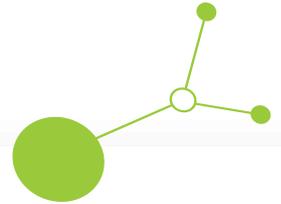


D.2.1.2 Implementation Plan for the City of Pula-Pola



Final version 10 / 2025





City concerned: Pula

Pilot-testing Background

Please describe here the background of your testing pilot in terms of current biodiversity problems, preliminary actions, plans defined earlier and methods already chosen, etc. Some of the aspects you can tell about are as follows:

- Evaluate the current state of biodiversity, green spaces, and urban blue-green infrastructure.

City of Pula documents (for example spatial plan) register biodiversity that has been recorded within the city, but do not evaluate its state. Public Institution Natura Histrica manages protected areas and Natura 2000 sites within Istria County, including in the City of Pula-Pola. National Park Brijuni is also (administratively) part of the City of Pula-Pola. Public Institution Brijuni National Park manages the national park and related Natura 2000 sites.

There are more green spaces in the old urban area of the city than in the new. Urban areas on the city outskirts have less public green spaces. Maintenance of public green spaces is outdated - for example, regular mowing instead of less frequent mowing. In 2025 mowing has been postponed on 20 locations (which is to say there is less frequent mowing). Removal of low vegetation from green public spaces affects biodiversity and pollinators. Plant species that are used in public green spaces are not native and not attractive to pollinators. New trees are regularly being planted in city park-forests and public green areas, last activity was in 2025. Walls of the fortresses (e.g. Franciscan monastery) are a habitat of the strictly protected species pale/white corydalis (*Pseudofumaria acaulic*). Walls are in poor condition.

In general, soil in the City of Pula-Pola is depleted.

Common tern breed in Pula harbour - information board has been put in place with the notice not to disturb the birds. Yellow-legged gulls have been recognized as problematic species (breeding, feeding / waste bins, noise, etc.). Collision of birds with glass has been recorded. Streetlights are not adapted for birds and bats. Hedgehog road mortality has been recorded around Social Centre Rojc.

Sea coast in the city of Pula is natural, there is not a lot of beach nourishment and construction. When it exists, it is localized (Hidrobaza, Verudela, Stoja and Ferijalni). Existing pebble beaches are natural and are not being "nourished" or "constructed". Area or Hidrobaza is the constructed beach in Pula that raised controversy. Stakeholders recognized that the intrinsic value of nature is being lost with beach nourishment and construction. It is reported that there are fewer marine species present that use and need the coastal area.

Cave Golubova špilja is a protected speleological feature, it is a submerged or partially submerged sea cave (Natura 2000 code 8330). Visitation of cave, especially by kayaks represents a big pressure - the environment has changed, algae grow inside the cave because of artificial lights, speleothems are being damaged, etc. The cave is now (in 2025) closed for visitation to reduce the pressure.

Blue infrastructure such as wetlands has been recognized as extremely important. There are few wetlands, such as Pragrande, so they should be prioritized for conservation.

Blue infrastructure - rain gardens exist in the city. Groundwater - there is proteus or olm (*Proteus anguinus*), endemic aquatic salamander, in the city centre, where the permanent water source is located (Nimfej on Karolina), which is being used as technical water for irrigation of public green areas.

Pula has significant reserves of groundwater, but illegal wells are an issue.



Four key challenges were identified:

1. Public green spaces and grasslands with low biodiversity and poor connectivity among urban green spaces and with valuable habitats in the surroundings
2. Impact of urban heat islands on biodiversity and human wellbeing
3. Low biodiversity on private land and in private gardens
4. Changing of the coast and coastal habitats and unsustainable usage of coastal area

- Which species will you target and why?

Important pollinators, such as solitary bees (*Osmia rufa*, *Xylocopa violacea*), common ladybug or seven-spot ladybird (*Coccinella septempunctata*), which is also native carnivorous beetle, and great tit (*Parus major*) are targeted because they are good indicators of the state of biodiversity and good proxies for other urban biodiversity. They are pollinators and can improve biodiversity in the city. Also, these species are suitable for engaging with the public (via awareness raising, citizen science, implementation of micro-interventions).

- Are there preliminary works that the project is based on? What are they?

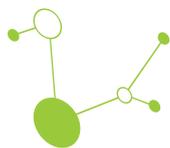
Green Urban Restoration Strategy for the City of Pula-Pola until 2030 (adopted in 2023) relates to achieving the development of green infrastructure, integration of NbS (Nature-based Solutions), improvement of circular management of space and buildings, realizing goals of energy efficiency, adaptation to climate change and enhancing risk resilience. The Strategy maps current green infrastructure, analyses urban heat islands (UHI), and analyses spatial documents with city features and green spaces databases. It includes 3 specific objectives, lists measures and activities related to them. It recognizes, although at the very high level, conservation of biodiversity and natural areas, preventing further defragmentation and improvement of connectivity. It deals with existing green areas in more detail. It also recognizes supporting “green” activities of citizens (such as planting, maintenance of gardens, urban beehives...) and different awareness raising activities.

Spatial Development Plan of the City of Pula-Pola (2019) lists protected areas, threatened and strictly protected species of flora and fauna, threatened and rare habitats, and habitats of threatened and endemic species. It recognizes the risk of invasive species, the need for habitat restoration (grasslands, ponds, caves, etc.), maintenance and restoration of park-forests, etc. The Plan also prescribes protection measures, including usage of native plants for greening, forbids introduction of alien species, prevents (unplanned) construction of beaches and coast, etc.

- What is the knowledge base behind the project (studies, methods, statistical data etc.)?

Studies and Analytical Methods:

- Mapping of Current Green Infrastructure: Spatial analysis of existing green spaces using GIS and satellite data to identify green corridors, open spaces, and urban greenery.
- Urban Heat Island (UHI) Analysis: Empirical studies and modelling to identify hotspots in the city that experience elevated temperatures due to dense construction and lack of greenery.
- Review of Spatial Planning Documents and Green Space Databases: Analytical cross-referencing of city development plans, zoning laws, and ecological records.
- Identification of Key Objectives and Measures: Developed using strategic planning methodologies and expert consultation.



- What methods will you / do you plan to use (to motivate stakeholders, to involve main users, to develop ICT infrastructure, to communicate online etc.)?

Stakeholders will be included in all steps of the process. City of Pula-Pola is well connected with different stakeholders and initiatives and will use the opportunities to promote URBIO BAUHAUS and micro-interventions. There will be workshops and other events with and for citizens and specific target groups. There will be an open public call for BAUHAUS ideas as answer to identified urban biodiversity challenges. Local committees will be asked for feedback regarding the Action plan for Enhancing Biodiversity. Citizens will be consulted via public hearings and involved in decision-making and implementation of actions.

Assemblage and installation of (some) nest boxes and feeders for birds and hotels for insects will be done jointly with stakeholders, such as schools and kindergartens.

Communication will be done online and via press releases, official web site: www.pula.hr, Facebook page: https://www.facebook.com/grad.pulahr/?locale=hr_HR, Viber community: <https://invite.viber.com/?g2=AQBe9%2FsgZhZd0UtKupxcCzppyLv77NDN7UyAXVP6oOEIGTyUaaTRSoiz%2BT%2BBZfqX&lang=en>, and Instagram page: <https://www.instagram.com/gradpula/>.

Summary of goals, actions and NEB aspects:

In the City of Pula-Pola the overall project goal is increasing the population of 3 keystone biodiversity species by creating several urban micro-interventions. The three keystone species / taxa are all important pollinators - solitary bees (*Osmia rufa*, *Xylocopa violacea*), common ladybug or seven-spot ladybird (*Coccinella septempunctata*), and great tit (*Parus major*). Techniques, materials and processes for green construction and design of urban biodiversity space will be piloted in Pula, such as hotels for insects, nest boxes and feeders for birds, as well as planting flower strips.

Goals:

1. Enhance Biodiversity in Public Green Spaces
2. Combat Urban Heat Islands through Nature-Based Solutions
3. Promote Biodiversity on Private Land
4. Protect and Sustainably Manage Coastal Areas
5. Foster Community Engagement and Habitat Protection
6. Support Data-Driven Planning and Policy

Actions:

1. Purchase, assembling and installation of nest boxes and feeders for birds, and hotels for insects
2. Creation of flower strips for pollinators in public green spaces, urban gardens, park-forests, etc.
3. Installation of educational trail with interpretative and educational info-tables in Park-forest Šijana
4. Installation of educational and interpretative info-tables in public green areas

NEB:

Aesthetics aspect: Aesthetics here is not just visual, but also experiential, reconnecting people with nature.

Sustainability aspect: These micro-interventions reduce environmental stress, improve ecosystem services, and help cities adapt to climate change.

Participative aspect: Participative aspects is fostered by inclusion, co-creation and ensuring that biodiversity benefits are shared by the whole community.



Imagining the change

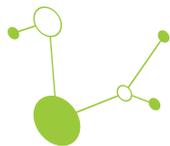
Please describe how would you like to make a change, you can also use results of world coffee workshop, field research, surveys etc.:

■ What would you like to change in the short term (1-3 years) regarding biodiversity in your city?

- Raise awareness of citizens and target groups (children, businesses...) on value and enhancing urban biodiversity
- Place nest boxes and feeders for birds, hotels for insects, and watering wells for pollinators (insects and birds) and small animals in priority areas
- Enhance less frequent mowing in public green spaces (in 2025 - 20 locations) and promote *No Mow May* among citizens
- Introduce planting and maintenance of low vegetation (for pollinators) in public green spaces and on private land
- Move towards planting of domestic/autochthonous species in public green spaces and on private land, including planting flower strips for pollinators
- Promote composting among citizens
- Enhance existing best practice exchange among citizens regarding urban biodiversity
- Piloting green rooftops, vertical gardens and anti-bird-window collisions in public institutions and on private land/houses
- Enlarging the area of urban gardens
- Piloting ponds and wells (sterna) for rainwater collection in parks
- Start promoting citizen science - usage of apps such as iNaturalist, Biologger, etc.
- Start professional education of city utility company Pula Herculanea field workers regarding urban biodiversity
- Raise capacity of city wardens regarding the public green spaces and urban biodiversity
- Raise awareness of tourism stakeholders regarding nourishment and construction of beaches and other pressures from tourism

■ What would you like to change in the medium term (3-5 years) regarding biodiversity in your city?

- Regular collaboration among relevant stakeholders (at least BIOCENTUM members) regarding the awareness raising of citizens and target groups on value and enhancing urban biodiversity
- Piloting urban biodiversity topics in school curricula
- Regular best practice exchange among citizens regarding urban biodiversity (at least annually)
- Nest boxes and feeders for birds, hotels for insects, and watering wells for pollinators (insects and birds) and small animals placed in all public green areas where feasible and incentives introduced for private land
- Less frequent mowing in public green spaces as a standard, accepted and understood by citizens
- Improved understanding and practice of less frequent mowing on private land
- Planting of domestic/autochthonous species and flower strips for pollinators as a standard in public green spaces and incentives introduced for private land
- Composting accepted and implemented by citizens
- Planting and maintenance of low vegetation (for pollinators) as a standard in public green spaces and incentives introduced for private land



- Incentives introduced for green rooftops, vertical gardens and anti-bird-window collisions
- Ponds and wells (sterna) for rainwater collection installed in all priority parks and incentives for private land introduced
- Walls of the fortresses with pale/white corydalis (*Pseudofumaria acaulic*), strictly protected species, restored in a way to provide habitat for the species
- Wetland areas prioritized for conservation
- Citizen science - usage of apps such as iNaturalist, Biologger, etc. promoted by BIOCENTUM members and data used to inform spatial planning
- Tourism stakeholders better understand the issues of nourishment and construction of beaches and other pressures from tourism
- Improved green corridors in the city centre
- Planting trees along the edges of agriculture land promoted
- Local regulation updated - more specific provisions for planting trees, regulation of construction of pools, dealing with illegal wells, nourishment and construction of beaches
- Underground parking as a standard for new buildings (depending on size)
- Green corridors along the roads as a standard for road reconstructions and new roads of certain size
- Eco-friendly streetlights introduced
- Better public transport - new lines and frequency
- Professional education of city utility company Pula Herculanea field workers regarding urban biodiversity held annually
- Regular capacity building of city wardens regarding the public green spaces and urban biodiversity

- What will be the challenges when implementing the change?

Engagement of stakeholders - to find appropriate ways to communicate with and engage stakeholders.

Motivation of stakeholders - to find appropriate stakeholders that are willing to engage and change their behaviour in the long-term.

Return trust towards the experts - find appropriate ways of communicating, including timing and means.

Change of mentality of tourism stakeholders - most have only short-term goals and are for “green” and “sustainable” only if it does not affect them at all.

Resistance regarding new regulations on greening, etc. - it is necessary to promote best practice and offer incentives on top of regulation.

Resistance regarding general objective towards less cars in the city - it is necessary to first provide good alternatives (good public transport, bike lanes, micromobility, underground parking...) and then introduce restrictions.

Ensure financial resources in the city budget for the implementation of planned activities.

- Define specific, measurable, attainable, relevant, and time-bound (SMART) goals for biodiversity enhancement and community benefits.

1. Enhance Biodiversity in Public Green Spaces

Improve the ecological quality of parks, grasslands, and urban green areas by increasing plant and habitat diversity. Strengthen connectivity between green spaces and with surrounding natural habitats to support wildlife movement and ecological networks.



2. Combat Urban Heat Islands through Nature-based Solutions

Implement green infrastructure (e.g. urban forests, green roofs, and shaded corridors) to mitigate urban heat, improve microclimate, and increase resilience for both biodiversity and local communities.

3. Promote Biodiversity on Private Land

Encourage biodiversity-friendly practices among residents, property owners, and developers through awareness campaigns, incentives, and practical guidance on how to create wildlife-friendly gardens and green spaces.

4. Protect and Sustainably Manage Coastal Areas

Safeguard coastal ecosystems from degradation and overuse by avoiding or minimizing intervention in coastal area (example construction and nourishment of beaches), promoting sustainable land use, restoring natural coastal habitats, and balancing development with ecological conservation.

5. Foster Community Engagement and Habitat Protection

Mobilize citizens, schools, and local organizations to actively participate in biodiversity initiatives, monitoring, and education—ensuring broad support and long-term impact.

6. Support Data-Driven Planning and Policy

Utilize research, mapping, and biodiversity data to guide decision-making, prioritize actions, and track progress over time, ensuring effective and adaptive management.

List of existing relevant documents:

Strategies:

Green Urban Restoration Strategy for the City of Pula-Pola until 2030 (2023)

Urban Area Pula Development Strategy for Period 2021-2027 (2023)

Spatial plans:

Spatial Development Plan of the City of Pula-Pola (2019)

General Urban Plan (2024)

Development plans:

City of Pula-Pola Development Plan for Period 2020-2030 (2023)

Programs:

City of Pula-Pola Implementation Program for the Period 2021-2025 (2021)

Program for Climate Change Mitigation and Adaptation and Protection of the Ozone Layer of the City of Pula-Pola (2022)



Stakeholders

Who will be key groups involved and how:

■ Who are end-users of intervention?

Citizens of the City of Pula-Pola and surrounding area

Holiday-home owners, tourists and visitors

School children - as part of school in nature or other

■ Who are other stakeholders?

City of Pula-Pola - in charge of spatial planning, municipal regulation (ordinances), surveillance (municipal wardens)

City utility company Pula Herculanea - in charge of maintenance of public green spaces

Public Institution Natura Histrica - in charge of management of protected areas and Natura 2000 sites

Croatian Forests - state-owned company in charge of management of state-owned forests

NGOs - environmental civil society organisations, nature conservation organisations, beekeeper association, hunting associations

Tourist boards - in charge of informing visitors and tourists

■ Who and how will help you?

Members of the BIOCENTUM NODE:

Public Institution Natura Histrica - consultation services and sharing of good practice examples, cooperation in educational programs

Public Institution Brijuni National Park - consultation services and sharing of good practice examples from the Brijuni Mediterranean Garden, cooperation in educational programs

Public Institution Kamenjak - plant education, pollinator education, celebrating Bee Day

Arena Hospitality Group - transformational role in a biodiversity initiative by aligning its operations, outreach, and partnerships with conservation goals - sustainable tourism promoter, awareness and education platform, partner in conservation projects, community and business enabler

City utility company Pula Herculanea Ltd. - consultation services and sharing of good practice examples, cooperation in educational programs

Beekeeper Association Pula - help with the placement of hotels for insects and plants and locations for flower strips, educational programs

Primary school Monte Zaro - assembling of nest boxes and feeders for birds, educational programs

Artistic high school Pula - help with the aesthetic component of designing public green spaces, with visuals for micro-interventions, educational programs

■ Who might be against the intervention?



Since interventions are small, it is not anticipated that there will be many stakeholders against the interventions.

Some citizens might be against interventions regarding less frequent mowing, planting of low vegetation (including shrubs) and local/autochthonous plants. However, if informed on time and communicated appropriately by the city utility company Pula Herculanea, they will be much more willing to accept the changes of practices and support the interventions to improve biodiversity.

Action plan

Please describe steps and activities to be taken:

- Identify and describe potential pilot site (concrete location) - you can add photos

Micro-interventions / small-scale investments are planned on several locations within the City of Pula-Pola:

- in protected areas - forest-parks Šijana and Busoler
- in selected green public spaces (20 areas)
- in urban gardens (Gregovica i Lošinjska)

- What are key activities (steps) to prepare intervention?

1. Creation of flower strips for pollinators in public green spaces, urban gardens, park-forests, etc.

Primary purpose and function of the flower strips are to support pollinators and increase biodiversity.

Locations where flower strips will be planted will be public green spaces where there is already less frequent mowing - there are 20 such locations in the city, 10 will be chosen that are best suited for planting flower strips. Both enhancing biodiversity and aesthetics will be considered. These locations include park forests, urban gardens of Gregovica and the city's public green areas.

Key activities (steps):

- purchasing wildflower seed mix for pollinators, containing seeds from local plants, from local producers
- sites / location should be assessed: soil type, sun exposure, drainage (poor drainage areas may need soil amendments), irrigation potential (with low-water zones, drought-tolerant species should be used), existing vegetation and invasive species
- species selection - focus on native and drought-tolerant plants - Mediterranean-adapted, native, or naturalized species that thrive in hot, dry summers, need minimal irrigation, support local pollinators (examples: *Lavandula* spp. (lavender), *Salvia officinalis* (sage), *Cistus* spp. (rockrose), *Helichrysum italicum* (curry plant), *Thymus* spp. (thyme), *Echium* spp., *Phacelia*, *Papaver rhoeas* (wildflower mixes))
- mixed flowering times should be used for year-round interest and resources for insects; alternatively use modular planting guides
- maintenance - watering: establish with light irrigation, then reduce < weed control especially in year 1, remove invasives manually; pruning / mowing - cut back after flowering (late summer) to encourage regrowth; avoid pesticides and encourage beneficial insects instead



- educational and visual signage - Include interpretive signs explaining plant species, pollinator importance, and seasonal changes; this fosters public engagement and appreciation
- monitoring and community involvement - work with local schools, or volunteer groups; monitor for success (pollinator activity, plant health); adjust species or timing as needed over seasons

2. Purchase, assembling and installation of nest boxes and feeders for birds, and hotels for insects

Focus is on solitary bees, common ladybug (or seven-spot ladybird) and great tit. In coordination with the protected area management authority Natura Histrica suitable locations will be found (for example with trees for nest boxes, with flowers for insect hotels). Number of nest boxes, feeders for birds and insect hotels will be decided jointly, based on the habitat map (<https://bioportal.hr/gis/>) and ecological needs of the species.

The city will also cooperate with educational institutions and kindergartens. Also, some nest boxes, bird feeders and insect hotels will be placed in the urban gardens, in the Park-forest Šijana and on Verudela area (in cooperation with Arena Hospitality Group).

Nest boxes for birds are placed in nature to compensate for the lack of natural cavities used by cavity-nesting birds. This problem is particularly common in urban areas - such as parks and young forest plantations. Birds use them to build nests where they raise their chicks until fledging, and the absence of natural cavities can lead to certain species disappearing completely from specific habitats.

Bird feeders are intended to provide an additional food source during the winter months, when natural food is scarce. If one decides to feed birds, start when cold weather begins, usually in early December, when temperatures approach 0°C, and continue feeding until early March. Consistency is important: during cold winters, feeders attract a larger number of birds that come to rely on this supplementary food. Stopping feeding abruptly can create problems for these birds, as other individuals may have taken over their natural feeding areas.

Insect hotels are installed to attract and support beneficial insects. Beneficial insects that may occupy the hotel include solitary bees and wasps, ladybugs, lacewings, butterflies, ants, and others. Insects' role in pollinating plants is irreplaceable. Some insects, like ladybugs, feed on other harmful insects that are pests to plants, such as aphids.

Installing an insect hotel in the garden provides insects a place to overwinter and reproduce, and in return, they pollinate the flowers and protect the garden from pests. Insect hotels can be installed anytime during the year. In winter, they provide shelter from cold and wind; in spring, they serve as a place to lay eggs. Placing insect hotels near flowers helps attract pollinators such as bees, butterflies, and other nectar- and pollen-seeking insects. If the garden/area where insect hotels are placed lacks flowers, some flowers should be planted. The insect hotel should not be brought indoors during winter, as sudden temperature increases can wake insects prematurely and deplete their energy reserves.

Key activities (steps):

- purchase of the structures from companies that make them in accordance with the rules of the profession (design, material) and that can offer expertise advice (beekeepers for insect hotels, ornithologists for nest boxes and bird feeders) (see below for more details)
- assembling can be done with school children, either using the experts (in both biology and education) or by training individuals that would then work with children



- installation should be done in accordance with the rules of the profession, experts can offer advice and then the team can install them by themselves or together with children; if necessary, experts can help with the installation
- educational or visual signage can be done for public awareness
- purchase bird seeds (sunflower or grain) to get the schools and other users going with bird feeders
- feeding of birds should be done only during the winter months, when natural food is scarce

3. Installation of educational trail and info tables in Park-forest Šijana and other public green areas

Installation of educational trail with interpretative and educational info-tables in Park-forest Šijana:

Considering the existing experience with setting up educational trails, the trail will focus on visual aspects of interpretation and education. Best practice exists within the nature protection system in Croatia, and protected area management authority - Public Institution Natura Histrica - will be consulted.

The exact location for the educational trail in Park-forest Šijana will be selected jointly with Public Institution Natura Histrica. Also, Natura Histrica will assist with other aspects of the trail, such as interpretation of the (natural) values, number of info-tables, alignment with existing info-tables, accompanying content and equipment, etc.

Key activities (steps):

- design of an educational path
- procurement and installation of educational and interpretative info-tables in Forest-park Šijana along the educational path

Installation of educational and interpretative info-tables in public green areas:

Educational and interpretative info-tables will be placed in the city centre at Park žrtava fašizma.

Key activities (steps):

- design of an educational path
- procurement and installation of educational and interpretative info-tables in the city centre at Park žrtava fašizma

- What is the timing?

Activities will start in period 2 and end in period 4.

- What material and works are needed for implementation?

1. Flower strips will be planted with purchased wildflower seed mix for pollinators. The mix should contain seeds from local plants. BIOCENTUM member - Beekeeper Association (civil society organisation) will be consulted to make sure that appropriate wildflower seed mix for pollinators is purchased.

Works relevant for flower strips include design considerations, soil preparation and seedling. Regarding the design, strips should be 0.5-2 meters wide, for easy maintenance. They should be placed along



paths, fences, between trees, or bordering lawns. Curved shapes look more natural and visually appealing. It is recommended to use planting modules - groupings that repeat throughout the park/green area for cohesion. As for soil preparation, light tilling should be applied if needed, and weed roots, should be removed. Compost or organic matter should be added if soil is poor. Direct seeding should be done in autumn or early spring (in Mediterranean areas, autumn seeding benefits from winter rains). Strips should be mulched lightly to reduce evaporation and weeds.

2. Nest boxes and feeders for birds and hotels for insects should be acquired / purchased from companies that make them in accordance with the rules of the profession).

How to install nest boxes properly: The box should be placed in a quiet location, about 2-5 m high on a tree, wall, fence post, or similar structure. Ideally, it should not be exposed to direct sunlight all day. The box can be fixed in place using 1-2 nails or screws (4-5 cm long) or tie it with a piece of wire or thinner rope threaded through two pre-drilled holes at the top of the back panel. The box can also be painted to extend its lifespan. If box is to be painted, it is strongly recommended by professionals (ornithologists) using water-based paints or natural oils such as linseed oil or varnish. The box should only be painted on the outside, and preferably not around the entrance hole, since birds sometimes peck at this part to widen and adapt it. There is no need to put nesting material inside - the birds will bring what they need themselves.

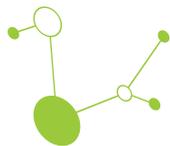
Instructions for placement and maintenance of feeders: Feeders are usually installed on a pole, wall, or hung from a branch at a height of 1-2 m. The feeder should be placed in a quiet location away from roads, and for easier observation, it should be positioned so it can be viewed from a window inside the home, school, office, etc. The feeder can be attached using 1-2 nails or screws (4-5 cm long), or it can be tied with wire or thin rope through 4 pre-drilled drainage holes in the bottom. The feeder can also be painted to extend its lifespan. If the feeder is painted, water-based paints or natural oils such as varnish or linseed oil should be used, and only the outside of the feeder should be painted.

Birds are usually fed sunflower seeds, but grains can also be used. Pieces of apple or nuts can be added to the feeder. Birds should never be fed with bread or dough; if one runs out of suitable food, it is better to leave the feeder empty than to provide inappropriate food.

How to install insect hotels properly: The insect hotel should be placed on a wall, in the garden, or hanged from a tree or shrub in a sheltered spot protected from the wind. A location which is exposed to the sun at least part of the day should be chosen, as most insects prefer sunny spots. The hotel should be filled with a variety of materials, such as straw, leaves, reeds, bamboo, twigs, bark, leftover boards, sawdust, old bricks with holes, etc. The more diverse the materials – especially those with cavities of different sizes – the more attractive the hotel will be to different insect species. Protect the entrance with mesh to keep birds or small mammals from disturbing the materials and harming the insects.

To attach the hotel, 2 nails or screws (8-10 cm long) should be used, or the hotel should be tied with wire or strong rope threaded through 2 pre-drilled holes at the top of the hotel. The hotel can also be painted to extend its lifespan. If the hotel is painted, water-based paints or natural oils such as varnish or linseed oil should be used, and only the outside should be painted.

3. For installation of educational trail in Park-forest Šijana and info-tables in public green areas it is important to use materials that are durable. There are best practice examples, namely unique visual identity of Parks of Croatia, which is also recommended to be used in all protected areas (not only parks). This way both citizens and visitors can recognize the unique approach relevant for nature conservation and used in protected areas. It is recommended that the same approach is used for public



green spaces. Natura Histrica has experience with installation of the educational trails and info-tables in the Istria Region/County.

■ What are potential risks and mitigation strategy?

Making of nest boxes and feeders for birds and hotels for insects might take longer than planned. This can be mitigated by planning of procurement well in advance and notifying prospective companies in advance (there are not many companies that make these structures in accordance with the rules of the profession).

Installation of info-tables might prove to be more complicated than anticipated. Planning for extra time should mitigate the risk.

Pula Herculanea staff might not have the capacity to implement all the planned interventions. This can be mitigated by prioritising sites as well as ensuring capacity building of all relevant staff (including field workers).

■ Please add also text from public procurement of the intervention

Only simplified procurement of goods and services will be needed. Relevant conditions for public procurement are summarized below.

City of Pula-Pola will purchase wildflower seed mix for pollinators from producers to plant **flower strips**. What is important here is to make sure that the wildflower seed mix for pollinators has seeds with local plants. BIOCENTUM member - Beekeeper Association (civil society organisation) will be consulted to make sure that appropriate wildflower seed mix for pollinators is purchased.

As for **nest boxes and feeders for birds**, City of Pula-Pola will purchase them from professional suppliers and assemble part of them together with school children, engaging professional ornithologists to educate the children. City will also purchase bird seeds to get the schools and other users going with bird feeders. It is important to purchase nest boxes for birds from professional suppliers, as there are specific requirements for great tits that need to be accommodated. It is also recommended to purchase bird feeders from professional suppliers, but it is not as obligatory as for the nest boxes. Since nest boxes and feeders (from professional suppliers) are sold without being assembled, assembling them is a great opportunity to engage the children, as well as interested public. Assembling can be accompanied with education about urban biodiversity, which should be provided by professionals (in case of birds, by ornithologists). Regarding the bird seeds, it is recommended to buy it in bulk, not from pet-stores, as sunflower seeds can be bought very cheaply and stored throughout the winter (as bird should only be fed during the winter).

Regarding **hotels for insects**, City of Pula-Pola will purchase them from professional suppliers and assemble part of the together with school children, engaging beekeepers to educate the children. It is important to purchase hotels for insects from professional suppliers, as there are specific requirements that different insect species have that need to be accommodated. Hotels for insects are sold either assembled or without being assembled. As with nest boxes and feeders for birds, assembling them is a great opportunity to engage the children, as well as interested public. Assembling can be accompanied with education about urban biodiversity, which should be provided by professionals (in case of insects, by entomologists or by beekeepers).

For the **educational trail in Park-forest Šijana and Info-tables in public green areas**, procurement of design and installation of interpretative info-tables will be implemented. It is recommended that the interpretation of nature is done by professionals (biologist). It is also recommended to check if there are obligatory designs (for example, national and nature parks in Croatia have unique visual identity



that they need to adhere to); this is not the case for Public Institution Natura Histrica, but it is advisable to keep that in mind. It is important to make the design in a way it fits with the surroundings and other existing info-tables, if any (for example for cultural heritage).

Technical documentation

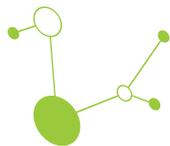
Please add technical documents, permissions, feasibility and other preparatory studies needed for the realisation of the intervention

Flower strips for pollinators: To plant flower strips for pollinators, no permits are needed. The only procedure required is internal communication within the City of Pula-Pola, specifically with the departments responsible for planning and maintaining green public spaces. Once the departments agree, the city utility company Pula Herculanea will be asked to plant flower strips and maintain them.

Nest boxes and feeders for birds and hotels for insects: To install nest boxes and feeders for birds and hotels for insects no permits are needed. The only procedure required is internal communication within the City of Pula-Pola, specifically with the departments responsible for planning and maintaining green public spaces, and with the department for education. Once the departments agree, the city utility company Pula Herculanea will be informed that the nest boxes and feeders for birds and hotels for insects will be installed, since Pula Herculanea is responsible for maintenance of public green spaces. As for installation on private areas (Arena Hospitality Group), it is enough that the City of Pula-Pola and the private company agree on the micro-intervention, as other local departments do not have to be involved, since it is not public green space (although it is used by the public, as well as the tourists).

Educational trail in Park-forest Šijana: Based on the Nature Protection Act, it is necessary to obtain a permit for the intervention in the environment (spatial intervention) from the protected area management authority, i.e. Public Institution Natura Histrica. The project / intervention may proceed provided that all nature protection requirements issued by the competent authority are respected. City of Pula-Pola needs to send a request to the Public Institution Natura Histrica, with the description of the intervention (installation of the educational trail), what will be done, where, when and with what purpose. Then the Public Institution Natura Histrica issues nature protection requirements. After obtaining a permit, City of Pula-Pola may proceed with the intervention.

Info-tables in public green areas: Since the info-tables will be installed in Park žrtava fašizma, which is not a protected area, no permits are needed (execution of any works within the historic core of the City of Pula must be carried out in coordination with the competent conservation authorities). The only procedure required is internal communication within the City of Pula-Pola, specifically with the departments responsible for planning and maintaining green public spaces. Once the departments agree, the city utility company Pula Herculanea will be informed that the info-tables will be installed, since Pula Herculanea is responsible for maintenance of public green spaces.



New European Bauhaus aspects

How will the intervention improve New Bauhaus principles? Please assess the impact of the intervention on 3 main principles of New European Bauhaus (NEB)!

- What will be impact of the intervention on participative aspect of NEB?

Community planting and building workshops (e.g. making insect hotels in schools, or bird feeders with local associations) empower citizens of all ages.

Accessible green spaces designed with biodiversity in mind ensure that everyone benefits – children, elderly, people with disabilities.

Educational value: biodiversity interventions become tools for environmental learning, strengthening a sense of shared responsibility.

In short - participative aspect of NEB is fostered by inclusion, co-creation, and ensuring that biodiversity benefits are shared by the whole community.

- What will be impact of the intervention on sustainability aspect of NEB?

Flower strips with native species: support pollinators, increase ecological resilience, reduce the need for pesticides, and enhance soil health.

Bird nest boxes and feeders: stabilize urban bird populations and promote biodiversity balance.

Insect hotels: offer habitats for solitary bees and beneficial insects, which are essential for pollination and natural pest control.

Therefore, regarding the sustainability aspect of NEB, these micro-interventions reduce environmental stress, improve ecosystem services, and help cities adapt to climate change.

- What will be impact of the intervention on aesthetic aspect of NEB?

Flower strips transform unused or monotonous green spaces into visually attractive, seasonal landscapes.

Nest boxes for birds or insect hotels can be artistic urban elements – assembled, painted, or co-created with the community, but taking into an account the biodiversity expertise on ecological needs of the species.

Biodiversity-rich spaces add sensory richness (colours, sounds of birds, buzzing insects, scents of wildflowers), making public spaces more enjoyable and inspiring.

In other words, aesthetic aspect of NEB will be impacted as with these interventions aesthetics is not just visual but also experiential, reconnecting people emotionally with nature.