



**FEASIBILITY
STUDY**

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Tourism Potential of the Green Sensory Spaces Network in Žemaitija and Zemgale Region

Interreg



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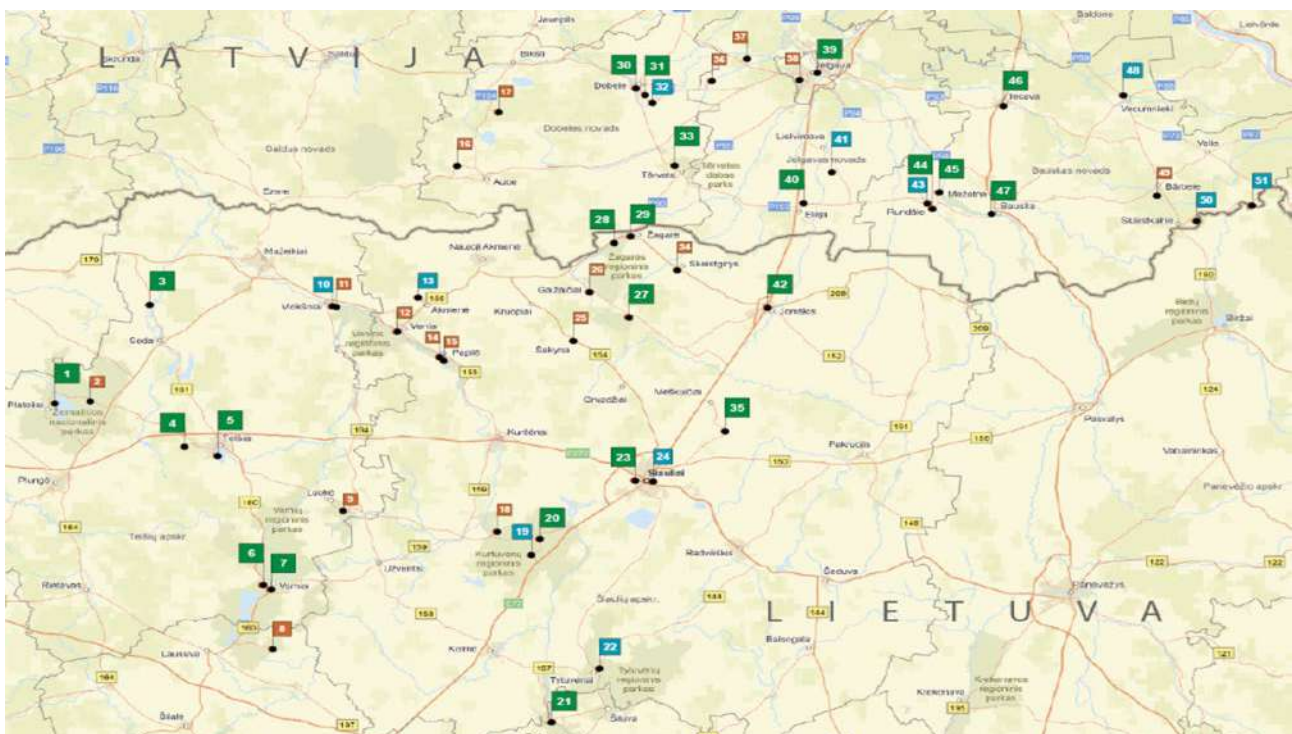
INTRODUCTION

This feasibility study examines the tourism potential of green sensory spaces in the historic Zemgale region. Having collected and summarised information on tourist attractions exhibiting characteristics of sensory spaces in eastern Žemaitija (historically known as Samogitia), Lithuania, and western Zemgale (Semigallia), Latvia, the study analyses whether these sites could become a promising form of tourism development in the region. It also discusses how to transform them into attractive, visitor-friendly tourist destinations, identify target groups' needs, and respond to them appropriately.

The sites selected for analysis are concentrated in the territories of the 'Green Secrets' project partners, occasionally extending beyond them to include locations in the Šiauliai and Telšiai counties in Lithuania, as well as the Dobele, Jelgava and Bauska Counties in Latvia.

The content of the study is geared towards practical recommendations for owners, managers and administrators of existing and potential natural sites, as well as anyone interested in green sensory spaces. It provides an overview and recommendations regarding site adaptation for visitors, therapy, and tourism development, and discusses universal design solutions that ensure accessibility for people with disabilities.

The visual material accompanying this study includes photographs provided by Lina Jankauskienė and Gintaras Venckus, as well as images sourced from the official websites of the 'Green Secrets' project partners, Wikimedia Commons, and other publicly available online sources.



GREEN SENSORY SPACES

In today's technological age, increasing attention is turning to the natural world, which has a positive impact on human health and well-being. Terms like forest therapy, forest bathing and sensory therapy are gaining popularity. Within this context, sensory spaces and sensory gardens play an important role. Designed specially as green environments, they stimulate the senses and provide therapeutic benefits.

The origins of these spaces date back more than four decades. In the Netherlands, at the Hardenberg Institute, multisensory rooms (snoezelen) were set up for people with disabilities. Around the same time, horticultural therapy gained popularity in the United Kingdom, prompting the creation of therapeutic green spaces, such as gardens for the blind. Over time, this practice expanded into a broader concept: sensory gardens and sensory spaces.

Since this term is not yet fully established in Lithuanian, several synonyms are used interchangeably in this publication: sensory spaces, green sensory spaces, green sensory gardens and sensory gardens. In each case, these terms refer to the same specially designed or adapted green spaces created to evoke positive sensations and deliver therapeutic benefits.

Various environmental elements stimulate visitors' senses in green spaces: colourful, fragrant plantings, flowing or cascading water features, and diverse wildlife such as fish and birds. Additionally, specially designed activity zones—such as playgrounds, fitness areas, and quiet spaces for rest—enhance the overall experience. The sensory experience is complemented by a variety of activities: food tasting, relaxation, mindful walking along sensory trails, horticultural therapy, and sun exposure.

To maximise therapeutic benefits, sensory spaces can be designed for specific target groups, including children, senior citizens, individuals with physical or intellectual disabilities, and those recovering from trauma or undergoing addiction treatment. For this reason, these spaces are frequently integrated into educational institutions, hospitals, rehabilitation centres or care homes.

It is important to emphasise that different visitor groups have specific needs, meaning that sensory space design elements must be carefully chosen. For example, plants that release large amounts of pollen are unsuitable for people with respiratory conditions, whilst individuals with mobility impairments require level, hard-surfaced paths, ample space for manoeuvring, and automatic doors or gates. Similarly, people recovering from a stroke need handrails, whereas those with dementia require a clear, easily comprehensible spatial layout.

Sensory spaces can be created not only at specialised institutions but also incorporated into public green spaces accessible to all, such as city parks. Even without a conscious sensory design, most public parks naturally contain elements that stimulate the senses. This stems from a shared aim to create a harmonious, aesthetically and emotionally engaging environment that fosters positive visitor experiences.

Various approaches can be used to assess whether a green space effectively engages the senses, but one of the simplest is to observe and analyse visitor behaviour. Several indicative levels of assessment can be identified:



- If a green space is passed through without being noticed, it is considered ineffective, as its impact on the senses is minimal.
- If the space is noticed but passed through without stopping, the connection with the surroundings remains superficial, indicating low effectiveness.
- If the space draws people in, prompting them to linger and consciously enjoy the surroundings, it effectively stimulates the senses and establishes a strong connection with the visitor.

SENSES, EMOTIONS AND BEHAVIOUR

Visitor behaviour within green spaces directly reflects their sensory experiences and emotional responses. Observing and analysing these behavioural patterns provides insight into the connection visitors form with the environment, clarifying what influences their choices and dictates their specific behaviours.

Traditionally, five basic human senses are recognised:

- **Sight**
- **Smell**
- **Hearing**
- **Taste**
- **Touch**

However, in green spaces, other sensory modalities are equally vital; these include **balance, the perception of movement and body position (proprioception), and the perception of pain**. Together, all of these elements shape the visitor's overall experience. Sight provides most of the information a person receives about their environment, with an estimated 80% perceived visually. Nevertheless, other senses play a crucial role, particularly when vision is limited.

The loss of one or more senses does not inherently enhance the remaining ones; rather, individuals naturally compensate by relying more heavily on the sensory inputs available to them.



In green spaces, the senses are stimulated by various elements of the environment:

- sight – by colourful plants, their leaves and flowers, and the colour and volume combinations of elements that define the space;
- smell – by fragrant flowers, stems, leaves, aromatic plant parts, and other natural scents;

- hearing – by the rustling of the wind in the foliage of various tree species, pinwheels, the sounds of flowing and cascading water, and wildlife acoustics;
- taste – by edible plants, fruits, vegetables, herbs or medicinal flora;
- touch – by plant foliage, tree bark, water, stones, and the movement of the wind;
- balance – by swings, suspension and floating bridges, jetties, booms, trails through swaying tall grasses, optical art installations, and various devices that encourage movement;
- sense of movement and space (proprioception) – by tasks that encourage physical interaction, such as picking up an apple, plucking a plum, stroking tree bark, handling larch or spruce needles, and shelling nuts;
- the sensation of pain – by stimuli that can cause temporary discomfort, such as plants that prick, sting, or cause itching.

Sensory experiences in green spaces are also shaped by other factors not listed here, often deliberately introduced by the designers, managers and maintenance teams of these areas.

It should be underscored that sensory experiences in nature are constantly changing, particularly across different seasons. For example, the green wetland reeds swaying in the wind during midsummer wither in autumn and are eventually flattened in the colder months. Flower beds bloom in succession, transforming their visual structure dramatically by winter. The soundscape shifts as well: the gentle rustling of the wind in lush, leafy canopies during the warmer months turns into a sharper, whistling sound among bare branches in winter.

However, sensory perception is influenced not only by seasonal shifts but also by subjective individual and cultural factors. A single environment can evoke vastly different responses, as human reactions are shaped by physiological characteristics (such as sensitivity to smells or allergies), psychological aspects (emotional attachments, fears, and phobias), and personal history and cultural backgrounds. As the popular saying goes, ‘there’s no accounting for taste’—an insight applies equally to all the senses.

The assessment of the environment also depends on social norms and established attitudes. Individuals from diverse backgrounds (different cultures or natural landscapes) perceive nature and its elements differently. For example, a gardener may struggle to recognise the aesthetic value in plants traditionally viewed as weeds.

Over time, society’s relationship with nature has also transformed. The previously dominant consumerist attitude, focused on ‘conquering’ nature, is increasingly being replaced by a mindset that cherishes and protects it. This shift is clearly reflected in landscape design: traditional horticultural practices are gradually giving way to naturalistic park designs, where once-unwanted plants and animals are now valued as vital components of a healthy ecosystem.

The primary goal of green spaces is to foster positive sensations and emotions. However, maintaining a balance is crucial, as overly intense sensory stimulation can have the opposite effect— evoking discomfort, fear, or even pain. Excessive

stimuli can trigger strong negative emotions; for instance, certain sounds and vibrations cross the threshold into ‘noise’, the harsh cries of specific birds are far from ‘chirping’, and intense odours become a ‘stench’. Similarly, while some plants are pleasant to touch, others cause itching or pain. Therefore, when designing sensory spaces, carefully assessing the nature and intensity of stimuli is essential.



ACCESSIBILITY OF GREEN SENSORY SPACES

Since their inception, green sensory spaces have focused on fostering positive visitor experiences, particularly for individuals with disabilities or those in need of therapeutic support. However, the modern approach to accessibility is shifting: rather than merely adapting spaces for specific groups, the goal is now to implement universal design that ensures comfort for all users.

Statistical data indicate that a significant proportion of the population faces various functional limitations. According to 2022 Eurostat data, 27% of the European Union population aged 16 and over are people with disabilities. When considering these individuals as visitors to green spaces, the scale is immense; thus, universal accessibility is becoming a necessity rather than an **exception**. **It is essential to recognise that most people, including those with disabilities, do not wish to be singled out or rely on the assistance of others—they seek to use public spaces independently.**



When visiting managed green spaces, a recurring observation was that despite being officially labelled as 'adapted for people with disabilities', these sites often remain unvisited by the very groups they were designed for. Laura Stadalninkaitė, Public Relations Officer at the South-West Centre of the Lithuanian Association of the Blind and Partially Sighted, clarifies the reason: 'We often assume there is nothing there for us. But once we find out that something has actually been created with our needs in mind, we will definitely visit!'

It is therefore recommended to apply the principles of universal design to ensure the environment is inherently accessible to all users without the need for subsequent adaptations. Features such as level paths, threshold-free entrances, automatic doors, clear signage, and tactile surfaces provide universal benefits, enhancing the experience for every visitor group.

Universal design not only enhances accessibility but also serves as a tool against discrimination by creating a level playing field for everyone. Such environments benefit a broad spectrum of users, including families with young children, seniors, and individuals with temporary health issues. For instance, the elimination of thresholds and steps ensures seamless access for prams, bicycles, walkers, and scooters, while automatic doors and elevators enhance convenience for all visitors.

One effective method for enhancing spatial awareness is the use of tactile models. They provide a clearer understanding of the structure and layout of objects; while they are essential for individuals with visual impairments, they also serve as valuable developmental tools for children. Given that modern





technology enables the cost-effective production of these models, they should be integrated alongside information boards at popular landmarks and public sites.

However, not all environments can be fully adapted to universal design principles, particularly cultural heritage sites or sensitive natural areas. In such instances, providing clear, accurate, and reliable information regarding accessibility constraints becomes paramount.

Proper communication manages visitor expectations and empowers individuals to assess their own capabilities in advance. Indeed, experience shows that even well-adapted spaces may remain underutilised if their accessibility features are not effectively communicated.



Green Spaces in Zemgale with Sensory Features

In the Žemaitija and Zemgale regions, we have identified nearly two hundred sites of interest within the project partners' territories that feature sensory spaces. The selection is highly diverse, ranging from hill forts, water mills and educational trails to visitor centres and their outdoor environments. The list includes suspension and floating bridges, urban parks, botanical gardens, and community green spaces, as well as sculpture parks, plant nurseries, mini zoos and historic manor parks. Additionally, the study covers natural landmarks such as springs, dams, and energy labyrinths, as well as art spaces and museums.

Most sites were visited in person and evaluated based on their appeal as sensory spaces, as well as their accessibility and suitability for people with disabilities.

The assessment of sensory appeal identifies specific elements that stimulate the five primary senses:

- Visual elements: Use of colour palettes and diverse spatial arrangements to create engaging landscapes.
- Olfactory elements: Integration of naturally scented plants and other organic sources of fragrance.
- Auditory elements: Natural soundscapes, such as the rustling of wind through trees and grasses, flowing or cascading water, the calls of birds and other animals, and the rustling of the ground cover. It also considers the value of 'silence' (the

absence of urban noise) and intentional acoustic features like windmills.

- Gustatory stimuli: Inclusion of edible landscaping, such as fruits, vegetables, and flowers, intended for tasting.
- Tactile elements: Variation in ground textures (path surfaces) and both natural and purpose-built installations designed for physical interaction.

Accessibility adaptations for people with disabilities were evaluated based on the following criteria:

- surface texture of roads and paths;
- tactile walking surface indicators (TWSIs) for orientation;
- signage and information provided in Braille;
- navigability for individuals with mobility impairments;
- spatial (tactile) models of the site;
- audio guides and specialised mobile applications;
- availability of assistance from third parties;
- universal design solutions and specialised equipment;
- additional adaptation methods tailored to specific needs.

Physical navigability for people with disabilities was assessed according to two primary criteria:

- whether the site is independently navigable for individuals with visual impairments;
- whether the site is independently navigable for individuals with mobility impairments.

EXPLANATION

Accessibility is treated as a distinct criterion because, in practice, ‘adapted’ sites often remain unreachable. For instance, a nature trail designed to be accessible might still feature insurmountable obstacles such as steps, steep inclines, or narrow footbridges. Similarly, buildings equipped with elevators may be hindered by high thresholds or narrow doorways.

Once the criteria are scored and systematised, the findings are presented in a grouped summary.

The appeal of sensory experiences varies significantly across different locations. The highest level of stimulation occurs at complex sites that integrate natural and man-made elements. These areas often feature both indoor exhibitions and extensive outdoor spaces, such as flowering parks, water bodies, fountains, springs, various types of bridges, tactile natural and artistic installations, aromatic and edible plants, opportunities for educational and recreational activities (e.g., gardening, meditation, yoga), infrastructure for physical activity (swings, barefoot trails), beaches or nature trails through various habitats.

Such complex sites encompass a much broader sensory spectrum than individual locations where only one or two stimuli predominate.

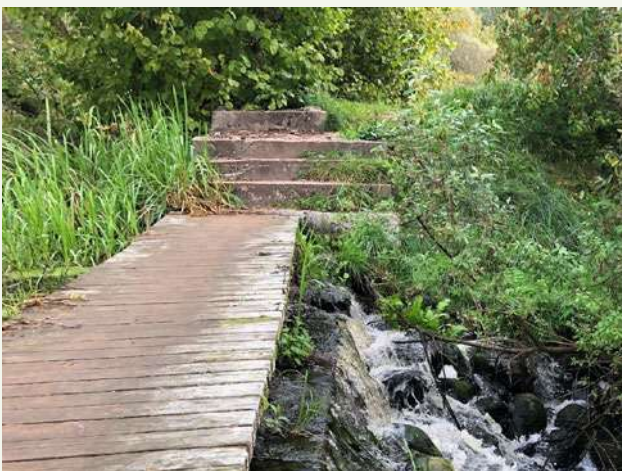
Sensory stimuli in natural areas are highly dependent on seasonal changes and climatic conditions.

Although the selected sites in Zemgale and Žemaitija exhibit diverse characteristics, their green sensory features can be summarised as follows:

- **Visual** elements are a universal characteristic present across all sites.
- **Olfactory (aromatic)** elements are most prominent in locations featuring medicinal herb gardens, plant-drying facilities, or equipment for distilling hydrolats or essential oils, as well as specific growing sites (e.g., waterlogged areas). Specific natural sites, such as the sulphurous Bārbele spring in Latvia's Bauska County, provide striking examples of intense natural odours.
- **Auditory** elements prevail in areas with flowing or cascading water and abundant birdsong, particularly where natural silence is undisturbed by urban noise.
- **Gustatory (taste)** elements are context-specific, occurring primarily where visitors are encouraged to sample edible plants.
- **Textural (tactile)** elements stand out on barefoot trails, interactive art installations, and water features.
- **Vestibular and proprioceptive senses** are activated by swings, suspension or pontoon bridges, and specialised sensory trails equipped with specific physical exercise equipment.
- **Nociception (the sensation of pain)** is even intentionally induced but may occur through incidental contact with natural stimuli, such as prickly plants or abrasive surfaces.

ADAPTATION FOR INDIVIDUALS WITH DISABILITIES

While various information sources present these sites as accessible, on-site assessments reveal that adaptation is often fragmentary. In most cases, the existing infrastructure fails to provide a seamless experience, rarely enabling visitors with disabilities to explore the sites independently, safely, and with dignity without external assistance.





Road and path surfaces are frequently unsuitable for visitors with mobility impairments and visually impaired visitors navigating independently. Natural landmarks often remain inaccessible, as the only routes consist of meadows or paths that are unstable, muddy, or made of natural soil. These routes are often obstructed by tree roots or steep steps. Furthermore, the absence of continuous structural landmarks makes orientation with a white cane nearly impossible. In some instances, while the site itself is technically accessible, reaching it from the parking area is hindered by insurmountable kerbs, a lack of designated walkways, or difficult terrain such as loose gravel.

Tactile indicators are more common in urban environments but are almost non-existent in natural spaces, where their installation is often technically



challenging. In such settings, a clear path surface that contrasts with the surroundings, along with physical landmarks (e.g., lawn edging or the edges of timber planking), becomes essential for navigation.

Braille signage and information are rarely provided. It is worth noting that while Braille is primarily used for essential functional information—such as



room numbers or restroom signs—detailed descriptive content can be more effectively delivered through rapidly advancing digital tools, such as mobile apps with voice-output capabilities.

Is it possible to access the site with a mobility impairment? For many visitors, the answer is only a partial ‘yes’, as accessibility is often limited to specific areas. In natural settings, the primary barriers remain steps, steep gradients, narrow pathways, and unstable surfaces. Within buildings, movement is frequently hindered by non-automatic or narrow doors, high thresholds, and stairs.

Tactile models are occasionally found in visitor centres or urban spaces, but audio guides and mobile apps remain underutilised.

Assistance from third parties (verbal and physical) is offered at all sites where staff are present.



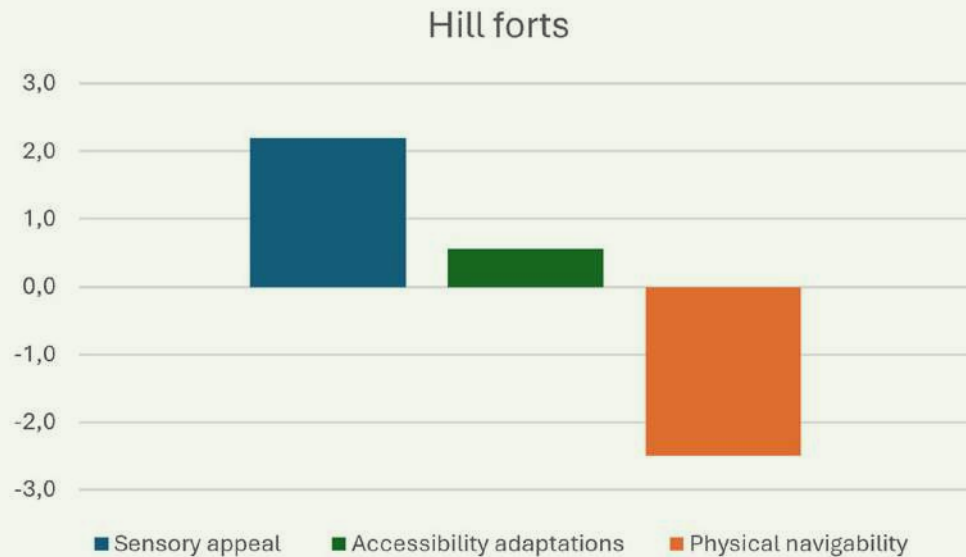
Universal design equipment and solutions are generally implemented successfully in new developments; however, this is not always the case when renovating older sites. In such instances, more complex technical solutions are required, which are not always feasible.

Additionally, there **is a severe shortage of** high-quality, clearly marked and genuinely **accessible sanitary facilities** for people with disabilities.

In summary, people with disabilities can visit most sites only when accompanied by an escort or assisted by staff. **None of the analysed sites provides the conditions for fully independent access.**

The patterns observed across various groups of visitor attractions are discussed below.

HILL FORTS



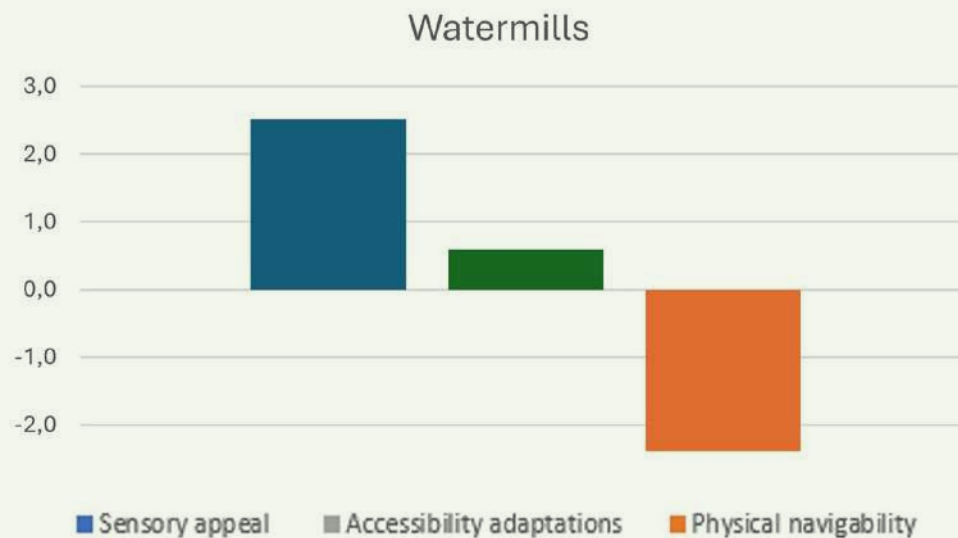
Hill forts are characterised by a powerful visual perception of space, complemented by the sensory experiences of wind, ambient sounds, and the scents of the surrounding flora and fauna.

However, ascending these sites requires physical effort, making them unsuitable for visitors with mobility impairments. Ensuring accessibility for all hill forts is exceptionally challenging due to the necessity of preserving their archaeological and landscape value; extensive alterations would inevitably compromise the site's physical and visual integrity.

It is recommended that individuals with visual impairments visit hill forts accompanied by an assistant. In summary, these sites remain inaccessible for independent navigation by visitors with mobility or visual impairments.



WATERMILLS



Water mills often feature both indoor and outdoor exhibitions, with surroundings characterised by a rich sensory blend of natural and cultural (urban) environments.

The primary sensory stimuli are the sounds and sights of water flowing or cascading over dams, further enhanced by the tactile experience of splashing water. The ecosystems of rivers and their banks are abundant with birds that can be both seen and heard. Along the banks, the vegetation rustles and emits distinctive scents, while the varied surfaces of paths, bridges, and open spaces further enrich the tactile experience.



These sensations are also weather-dependent; during droughts, as water levels recede, the sensory impact of the water diminishes.

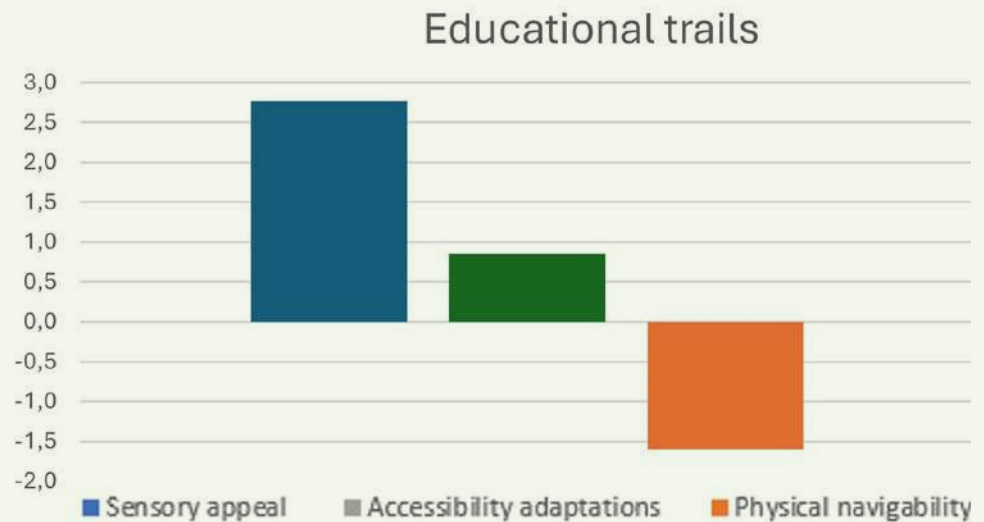
While the surroundings of most water mills are nominally accessible, visitors often encounter significant practical barriers. Path surfaces are frequently difficult to navigate or entirely unsuitable due to loose sand, gravel, crushed stone, slippery clay, uneven paving, or steps. For safety reasons, proximity to the water is often restricted. Furthermore, quays, bridges, and jetties are often unsafe for individuals with mobility or visual impairments.

The interior exhibitions of water mills are generally not accessible to people with disabilities; moreover, the structural features of these historical buildings significantly limit their potential for adaptation.

In summary, the surroundings of water mills are accessible to visitors with mobility or visual impairments only when accompanied by an escort. Navigating these obstacles independently remains either impossible or unsafe.



EDUCATIONAL TRAILS AND NATURAL RECREATION AREAS



Educational trails and natural recreation areas stand out as highly attractive spaces, offering distinct sensory characteristics. Longer routes traverse diverse landscapes and habitats, making them exceptionally rich in natural sensory stimuli.

Adapted infrastructure assists visitors in navigating the routes, while information systems help them discover local attractions and orient themselves within the area. The visual experience is complemented by natural sounds, the scents of various plants, and tactile sensations provided by diverse surfaces. These natural stimuli are further enhanced by infrastructure designed for both



active and passive recreation, including physical activity equipment, play areas, beaches, benches and sun loungers.

While certain sections of the educational trails are suitable for visitors with disabilities, information regarding their accessibility is often insufficient. For individuals with visual impairments, navigating these trails independently is nearly impossible because the natural surfaces lack the necessary orientation cues. At least minimal structural landmarks—such as boardwalk edge or a kerb—are essential to help these visitors maintain the direction of movement.

For visitors using standard wheelchairs, natural, soft or uneven trail surfaces—along with gradients, steps, and protruding tree roots—pose significant challenges.

Consequently, these educational trails cannot be navigated independently by people with either visual or mobility impairments. It is crucial to emphasise that **even a single insurmountable obstacle can force a visitor to turn back**. In some instances, while the trails themselves may be partially accessible, there is a lack of adequate connectivity, such as a convenient link between the car parks and the trailheads.



VISITOR CENTRES



Visitor centres typically feature individual sensory elements, such as touch or smell; however, the information on the premises remains predominantly visual.

The sensory experience is significantly enhanced in those centres that integrate outdoor spaces. In these environments, visitors can move beyond observation to actively engage with their surroundings: using swings, touching various structures, admiring or smelling plants, listening to the sounds of water and birds, and interacting with artistic installations.

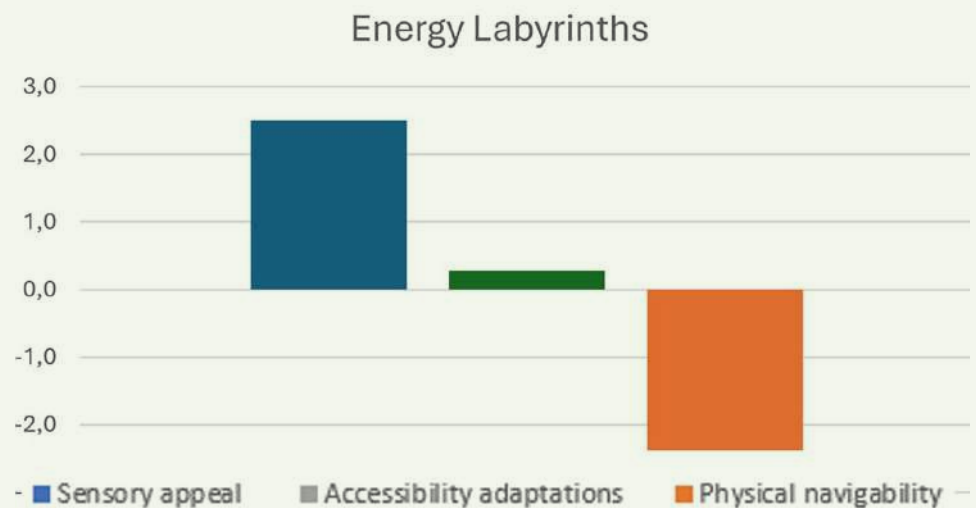




Many visitor centres feature tactile models, which offer an excellent way to explore sites through both sight and touch. Such models are indispensable; therefore, their variety and availability should be expanded. While all visitor centres are formally accessible, independent visits are hindered in practice. Obstacles such as non-automatic doors, thresholds, and complicated elevator systems frequently force visitors to seek assistance.

Although staff support is typically available, the need for it can diminish the overall experience. To ensure the independence and dignity of every visitor, such barriers should be minimised.

ENERGY LABYRINTHS



In the study area, there are several sites specifically named ‘energy labyrinths’. Some labyrinths do not carry this label and serve different purposes, such as artistic, recreational, or historical functions (e.g., the Gaižaičiai Stone Sculpture Park in Joniškis district or the Šakyna Community Flower Labyrinth in Šiauliai district). In other cases, these labyrinths are merely one component of larger recreational complexes (e.g., the Lake Germantas recreational area in Telšiai





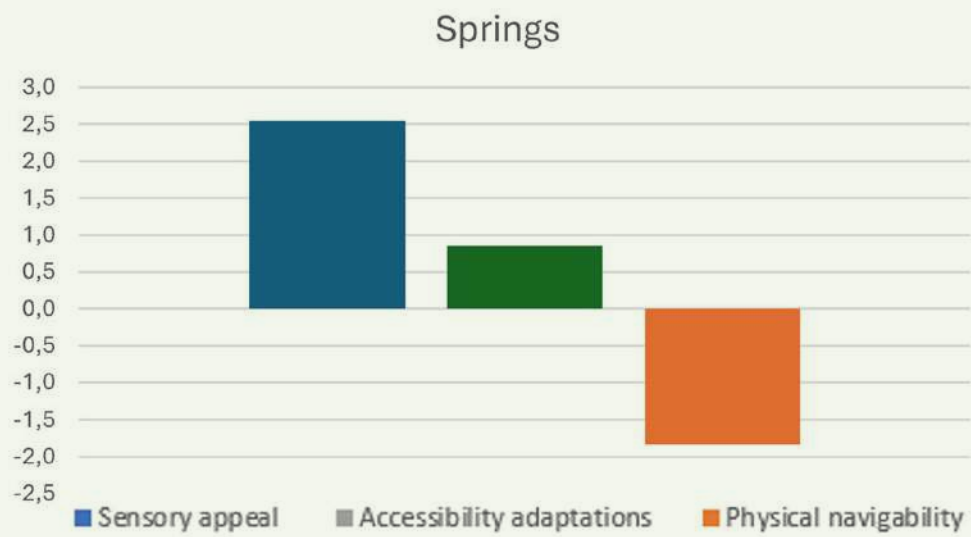
district, the Talša ecological nature trail in Šiauliai town, Iecava Town Park in Bauska County, and Rundāle Palace Park in Bauska County, which even features several different labyrinths).

Labyrinths without an ‘energetic’ focus serve diverse roles, ranging from historical preservation to landscape art. A notable example is the hornbeam labyrinth in Iecava Town Park (2025), which marks the location of a vanished manor house. Planted according to the contours of the foundations and the building’s floor plan, the growing hedges gradually form green walls, enabling visitors to ‘walk’ through the former palace. By merging natural elements with urban heritage, the project creates a synthesis of past and present, offering an engaging space for lingering and reflection.

Several of the visited ‘energy’ labyrinths were found to be poorly maintained and underutilised, failing to meet the criteria for green sensory spaces. Consequently, one representative site—the Park of Energy Labyrinths and Geometric Figures in the Plungė district—was selected for a more detailed assessment as a distinct sensory environment.

The Park of Energy Labyrinths and Geometric Figures features a sprawling, well-tended landscape. Its diverse flora provides continuous visual and olfactory stimulation throughout the growing season, while the natural soundscape—comprising bird calls and insect activity—engages the auditory senses. Navigating through the labyrinths enhances visitors’ spatial awareness, balance, and proprioception. To deepen the immersion, the park offers dedicated relaxation zones with meditation chairs and sun loungers, along with recreational features such as giant lawn chess. However, the site’s physical infrastructure presents significant accessibility challenges. The natural earthen paths, meadows, and undulating slopes restrict movement for visitors with mobility impairments. Furthermore, in the park’s central attraction—the plant labyrinth—the path boundaries hinder navigation for visually impaired individuals, even when accompanied by an escort. To compensate for these limitations, the park offers a reduced admission fee for people with disabilities.

SPRINGS



Three prominent springs stand out within the study area: the Kevele Spring (Dobele County), the Bārbele Spring (Bauska County), and the Svilē Spring (Kelmē district).

The surroundings of these sites are characterised by restorative natural sensations: the visual and auditory rhythm of flowing water, the dynamic movement of wind-swept vegetation, and organic scents. These locations are dominated by a profound tranquillity, rarely interrupted by external urban noise.

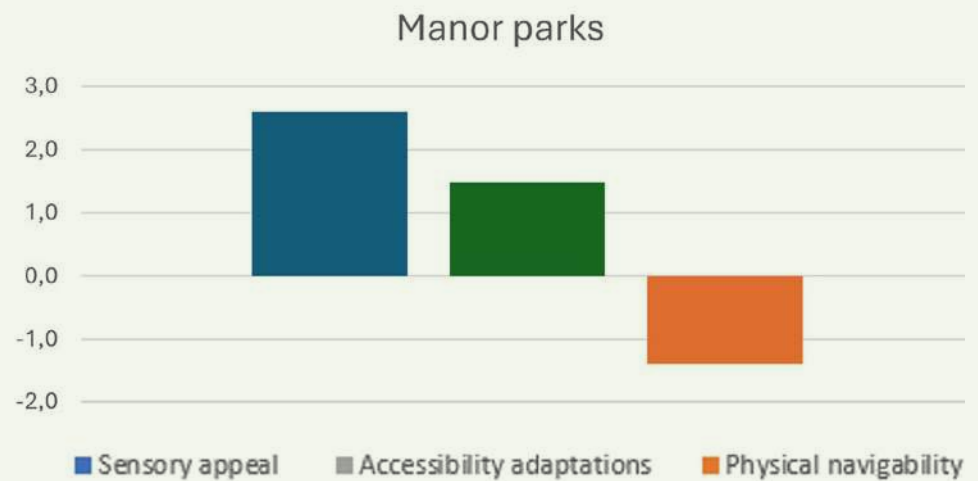


The Bārbele Sulphur Spring is unique, characterised by a potent and distinctive odour. Each of the three springs possesses a unique visual structure: the Bārbele spring is framed by a wooden terrace, the Svilē springs feature fascinating ‘mini volcanoes’ of sand, and the Kevele springs are nestled between walls of large boulders.

The surroundings of these springs are not adapted for people with disabilities. Access is limited to natural earth paths or meadows, which are unsuitable for standard wheelchairs. Furthermore, reaching the springs requires descending slopes, which present significant additional obstacles for those with mobility impairments.



MANOR PARKS



Manor parks are expansive areas, historically designed to create aesthetically and emotionally evocative environments that stimulate visitors' senses. Within these sites, a broad spectrum of sensory-stimulating elements can be found.

These parks are characterised by a romantic atmosphere, in which historical architecture harmoniously blends with the natural landscape to create a powerful visual experience. The parks are rich in mature trees, whose foliage provides a pleasant acoustic backdrop as the wind rustles through the leaves.





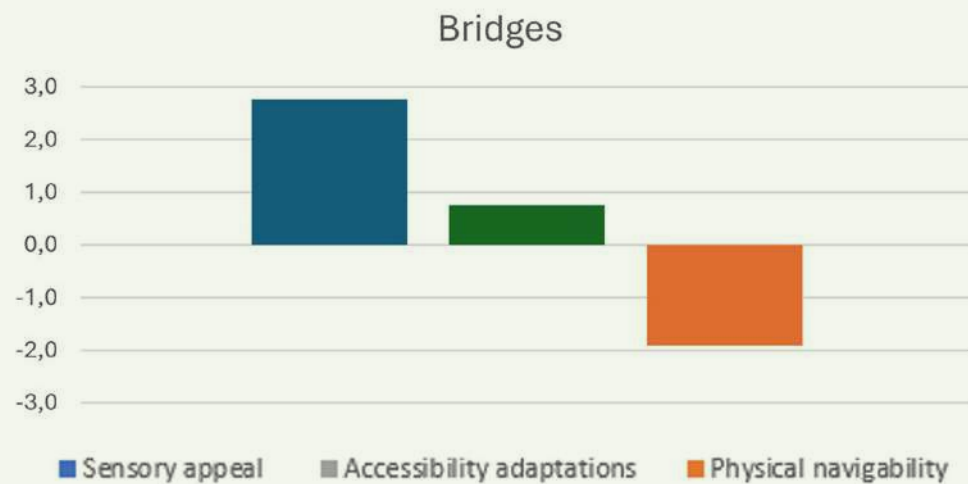
These habitats also attract a variety of birds, further enriching the space with natural sounds. Throughout the seasons, the shifting scents of trees, shrubs, and flowers enhance the olfactory experience, while water features, cascades, and fountains intensify both visual and auditory sensations.

Works of art are often integrated into manor parks, further enhancing the sensory experience. For example, the installation ‘Conversation’ in the Eleja Manor Park (Jelgava County) connects two riverbanks and enables long-distance communication, creating a unique auditory experience.

Additional appeal is generated by onsite cafés and tea rooms, as well as organised events such as exhibitions, festivals, concerts and garden parties. Combined with themed educational activities, these elements transform manor parks into complex, multifaceted sensory spaces.

Historic parks are only partially adapted for people with disabilities, and significant obstacles persist. Steps, staircases, and path surfaces—which are often too soft or unstable—are frequently unsuitable for standard wheelchairs. Furthermore, there is a lack of clear structural boundaries to assist visitors with visual impairments. Consequently, people with mobility or sensory limitations cannot navigate these parks or their buildings independently. However, at most sites, staff from onsite facilities are available to provide necessary assistance.

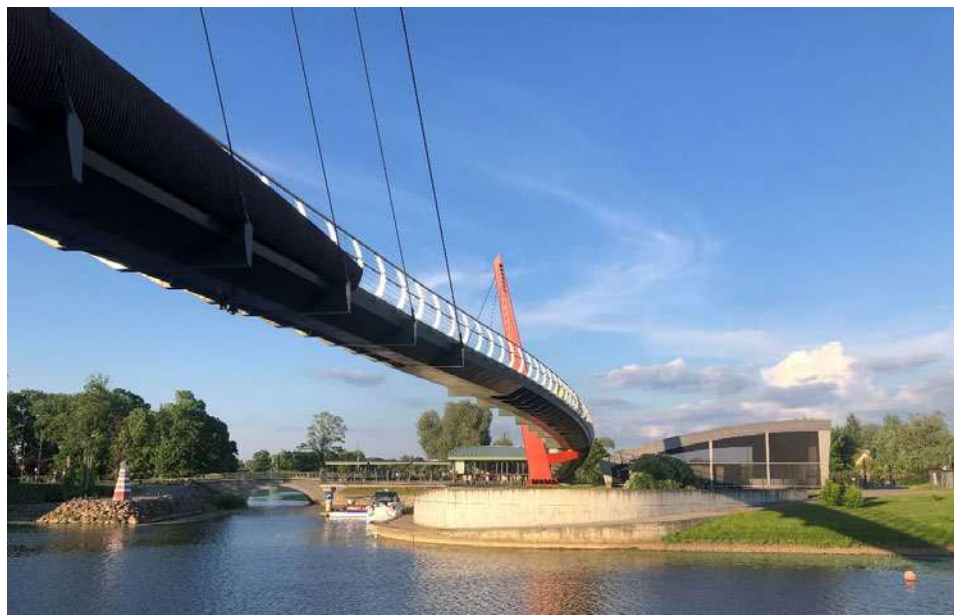
BRIDGES



While conventional bridges are not typically categorised as green sensory spaces, suspension and floating (pontoon) footbridges can significantly enrich the sensory experience when installed in picturesque areas abundant in vegetation and birds.

The visual impression is shaped not only by the bridges' architecture but also by the unfolding panoramas. The sounds of water and birdsong complement the auditory experience, while the scents of aquatic vegetation engage the olfactory sense. Furthermore, the gentle movement of these bridges activates the senses of balance and proprioception.



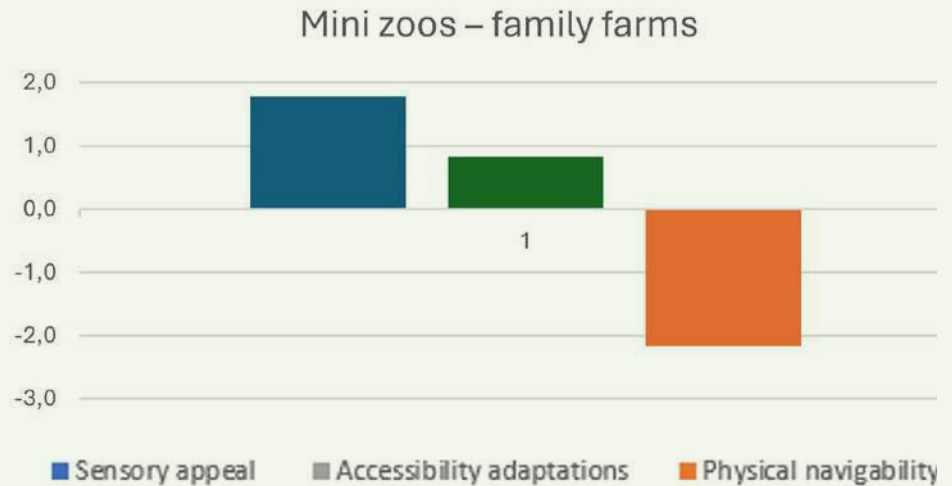


Bridges are typically a connecting or complementary element of a site, yet their contribution to the overall experience is significant.

However, suspension footbridges are frequently not adapted for visitors with disabilities; obstacles such as steps at the entrances, narrow structures, and the sheer length of the spans make them difficult to navigate. For these reasons, individuals with disabilities are often unable to cross the bridges independently, though they may still enjoy the sensory experience with the support of an assistant.



MINI ZOOS – FAMILY FARMS



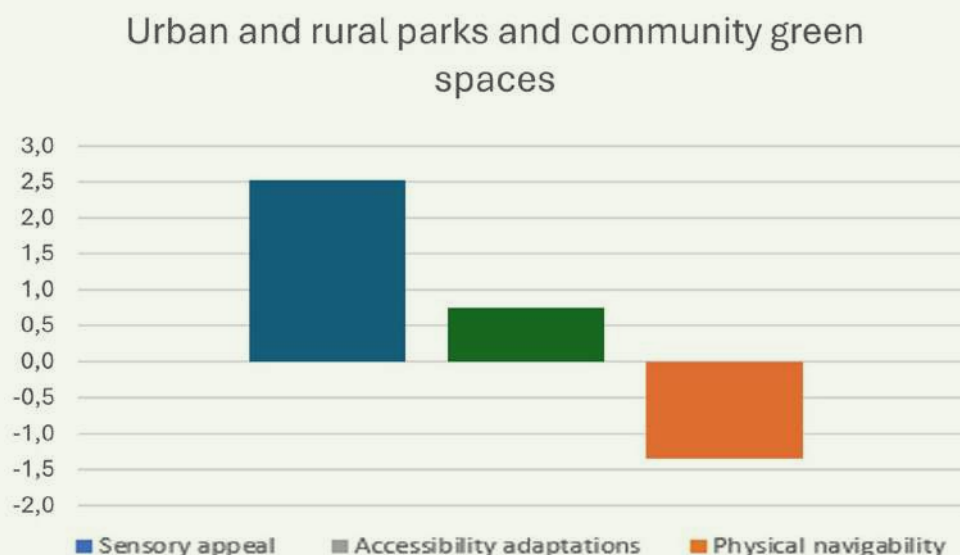
Animals are powerful visual attractions, and their vocalisations often leave visitors in awe and surprise. The olfactory sense is stimulated by the distinct scents of the animals and their environments, while direct or indirect contact fosters emotional bonds and empathy.

As most animals are housed in outdoor enclosures, the sensory experience is further enhanced by the natural sights, sounds and smells of the surrounding vegetation. The opportunity to interact with natural artefacts, such as shed feathers or eggs, adds significant value, leading to a high overall sensory appeal.

However, because enclosures are often located in meadows or on natural terrain without adapted pathways, independent access for visitors with mobility impairments remains a challenge.



URBAN AND RURAL PARKS AND COMMUNITY GREEN SPACES



These sites are highly diverse, yet they share a common focus: the needs of local communities. They provide essential opportunities for daily leisure, social interaction and recreation.

While some spaces are designed for active recreation—featuring sports facilities, play areas, and beaches—others are tailored for more tranquil experiences. These quiet zones invite visitors to reflect on the history of vanished villages, admire or even touch sculptures, explore flower mazes, or stroll along forest paths and sites of cultural memory. While larger sites typically offer a broader range of sensory experiences, smaller spaces remain equally valuable for the unique qualities they provide.

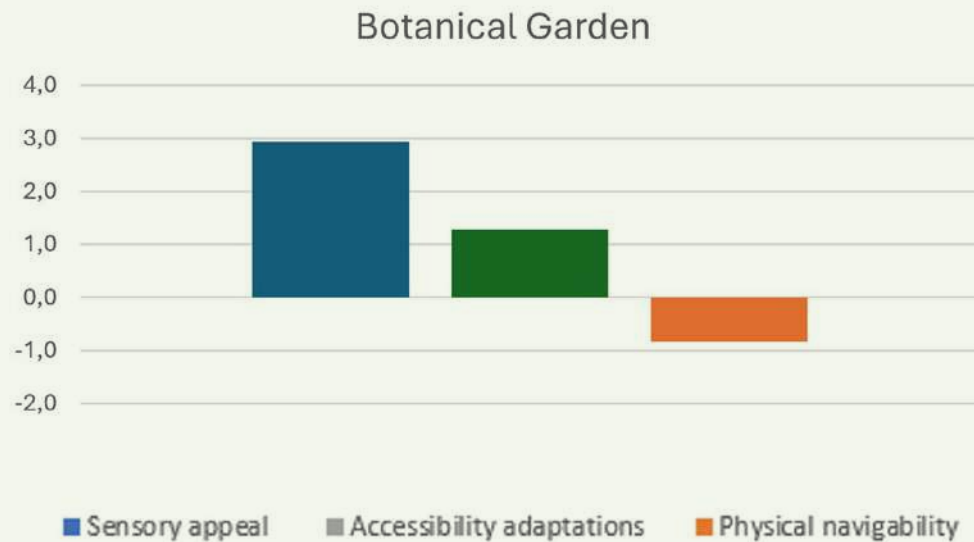


Often, these territories are not specifically adapted for individuals with disabilities, yet they present relatively few physical obstacles. Nevertheless, paths frequently lack a firm, stable surface, and the absence of clear wayfinding elements complicates independent navigation for visitors with visual impairments. Consequently, such sites can generally only be visited with the assistance of a guide.





BOTANICAL GARDENS



The Botanical Garden of Vilnius University's Šiauliai Academy is a standout attraction in the region.

It boasts an extensive botanical collection, creatively displayed to form vibrant three-dimensional spaces that spark curiosity. The senses of sight and smell are stimulated in ever-changing ways throughout the seasons. Water features and interactive art installations further enhance the visitor experience. The soothing sounds of birdsong are uniquely complemented by the rhythmic chugging of passing trains, creating a distinctive acoustic environment. Specialised facilities, such as the plant-drying room and the hydrolat production room, offer intense olfactory stimulation, while creative play equipment designed for waste sorting and throwing helps develop proprioception.



Although the botanical garden is not specifically adapted for people with disabilities, most of its grounds remain accessible, allowing all visitors to enjoy the collection. However, certain limitations persist: the footbridge over the pond has a step that is difficult for wheelchairs to negotiate, and some paths may be too narrow or too muddy for standard manual wheelchairs. Consequently, individuals with disabilities may require an assistant to experience the garden's offerings fully.



OTHER VISITOR ATTRACTIONS

In addition to the sites discussed earlier, several other locations featuring green sensory spaces are noteworthy, including gardens at educational institutions, dams, art spaces, and museums.

Specifically, the Viekšņiai Pharmacy Museum and its medicinal plant garden stand out as significant green sensory spaces. Beyond its historical value, the museum is visually captivating, with rooms permeated by the scents of a long-established pharmacy. Visitors can even step into the old chimney and breathe in the lingering aroma of smoke. While the authentic historical building is not adapted for people with mobility impairments, the lush medicinal herb garden planted in the courtyard is easily accessible. Furthermore, visitors can engage their senses by using the authentic swings located on the grounds.

The Švėtė River dam (locally known as ‘Bliūdas’) in Žagarė stands out for its powerful visual and auditory impact. The Švėtė is a small river, yet the view from the bridge—where the road runs along the embankment—reveals a striking, curved channel. During the wet season, the sound of cascading water is impressive, accompanied by abundant foam and spray. However, accessibility is hindered by infrastructure barriers, such as high kerbs.

The Pēteris Upītis Horticultural Museum in Dobeles (the garden of the Latvian Institute of Horticulture) is another premier green space that engages the senses of sight, sound and smell. The experience is highly seasonal, peaking during the lilac blooming season, when the vastness of the collection creates an overwhelming sensory impression.





The Īle National Partisan Bunker in Latvia's Dobeles County offers a profound emotional and experiential dimension, allowing visitors to glimpse historical realities and evoking a deep internal response. Meticulously reconstructed on a forested hillside, the bunker conveys the atmosphere of a large underground log shelter, reflecting the harsh daily life of its inhabitants. This moving experience is heightened by the bunks bearing the names of the partisans and the tragic history of the Latvian and Lithuanian fighters who stood shoulder to shoulder against Soviet forces and were ultimately murdered here.

The 'Medinukai' exhibition of miniature wooden houses in Vecumnieki (Bauska County) stimulates the senses with its vibrant colours, intricate shapes, and dynamic elements. These playful structures, handcrafted by a local artist, are adorned with weather vanes and windmills, sparking curiosity and inviting visitors to take a closer look.

At the Rūķišu tēja herbal tea farm in the Dobeles County, visitors can stroll through extensive plant displays and visit the farm shop, which offers natural teas, juices and cosmetics. During the blooming season, the lavender fields provide a spectacular visual and olfactory experience. This site is particularly noteworthy because it engages the senses of smell, sight, and—uniquely among the attractions studied—taste!

CONCLUSIONS AND RECOMMENDATIONS

While the green spaces studied exhibit strong **visual appeal**, their multisensory potential remains largely underutilised. Cultivating more immersive environments requires future urban landscape developments to prioritise integrating diverse sensory stimuli.

Tactile Perception

To enhance tactile engagement, it is recommended to incorporate diverse textured materials into the infrastructure, install tactile art objects, and establish dedicated zones where visitors can interact with natural elements, such as bark or foliage. Furthermore, integrating sensory features made of natural materials (pebbles, clay, water) should be complemented by seasonal, nature-themed educational activities, including making Christmas wreaths, botanical dyeing, creating Easter decorations, candle-making, soap-making, and the like.

Auditory Perception

Within parks, it is recommended to establish acoustic zones near streams or dams to highlight natural sounds and to supplement them with fountains and cascades. Interactive elements like windmills, dream catchers, water wheels, cascades and fountains, and responsive sound installations can provide additional auditory texture. To promote biodiversity and fill the environment with wildlife sounds, it is recommended to introduce bird-attracting flora, birdhouses, and insect hotels. Lastly, arranging live musical and theatrical performances in specialised open-air acoustic venues is recommended.

Olfaction

Regarding olfaction, it is recommended to establish aromatic gardens, ensure seasonal variation in environmental scents, and design interactive olfactory discovery zones. Creating dedicated areas featuring fragrant flora—such as lavender, roses, thyme, mint, lilac, jasmine, and linden—should be prioritised alongside selecting species with staggered blooming periods to provide year-round sensory engagement. Furthermore, it is recommended to implement sensory stations where visitors can bruise leaves to release plant volatile oils, complemented by educational spaces such as medicinal herb-drying rooms and honey or wax workshops.

Gustatory Perception

Within the realm of gustatory perception, it is proposed to integrate areas for edible plants, coordinate educational tasting activities, and expand

localised catering services. Wherever feasible, the establishment of community allotments and edible flora gardens should provide visitors with direct access to seasonal fruits, berries, and herbs (for example, various varieties of rowanberries, apples, pears, and honey). Furthermore, implementing nature-themed culinary workshops utilising local orchard, forest, or wetland produce is proposed, alongside the development of cafés and tea houses that encourage open-air dining within these green spaces.

Proprioception and Spatial Awareness

Regarding the proprioceptive and spatial dimensions, it is recommended to install infrastructure that promotes physical activity and accommodates diverse recreational uses. Incorporating dynamic elements such as swings, climbing structures, and callisthenics equipment can encourage active movement, while dedicating specific zones for multigenerational group activities, yoga, and meditation can meet diverse demographic needs.

Furthermore, it is recommended to host structured community, educational, and therapeutic events within these spaces to enhance social inclusion, emphasising activities that foster creativity, therapy, engagement and collective experience-sharing.

Additional Recommendations

The investigated sites exhibit significant variation in spatial scale, yet most function as vital infrastructure for local communities across rural, suburban, and urban areas. While these green spaces currently serve primarily as secondary attractions that provide incidental value to general visitors, they possess hidden potential for broader tourism. Developing and actively promoting these sites can elevate them into attractive, intentional points of interest.

Currently, information regarding sensory attractions and their physical accessibility remains unsystematised or inaccessible to potential visitors. While travellers rely heavily on search engines for regional discovery and on mobile navigation applications upon arrival, these digital interactions yield insufficient data, failing to establish a meaningful connection with the site. Institutional websites managing these sites often prioritise administrative data, structural designations, or unrelated content over visitor-oriented navigation. Crucially, accessibility information for individuals with reduced mobility is incomplete, inaccurate, or misleading. It is important to emphasise that this demographic extends beyond wheelchair users to include parents with strollers, elderly visitors, and individuals recovering from temporary physical injuries. Individuals with disabilities face information deficits during the pre-trip planning phase and the subsequent on-site experience. Given that approximately 30% of the EU population faces mobility challenges, these spatial and informational barriers often deter this demographic from visiting, causing tourist **attractions to lose a substantial share of potential visitors.**

In view of this, it is advisable to increase the availability and accessibility of structured, comprehensive information.

To achieve this, it is recommended to:

1. Establish a clear mechanism for assessing and labelling site accessibility.

Effectively communicating the accessibility of attractions requires developing and implementing a robust certification framework (e.g., a ‘SeamlessValidation’ designation). This labelling system would provide an intuitive, simple, and quick way to understand accessibility parameters for diverse visitor groups.

2. Develop a centralised information platform equipped with search and filtering functionalities.

Establishing a high-quality centralised information platform—such as a regional initiative like ‘Barrier-Free Zemgale’ or ‘ZemgaleForAll’—is crucial for providing systematic data on local points of interest. This platform should feature integrated search and multi-criteria filtering tools, enabling users to quickly find information on physical accessibility, sensory and experiential attributes, specialised infrastructure for diverse disabilities, and adjacent amenities. Additionally, optimisation for mobile navigation interfaces is necessary to ensure seamless on-the-go data access. Beyond information dissemination, this platform could administer the previously mentioned site validation and certification frameworks. Furthermore, it would enable efficient communication with potential visitors through integrated websites, social media, and mobile applications, allowing for continuous, real-time updates regarding the accessibility of these attractions.

3. Improve existing information systems by providing detailed accessibility information.

Existing information frameworks should be updated to detail the suitability of destinations for visitors with diverse disabilities. This includes providing precise metrics regarding route navigability and potential physical challenges, such as surface materials, topographical inclines or declines, and proximity to accessible sanitary facilities. Additionally, supplementing physical site infrastructure with tactile relief models would significantly improve inclusive spatial orientation.

4. Develop specialised routes tailored to individuals with diverse disabilities.

Given that special navigation is heavily constrained by inadequate infrastructure, targeted interventions must be prioritised. To address these systemic physical barriers, it is recommended to:

5. Modernise physical infrastructure, prioritising essential solutions (ramps, surfaces, automatic entrances) over administrative formalities.

Implementing competent infrastructural changes requires the direct involvement of individuals with disabilities during the initial planning and design phases. This

collaborative integration is necessitated by frequent discrepancies in which projects superficially meet regulatory mandates yet implement secondary updates rather than critical modifications (such as removing kerb barriers or installing compliant ramps and tactile guidance systems). It is advisable to modernise high-traffic spaces by installing automated access systems. While presenting critical environmental markers in Braille (e.g., elevator controls, room numbers, and sanitary facility signage) remains essential, providing extensive textual narratives in this medium is less practical. Assisted digital solutions, such as mobile applications, offer a highly efficient alternative for interpreting dense information boards, allowing visually impaired individuals to access textual data seamlessly.

6. Provide specialised mobility aids to enhance site navigability.

To assist visitors with reduced mobility, it is recommended to offer specialised equipment tailored for exploring diverse terrains. This infrastructure should include not only standard wheelchairs for flat, hard surfaces, but also electric-powered wheelchair towing devices and specialised off-road mobility vehicles designed for unpaved or challenging topographies. Crucially, this provision should be integrated with comprehensive user safety training and a dedicated assistant support service (see point 7).



Individuals with disabilities frequently avoid visiting destinations where they cannot navigate with dignity and enjoy the site autonomously, without relying on third-party assistance. In scenarios where these fundamental challenges cannot be mitigated through the structural or digital interventions described above, the following measures should be deployed:

7. Offer the assistance of qualified escorts, instructors, and guides.

Implementing these measures effectively requires close cooperation with specialists, local communities and organisations representing people with disabilities. Disability-oriented **projects can only achieve genuine functional validity through the direct involvement of these representative organisations.**



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