

Are we - the Earthlings - alone in the Universe?

Is there any intelligent life on other planets speaking to us?

And if so - how can we communicate with extraterrestrials?



Arecibo Observatory at Arecibo, Putero Rico

**since 1999 the SETI@Home project is collecting radio data from the deep space
to search for messages from intelligent beeings in outer space**

**Since the start of the SETI-project, there has not been any evidence,
that there are messages sent to the earth**

I believe that we are looking on the wrong MEDIA!

But instead, since millions of years organic matter as a is raining on the earth

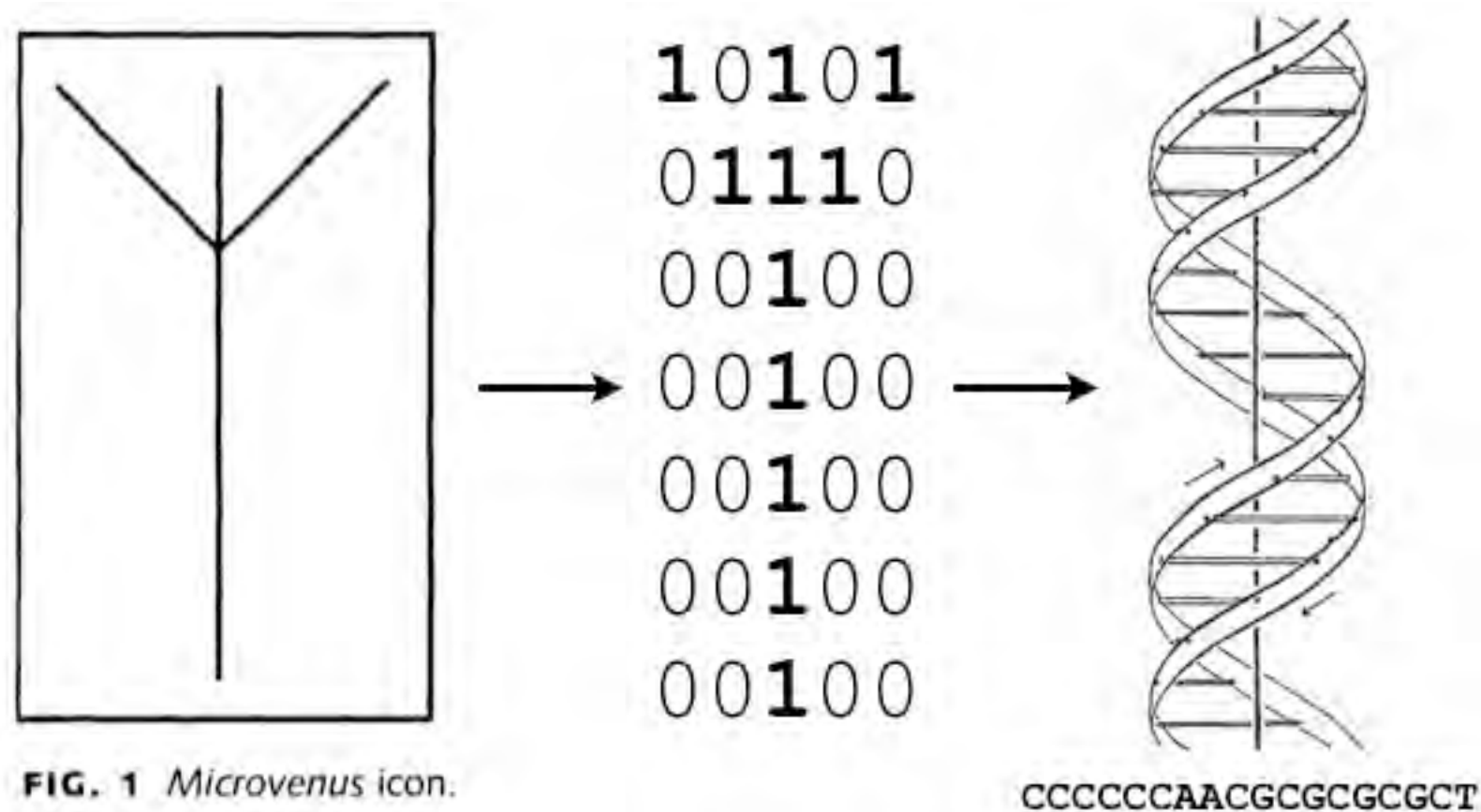


KCBS HD
San Diego

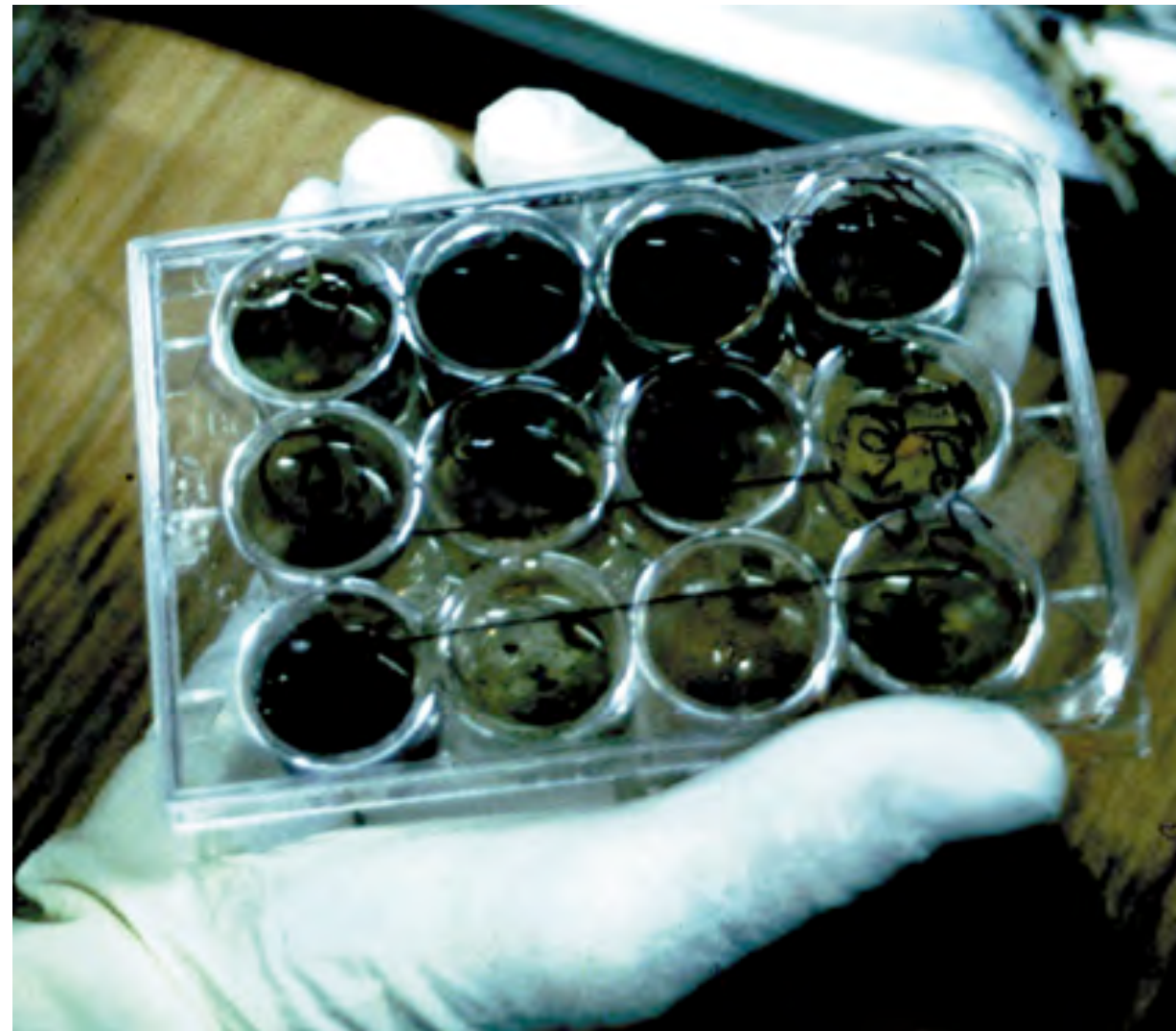




When these meteorites are the first known **MEDIA** from outer space - how can then humans communicate with intelligent beings from other worlds?

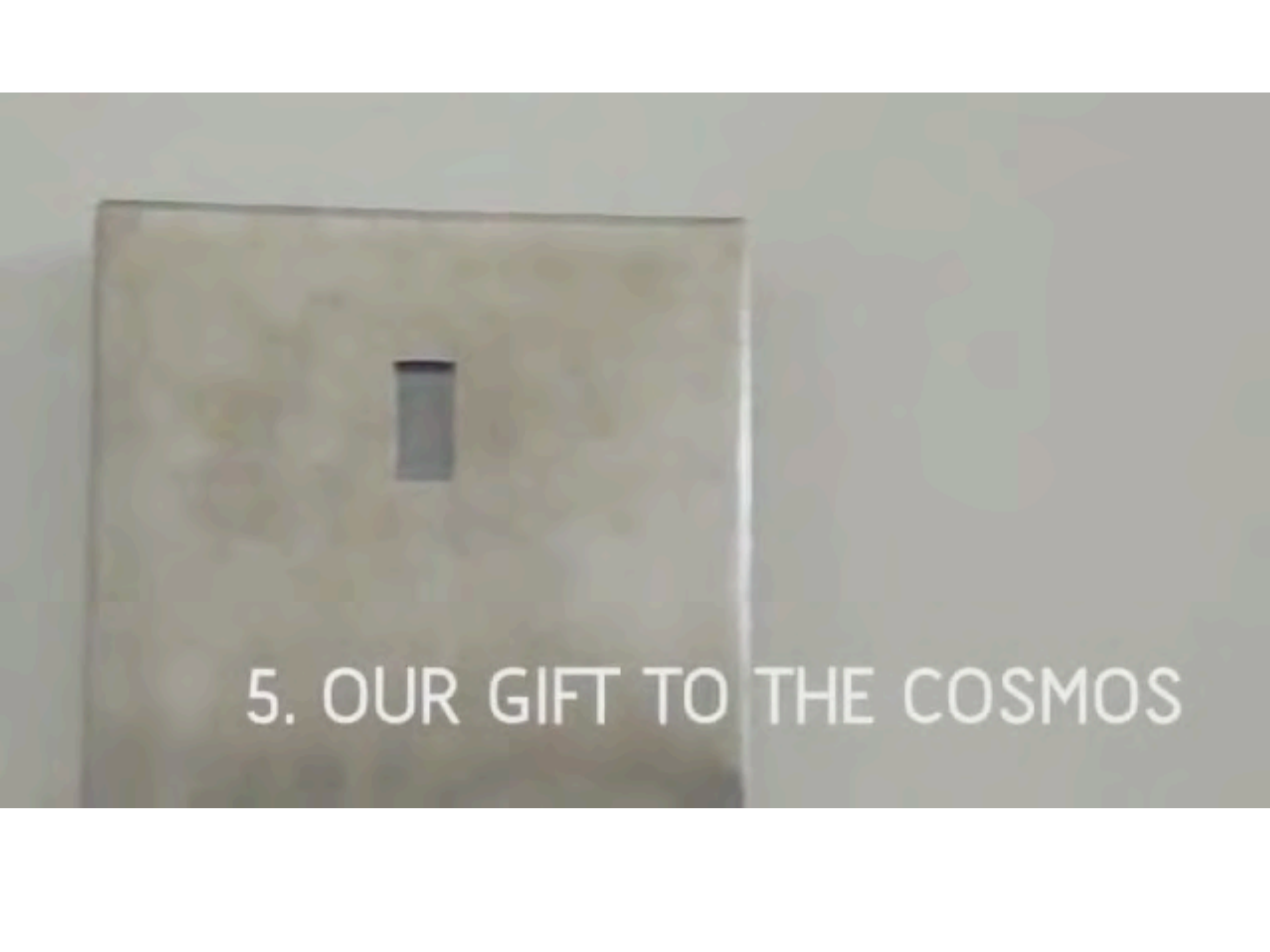


Joe Davis was one of the first practitioners of the Genetic Art movement. In 1986, he realised the work *Microvenus*, an *Artistic Molecule*. In collaboration with molecular biologist Dana Boyd in Jon Beckwith's lab at Harvard Medical School, he designed and synthesized an 18 base-pair message encoding the image of the ancient Germanic rune representing life and the female earth. The *Microvenus* message was then pasted into a vector and transformed into *E. coli*, creating a living work of art.



Microvenus used one of the most robust and long-lasting information carriers, the **DNA codon**. The artificial molecule was meant to deliver a message that NASA forgot to transmit in its contact experiments with extraterrestrial civilizations. In the search for a code, Joe Davis chose the language of the living - the **DNA** -, because neither computer code, nor the human language, nor Morse code, appeared to him as universal as the genetic code would be.

Davis used DNA code in order to enable communication – specifically with extraterrestrials – by sending his message into outer space as both bacteria and genetic code converted into radio waves.



5. OUR GIFT TO THE COSMOS

But do we really need to encode messages in DNA?
Couldn't it be that we have the messages from outer space always present in
our every day life and we are just **not aware** of them?

Here in this workshop - what could be the possibilities **to read the messages**
from extraterrestrials?



What happens with the amino acids in this world?

In a fertile environment with the help of water
they create proteins and enzymes critical for life!

And what happens, when cosmic dust falls on concrete or stone?
And what to the proteins and enzymes when they
fall on the earth with a meteorite?

(sealed) surface of the earth



(sealed) surface of the earth



Nothing!

Soil sealing = permanent covering of the earth's surface with impermeable layers of buildings, asphalt roads, parking lots and so on

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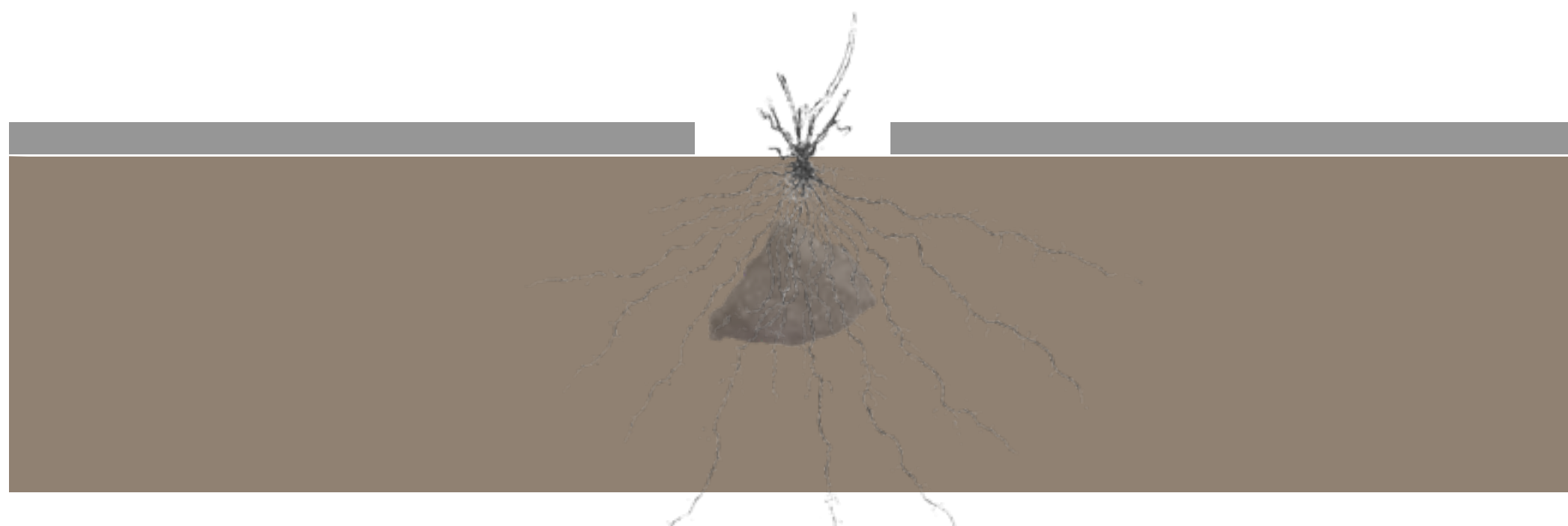
- Soil covering threatens the availability of fertile soils for our nutrition
- no groundwater reservoirs for future generations
- causes an irreversible loss of the ecological functions of soil.
- as water can neither infiltrate nor evaporate, water runoff increases, leading to catastrophic floods.
- Cities are increasingly affected by heat waves, because of the lack of evaporation in summer.
- Landscapes are fragmented and habitats become too small or too isolated to support certain species.

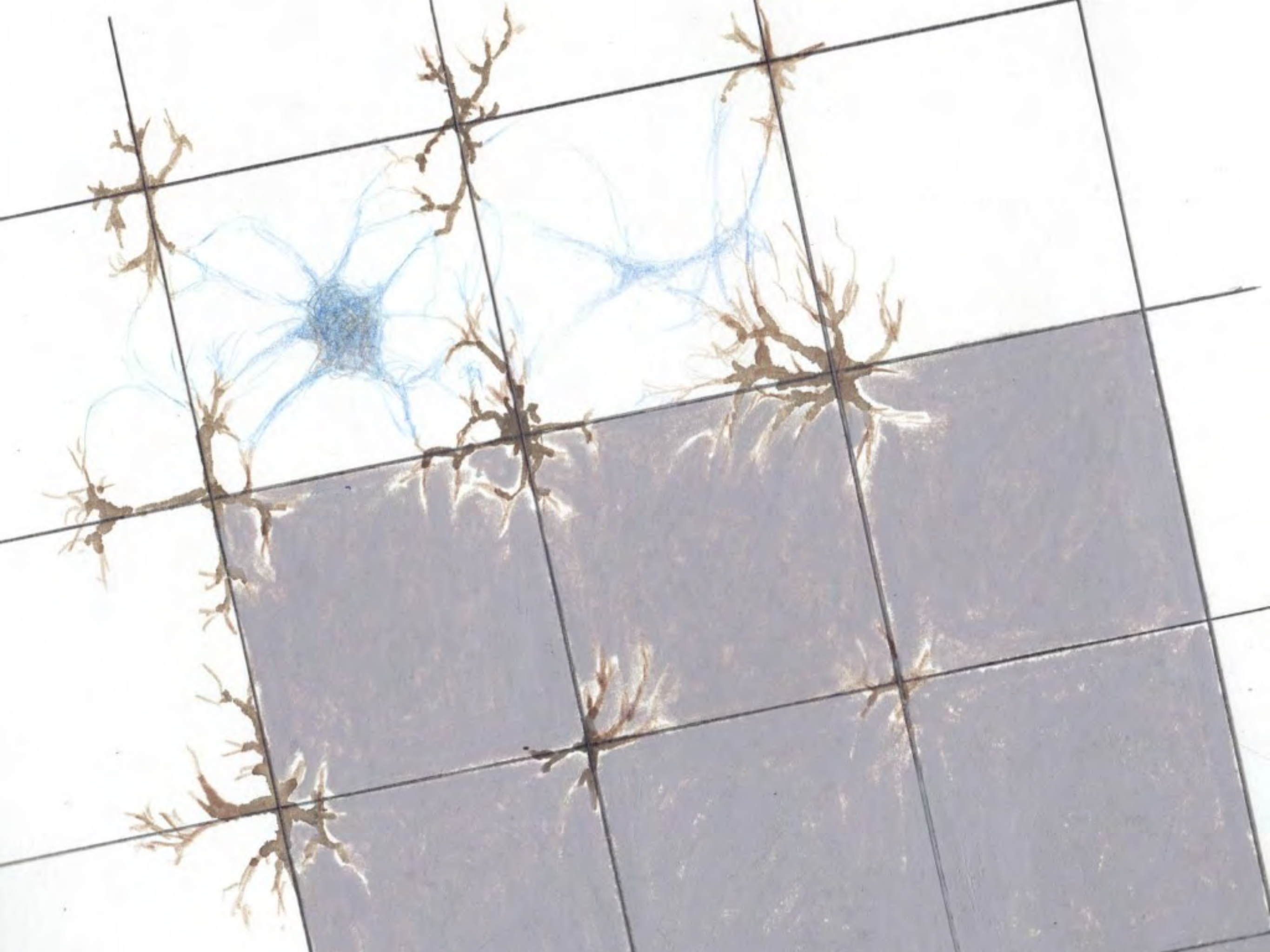
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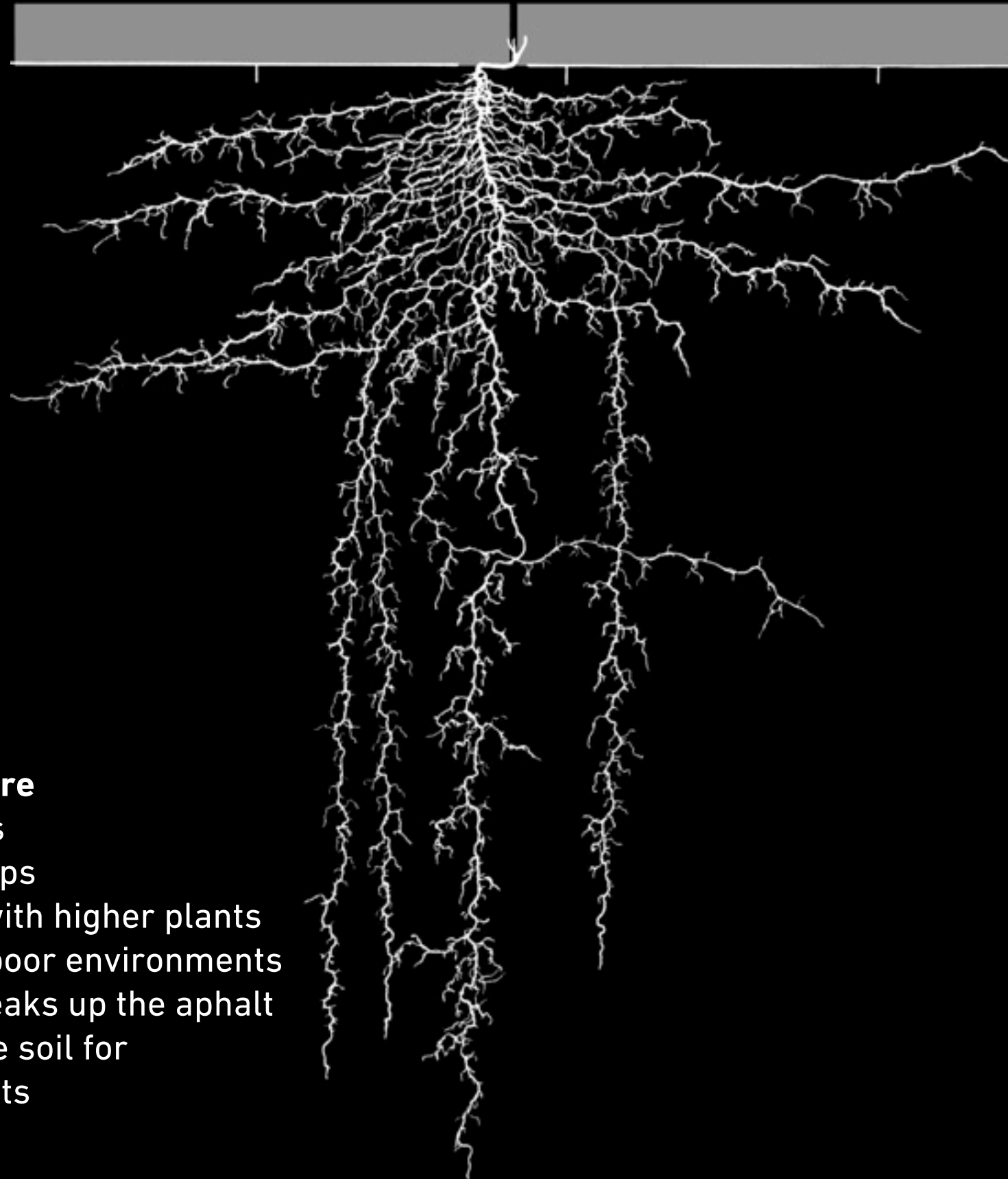








But here are our first heroes:



Polygonum aviculare

Common Knotgrass

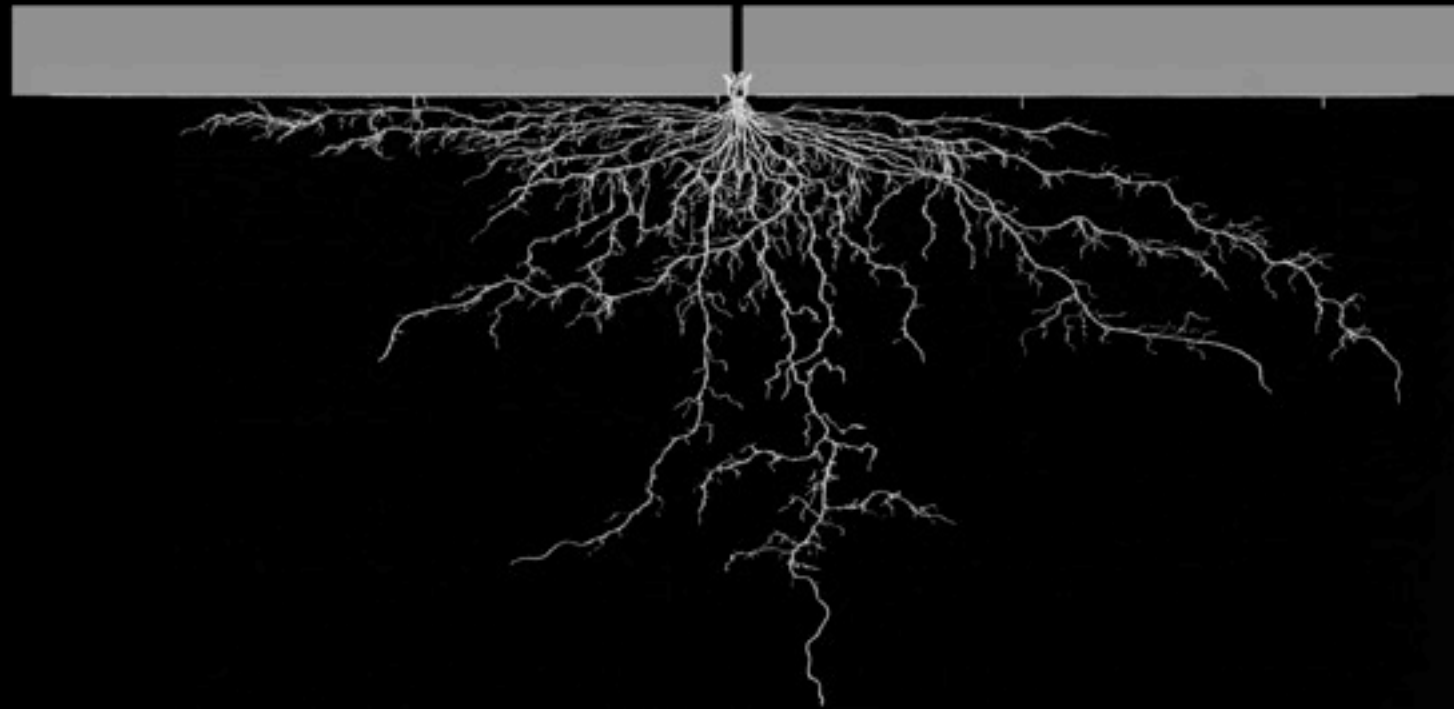
- tolerant to footsteps
- cannot compete with higher plants
- can only grow in poor environments
- **pioneer plant**, breaks up the asphalt and conditions the soil for other, higher plants



with their roots they make the soil permeable for water



they keep the water in the ground and clean it from organic matter



Plantago Mayor (greater plantain)

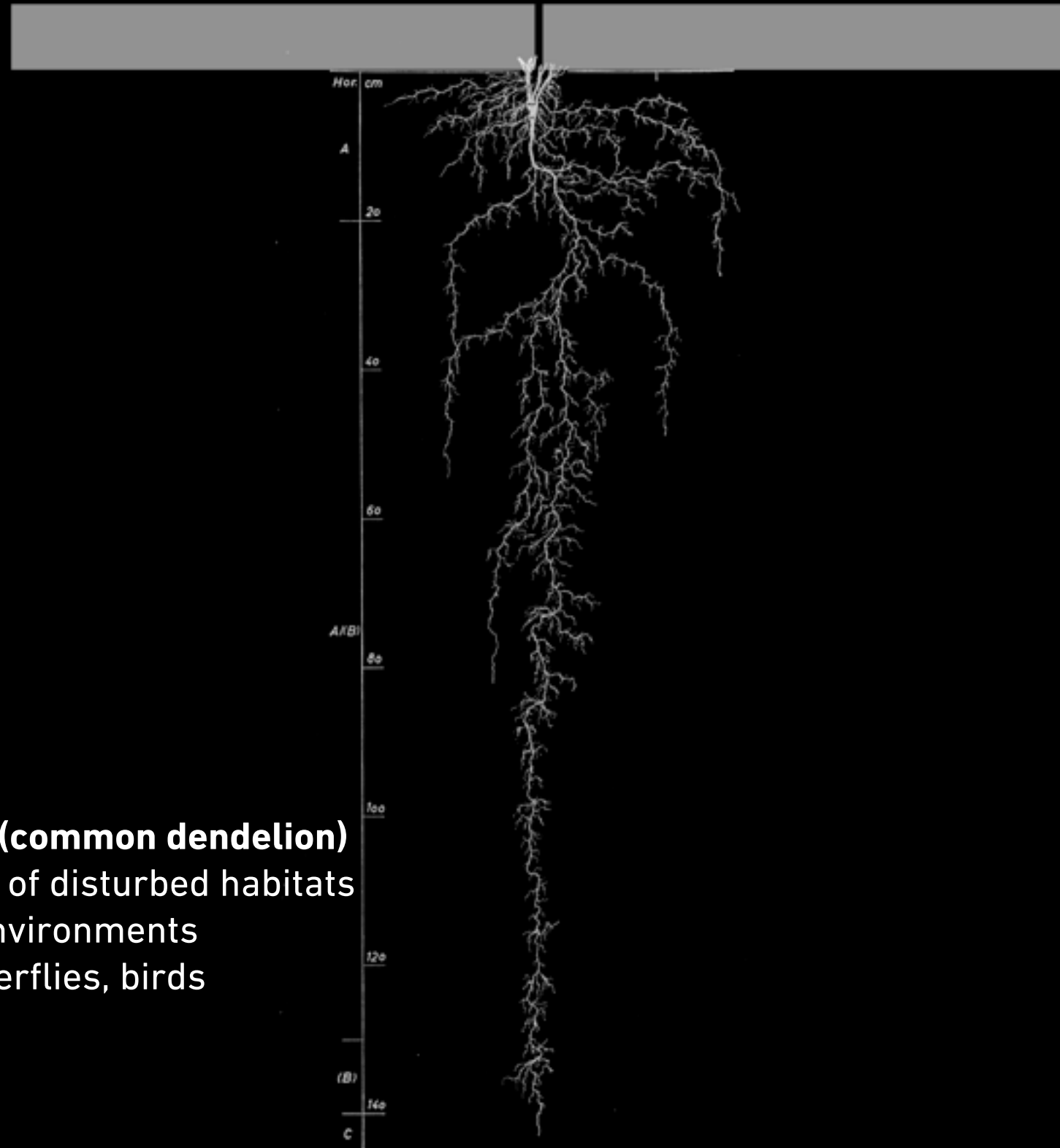
- grows well in poor environments, disturbed by humans
- survive frequent trampling
- colonize compacted soils, works for soil rehabilitation
- **pioneer plant**, breaks up hard surfaces and prevents erosion



with their roots they make the soil fertile

Taraxum officinale (common dandelion)

- common colonizer of disturbed habitats
- survives in poor environments
- attracts bees, butterflies, birds

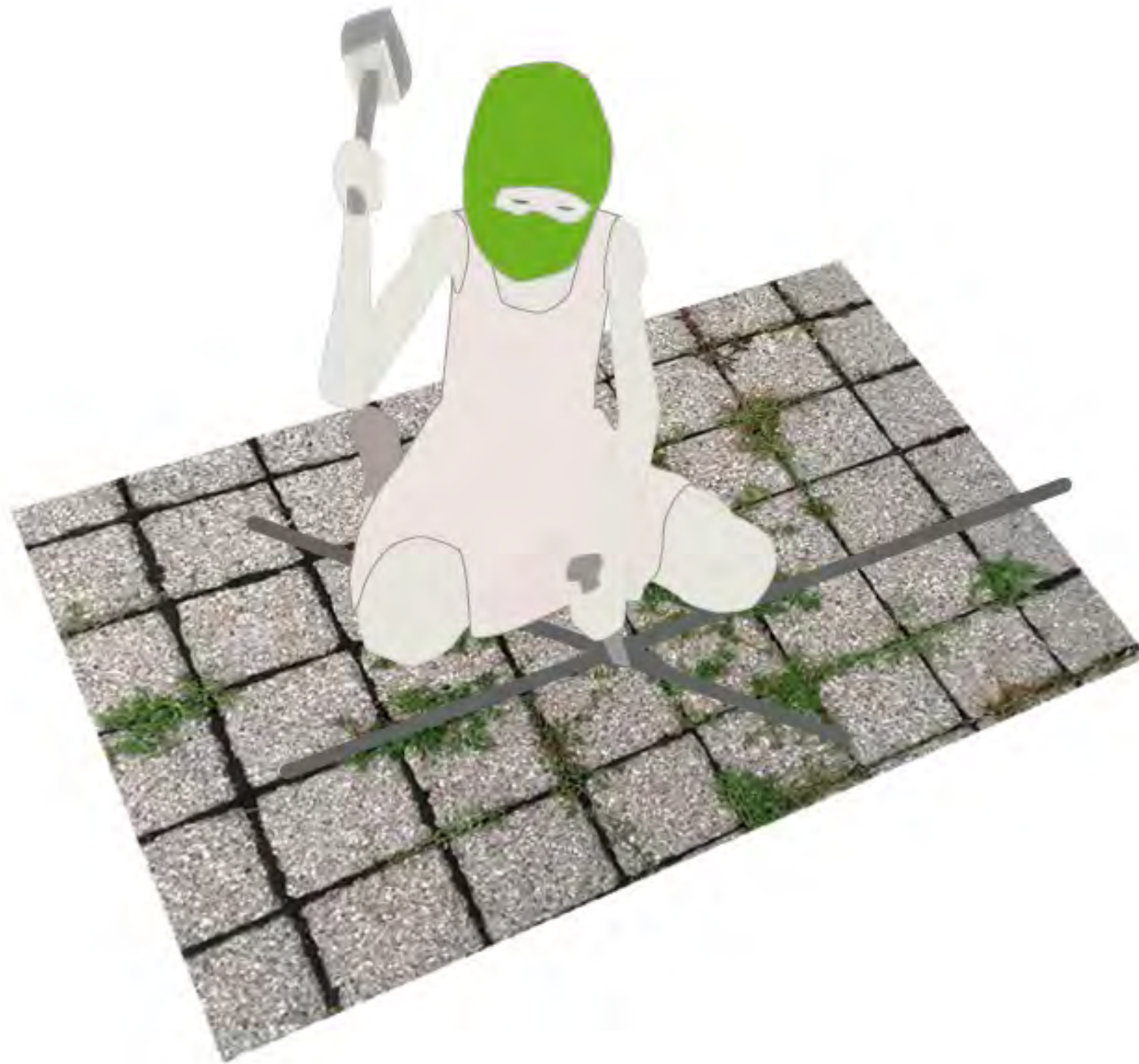




with their long and strong roots they make the soil permeable for water and attract insects

But these plants would not survive without the rain and water!

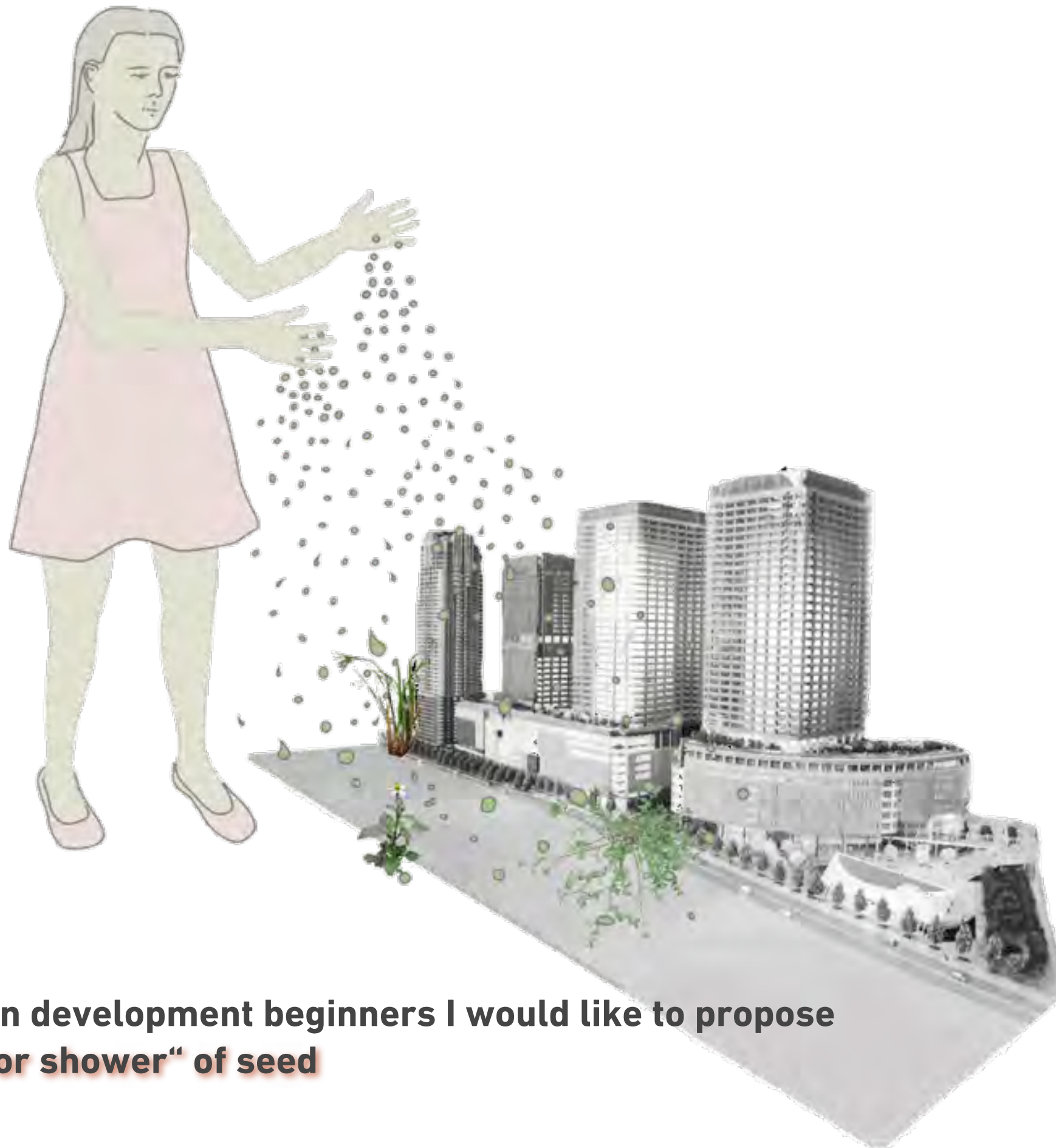
What can be done to support our brave heroes in the battle against soil sealing?



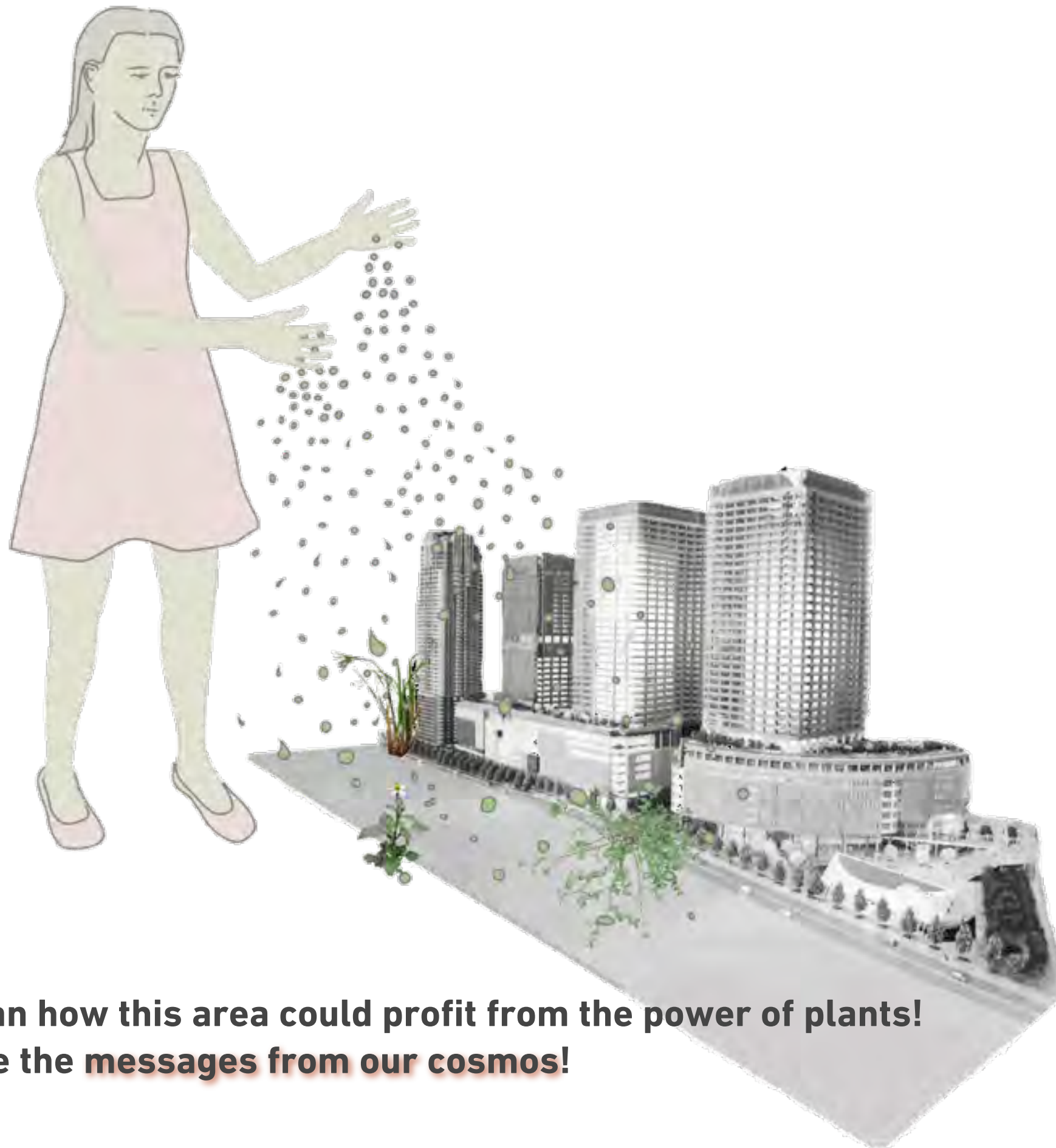
We shall **open** the soil covered with concrete and asphalt **to absorb water**



Here in this neighbourhood we have a very nice urban wasteland.



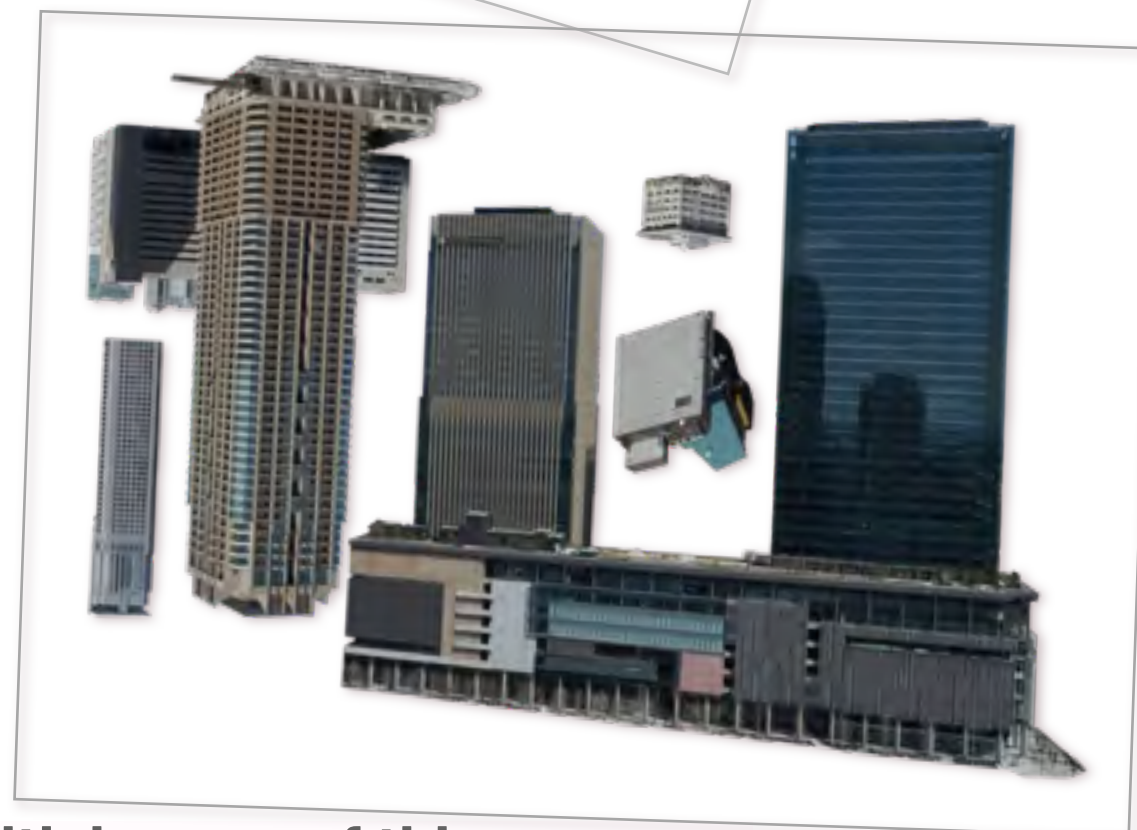
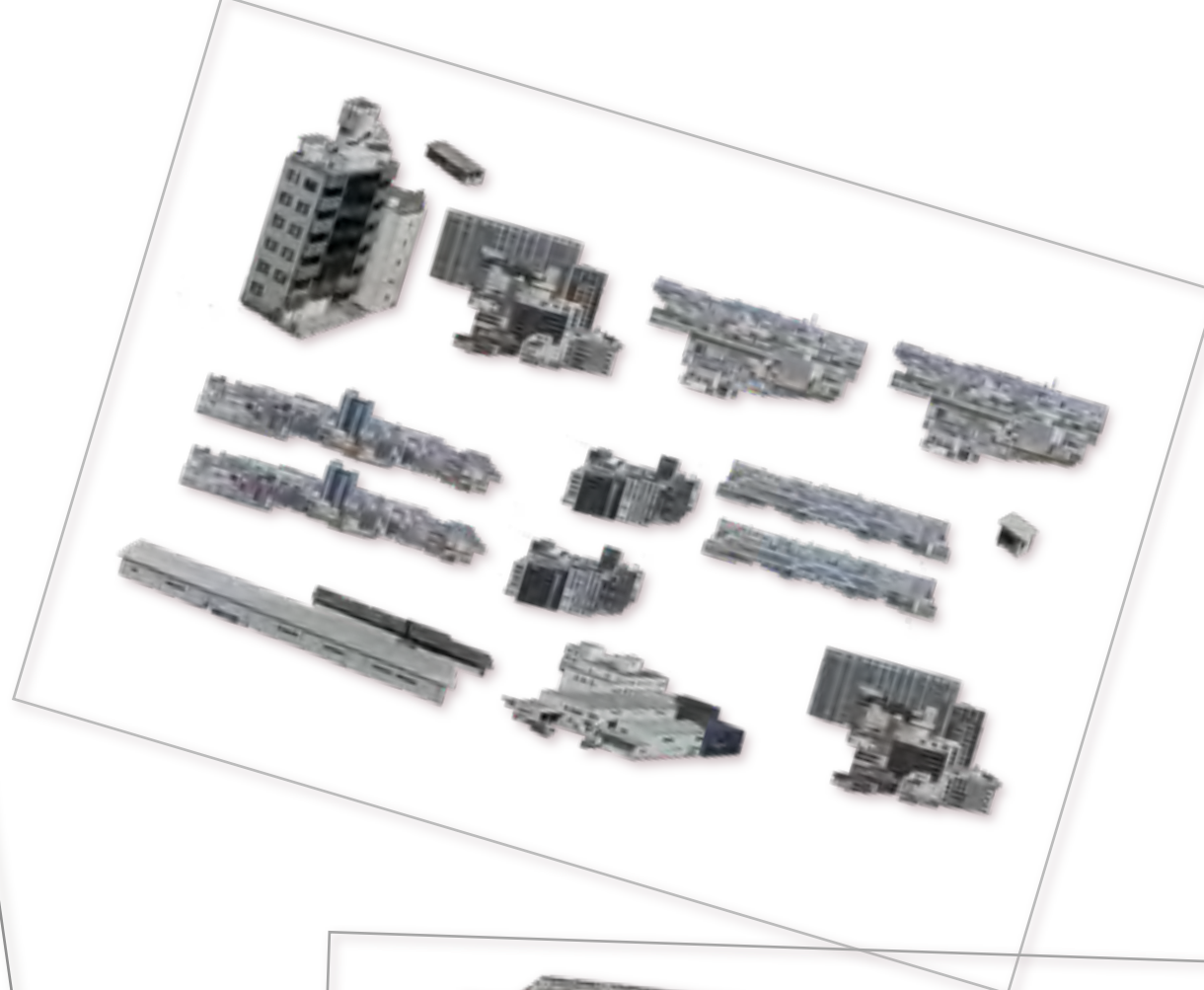
for urban development beginners I would like to propose
a „meteor shower“ of seed



**Let's plan how this area could profit from the power of plants!
They are the **messages from our cosmos!****

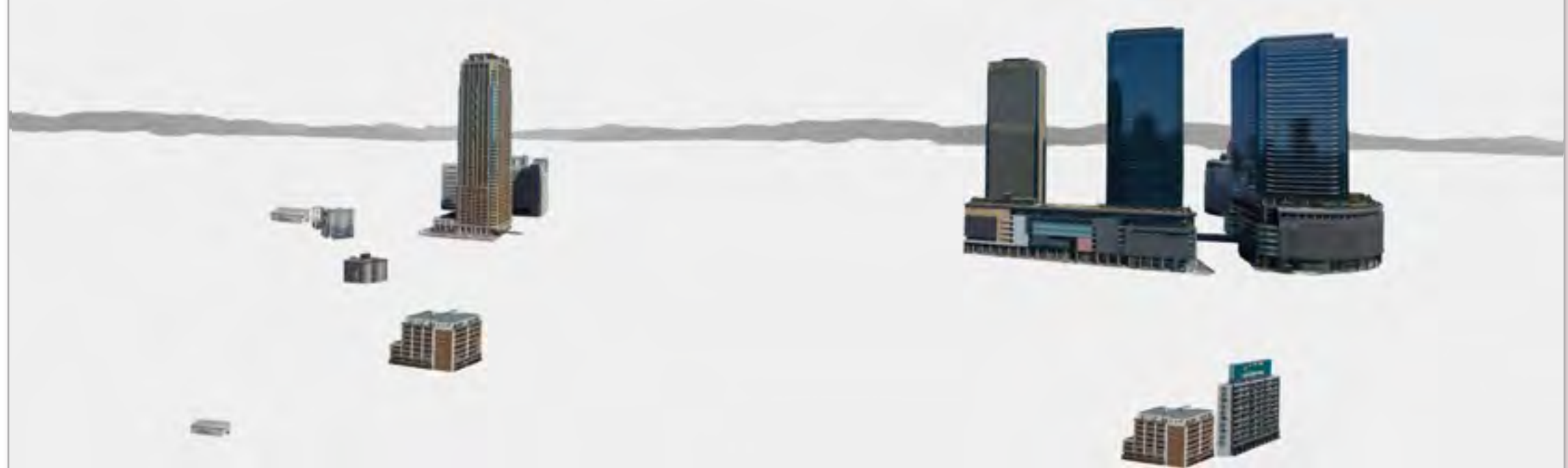


Let's open high density areas to make your city fertile !

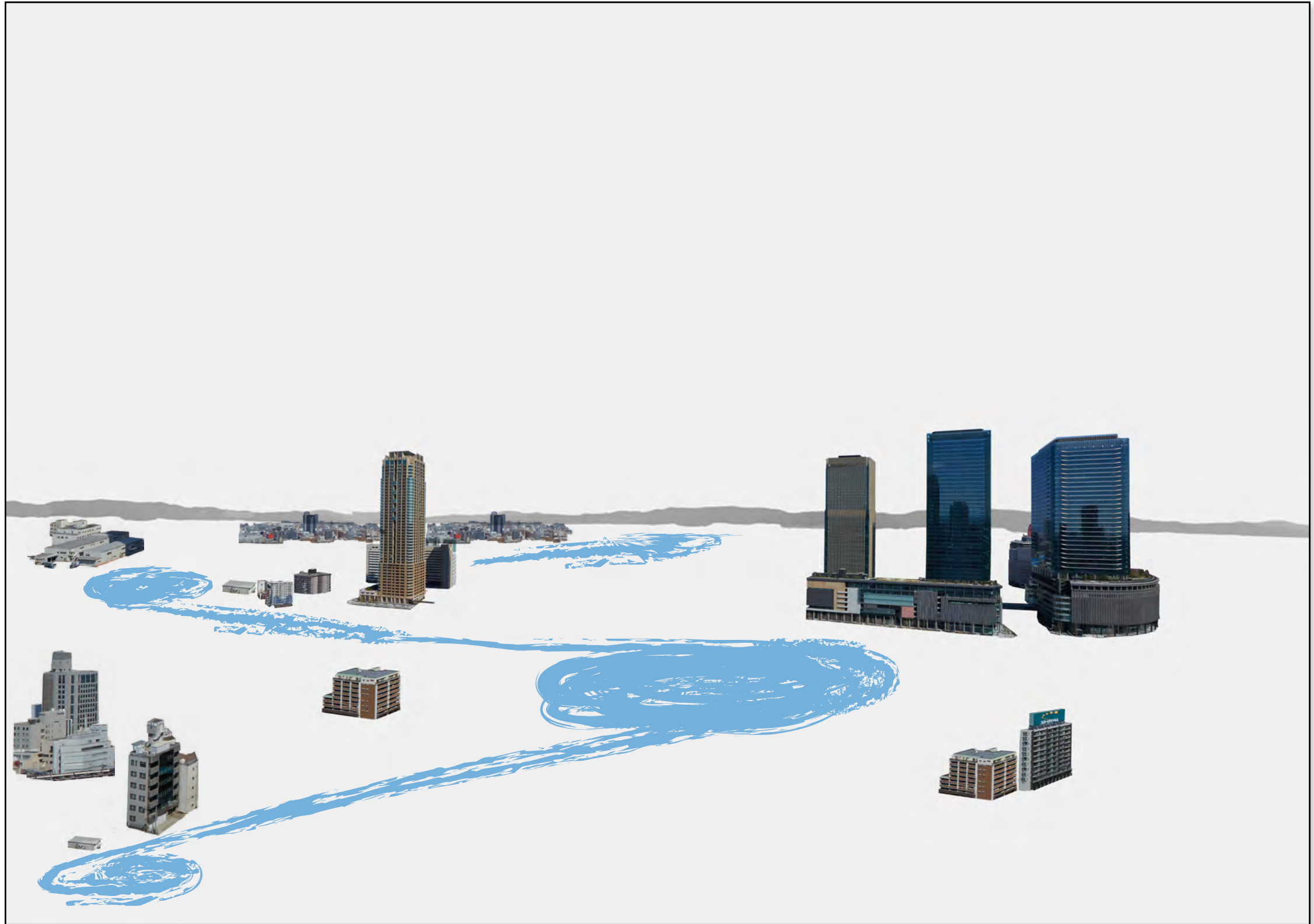


Here you find 3 pages with houses of this area

how many houses do you want in your city?



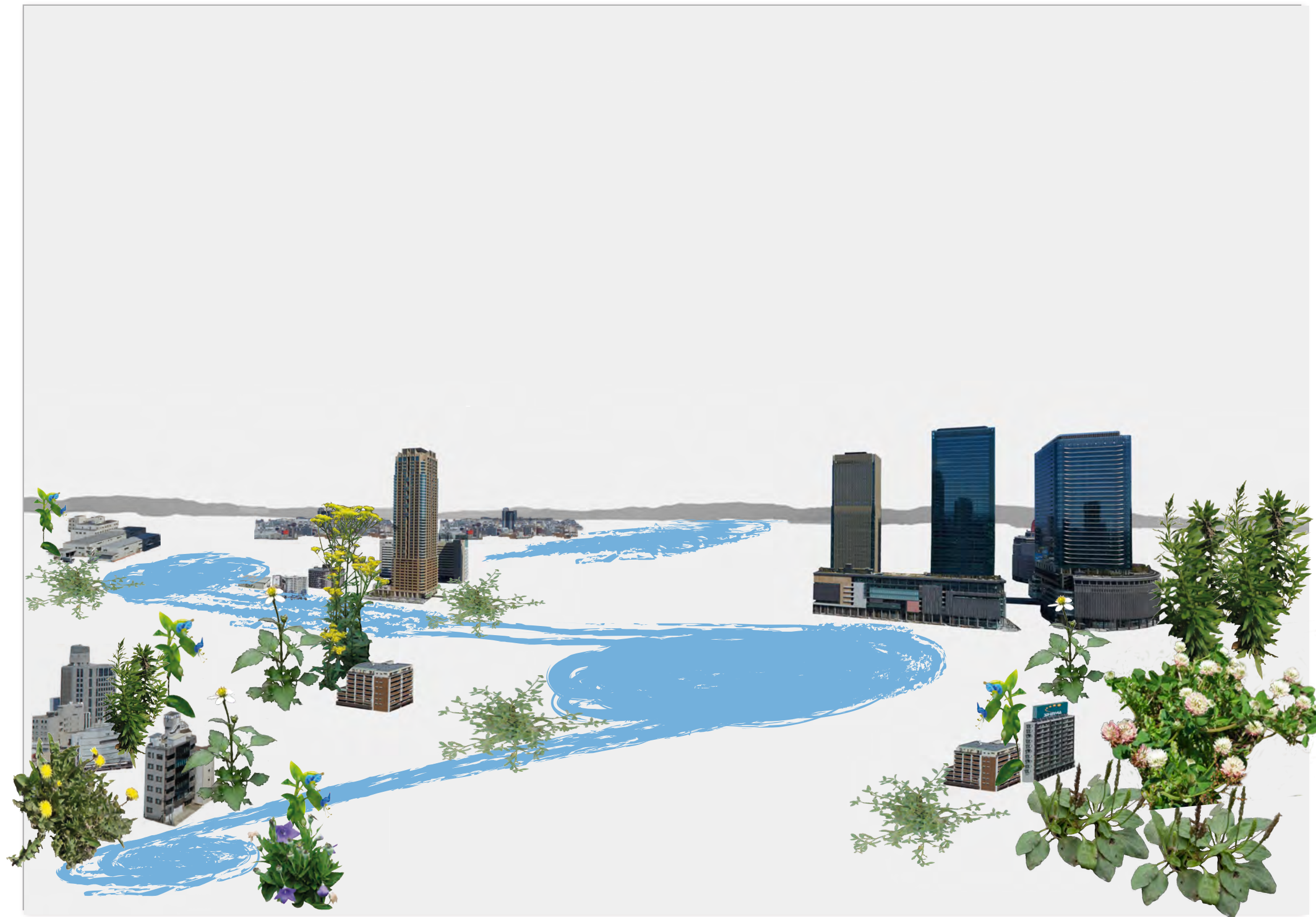
Take your A2 sheet to make your new urban design



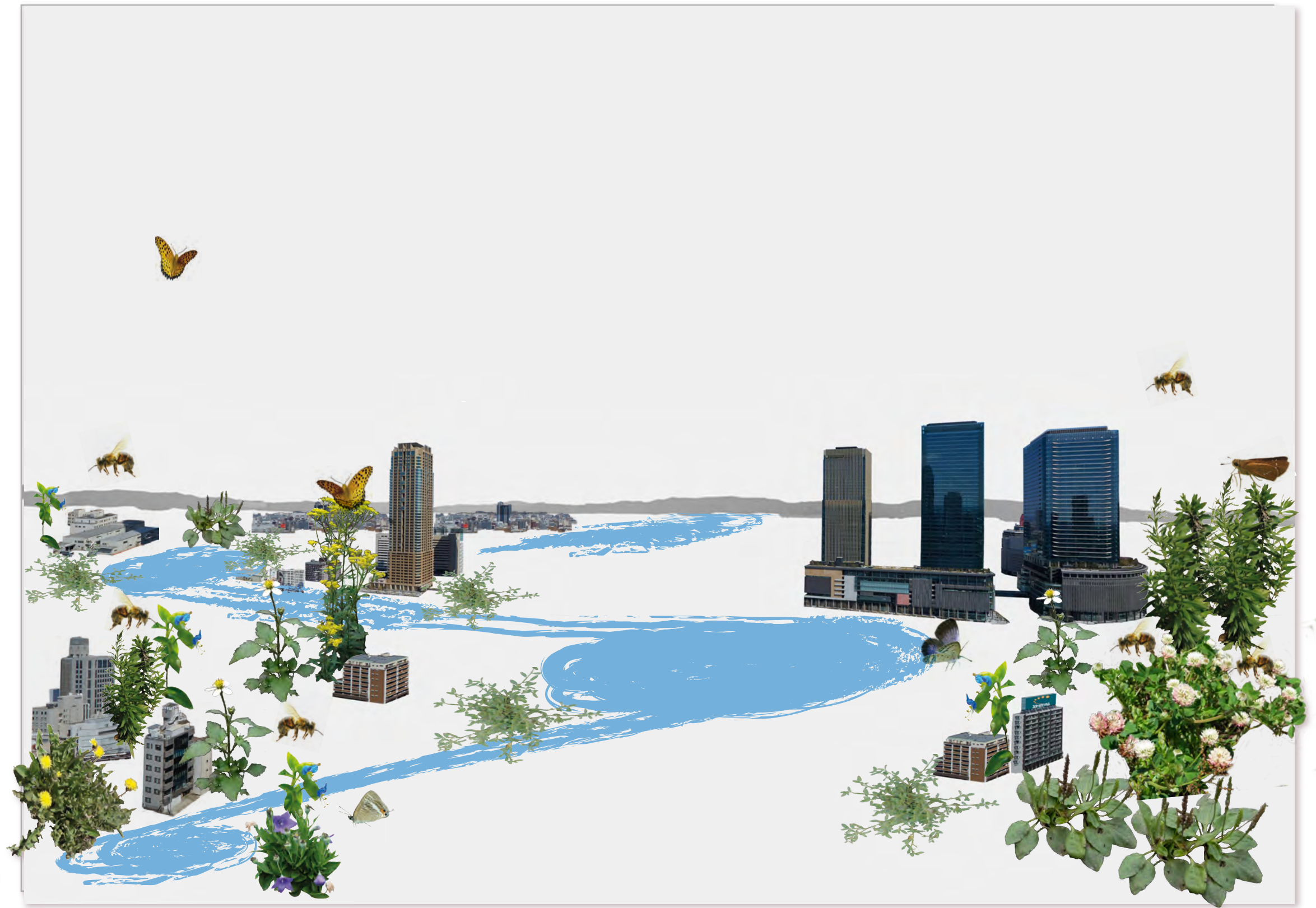
add water ponds and rivers to provide the soil with water



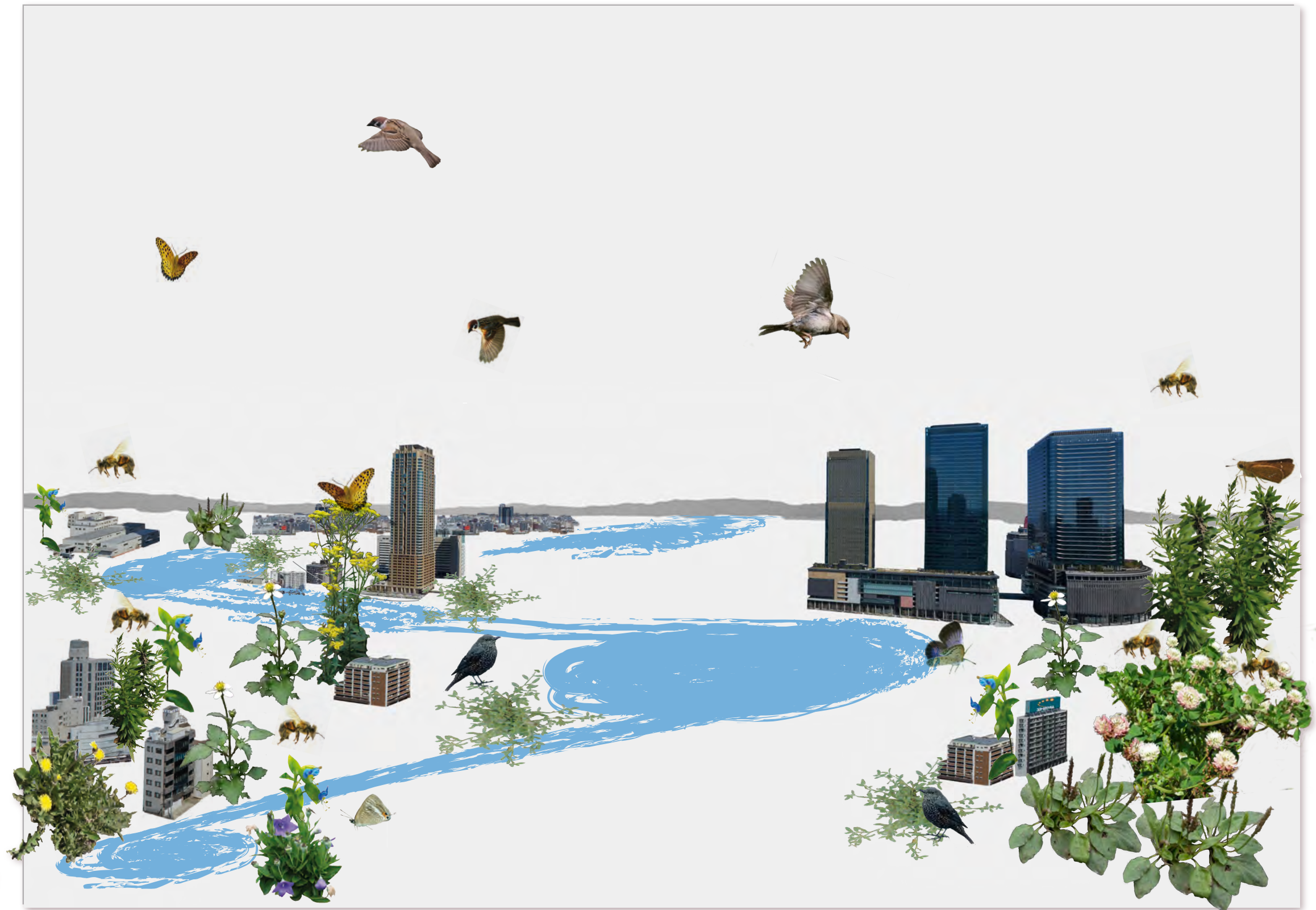
be aware of the natural behaviour of rivers



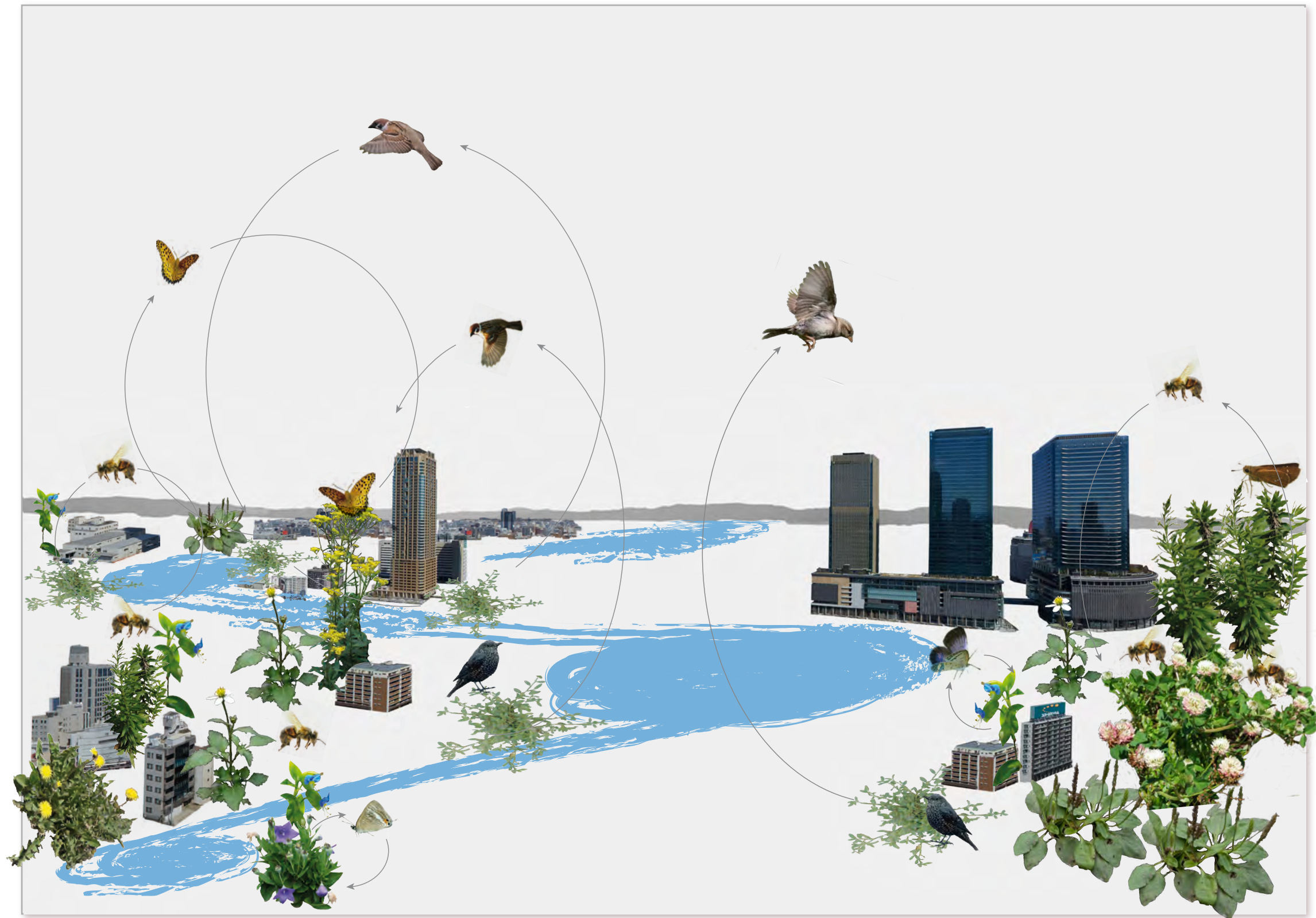
add plants to grow between the houses



place insects for the pollination of the plants



add birds to help distribute the seeds and to control insects



show the communication between heaven and earth



snails living on a plant



insects eating the leaves of a plant

communication between animals and plants

Now, let's listen and look on the messages from the cosmos!

