

Tiny Forest

FOR CLIMATE-PROOF, NATURE FRIENDLY
CITIES



Why Tiny Forests®?

Creating a thriving and climate resilient city - one that supports economic growth and enhances well-being - is a considerable challenge. Environmental issues such as flooding, pollution and heat stress are increasingly affecting cities; and this is only expected to worsen in the face of climate change.

Increasing urbanisation, modern lifestyles, digitalisation and longer distances between homes and pleasant green spaces, have also resulted in people enjoying far less time in nature.

A Tiny Forest is a dense, fast-growing native woodland that is around the size of a tennis court. These miniature forests are not only an attractive location for wildlife, but for people as well.

It follows a method of forest management, developed by Dr. Miyawaki in the 1970s, to plant natural, native forests. These forests grow rapidly and become more biodiverse, faster. Since the movement began 3,000 tiny forests have been planted, 96.7% of which developed into resilient ecosystems within 10 years.

What is a Tiny Forest®?

- A new dense green space with **low management** expectations, becoming maintenance-free after the first three years
- **Fast-growing forest** - 10 times faster than regular forests
- Up to **30 times more dense** compared to conventional tree plantings - 600 trees in a tennis-court size plot, therefore maximising benefits per hectare of land
- **30 times better noise and dust reduction**
- Up to **30 times better carbon-dioxide absorption** as compared to a monoculture plantation
- Completely **chemical and fertiliser free** forest that sustains itself and supports local biodiversity
- An outdoor classroom space close by for people to connect with nature

January 2017



June 2017



September 2017



*After two growing seasons (planted in winter 2015)

How do we create a Tiny Forest®?

Once the plot is identified there are only 5 steps to establish a Tiny Forest:

Step 1: Exploring the field on native forest communities, because these are more resilient, facilitate higher biodiversity and cope better with disease.

Step 2: Soil research, because forest soils are complex and microbes, fungi and soil fauna play a key role.

Step 3: Soil preparation, to create the best conditions possible

Step 4: Create a planting design, with the right species and so that it becomes a pleasant space

Step 5: Plant it, the fun bit where you can engage your staff for a volunteering day

Maintenance for first 3 growing seasons, but less is better



Tiny Forest® Factsheet

Benefit	Expected impact after 4 years, these will increase with time
CO2 absorption	On average 450-600 kg CO2 uptake per year is expected: 1800-2400 kg CO2 after 4 years (compared to 136 kg CO2 uptake in 4 years of a same size regular forest).
Biodiversity contribution	One Tiny Forest attracts more than 500 animal and plant species (insects, birds, amphibians, mammals, etc); in The Netherlands monitoring has shown >600 species in 7 Tiny Forests together after 4 years (excluding the initially planted species).
Well-being	The Tiny Forest is a very dense, green element with green leaves at all height levels (up to 7 meters).
Thermal comfort	Forests cool air by active transpiration of water; in combination with the shading effect it is why a forest in summer is always cooler than its surroundings. Temperature differences up to 6 degrees are to be expected.
Flood mitigation	Forests (trees) increase infiltration in the subsurface and catch off rain in their canopy; therefore increasing flood mitigation locally. Expectation is that a Tiny Forest can process 30,000 litres of rain water (= 30 m ³) during a rain event.
Air quality	The expected effect on air quality of a Tiny Forest is a decrease of 1-10% on floating particulate matter in the air depending on the location and post first year.

Why invest in a Tiny Forest®?

With £25,000, Earthwatch will:

- Follow Steps 1-5 and establish a new Tiny Forest, which you can brand
- Provide a volunteer or team building day for your staff (60-100 employees) to plant the Tiny Forest, including an educational environmental session
- Build the capacity of the Tiny Forest Keeper Team, engaging 4-5 employees as ambassadors (1hr/week required mostly in spring and summer to water and remove undesired plants)
- Monitor the environmental benefits (e.g. CO₂, biodiversity, air quality, flood mitigation) for the following 2 years, giving you science-based data you can use in your reporting and communications
- Engage your staff in 2-4 monitoring events* a year to raise awareness on urban natural solutions for climate change

*By using citizen science, which actively involves non-scientists in scientific research, collecting and analysing data.

Why Earthwatch?

Earthwatch has partnered with IVN, the organisation leading the Tiny Forest movement.

As an established environmental charity, with 50 years track record in engaging people of all walks of life in nature, we are ideally placed to expand Tiny Forests.

We have a deep commitment to delivering impact. We have a proven ability to engage employees. We are an established research organisation with IRO status (Independent Research Organisation).

We work with scientists, communities and policy-makers to promote conservation action, and with companies, to invest in sustainability and in their people for environmental positive change.

Our goal is to plant 100+ Tiny Forests by 2023.

Contact Maria Pontes at mpontes@earthwatch.org.uk for partnership opportunities.

