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Radical Observation: A series of awareness exercises for developing inter-relationalities with natural world ecosystems

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Practicing Radical Observation presents an artistic research methodology aimed at instilling an understanding of natural world dynamics among designers and ecosystem stewards engaged in urban food forest projects. Addressing the diverse educational backgrounds of community groups transitioning into ecosystem stewardship roles, this method focuses on developing individual and group methodologies for landscape and soil care through continuous site observation. Central to its application are the practice's 45 observational postures, directing attention towards natural processes that inform landscape design and ecosystem maintenance. By quieting the mind and emphasizing time-related processes like plant growth and spatial dynamics, practitioners aim to become knowledgeable stewards, viewing themselves as integral parts of the ecosystem. Exercises are conducted individually, in silence, upon entering the given site, and range from brief sessions to month-long endeavours, that resemble meditative practices. Over time, these observations contribute to a framework for prioritizing group tasks and roles in forest garden stewardship. The three exercises presented—Radical Imagination Exercise XLII – Subsoil Contemplation and Radical Observation Exercise XXVI – Groundcover Inventory—highlight the method's focus on soil organisms, groundcover assessment, and articulation of observational findings, fostering deeper connections with ecosystems. A third set of exercises (XXVII-XXIX) improves group communication skills and ecosystem advocacy.

INTRODUCTION: WHAT IS RADICAL OBSERVATION [1]

'Radical Observation' is an artistic research method that is designed to impart an awareness of natural world dynamics to designers and stewards [2] of urban food forest projects. Recognising that community groups learning to become ecosystem stewards have diverse educational and practical backgrounds, this method centres developing an individual and group methodology for practical landscape and soil care, based upon continuous site observation.

The primary application of Radical Observation revolves around understanding the forest garden by practicing different approaches to observation, referred to as observational postures. As of this writing, the practice's 45 observational postures direct attention towards natural-realm processes which, in turn, inform landscape and ecosystem design and guide maintenance in any given project environment. Developed through practical experience [3] , this method aims to quiet the mind to enable focus on time-related processes e.g., plant growth through seasons, the spatial flow of plant communities, and the need to support keystone plant and animal life at specific moments. The objective of Radical Observation practice is to evolve into knowledgeable stewards by grasping the patterns and rhythms of an ecosystem, and to view oneself as an integral part of that environment i.e., as part of the community.

Crucially, Radical Observation exercises are meant to be carried out individually, in silence, and as the first activity upon entering the site. The Radical Observation postures range from brief ten-minute sessions to month-long endeavours. They resemble meditative practices and focus on site details best appreciated alone, yet later integrated into a deeper understanding of the location through communication with the group. Over time, these new perceptions contribute to a framework for prioritizing group tasks and roles in forest garden stewardship, on both a daily and long-term basis. With regular practice, the acquired knowledge becomes embodied, and is ever-expansive as the practitioners as a group seek insights within the ecosystem itself.

In the following glimpse into the RADICAL OBSERVATION practice, three exercises are presented. The first acknowledges the significant role of soil organisms in food forest stewardship and comprises a guided meditation titled, RADICAL IMAGINATION – SUBSOIL CONTEMPLATION. The second, EXERCISE XXVI – GROUNDCOVER INVENTORY, involves learning to take stock of groundcovers. The third exercise, in fact a set of exercises, involves learning to articulate observational findings for oneself, speaking for others, and as a group.

RADICAL IMAGINATION – RADICAL OBSERVATION EXERCISE XLII – SUBSOIL CONTEMPLATION [4]

To forge a common notion of soil, we will perform an act of conceptual anthro-pedo-genesis. The 'conceptual' is a guided imagination, with eyes closed or 'gazing inward' as a yoga teacher might say. Anthropedogenesis refers to human steered topsoil production, but the term simply refers to human-made soils. We will now quickly construct a living soil in our minds.

Please imagine a large, cylindrical, clear, glass vase, 60 centimetres tall, in which we will produce this soil. In a moment we will add some things to this vase, which in our world, would be made up of materials connected to place, materials that have undergone weathering, ageing, pressure

1 Solomon, Debra. Radical Observation. ongoing 2014. 12+ awareness exercises, performance, methodology for teaching awareness of natural dynamics.

2 A steward is an individual who consistently and diligently tends to the requirements of an ecosystem, aiming to guarantee its flourishing and well-being.

3 See related works: b. Solomon (2020), c. Solomon (2021), d. Solomon, D., & García, J.-A. (2021), e. Solomon, D., Milne, R., & Pappa, L. (2021), f. Solomon, D., García, J.-A., Nollen, R., VBAZO Community of Praxis, the more than human community of VBAZO, & Ruben Borge (2021), g. Solomon, D. (2021).

4 Intended to be read aloud to groups as an initial introduction to the soil organism concept, this exercise affords practitioners a moment to acquaint themselves with some of the soil organism's inner workings that would inform their subsequent maintenance practices.

processes that take of billions of years, materials that have been melted or pressed together, or ripped apart by tectonic action, displaced and deposited by large bodies of water, ice floes, or rivers. Some of these materials are organic and have been deposited, metabolised, eroded by the juices of plant roots, or have been chemically dismantled into elements by the very sweat of fungal filaments with the power to create underground weather systems between mineral grains blown as dust from another part of the planet. But in our thought exercise, what matters most is that the materials we place in our vase have different sizes, shapes and textures that reflect some of soil's materials.

We begin by adding; a few handfuls of ping pong balls, a bag of marbles, a few cups of spent coffee grounds, some dust from the vacuum cleaner, some wood chips, some irregularly crushed, dried-up leaves, and several packets of cigarette rolling papers, ripped into impossibly small millimetre squares that somehow magically all stick together like pages in a miniature book. This strange collection of materials serves merely to signify a portion of soil's different shapes, sizes, textures and scales. But in fact, this collection hugely under-exaggerates the differences in scale in a real soil – by several factors of ten. Imagine our minimal collection, and with your hand at each end of the vase, give it a good shake to mix up these dry ingredients.

Now, to begin imagining the 'living soil organism' we'll need to add some water to these materials, not too much, a pour and some drops, and shake it again really thoroughly. Now then, when the materials in our vase have settled down a bit, let's have a look peering in from the outside of the vase.

What do we see? Some of the materials are damp. Imagine observing that the water doesn't adhere equally to all of the materials, but thoroughly drenches others; the marbles or the ping pong balls as compared to the coffee grounds or the miniature shredded cigarette paper books, and the partially hydro-phobic vacuum cleaner dust. In between all this jumble, where all these particles come together, there are places for air or water. The water has in some parts of the vase leached some of the materials to become a dirt tea. In some places it fills up these interstitial spaces. Even some of the smoothest materials in our vase (the ping pong balls and the marbles) have revealed themselves to have pocks and scratches where water and even minute grains accumulate. Imagine the now-moist surfaces of some of the muck from the vacuum cleaner, or the wood chips, the crushed dried leaves and the coffee grounds, the pages of the tiny cigarette paper books. That wet film of moisture covering those individual particles, and pooling at their junctures, we shall call a biofilm. It's a thin film of moisture, but it's really a universe in which an uncountable number of microscopic beasts live, in real time. We imagine large herds of microscopic creatures living on and within these biofilms, and even on and within each other, just like in the biofilm that we have learned to experience, living on our own wet marble, Earth.

Remembering that the living creatures in the biofilms of our vase all need to eat, let's imagine some plant roots growing down into our notional soil universe. Finding their way between the soil particles, the roots exude lubricating juices from their tips that allow them to slime their way through the soil grains, and later hold them together by glue and by grip. Within the atmospheric conditions of the soil particle spaces, in the presence of any moisture at all, the gluey root juice unleashes chemical processes with the power to transform and erode minerals.

Meanwhile above ground, the plants are using their leaves to turn sunlight into 'sugars', which below ground become food for microscopic herds of creatures. The nutritious root saps oozing into the soil materials around the snaking root tips host 'communities' of bacteria and other beasts. The plant root tips' exudates attract bacterial herds who secure their food resources by forming jellified flotillas. Together the bacteria en masse ooze out a matrix of pre-digestive jelly to increase contact with the surface area that surrounds the food that surrounds them. Just like us, the bacteria, eat, perform some actions, poop, and die, and along this continuum, themselves become either part or parcel, the food of another creature community.

All of the plants sense this life-death-life cycle. They are triggered, and in response produce a new flush of roots that will undergo dynamic transformations of growth and die-back. Some plants grow one big tap root down, and some grow roots spread out horizontally in feathery nets. In some seasons a flush of root hairs comes out, and in the next season these same root hairs die off. Without disappearing, they leave behind food-rich channels, tunnels of organized organic material, dead matter, necromass, the favourite food and habitat of almost every creature living in the soil's root zone, the rhizosphere.

This root hair flush and die-off happens rhythmically, throughout the year's seasons and it's traces remain in the soil's structure. After above ground florescence, a flowering plants' roots lignify, become woody, having drawn down carbon into the soil, leaving transformed material pathways. Roots, which started out crisp and watery, became spongey and fibrous, and then thickened into woody, skeletal structures… infrastructures! and nutritional infrastructure at that. These temporal, material interactions and RELATIONS create soil architectures. A living soil's 'texture' is the cumulative traces left by all that has ever gone on inside it. ALL OF ITS RELATIONS.

There are innumerable interactions and relations ongoing in the living soil. Fungi initiate chemical processes which slowly erode and metabolize the mineral grains they have caught in their unfathomably large and intricate nets; a spun web of sweaty hyphae, that is, the roots of fungi, if fungi had roots.

And in and around all of this, infinitesimally microscopic animals and other taxonomic beings are re-organizing and administering soil materials into food and habitat. Dismantling and redistributing material with and through process produced either by themselves or by their neighbours, and whose choice, edible bits, the bio-available resources, they either use or re-allocate to other soil inhabitants; plant, animal, or fungal.

So, these 'dead' materials in our vase, the wood chips, leaves, coffee grounds, vacuum cleaner dust, and even the space in between the pages of the unimaginably small books of cigarette papers, the materials in this space within a space, are in fact not really dead, considering the degree to which they are inhabited and metabolized by microorganisms, by plants and fungi, all going through their life-death-life-death-life cycles. Just think of the sacred sauerkraut. Is it dead or alive? It's both. And in this soil space, with both weather, atmospheres, and tides, flows of moisture and nutrients, rapidly changing landscapes and terrains… a definitive border between the living-dying-living entities and their habitats – the vital material and relational space in which they live, is fundamentally blurred.

So many things going on, so many scales and timescales. There is no such thing as One biological reality, one timeframe, or one scale that

defines a living soil. Now, coming back into our bodies, back from this imagined world, what this exercise of anthropedogenesis should make obvious is the diversity of materials comprising soil relations, and the sheer amount of surface area materials with potential for these interactions there is in the space that is living soil. And though this conceptual act has been metaphoric, I hope it brings awareness about some of the conditions, interactions and relations, that constitute soil as a living entity.

RADICAL OBSERVATION – VBAZO AND WAHV GREEN TRIANGLE EXERCISE XXVI – GROUNDCOVER INVENTORY [5]

Standing alone between two trees on the greened traffic partition.

In silence, working alone, and for a period of about ten minutes,

Take a mental inventory of the ground covers at your feet.

Notice that during that ten nimute interval, several times you thought you'd counted them all. (Nine!)

But each time you return your focus to this inventory you noticed new groundcovers.

(Fourteen!)

(My twelfth looks a lot like my eighth but no, it's a different species!)

When you're almost done,

(Nineteen!)

Imagine that this location had never been mown.

What would this multidimensional groundcover carpet look like?

What would be the rhythm of its florescense, as seen throught the year?

What would be the vegetal textures, the varying heights, shapes and plant volumes?

Who would eat here or make this place their home and when?

Think of how you will remember all of this, so that you can report it back to the group

5 This exercise aims to develop plant recognition and memory skills, and to deepen curiosity in concerns of the multispecies plant-world. Practised weekly, the exercise imparts considerable site knowledge. GROUNDCOVER INVENTORY was co-developed simultaneously with the AMSTERDAM ZUIDOOST FOOD FOREST (VBAZO) community, co-lead by Renate Nollen. After repeated destruction to VBAZO's plantings by municipal maintenance services, the group practiced taking stock of the plant life in the food forest parcels. GROUNDCOVER INVENTORY was simultaneously practiced by the Green Triangle Group of WeAreHereVenice, initiated by So Young Han, who together with Debra Solomon and Renate Nollen, is also co-author of this exercise.

RADICAL OBSERVATION – VBAZO AND WAHV GREEN TRIANGLE EXERCISE XXVII– XXVIII – LISTENING TO AND COMMUNICATING OBSERVATIONS WITH A PARTNER AND REPORTING OBSERVATIONS BACK TO THE GROUP [6]

When carrying out landscape interventions as a group,
practice listening to, acknowledging and reporting
the observations of others.

Radical observation exercises are always practiced alone and in silence (!)
Yet their purpose is to serve a collective approach to any intervention.
So, after performing exercises, come together with your group
and practice reporting your observations to each other.
In time, this will create a rich group understanding that guides interventions for any specific place.

Working in pairs, divide into 1) observation reporter, and 2) observation narrator. For 3 minutes, the reporter reports their observations whilst the narrator listens. Then, the narrator repeats this report back, checking for accuracy with the reporter. Practice narrating the observational report until the reporter approves. Let the reporter add to the story if they left something out, or let them correct it if it was not reported just right.

When the report is narrated satisfactorily, switch roles.

After 12 minutes, return to the group at large, and share these observations, always reporting for your partner, and your partner reporting for you. In this way, the group starts to create a common language, get used to each other's way of speaking, and develop a rich way of understanding – as a group. With practice, this might later include discussing common values, aesthetic preferences and concerns.

6 The third exercise, LISTENING TO AND COMMUNICATING OBSERVATIONS WITH A PARTNER, AND REPORTING OBSERVATIONS BACK TO THE GROUP, is in fact a set that unfolds in three steps. After individuals carry out a radical observation exercise, the group divides into pairs who narrate their observational findings to each other. Then, they narrate each other's observation, rehearsing until both are satisfied with an accurate account. Subsequently, the pair reports back to the group at large, in a group shared-reporting session. So, doing, the group becomes cohesive and develops shared knowledge which they eventually articulate in a common language.

SUMMARY

Presented here are just three of the more than forty exercises developed and practised with groups for ten years. "Radical Observation" is an innovative method for urban food forest projects, focusing on individual and group observation techniques to understand natural realm dynamics. It involves various postures that direct attention to natural processes, to guide landscape design and ecosystem maintenance. The method aims to create knowledgeable stewards who facilitate specific ecosystem patterns and rhythms, from their own human agency within the ecosystem community. Exercises are performed in silence upon entering the site and vary in duration, resembling meditative practices. Regular practice Radical Observation fosters embodied group-knowledge, enhancing group cohesion within a context of effective forest garden stewardship.

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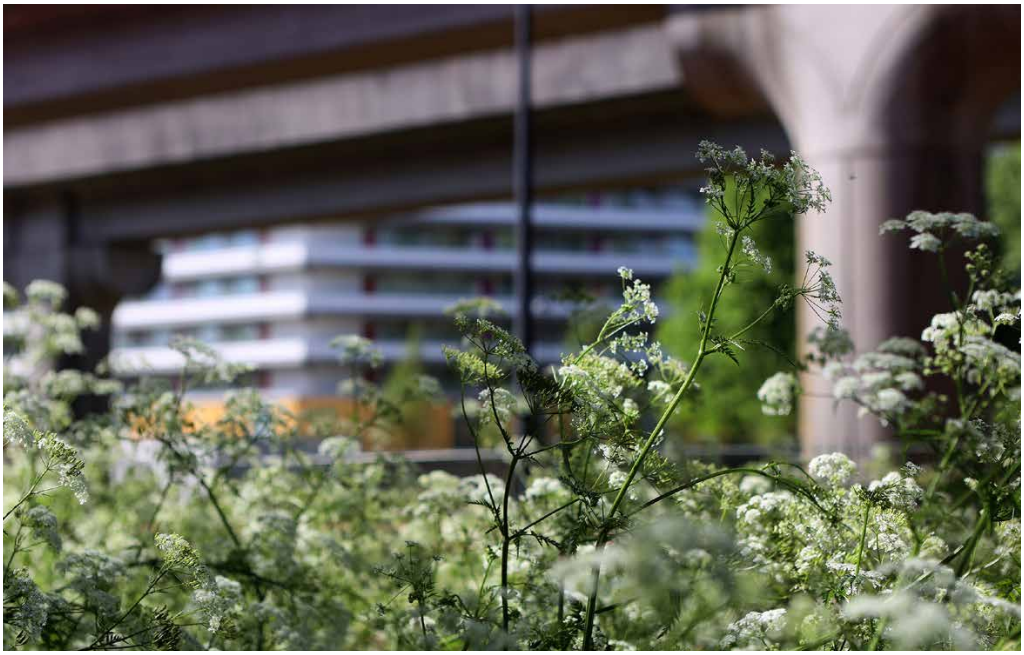
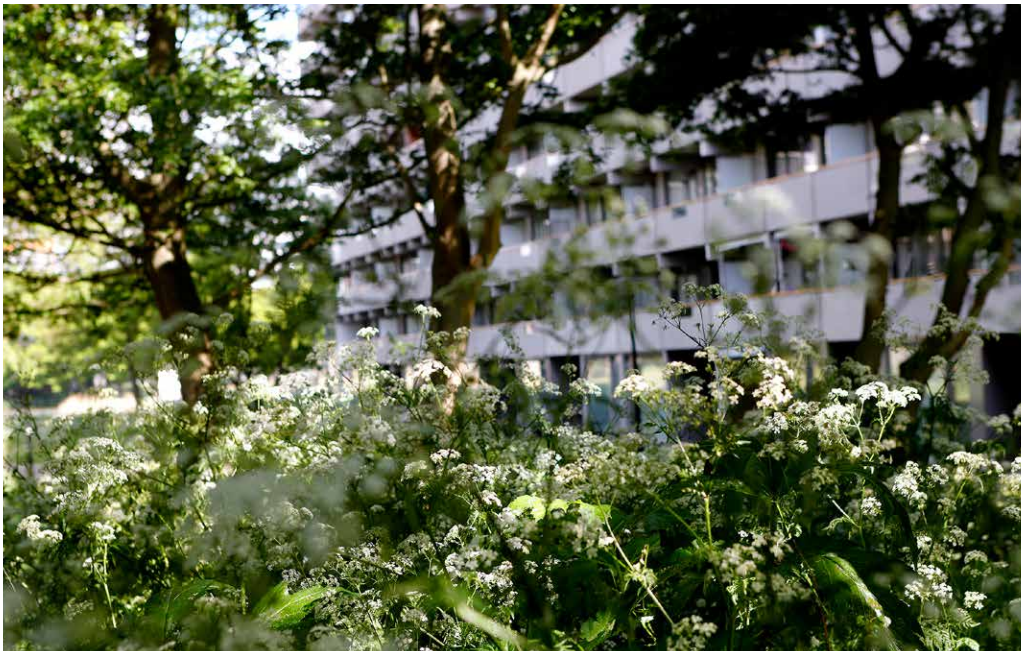
01 A spiny plumeless thistle (Carduus acanthoides) blooms near the yellow container flat and Klieverink, Debra Solomon/Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0



02 A stand of blooming wild chervil (Anthriscus sylvestris) under the Metro 53 bridges near the Kleiburg flat, Debra Solomon/Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0

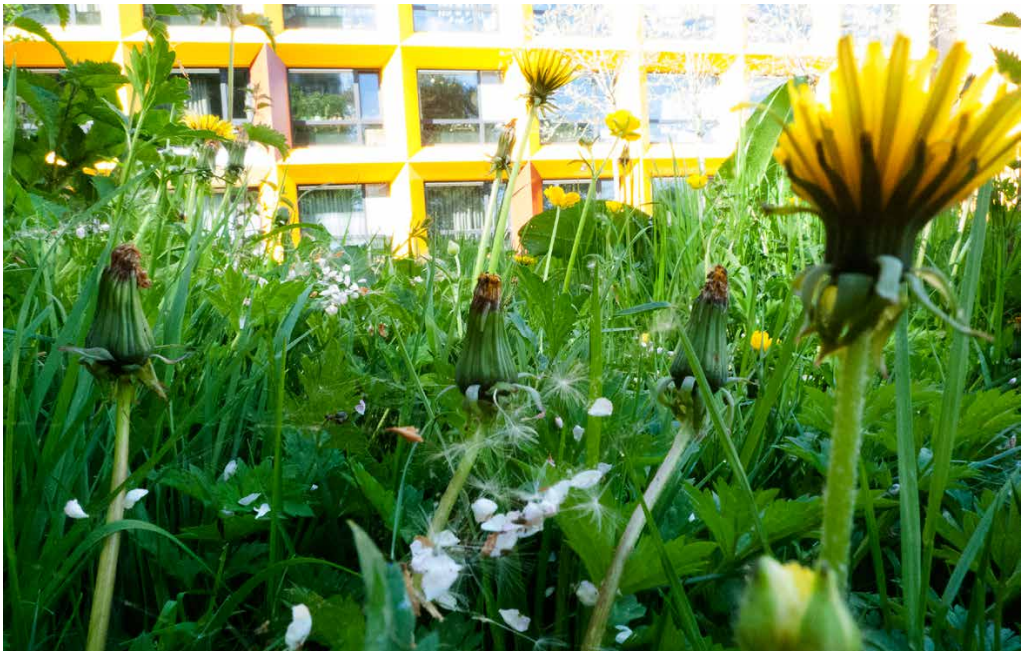


03 A stand of wild chervil (Anthriscus sylvestris) blooms in the shadow of the Kleiburg flat in May, Debra Solomon/ Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0

04 On the banks of the Grubbenzee, wild chervil (Anthriscus sylvestris), coltsfoot (Petasites) and ground elder (Aegopodium podagraria) obscure last year's reed stalks, Debra Solomon/Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0

05 Scarlet clover (Trifolium incarnatum) blooms amongst grasses at Krimpertplein, Debra Solomon/Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0

06 A field of dandelions (Taraxacum) seed the Kortvoorthof meadow, Debra Solomon/ Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018 2024, CC BY-NC-ND 4.0



07 A groundcover view ofblooming dandelions (Taraxacum) and mayflowers (Cardamine pratensis) in the yellow container flat meadow, Debra Solomon/ Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0

08 Comfrey (Symphytum) blooms amongst other groundcovers in the Kleefkruid meadow, Debra Solomon/Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0

09 Wood hyacinth (Scilla siberica) and white dead-nettle (Lamium album) bloom amongst ground elder (Aegopodium podagraria) and quickly growing thistles (Cirsium) on the banks of the Grubbenzee, Debra Solomon/Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BYNC- ND 4.0

10 Dandelion seed heads (Taraxacum) obscure a pile of sand, thoughtlessly dumped on a Kleiburg meadow in full bloom, Debra Solomon/ Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0

11 Winterpurslane (Claytonia perfoliata) accidentally seeded from bird seed, grows in the shade of the Metro 53 pylons near Kleiburg, Debra Solomon/ Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0

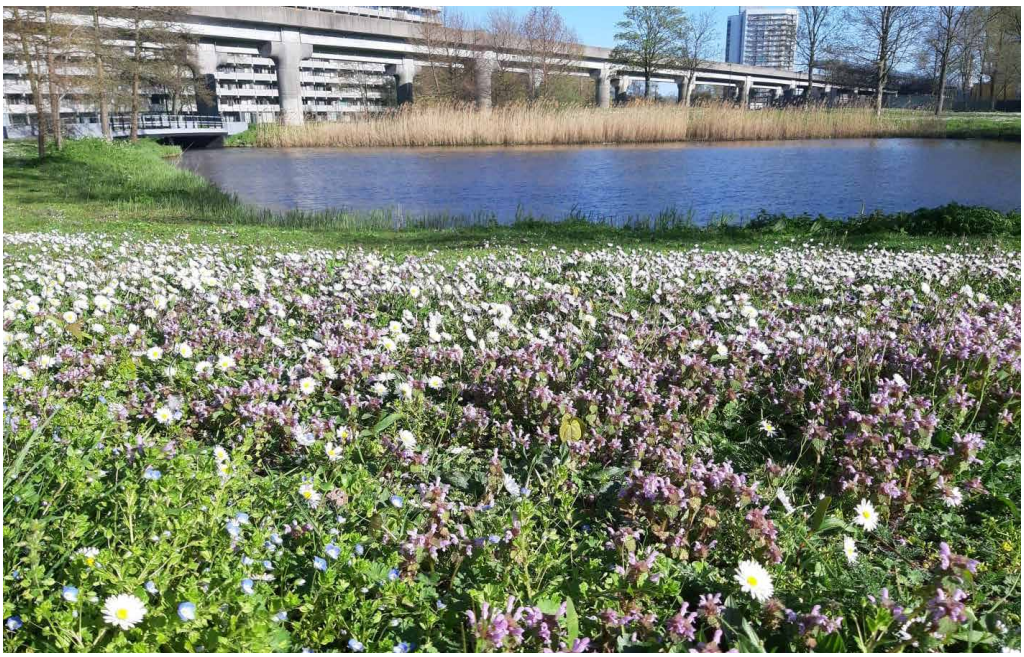
12 A VBAZO community volunteer acts on their Groundcover Inventory practice by planting and weeding on the banks of the Grubbenzee, Debra Solomon/ Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0

13 A VBAZO community volunteer acts on their Groundcover Inventory practice by planting and weeding on the banks of the Grubbenzee, Debra Solomon/ Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0

14 A VBAZO community volunteer acts on their Groundcover Inventory practice by planting and weeding on the banks of the Grubbenzee, Debra Solomon/ Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0

15 Giant hogweed (Heracleum mantegazzianum) illegally blooming with malva (Malva) on the banks of the Grubbenzee, Debra Solomon/Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0

16 A Kleiburg meadow shows off its nectar-provisioning capacity in mid-April, Debra Solomon/ Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0



17 A Kleiburg meadow shows off its nectar-provisioning capacity in mid-April, with purple dead-nettle (Lamium purpureum) dandelions (Taraxacum), daisies (Bellis perennis), and birdseye speedwell (Veronica persica), Debra Solomon/Urbaniahoeve for Voedselbos Amsterdam Zuidoost (VBAZO) 2018-2024, CC BY-NC-ND 4.0

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