



# Zielone miasto Poznań



# Pocket forest

Pocket forests or tiny forests are a method for creating extensive forest ecosystems on a small area, created in the 1980s by Japanese botanist Akira Miyawaki. It is inspired by the processes occurring in nature and its diversity. **Between 15 to 40 native species of trees and shrubs are densely planted in a small area - even 50 m<sup>2</sup> is sufficient.** Miyawaki's planting method speeds up plant growth by up to 10 times, allowing efficient urban afforestation.

Studies conducted on existing forests created with the Miyawaki method show that their biodiversity levels exceed those found in surrounding forests by an average of 18 times. They attract many animals, including songbirds and pollinating insects. An extensive ecosystem emerges in the tiny forest, where up to several hundred species can successfully function and develop.

The idea of tiny forests has not only been adopted in Japan - they have gained popularity in other Asian countries, South America and a few years ago also in Europe. The participatory nature of Miyawaki method is very important. Planting, care and monitoring of tiny forests always involve local communities, which aids environmental education and community building.





# *What are* the benefits

- Local temperature reduction
- Improved air quality through CO<sub>2</sub> capture and dust containment
- Noise reduction
- Positive impact on physical and mental health of local residents
- Soil stabilization and erosion prevention
- Water retention and purification
- 18 times more biodiversity
- Involvement of local community in ecological activities
- Educational value, especially for children



# *How* is it done?

## *1. Identification*

With the help of experts, we identify native plant species (between 50 and 100) that are adapted to local climate and soil conditions. This makes them more likely to survive and form a complete ecosystem.

## *2. Selection*

To design a multi-layered forest, we choose plants that will form the lowest undergrowth, the understory, and the forest stand.

## *3. Planting*

Together with volunteers and the local community, we plant selected saplings – 3 to 5 per m<sup>2</sup> – on a properly prepared ground. With dense planting, the trees grow upward, stretching out into the sunlight.

## *4. Care*

For the first 2-3 years we care for young saplings. We protect them with supports, water and remove invasive weeds.

## *5. Monitoring*

We monitor development and growth of the forest. We gain vital data by observing how the forest affects surrounding environment.





# *Tree species* in the forest

The key to creating a tiny forest using Miyawaki method is to select native species, preferably those that grow naturally near the area where we plan to plant a forest.

**Species composition includes following trees:**



Common oak  
Dąb szypułkowy



Littleleaf linden  
Lipa drobnolistna



Common hornbeam  
Grab pospolity



Norway maple  
Klon pospolity

**In the lower layers we can find:**



Sycamore  
Klon jawor



Common ash  
Jesion wyniosły



Rowan  
Jarząb pospolity



Bird cherry  
Czeremcha pospolita



Hawthorn  
Głóg



Aspen  
Topola osika



European crab apple  
Jabłoń dzika



Wild cherry  
Czeresnia ptasia



Common pear  
Gruszka dzika



Common yew  
Cis pospolity



Field elm  
Wiąz polny



Alder buckthorn  
Kruszyna pospolita

**Shrubs are also planted in the tiny forests:**



Common hazel  
Leszczyna pospolita



Guelder rose  
Kalina koralowa



Elderberry  
Czarny bez



European spindle  
Trzmielina europejska



Common dogwood  
Dereń świda

# *Small residents* of the forest

As time goes by, developed forest will attract new residents, including songbirds and pollinating insects.



Great tit  
Sikorka bogatka



Great spotted woodpecker  
Dzięcioł duży



Eurasian jay  
Sójka



Bullfinch  
Gil



Common blackbird  
Kos



Robin  
Rudzik



Wren  
Strzyżek



Long-eared owl  
Sowa uszata

## *Birdsong*

has a therapeutic effect,  
especially in noisy cities.





# Useful terms

## *Botanist*

A person who studies plants and is very knowledgeable about them.

## *Ecosystem*

Part of nature (i.e. forest) where all the living organisms are connected with the habitat that they occupy.

## *Native species*

Species of plants and animals that have evolved or become established in a particular area and are adapted to the conditions.

## *Biodiversity*

The diversity of living things at all levels; biodiversity is considered to exist when in a given ecosystem there are many different species, including the protected ones.





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[www.zielonemiastopoznan.pl/en/](http://www.zielonemiastopoznan.pl/en/)