorders

Neuropsychiatric disorders include a wide range of medical conditions, such as autism, ADHD or Tourette's syndrome.

It is not possible to cover all the aspects of these conditions here, but we provide tips to make the visit more enjoyable. We can facilitate the preparation for the visit by publishing useful information on the web (photos of the garden and its facilities as well as of the people visitors are going to meet – such as the guides and educators).

Practice:

Verbal Communication

- make the person/group feel safe and comfortable by telling them how the visit is planned
- create a calm and quiet environment or invite these groups during quiet periods
- when speaking, use short and concise sentences
- use a lot of aids that involve touch, hearing and other senses
- alternate intervals of intense concentration with relaxation

Mobility Impaired Visitors

This group consists of: wheelchair users, people with crutches and other aids for movement facilitation, chronically ill people (e.g. with cardiovascular diseases) and physically weakened people. To enable their independent movement, we must ensure barrier-free visitor trails. If this is not possible on the whole premises and only a part is barrier-free, it is necessary to noticeably mark this area and include it in the navigation system. Information for the mobility impaired must not become an obstacle for visitors with other disabilities (e.g. for visually impaired visitors).

Practice:

Comfort

- barrier-free access, easily negotiable trails with minimum number of stairs and other types of terrain unevenness
- easily accessible resting places
- elevated garden beds easily accessible (not only) to wheelchair users
- various aids for movement facilitation available

Non-verbal Communication

- inaccessible places and places difficult to negotiate are marked within the premises – information available before the visit
- navigation system with marked alternative routes
- signs with information about plants placed higher (to be visible from wheelchairs, to avoid uncomfortable bending, etc.
- access to haptic elements for wheelchair users (located near the kerb)

Conclusion – General Principles of Communication

- treat visitors as your equals, maintain their human dignity
- interact directly with visitors
- different communication with adults and children
- the tour guide must be clearly visible and heard (also for the visually and hearing impaired)
- speak clearly, factually, intelligibly, slowly, simply
- adapt to the pace of the visitors
- give only the most important information (focus on understanding the topic)
- feedback based on (simple) questions
- provide appropriate reaction time
- engage more senses
- allow visitors to manage as much as possible themselves

BARRIERS IN GARDENS

Accessibility of botanical gardens and arboreta is related to the existence (or absence!) of visitor barriers. Obstacles not only make it difficult for visitors to enter and move around the premises, but may also

discourage them from the visit altogether. The first barrier may be the lack of information available before the planned visit!

Some barriers are obvious and well known (e.g. terrain, stairs, uneven, unpaved and narrow trails), while others are less apparent (e.g. the lack of information, too high entrance fees, lack of seating, toilets). The nature of barriers, how individual visitors perceive them and how sensitive they are to them is also important. Some elements that are considered an obstacle by one person, can be more viable than a different option for another person (e.g. stairs are a barrier for wheelchair users, but senior citizens prefer them over a ramp). Some barriers are combined, so their impact increases (e.g. unpaved surface of a slope).

It is necessary to think really carefully about barriers and accessibility of a garden. Surprisingly, even very small changes can sometimes significantly increase accessibility and make the visit more enjoyable.

Assessing Garden Accessibility Is a Continuous Process:

- trail quality, signs, door movement, etc. deteriorate over time – regular inspections and maintenance are an essential part of the accessibility process
- seasonal changes can also lower accessibility – e.g. icy and slushy trail surfaces
- temporary obstacles: construction works or unloaded material can significantly affect accessibility. It is necessary to communicate with visitors and remove these obstacles as soon as possible

Segregation and isolation of certain visitor groups: traditional ways of improving accessibility of gardens to visitors with special needs were often incorrect – e.g. separate sensory gardens or separate entrance for people with reduced mobility located outside of the main entrance area.

Inclusion can be achieved through a five-pillar approach (*adjusted based on English Heritage (2005) Easy Access to Historic Landscapes*):

- **Safety**: is always crucial
- **Simplicity**: includes accessibility, entrances, trails, easy orientation within the premises, accessibility of toilets and resting places, simple and understandable information
- **Comfort**: the whole infrastructure and facilities (number of toilets, refreshment and resting places, information stands)
- **Choice**: offering alternatives to programs, routes and various services
- **Diversity**: new creative solutions (education programs, employee training)

HOW TO REMOVE 6 TYPES OF BARRIERS?

1. physical barriers – real obstacles to arrival, entry and movement around the garden; these barriers are restricted by law of the given country

- accessible transport to the garden: communication with the public transport company (nearby stops of public transport, more frequent and low-floor connections), parking near the entrance (alternatives: resting places or wheelchairs available) and parking places for disabled people
- clear signs, available information and navigation system: signs for parking areas, toilets and other key points, up-to-date information about opening hours (or closures) and entrance fees, availability of information materials including maps, maintenance of signs
- wide trails and entrances, paved and flat surfaces: barrier-free solution (dimensions and choice of materials, passageways for strollers and wheelchairs) and consequent regular maintenance of trails and entrances (levelling of surfaces, repair of paving, removal of overgrown plants that hinder movement)
- solutions to natural slopes: implementation of more resting places, or possibly stairs with railings or a lift
- alternatives to stairs and turnstiles: ramps (be careful about the material and maintenance; they should also be equipped with railings), bypasses, passageways for strollers and wheelchairs
- overcoming larger distances within the premises: provide bicycles, strollers or wheelchairs; use of electric trains and electric buses
- sufficient number of resting places: benches, rest areas, gazebos and pergolas (as far as seating is concerned, be careful about the following: accessibility from trails, comfort, view and positioning with regards to weather conditions)
- catering comfort: availability of refreshments with alternatives – cafes and restaurants, installation of drinking fountains
- sufficient number of toilets: adequate quantity, accessibility, toilets for the disabled; equipped with changing tables

- presentation of badly accessible garden elements (rock garden, greenhouse, facilities) in another form: printed materials, audiovisual format in the information centre, on the web

2. sensory barriers – engaging senses is necessary for visitors with special needs, but it is also very beneficial and pleasant for the general public

- close contact with plants or other displayed objects (engaging touch and smell): aromatic and tactile plants and trees near trails, use sculptures and objects that can be touched; offer special guided tours, exhibitions and workshops

- signs for the most sensorially interesting expositions in the navigation and information system of the garden
- presence of visual or touch-based warning signs, sufficient lightning: highlight stairs, low ceilings, tactile signs which warn of danger, sufficient illumination of space

- lots of acoustic stimuli in the garden: water elements, planted bamboos and other grasses near trails, arrange nest boxes and bird feeders, addition of sounds of tropical nature into the greenhouse

- acoustics in buildings: use microphone during tours, headphones available, special tours for groups of hearing impaired visitors (with interpreter or assistive devices)

- audio guide available

3. intellectual barriers – hinder obtaining necessary and understandable information (concerns especially children and youth, people with learning disabilities, hearing impaired visitors and foreigners)

- simple and sectioned texts accompanied by illustrations, photos, maps and diagrams

- comprehensible texts: explanations suitable for the general public, even at the cost of simplification (information must remain true)

- texts tailored to visitors with special needs: information in various formats, sufficiently large letters and indentations, images, use of Braille, simplified texts for people with learning disabilities and hearing impaired visitors

- haptic maps: both on fixed information stands and to be borrowed by visitors, must be maintained regularly

- audio guide available

- additional information in the form of guided tours, lectures and workshops

4. organizational barriers – based on the design and strategy of the institution, influenced by organizational structure of the garden, can often be the result of a lack of information or funds

- well-informed employees with a positive attitude: workshops based on own experience with simulated physical disability (use of wheelchair, orientation without sight and hearing)

- sufficient number of trained staff: both temporary workers and employees regularly trained in working with visitors with special needs

- sufficient number of temporary workers and volunteers: to improve visitor comfort – they pass on varied information, help with navigation, assistance

5. social and cultural barriers – sufficient and diverse forms of promoting information about increasing accessibility of the garden

- fully functional and updated website and social media: information for planning a visit – detailed description of accessibility of the whole institution including trails and downloadable maps, ideally in a version suitable for visually impaired visitors

- promoting garden accessibility through institutions that unite people with special needs

- sufficient amount of information shared with the local community: it is appropriate to maintain relationships with local schools, retirement homes, community centres and societies for people with special needs

- sufficient number of temporary workers and volunteers: for communicating feedback from visitors, monitoring visitor habits, conducting opinion polls and surveys

6. financial barriers – high entrance and other fees can discourage people from another visit to the garden

- reasonable entrance fee: reduced or free for disabled people and for their assistants, discounts after presenting public transport ticket

- guided tours and events included in ticket price or available for a small fee

- reasonable price of refreshments (sufficient choice)

- parking fees: free parking near the premises for all visitors, or at least for people with special needs

TEST YOURSELF!

HOW ACCESSIBLE IS YOUR GARDEN?

A friendly garden offers all visitors a safe and enjoyable stay. An inclusive approach that does not exclude people with special needs comprises of planning, developing and striving for maximum openness. It does not

exclude certain visitor groups and does not sideline them to separate parts of the garden.

All visitors, regardless of age, physical, sensory or intellectual challenges or social situation, should be able to move freely around the garden and participate in activities of their choice. A garden should be fully accessible, inspiring and safe place for them.

To improve accessibility and increase the overall number and diversity of visitors, we recommend assessing the current situation with a simple analysis. It will help you realize and record barriers that visitors may face in the garden.

WHO WILL CONDUCT THE ANALYSIS?

- 1. Employees of the botanical garden**, ideally a small group of people from different positions and departments (e.g. educator, gardener, technician, PR employee)
- 2. Visitors with special needs acting as volunteers**; it is possible to approach individual visitors from specific groups (senior citizens, young families with strollers) or use an organized group (special schools, community centres, retirement homes)
- 3. Temporary workers** – help with surveying visitors' habits and acquiring feedback from them (e.g. in the form of opinion polls)

WHAT BARRIERS DO WE NOTICE?

We assess not only the common physical barriers, but also intangible criteria, such as inaccessible information, services, program offerings or entry and parking fees.

WHAT PARTS OF THE GARDEN ARE INCLUDED?

We assess all parts intended for visitors.

WHAT TIME PERIOD DO WE ASSESS?

From planning the visit to the garden (obtaining necessary information), transportation and movement within the garden to leaving it safely.

THINK ABOUT THE FOLLOWING QUESTIONS AND GET AN IDEA ABOUT HOW ACCESSIBLE YOUR GARDEN IS.

For a more detailed assessment, please use the Accessibility Questionnaire which can be downloaded at: garden-comein.com/outputs/io1-methodology

Is the information on your website and social media easily accessible, well arranged and regularly updated?

Do you use special formats on your website intended for visitors with special needs?

Do you list detailed information about trails on your website, do you offer downloadable maps?

Is your garden easily accessible from public transport stops? If not, can you do something to improve the situation?

Is there easily accessible parking close to the garden, with sufficient capacity and spaces reserved for disabled people (in accordance with applicable law)?

Are you using clear signs, is the navigation system easy to understand and functional? Are you using different formats, e.g. Braille? Are signs regularly maintained and inspected?

Are the employees, who communicate with the public, regularly trained to deal with visitors with special needs?

Does your garden have a sufficient number of helpful staff (employees, temporary workers) who can advise, inform and assist visitors?

Are the entrance gates and areas wide and functional enough, are the trails paved and easily passable? Are entrances and trails regularly inspected and maintained?

Do you offer a choice of routes for visitors? Are there passageways for wheelchairs and strollers and bypasses of poorly passable places?

Are the texts in the information system simple, structured and easy to read? Are they accompanied by photos, pictures and maps? Are signs regularly inspected and maintained?

Does your information system use special formats for people with special needs (e.g. Braille, simplified texts, foreign language versions)?

Is there sufficient number of well-accessible and barrier-free toilets? Are toilets equipped with changing tables?

Are there refreshments available in your garden? Are drinking fountains available? Can visitors choose from different types of refreshment (both type and price)?

Is there sufficient number of easily accessible resting places and shelters? Are benches positioned with regard to the size of the premises and terrain difficulty?

Do you strive to solve terrain unevenness by stairs, ramps or lifts?

Do you provide information about inaccessible or poorly accessible places in an alternative manner (e.g. leaflets, on the web, in the form of audiovisual screenings in the information centre)?

Do you lend wheelchairs or bikes to visitors to negotiate longer distances or do you provide a different kind of transport on-site (electric bus, train)? Can small children use riding toys and scooters on the premises?

Does your garden lend audio guides and haptic plans of the premises? Do you have descriptions in Braille? Do you pay attention to indoor lighting?

Is it possible to borrow hearing aids or other devices for hearing impaired visitors in the garden? Do buildings have suitable acoustics? Do you use high-quality sound system for events?

Do you strive to make expositions in your garden interesting in terms of touch, smell and hearing? Is it possible to touch selected plants and objects?

Do you pass on to visitors experiences and information using all senses? Do you organize exhibitions, lectures, workshops or guided tours in the same spirit? Are there different options for different visitor groups?

Do you offer reduced entrance fees for different visitor groups?

Do you collaborate with schools, community centres, institutions that unite people with special needs and with travel agencies?

Do you immediately communicate garden accessibility changes by all available channels (directly in the garden, on the web and on social media)?

GET INSPIRED

In this chapter, we would like to introduce a selection of inspiring services, institutions and activities from our partner countries (Czech Republic, Sweden, Poland and Hungary). They can serve as inspiration for similar activities in other countries or be used directly in a specific garden or arboretum. Our goal is not to create a comprehensive and complete overview. Such a list would be too long and extensive. We only present a selection related to botanical gardens, arboreta or institutions that introduce the diversity of nature.

FOCUSED ON ACCESSIBILITY

INFORMATION SYSTEM OF THE PRAGUE BOTANICAL GARDEN

Without a Map and Compass

botanicka.cz

An orientation and information system intended not only for visually impaired visitors has been built in the Prague Botanical Garden. The first part of the system was introduced in 2008, when we installed 15 information posts to selected plants in the outdoor exposition. Since 2010, an innovative and visually friendlier system has been used.

Within the garden, we have deployed 87 wooden posts with signs and descriptions of interesting natural items (especially plants) in black print and Braille. The posts are equipped with transmitters and from 1 April to 31 October visitors can use a special earpiece, into which the text from the posts is transmitted in audio form. The recording also contains important information about the location of the exhibit and possible dangers the visitor might encounter. The earpiece can be borrowed for a refundable deposit at the outdoor exposition cash desks. This system allows visually impaired visitors who cannot read Braille to acquire interesting information. The system includes a haptic map of the southern part of the garden. The recording is available in Czech and English. Russian and German versions are available on MP3 players.

Some plant exhibits include enlarged fruit models made of lacquered oak wood. They illustrate fruits which are so small that ordinary visitors might overlook them and which are otherwise inaccessible for people with visual impairment.

Although this system requires some technological improvements, it is still an inspiring way to allow all visitors to obtain interesting information about the exhibits of the botanical garden without using the services of a guide.

Human Friendly Places

pratelskamista.cz

Human Friendly Places is a project of the Czech Red Cross. It aims to create a national network of certified service providers (in the areas of accommodation, culture, entertainment, sports, catering, etc.) who guarantee professional and high-quality services to visitors or customers with various types of impairment.

The project website provides an overview of places where providers will understand potential impairments and special needs and will be ready to respond and offer appropriate help. Certified institutions are able to solve non-standard needs and situations with great emphasis on clients' legitimate requirements. Clients can expect a professional approach from employees, high-quality service and partially or fully barrier-free environment.

Part of the certification is also regular employee training, during which participants receive both important theoretical information and practical skills. They are then able to offer excellent services to people with various impairments. This also prevents concerns, problems or obstacles on both the provider's and client's sides.

An integral part of the certification is the logo of Human Friendly Places, which must be visible at the entrance to the facility. Visitors can derive the range of offered services from the number of red crosses. These are awarded based on the amount of barrier-free spaces and the number of trained staff.

The Prague Botanical Garden first met these requirements in 2010. Since then, we have strived to retain the certification of a "Human Friendly Place" each and every year. We train guides, cashiers and also event organisation staff.

Transkript – Professional Online Transcription

transkript.cz

Transkript online s.r.o. is a social enterprise that strives to break down clients' communication barriers and provides professional online transcription services. According to the estimates of the Czech Union of the Deaf, there are up to 500,000 people with hearing impairment in the Czech Republic. Since most of these people do not know the sign language, online transcription offers them a natural way of communicating with their surroundings.

As part of an event called A Week of Communication with the Hearing Impaired in 2013 and 2019, the Prague Botanical Garden endeavoured to increase awareness of hearing impairments. This event is organised

by the Orbi Pontes association. We worked with them to provide several tours of the Fata Morgana Greenhouse and the outdoor exposition, during which transcription into tablets was used. The guide used a microphone with a phone that transmitted their voice to a remote transcriber. The transcribed information appeared on the tablets borrowed by hearing impaired visitors. This service made the tour of the botanical garden even more enjoyable.

TD Accessibility Database

t-d.se/en/TD-2

The TD Accessibility Database is currently the only database in Sweden that provides important information about accessibility of healthcare facilities, libraries, hotels, blocks of flats or other public spaces intended for the daily lives of their residents. It assesses also several gardens, parks or hiking trails.

Currently, 7254 institutions are described and their number increases every year. The web is also available in English, German, Finnish or Spanish. It contains information in sign language and people can listen to read text. The pages are responsive and adapted to be displayed on different devices.

This database was originally developed in collaboration with the Västra Götaland region, the West Sweden Tourist Board, the movement for people with special needs and with local businesses. Later, it was also supported by the Human Rights Committee, so the database could be expanded with additional information. The TD database emphasises that even a small change in the environment of an institution can improve its accessibility for a wide range of people.

Available information enables people to check the physical accessibility of a place even before planning a visit. Institutions are always described in great detail, so visitors can decide whether to visit them or not. The information is updated every three years.

Local authorities and the institutions themselves are responsible for the accuracy of the information and are randomly inspected. The data in the database follows applicable legal regulations which are in accordance with Swedish laws. The Gothenburg Botanical Garden is also included in the TD database. Visitors with special needs can use this information when planning a visit and it also helps them stay comfortable in the garden.

The FunkTek Project

funktek.se

The FunkTek project ran from 2014 to 2017 at the Museum of Gothenburg. Its motto was *"The museum should be available to everyone, so it must be accessible to everyone."* The aim was to change the foundations of how exhibits are envisioned, planned and built, so that future museums can incorporate accessibility into their very design. They did not want to find more separate, special solutions, but solutions that worked for everyone.

To achieve this, they employed people with varied disabilities to examine and analyse the exhibitions, communications and learning activities at the Museum of Gothenburg. With the knowledge and experience of those who know what it's like to be excluded by society, they could work to create a better museum. Based on the knowledge and findings of people with disabilities, the museum adjusted the planning and construction of new exhibitions. Every person should be able to experience and enjoy the museum's exhibitions under the same conditions.

One of the outputs of the project is a manual with six chapters, which summarize the FunkTek method: how to make a cultural institution more accessible. There are also tips on how to increase accessibility of individual expositions, how to lead tours for the public and how to make the accessibility of the institution the common goal for all its employees. The manual is only available in Swedish and Norwegian. A short English description of the methodology is available on the FunkTek website. There is also a contact, where people can get more information and inspiration.

Therapeutic and Spice Garden of the Miskolc Autism Foundation

miskolciautista.com, maacraft.org

The Therapeutic Garden was established in 2013 as part of the Palánta project. It has been designed as a therapeutic and useful garden to help eliminate stressful situations and arrange meaningful activities for people with autism or intellectually challenged people. At the same time, it offers new job opportunities to young people.

Garden therapy uses plants and gardening for education, social, psychological and physical rehabilitation and to strengthen the body, mind and soul. The Therapeutic Garden is an excellent place for personal development and social inclusion of people living with autism. Those who work in the garden have an opportunity for self-fulfillment and can strengthen their sense of self-worth regardless of impairment.

The garden is accessible only to clients and workers of the foundation, day care in the foundation centre, therapy for people with various forms of autism or with intellectual challenges, information boards encouraging visitors to touch, smell or have a closer look at items (e.g. different plant species). There are many interactive elements such as beds with sensorially interesting plant species, benches from willow wicker that emit pleasant sounds, shelters where people with autism spectrum disorders can feel safe.

Universal Design Information and Research Center

etik.hu/in-english

This organization was established in 2013 by the Association for Persons with Mobility Impairment in Budapest. It aims to help employers, service providers and government officials to make public spaces accessible to everyone. The centre also serves as a showroom for products and applications of accessible design. Its employees are mostly people with special needs, and thus the planned accessibility improvements of the institutions are always tailored to their demands.

The organization has strived to improve accessibility of institutions ever since its establishment. It addresses the availability of the institutions' information and the accessibility of their websites. As a part of the universal design process, UDIRC deals with the institutions' security, navigation and information systems, availability of parking spaces, selection of suitable road surfaces, accessibility of badly negotiable places by using alternative trails, suitable visitor facilities (benches, trash bins, toilets) and the accessibility of the most interesting exposition elements (e.g. important woody plants, lakes, buildings). The centre also gives advice on building barrier-free playgrounds where disabled and non-disabled children can play together.

EXPERIENCES FOR ALL SENSES

Please touch!

The Prague Botanical Garden has been organizing exhibitions for all senses for more than 20 years. They introduce various topics related to botany and are usually held once a year for two weeks. Most of them are held in the exhibition hall of the botanical garden.

These exhibitions are designed to be accessible and attractive both to ordinary visitors and to people with special needs. Visitors can touch the displayed objects and some exhibits are intended to be perceived by other senses. Exhibits are accompanied by short descriptions in black print and Braille located on the table laths. There are also concise texts and illustrative photos. A portable audio guide with recorded texts and accompanying sounds is also available. Visitors can also cover their eyes with masks and walk through the exhibition without sight.

Here you can find examples of all information materials about the last exhibition *Never Alone: The Secrets of Symbiosis* (2018): garden-comein.com/outputs/io2-exhibition

When preparing your own exhibition, we recommend following the simple rules below. And always keep in mind the safety, comfort and maximum independence of visitors:

Exhibition Spaces

- barrier-free access
- a well-arranged room with simple ground plan and without obstacles (columns, doors, thresholds, corners, etc.)
- furniture is arranged clearly and logically; ideally, tables should be placed around the perimeter of the room so as to form a logical guiding line for easy movement and orientation
- the exhibits and furniture must not obstruct and hinder the tour of the exhibition

A WHEELCHAIR MUST FIT UNDER THE TABLE

Tables

- tables with exhibits should be 75 cm high
- tables with raised edges

- descriptions of exhibits are placed on the fixed front lath of the table
- on the tables, exhibits always lie on a contrasting background – paper, board, carpet; dark exhibits on a lighter background, light exhibits on a dark background
- do not place exhibits under the tables, as they could hinder movement of wheelchairs or visually impaired visitors

BEWARE OF FALLING EXHIBITS WHILE HANDLING THEM.

TIP: When implementing the exhibition, use tables of different sizes – it's important to consider both functionality and aesthetics

Information for Visitors

- texts: simple, brief and clearly structured
- position of texts: on different levels – basic information on panels on the walls, interesting tidbits near exhibits
- the story of the exhibition: connects individual exhibits, gradation as well as connection to well-known facts or introduction of more complex topics are the most important aspects

50–60 PT ON THE WALL

33 PT NEAR EXHIBITS

26 PT ON DESCRIPTIONS

- large-format photographs, pictures, comics: suitably complement the topic of the exhibition and make it more attractive
- descriptions: each main exhibit is accompanied by a brief and concise description in black print and Braille with a warning of possible risks

TIP: visually impaired visitors can experience prickly exhibits with the help of a straw to feel their shape and structure

- location of descriptions: on the guide bar close to the exhibit, well fixed
- replacement: well-thumbed and damaged descriptions need to be replaced during the exhibition – backups are needed
- font and font size: texts in sans serif fonts of sufficient size

Exhibits

- amount: the maximum number of exhibits is about 30 pieces (it is exhausting for visitors with special needs to concentrate fully for a longer time)
- diversity: living exhibits, models, products of nature
- safety: always has priority over attractiveness, aesthetics and adrenaline!
- multisensory perception: better to include exhibits that can be perceived by more senses at once (taste, smell), as they provide a deeper and more lasting experience
- durability: ensure regular replacement or refilling of perishable exhibits
- supplementary exhibits: function only as a background, co-create the final atmosphere and serve only as an aesthetic or functional complement
- order: exhibits must be arranged to create thematic groups and their order cannot be changed during the event

WE DO NOT COUNT THEM AMONG THE MAIN THIRTY, THEY DO NOT HAVE BRAILLE DESCRIPTIONS

ATTENTION! THE AUDIO GUIDE IS TIED TO THE ORDER OF THE EXHIBITS

Audio Guide

- accessible also to visually impaired visitors, contains basic information that is also available on panels on the walls and near exhibits
- always contains instructions regarding movement and orientation within the exhibition premises
- the text is read by a professional or experienced speaker
- commentary is accompanied by suitable sounds or music

- discreet listening: headphones, easy control and option to hang the audio guide around the neck
- we can supplement the audio guide with an eye mask, which will enable even ordinary visitors to experience the exhibition through other senses
- we respect the copyright of music or sounds used in the recording

WE NEED TO HAVE FREE HANDS FOR VIEWING!

Visitor Services

- guide service: assistance to visitors with special needs; explanations, comments or recommendations; checks the condition, location and quality of exhibits; takes care of displayed plants
- placing trash bins near exhibits that can be tasted
- hygiene: place a washbasin with clean water, soap and towel at the end of the tour; during tastings, respect the principles of hygiene
- feedback: guestbook, Braille typewriter for the visually impaired
- ATTENTION! Special entrance fees could discourage some visitors.

Invitation

- to promote the exhibition, we use common information channels and social media
- we can enhance the appeal of the exhibition by creating an original printed invitation with haptic elements
- basic information is provided also in Braille
- distribution is based also on a mailing list of organizations that work with people with special needs
- school groups: due to great demand, it is better to invite schools separately and well in advance

EMAIL IS ENOUGH, SAVE OUR FORESTS

USE DIFFERENT MATERIALS, CUTTING, 3D ELEMENTS

Organisation of exhibitions for all senses is very challenging due to the wide range of activities and services offered, the need for coordination of guide services and the creation of the audio guide. We have been successfully using the following schedule of planning and preparations with only minor modifications for more than 20 years:

WHO WILL BE RESPONSIBLE? WE HAVE TO DIVIDE TASKS

How to Manage Everything in Time ...

6 months before vernissage (BV)

- Topic selection and setting the date of the exhibition
- Approaching external co-workers; agreements, finances

continuously – Promotion of the exhibition, website and social media

6–2 months BV – Literary research of the topic, selection of photos

4 months BV – Invitation creation in collaboration with a visual artist, (decide the number of copies; digital version)

3 months BV – Graphic design of invitations

2 months BV

- The story of the exhibition (thread of the story), selection of exhibits
- Exhibition script with the exact order of exhibits
- Layout of space, number, size and arrangement of tables
- Procuring exhibits, creation of models
- Preparation of texts
- Proofreading texts in invitations

2 to 1 months BV – Procuring guides

7 weeks BV – Printing invitations (black print and Braille)

6 weeks BV – Adding an interactive element to the invitation

1 month BV

- Sending out invitations
- Proofreading texts
- Printing texts, banners, photos
- Submission of materials for the audio guide
- Creation of audio guide – externally

14 days BV

- Printing of labels in black print
- Printing of labels in Braille

What Needs to Be Done One Week Before Vernissage

Check MP3 players, batteries
Prepare tables and other furniture
Install exhibits, texts, accompanying items and sanitary facilities
Prepare the vernissage – secure the program, refreshments, assign speeches
Secure a photographer

TAKE PICTURES DURING THE WHOLE EXHIBITION, DOCUMENT IT!

TIP: Do not forget to thank all your colleagues, co-workers and supporters!

While We Have Everything Fresh in Memory

Do not forget to evaluate the exhibition when it ends.
Assess what was done well and what could be changed or improved.
Process feedback from visitors and evaluate media monitoring.

Nature in Boxes

In 1996, the Prague Botanical Garden created a collection of natural items. Special schools and individuals from the general public can borrow exhibits for teaching and extracurricular activities free of charge upon one condition: to return the collection in its original state. People can personally borrow the collection in the botanical garden for an agreed period of time.

The collection includes over 100 natural items and models and is still being expanded. Botanical items acquired on expeditions, by purchase and by gathering are the basis of the collection (e.g. Lodoicea – the largest seed in the world, an extensive collection of cones or claves from various types of wood). Included are also items originally obtained for exhibitions for all senses. Another part displays exhibits of animal origin, various minerals or fossils. The collection is complemented by original models, such as the trap of a pitcher plant, the flower of rafflesia or a cactus with the parasitic Tristerix plant.

Each exhibit is stored in a cardboard box, is numbered for easier identification and contains a brief description in both black print and Braille. The collection includes a name index and also a list of scientific names of individual exhibits.

We also use the collection for educational events for the general public, when working with school groups or preparing exhibitions.

Enjoy Scents in the Garden

In 2017, the Prague Botanical Garden launched a long-term project called the Scent Trail. It focuses on perceiving nature by smell and introduces aromatic plants. There are several stops on the premises, where visitors can explore fragrances in different ways. For example, in the rosarium, they can smell various rose fragrances also outside the main blooming season. In the vineyard, they can discover the fragrant ingredients of wine bouquets. As part of the project, we created a perfume that originated and matured in the tropical Fata Morgana greenhouse. Visitors can enjoy it within an interactive panel together with several of its fragrant components. The perfume can be bought at the greenhouse reception and taken home as a fragrant souvenir.

The collections of aromatic plants have a long tradition and priority in the Prague Botanical Garden. We can mention for example: the rich collections of Mediterranean plants, medicinal herbs and spices, the collection of scented geraniums, conifers and other aromatic woody plants, blooming roses or peonies.

Aromatic plants are a part of several educational programs and are used in events for the public. One popular didactic tool is the fun "fragrance game". It is a large portable pairs game in which visitors assign pictures of plants to their scents. Images can be supplemented with plant material and expert commentary.

PLACES WORTH VISITING

Open Gardens

Údolní 33, 602 00
Brno
otevrenazahrada.cz
email: otevrenazahrada@nap.cz
phone: +420 515 903 111

The Open Gardens are run by Nadace Partnerství (the Partnership Foundation) and they welcomed their first visitors in 2013. They offer a place to rest, gain knowledge and have fun. Within the premises, there is a unique passive building with a green roof. It inspires people to conserve water, energy and reduce their impact on the environment. The garden in its immediate vicinity is dedicated to the four elements. In the neighbouring Borromeo Garden, there are interactive posts where visitors can experience nature by all senses. There is a herb garden, sheep, rabbits, chickens and bees. Visitors can use the outdoor kitchen, bread oven and smokehouse.

Accessibility:

During vegetative season: open daily for the public, partially barrier-free

Other Activities:

Thematic courses, programmes for schools, corporate events, conferences, celebrations

Interactive Elements:

Interactive elements related to the sun, air, water and earth clarifying the rules of nature

Don Bosco Logopaedic Garden

Lešenská 548, 181 00
Prague 8 – Bohnice
donbosco.cz/index.php/internet/zahrada
email: info@donbosco.cz

The garden belongs to the church school and is located in the vicinity of its dormitory. It is used not only by the school's pupils (aged 3 to 15 years), but also by children from neighbouring state schools. The garden is not open to the general public.

It is the first and so far also the only logopaedic garden in the Czech Republic. In addition to the usual playground elements, such as a spacious sandbox, a slide combined with climbing frames or colourful terraces used for various games and relaxation, there are also less common fruit trees, a small organic garden and a bed with biblical plants. Special didactic elements which help children to practise their fine motor skills and correct pronunciation are an essential part of the garden. These are for example small windmills that need to be blown into, or big wooden mouths with nets, into which children throw balls while pronouncing the right speech sounds.

Accessibility:

A garden designed for the needs of a logopaedic school; visit possible only by agreement

Interactive Elements:

Multifunctional logopaedic playground and interactive spaces for games and education (small windmills for breath training, big wooden mouths with nets to practice correct pronunciation of speech sounds)

Sensory Garden in Rudka u Kunštátu

Pod Hotelem Rudka 252, 679 72
Kunštát
rudka.cz/jeskyne/zahrada-smyslu-hmatova-stezka
facebook.com/jeskyne.blanickych.ryturu.kunstat
email: jeskyneblanickychryturu@seznam.cz
phone: +420 739 510 772, +420 604 984 459

This garden was established in 2009 and is accessible to the general public. It has been financed from the private funds of the Kunštát PRO FUTURO company, which implements educational programs for the disabled. The company strives to improve their daily lives, integrate them into society and encourage them to overcome various barriers.

During the tour of the garden, visitors are motivated in an entertaining and unconventional way to explore their surroundings. Thus, all visitors have the opportunity to perceive plants with various senses, smell or touch them and learn to recognize them. They become part of nature and can experience the uniqueness of the moment without fear. In addition to interesting plants, interactive elements, sensory games and works of art, visitors can also visit the Blaník Knights Cave and the nearby observation tower.

The founders of the garden strive to create a pleasant space, where visitors could feel happy regardless of disability. They can also access interesting places that are otherwise difficult to negotiate.

Accessibility:

Parking area and accommodation close to the garden, a guide upon request (visually impaired worker and guide that knows sign language), descriptions in Braille, haptic plan of the garden; barrier-free toilet not available

Other Activities:

Organising special events, such as tree planting with visually impaired visitors; collaboration with the KreAt studio of artists with disabilities – exhibitions, workshops (kreat.cz)

Interactive Elements:

Underground phone, sound granite stone, giant kaleidoscope, sensory trail

Žampach Arboretum

Žampach 1, 564 01
Žamberk
uspza.cz/arboretum
facebook.com/arboretumzampach
email: info@uspza.cz
phone: +420 604 846 410

The arboretum is an integral part of the welfare centre called Domov pod hradem Žampach (Home under the Žampach Castle). It covers an area of about 4 hectares and the collections contain about 600 species and cultivars of woody plants, including species rare in the Czech Republic. Its information system is accessible from the web and contains indexes of boards and woody plants; within the premises, there is an educational trail with information on boards. Žampach belongs to general arboreta but includes also important thematic collections of several genera of woody plants.

In June 2018, the Sensory Park was opened in the arboretum with many activities available for the clients of the Home. It is also open to the general public (as is the whole arboretum).

The Sensory Park includes special elements and objects that provide sensory experiences to wheelchair users, since they cannot walk in the forest or on the lawn. The boards in the park contain texts transcribed into images which serve as an alternative form of communication. In the park, visitors can experience their surroundings with all senses and train their perceptions.

Accessibility:

Arboretum open all year round free of charge, parking area at the entrance to the premises, good facilities in the local tourist centre, guided tours also for people with special needs, a hippodrome with a special platform, boards in the Sensory Park with transcriptions into images and audio files with information from the boards available on the web

Other Activities:

Castle Festival, Summer Music Festival under the Żampach Castle

Interactive Elements:

Dance chimes, xylophone, sensory trail, small water mill, haptic vessels, herbal bed with aromatic plants

Arboretum and Institute of Physiography in Bolestraszyce

Bolestraszyce 130, 37-722

Wyszatyce

bolestraszyce.com.pl

email: arboretum@poczta.onet.pl

phone: +48 16 671 64 25

The Bolestraszyce Arboretum is situated in south-eastern Poland, 7 km north-east of Przemyśl. It was founded in 1975 on the lands of a historical mansion estate. It covers an area of more than 28 hectares and contains over 4000 species, cultivars and forms of plants arranged in various collections.

In 2007, a didactic garden called the Garden of Senses was opened here for people with special needs. It covers an area of 1 hectare and contains six trails. The description of each trail is available in Braille and haptic maps are installed on information panels within the garden. Water-loving plants, herbs, grasses, miniature shrubs and trees have an effect not only on sight but also on other senses. The beds are raised and direct contact with plants is thus easier. Visitors can learn the shape and texture of leaves as well as the smell of the flowers. Plant descriptions are always close – both in Braille and in large black print.

The arboretum is the best botanical garden in Poland as far as adaptation to people with special needs is concerned.

Accessibility:

The Garden of Senses located near the main entrance to the arboretum, nearby parking area and toilets, haptic maps within the premises, descriptions in Braille and large black print, guide in Braille available, descriptions and recordings of selected plant characteristics available for download on the web, trail surfaces from different materials for easier orientation within the garden, raised beds, programs for visitors with special needs

Interactive Elements:

Freely planted edible plants, haptic planetarium with constellations that can be seen above the arboretum

Specialized Educational Centre for Children with Visual Impairment in Owińska

Plac Przemysława 9, 62-005

Owińska

niewidomi.edu.pl

email: biuro@niewidomi.edu.pl

phone: +48 61 812 04 86

The Park of Spatial Orientation was opened in 2012. It belongs to a Cistercian monastery, where the management of the specialized educational centre is also located. The garden covers an area of 3 hectares, includes about 280 plant species and is divided into two parts: a landscape garden used for recreation and a restored baroque garden. In the specialized educational centre, there is also a typhology museum, the only one of its kind in Poland, and a typhloacoustic laboratory where students get acquainted with the sounds of the city.

In the baroque garden, visitors can find not only ornamental plants but also fruit trees and vegetables that children use during cooking classes. There are four raised and symmetrically located beds. They have different shapes which facilitates orientation. Water inlets on the beds are equipped with different animal-shaped taps to serve as orientation points. Plants are also described in Braille.

In the recreational area, there is a playground and sports ground, a fire ring, a racetrack and other attractions. Most equipment provides auditory perceptions – there are for example objects that conduct sound or are used for balance training (swings, climbing frames, nets, trampolines).

There is also a large pond with small bridges and a water cascade. The paths have different surfaces to facilitate orientation. There is also a greenhouse, a small orchard and a farm with poultry and rabbits.

Accessibility:

Park accessible during opening hours, symmetrical beds, different trail surfaces and features that facilitate orientation, descriptions in Braille

Interactive Elements:

Typhloacoustic laboratory, elements that provide auditory perceptions, balance training, contact with animals

Botanic Garden and Forest Park for Culture and Leisure in Bydgoszcz

Gdańska 173-175, 85-674
Bydgoszcz
myslecinek.pl/content/ogrod-botaniczny
email: sekretariat@myslecinek.pl

The garden in the Forest Park for Culture and Leisure was established in 1980, covers 60 hectares and has very varied terrain. Its main goal is to preserve, maintain and introduce communities and species of native plants. The educational trail for visually impaired visitors was opened in 1999. It lies on flat, grassy terrain and is 300 metres long. Plants are planted along the railings on a winding path. The trail introduces about 230 systematically organized plant species. The most significant are those that should be perceived by touch and smell. Plants that are up to 1 m tall are planted in the ground, shorter ones are in tall pots to be closer to visitors. Metal boards with Braille descriptions are attached to the railings at the height of 90 cm. Texts in black print are placed on boards embedded in the ground.

Accessibility:

Garden open all year round free of charge, trail intended for the general public including visually impaired visitors, descriptions in Braille and black print, large parking area near the trail, accessible also by public transport

Other Activities:

Regular workshops for children from the Specialized Educational Centre for Children and Youth with Visual Impairment in Bydgoszcz

Torun Zoological and Botanical Garden

Bydgoska 7, 87-100
Toruń
zoo.torun.pl/pl
email: sekretariat@zoo.torun.pl; dydaktyka@zoo.torun.pl
phone: +48 56 622 42 10

The Torun Zoological and Botanical Garden can be found right in the city centre. It was established in 1797 as a botanical garden and since 1965, it has been a zoo as well. It covers an area of 3.81 hectares and has very varied terrain. The garden includes a dendrological collection and also a collection of roses and rock plants. About fifty animals are introduced here. Since 2016, the garden has been using sound posts that allow visually impaired visitors to learn more about the garden and its inhabitants.

The posts were installed near selected pens and in the reptile pavilion. Visually impaired visitors can borrow a remote control that informs them by vibration about the presence of a post. After pressing a button on the device, a recording with the description of the animal will start. In winter, only indoor posts can be used. In the aviary, visitors can find the distribution of particular bird species on a world map. Visitors can also listen to their singing. Animals are also described in Braille. For some trees, haptic graphics has been used on the information panels.

Accessibility:

Audio posts and vibrating transmitters for their detection, descriptions in Braille

Interactive Elements:

Audio information about animals including bird calls, haptic graphics on boards near important tree species

Museum of Gothenburg

Norra Hamngatan 12, 411 14
Gothenburg
goteborgsstadsmuseum.se/en
phone: +46 031 368 36 00

The Museum of Gothenburg is connected to the Swedish TD Accessibility Database. It can be found in the historical building of the former Swedish branch of the East India Company from 1750. Individual expositions introduce Gothenburg and its 12,000-year-old history: from prehistoric times to the present. One of the most interesting exhibits is the only surviving Swedish Viking ship. The institution also organizes short-term exhibitions. From 2014 to 2017, the museum focused on improving its accessibility as part of the FunkTek project which was based on the idea that "It is the museum that is disabled, not the visitors". The aim of FunkTek was to enable everyone to visit and enjoy the museum. Various accessibility workshops were held in the museum, for example on how to write texts that are easy to understand or how much space is needed around exhibits to enable a comfortable tour for wheelchair users.

Accessibility:

All expositions accessible by lift, wheelchair ramps, wheelchair available at the cash desk, barrier-free toilets, assistance dogs welcome, some rooms equipped with induction loops or descriptions in Braille, responsive design of the website, the choice of font size, colour or contrast

Interactive Elements:

These elements are part of individual expositions

Vasa Museum

Galärvarvsvägen 14 Djurgården
Stockholm
vasamuseet.se/en
email: info.vasa@maritima.se
phone: +46 8 519 548 80

The Vasa Museum is one the most popular museums in Sweden. It highlights the glory and uniqueness of the surviving Vasa warship from 1628, which is decorated with hundreds of wooden statues. The ship sank in Stockholm and after 333 years at the bottom of the sea it was lifted up and displayed in a museum. It is the only surviving vessel from the 17th century in the world. The museum strives to make its expositions as accessible as possible.

For visually impaired visitors, there is a model of the Vasa warship which highlights not only its shape but also detailed structures. A movie available in 16 languages is broadcasted also via induction loop. Furthermore, there is a special educational room called All aboard! which is designed to stimulate the senses. Information gained during the visit should be understandable, learnable and suitable for all. The room offers visitors various educational elements, regardless of their impairment. The lift is also designed in a non-traditional manner – it is shaped as a diving bell. The room is not open to the general public, since it is intended for educational activities of groups and classes.

Accessibility:

Free entry for people accompanying visitors with special needs, assistance dogs welcome, parking area for people with special needs directly at the entrance, all floors accessible by lift, wheelchairs available, website translated into 40 languages, texts are easy to read and available also in sign language, induction loop for screened movie, Braille descriptions

Interactive Elements:

Vasa warship model, haptic map of a port in front of the museum, lift shaped as a diving bell

Jeli Arboretum

9841 Kám Periphery
Vas County
jelivarazskert.hu
email: tamas@vasvar.szherdeszet.hu
phone: +36 30 649 95 70

The arboretum covers an area of 103 hectares and is famous for its large collection of rhododendrons. There are more than a thousand bushes, some of which are over 100 years old. The best time to visit is from late April to early June when the garden is in bloom. Visitors will be enchanted by the flood of flowers that are pleasing both to the eye and nose. Recently, a collection of richly flowering and fragrant plants has been planted in the arboretum. It consists mainly of various species of magnolias, hydrangeas and downy Japanese maples.

In 2016, a 1.5 km trail was opened for people with reduced orientation and mobility. It is accompanied by 40 information boards with texts about plants in black print and Braille. They concern mostly species that visitors can touch or smell. The information system also includes an overview of the history of the garden. Visitors with special

needs can borrow an audio guide free of charge. Along the trail, there are shelters and benches designed for people with reduced mobility, so they can relax on the relatively long route.

Accessibility:

Free entry for people with special needs, barrier-free road surfaces and trail, information system in Braille and black print, audio guide available, shelters and benches suitable for people with reduced mobility

Szentendre Open Air Ethnographic Museum

Sztaravodai út 75
2000 Szentendre
skanzen.hu
phone: +36 26 502 537

Although the Szentendre Open Air Ethnographic Museum is not really a garden, it includes more than 60 hectares of natural land, which are part of the Duna-Ipoly National Park. Visitors can experience traditional Hungarian folk culture through special programmes and workshops not only for people with special needs. There is also the National Methodical Centre of Museum Pedagogy. Their exhibitions introduce forests, meadows, fields or historical vegetable gardens. They show the lives of our ancestors who lived in harmony with nature, while the world kept changing around them.

Not all the traditional houses within the open air museum are accessible to visitors with reduced mobility. However, the entire visitor trail is easily accessible to wheelchair users. In every exhibition area there is a clay board with the layout of the corresponding part designed for visually impaired visitors. The displays also include small models with Braille descriptions.

Accessibility:

Accessible visitor trail, workshops and tours for people with special needs, haptic plans of exhibitions, Braille descriptions

Other Activities:

Special programmes for senior citizens suffering from dementia, integrated camps for youth and young people with reduced mobility or orientation, a special course for teachers and museum educators focused on museum accessibility and people with special needs

Interactive Elements:

small models of displayed items, wide range of special education programmes

WHAT TO READ

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Roots 3:1 – Access for all: Problems and Solutions Beyond the garden path – an introduction to access and inclusion for people of all abilities

Marcus Ormerod and Jane McCleave, University of Salford, UK

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Botanical Garden: COME IN! Visitors with Special Needs in Botanical Gardens Methodology

Team of authors:

Prague Botanical Garden, Czech Republic

Amálie Balaščíková, Tomáš Kebert, Klára Lorencová, Eva Novozámská, Lenka Prokopová, Jarmila Skružná, Iva Vilhumová

Gothenburg Botanical Garden, Sweden

Kennert Danielsson, Helen Ekvall, Eva-Lena Larsson, Karen Otto

Adam Mickiewicz University Botanical Garden in Poznań, Poland
Alicja Kolasińska, Rokšana Lubkowska, Joanna Markiewicz

Hungarian Association of Arboreta and Botanic Gardens
Anikó Gál-Bélteki, Antal Radvánszky, Zsuzsa Szendi, Vince Zsigmond

Editor: Jarmila Skružná

Expert review: Pavlína Šumníková

Translation: Amálie Balaščíková

Corrections, consultation: Daniela Pařízková

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Illustrations: Vladimír Veselý, Lucie Martišková – 4, 57

Authors of the photos:

AB Amálie Balaščíková – 14, 17, 30, 38, 50, 59, 63, 84
AIV Personal archive of Iva Vilhumová – 19, 20
DG Daniel Gillbert – 77
ES Ellinor Smederöd – 25
EV Eva Vítová – 40, 65
HE Helen Ekvall – 79, 79
HF Hegyi Füstös – 83
IKHF Ilona Kustánné Hegyi Füstös – 83
JM Joanna Markiewicz – 67, 67, 71, 71
JS Jarmila Skružná – 18, 26
JŠ Jaroslav Škopek – 10
KH Klára Hrdá – 65
KL Klára Lorencová – 10, 13, 27, 28, 50, 51, 53, 58, 59
LE Lucia Escarate – 77
LM Lenka Mitrenga – 60
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TK Tomáš Kebert – 50, 54, 56
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