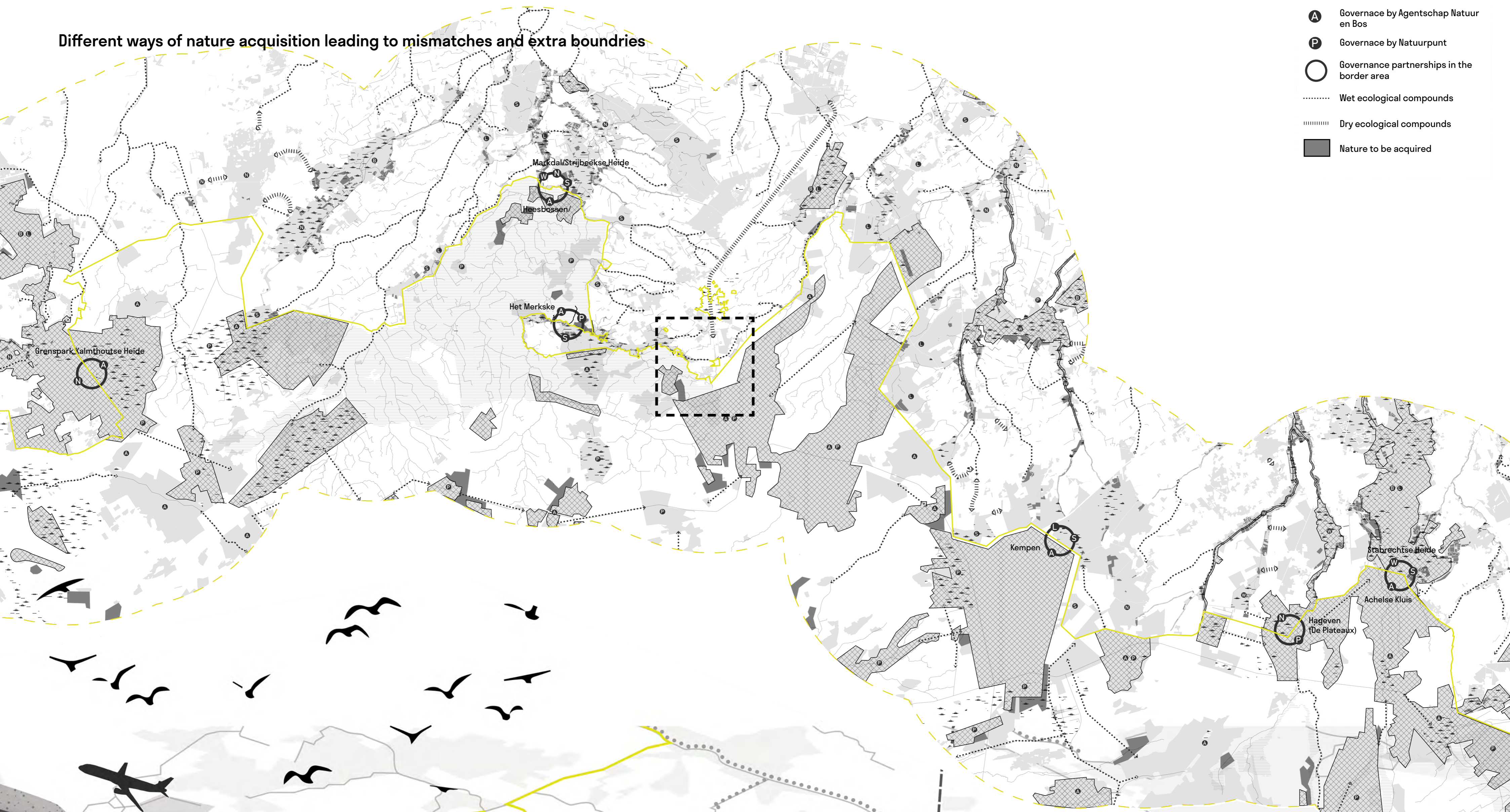# The border as a stepping stone

Border nature under pressure

Since the existing of humanity, man has dominated nature and ecology out of a need to be in control of the world. The principle of the bird cage slowly translated to a larger scale through zoos and nature reserves. Currently only 2% of our nature is untouched, which can be seen as wilderness. The institutionalization of nature is particularly evident in border areas, which have evolved significantly over the years. Difference in governance and acquisition of nature between countries, have led to more and more boundaries in these areas. Ecological structures and nature reserves 'just do not touch' because of political mismatches. Due to the increasing number if animal diseases in the border area, crossing the border is furthermore prevented for animals. We can conclude that the border is fading away slowly for humans but the natural borders for fauna in the border zone are increasing.

The landscape around Baarle Nassau is a perfect example of where the above findings clearly are recognizable. South of Baarle Nassau, three ecological structures are found. 'Het Merkske, a years old typical stream valley, 'Het Bels Lijntje that used to be the old train track between the Netherlands and Belgium and the nature reserve around NAVO Airport Weelde, that used to be part of a bigger heather area but was turned into a pine forest around 1840. Especially for the last years a lot of threats and conflicts are emerging on these nature structures. The conditions of the original habits are clearly under pressure and some original flora and fauna have even been wiped out. The stream valley of 'Het Merkske' for example is dehydrated on the higher grounds because of the climate change and has lost a lot of biodiversity. The structure has also been split up at an enclave because of a shed on the Belgian side of the border. 'Het Bels Lijntje' has political been recognized as a dry connecting compound since a few years, but only at the Dutch side of the border. Agricultural activities, the increase of nitrogen, crossing roads and increasing business parks are only making the situation even worse. The complete restoration of original ecological structures is not realistic due to the major changes that have taken place over time. Opportunities lie in the healing of existing structures by means of minimalist interventions and by searching for overlapping habits, plants and animal species, wherefrom smart connections can be made. For example in the area between the Merkske and 'Het Bels Lijntje', where the dry stream valley is redesigned into a dry connection. In this case, the existing hedgerows, thickets, ditches and open grass fields offer potential as habitat for the viviparous lizard.
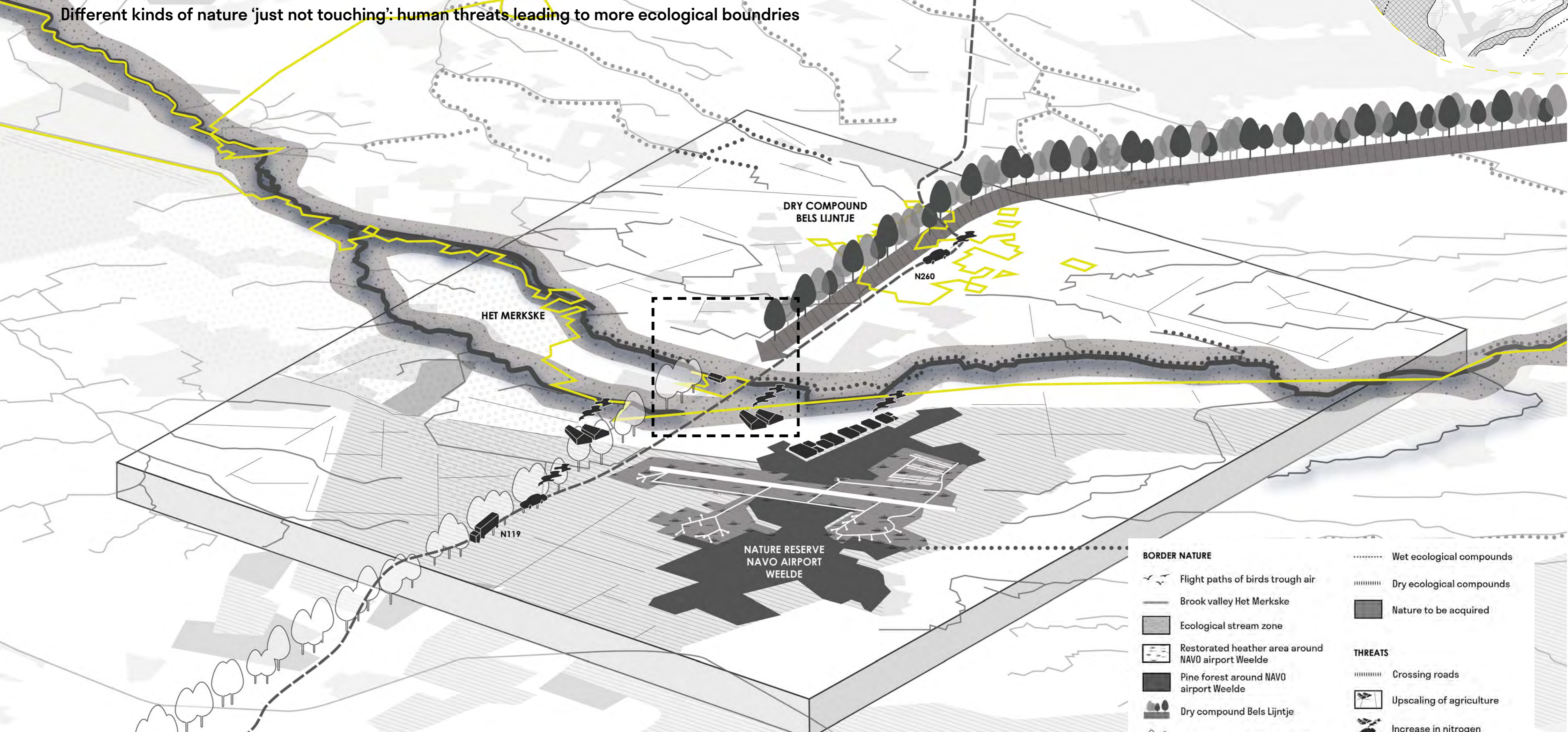
The final design consists of a continuous structure that, by means of minimalist interventions and the addition of stepping stones, ensures that animals can move safely through the border area. At the same time, the ensemble of elements also forms a route for human beings that tells the story behind the border nature. By deliberately revealing the natural habitat, behavior and movement of the animal and stimulating interaction between humans and animals, awareness of the importance of the border area as a stepping stone is being increased. The shape and use of materials of the objects reflect the monofunctional character of natural elements.

Different ways of nature acquisition leading to mismatches and extra boundries

Different kinds of nature 'just not touching': human threats leading to more ecological boundries

"The human border is fading, but the border is increasing for animals."

Analyses of the borderzone and site situation
Iris Bol / Studio Crossing Borders / December 2020

Legend (top right):

- European N2000 areas
- NNB and VEN zones
- Water structure
- Wetlands
- Water storage areas
- S — Governace by Staatsbosbeheer
- N — Governace by Natuurmonumenten
- B — Governace by Brabants Landschap
- L — Governace by Landschappen NL
- W — Governace by Waterschappen
- A — Governace by Agentschap Natuur en Bos
- P — Governace by Natuurpunt
- ○ — Governance partnerships in the border area
- Wet ecological compounds
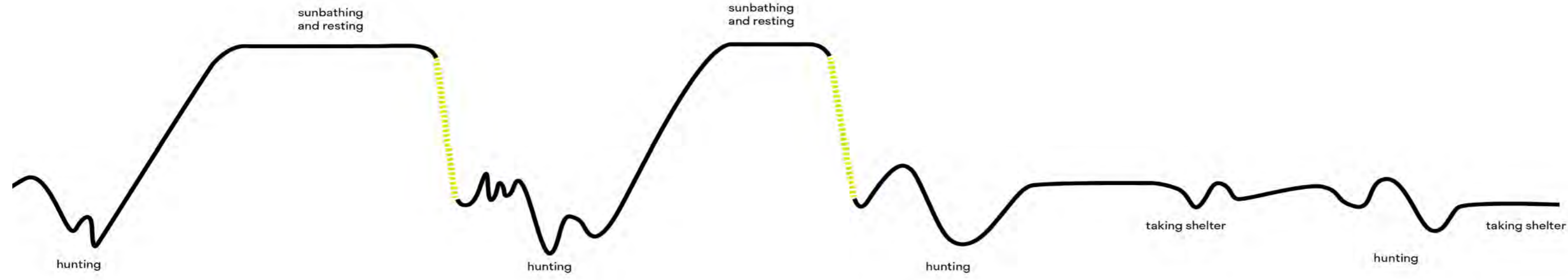- Dry ecological compounds
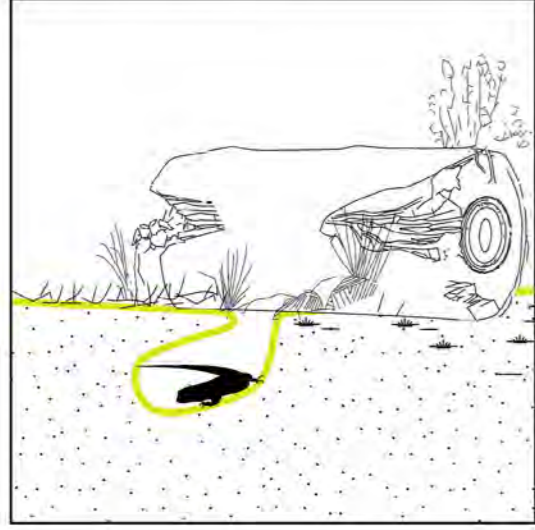- Nature to be acquired

BORDER NATURE

- Flight paths of birds trough air
- Brook valley Het Merkske
- Ecological stream zone
- Restorated heather area around NAVO airport Weelde
- Pine forest around NAVO airport Weelde
- Dry compound Bels Lijntje
- Unmanaged nature Bels Lijntje
- European N2000 areas
- NNB and VEN zones
- Water structure
- Restorated heather area around NAVO airport Weelde
- Water storage areas
- Wet ecological compounds
- Dry ecological compounds
- Nature to be acquired

THREATS

- Crossing roads
- Upscaling of agriculture
- Increase in nitrogen
- Blocking buildings in enclaves
- Air traffic
- Industry
- NAVO airport Weelde

Movement and behaviour of icon specie the viviparous lizzard

sunbathing and resting

sunbathing and resting

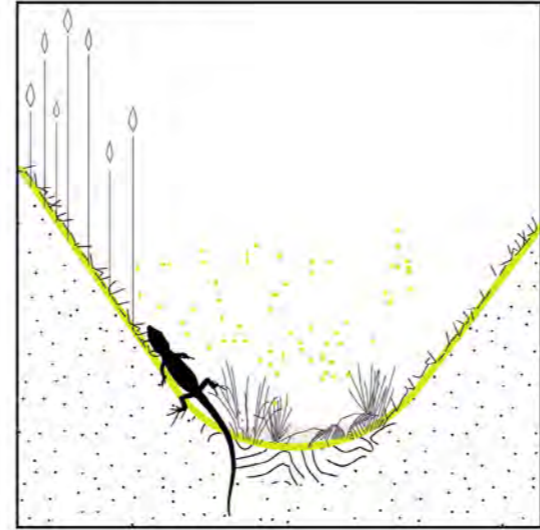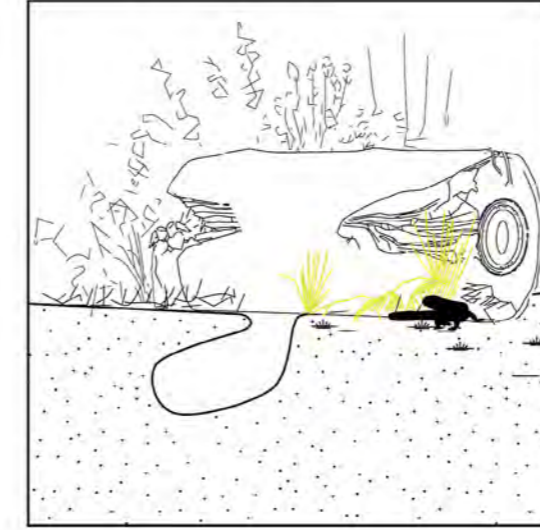taking shelter

taking shelter

hunting

hunting
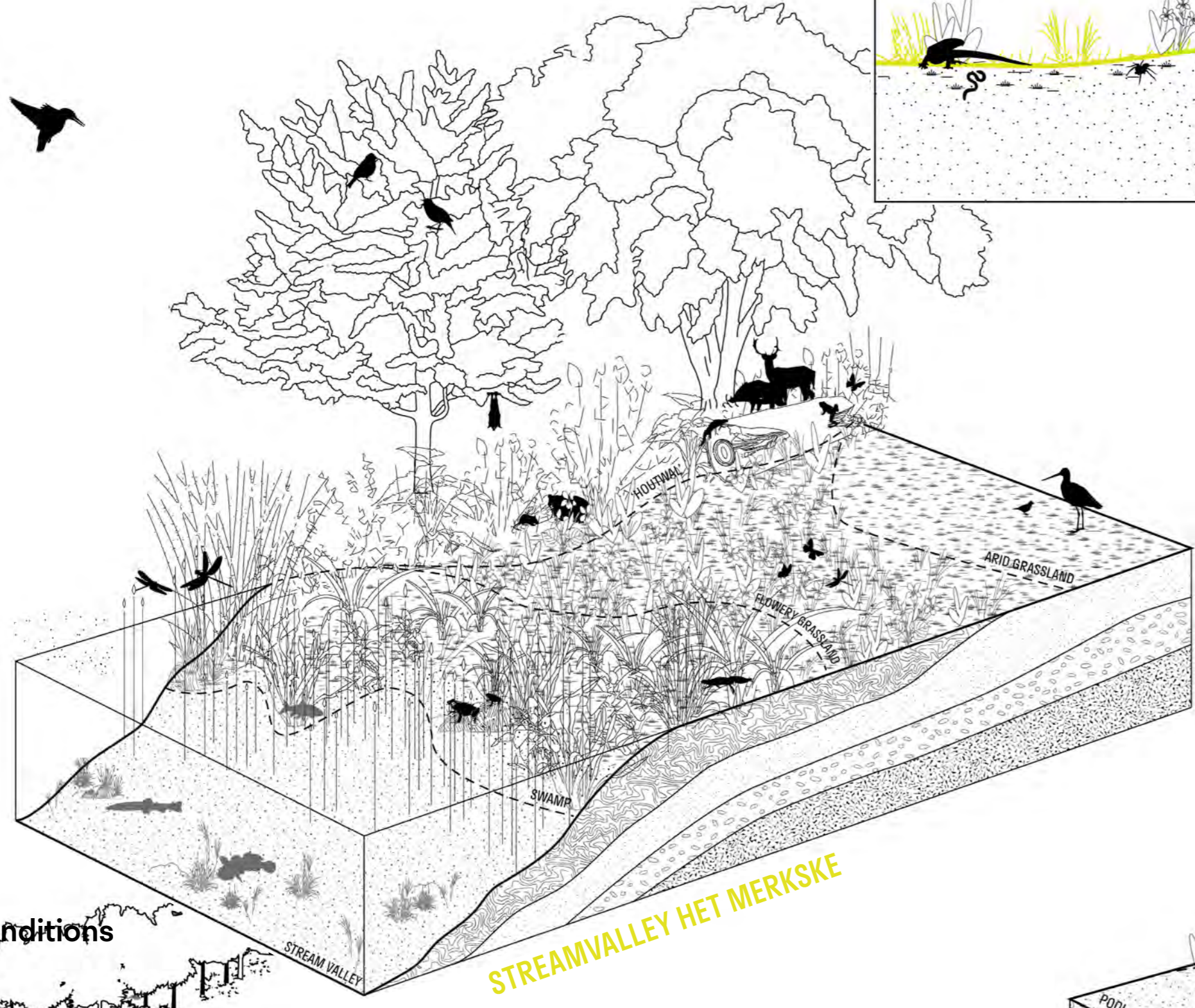
hunting

hunting

hunting

HIBERNATING	MATING AND GIVING BIRTH	HUNTING	TAKING SHELTER	SUNBATHING
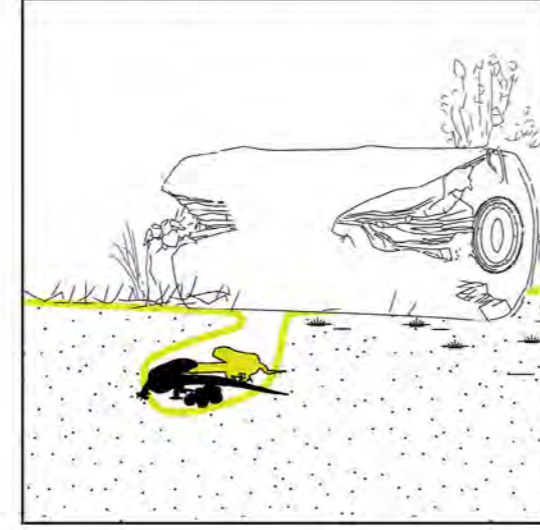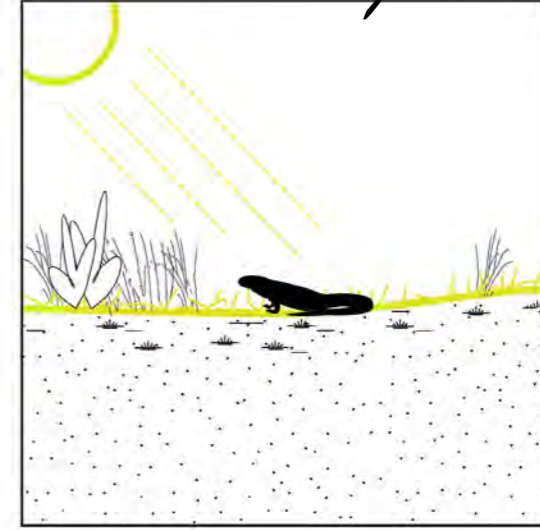
Original habits
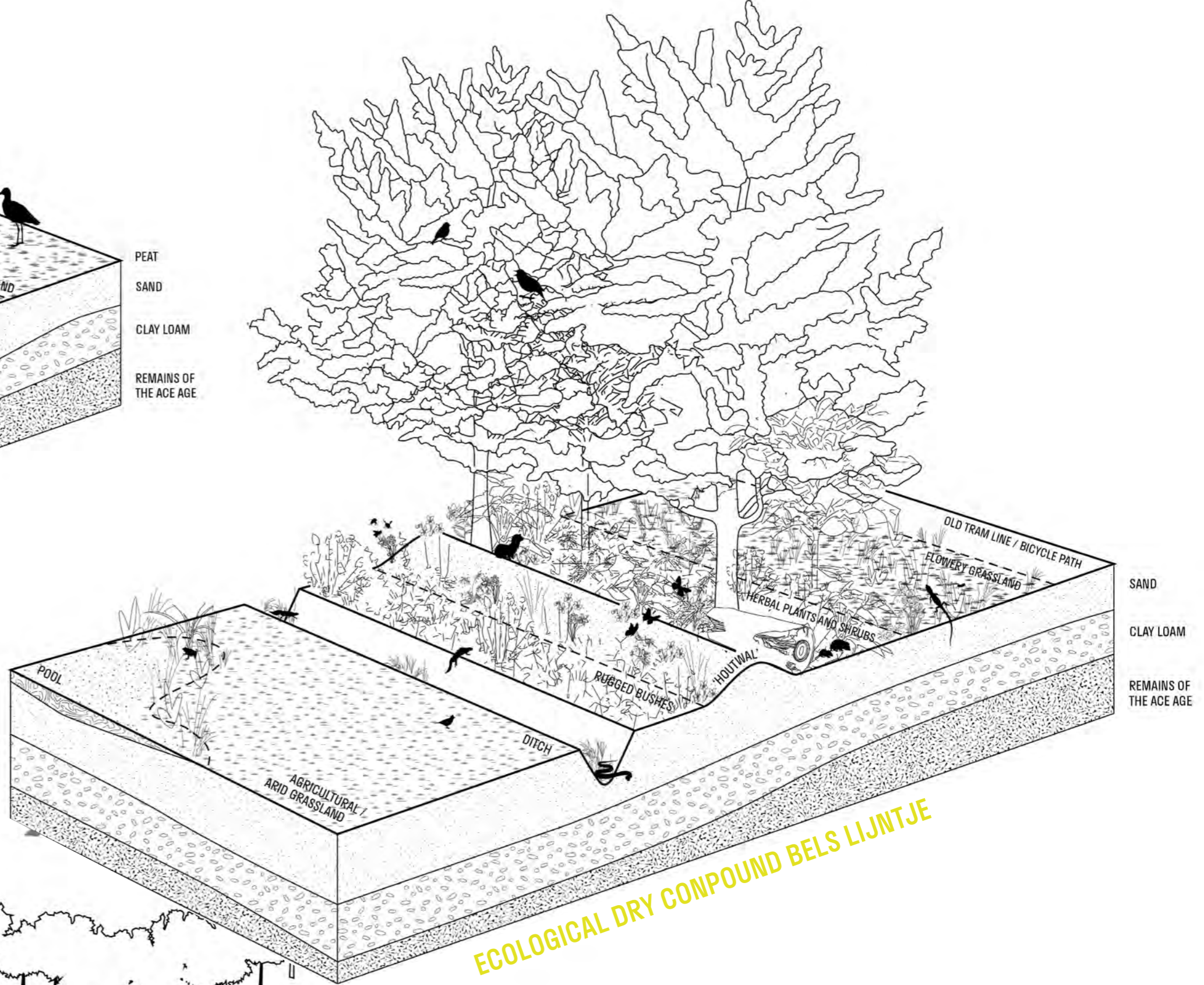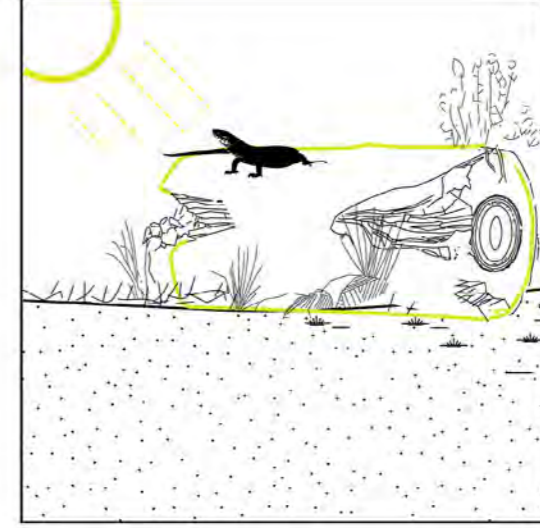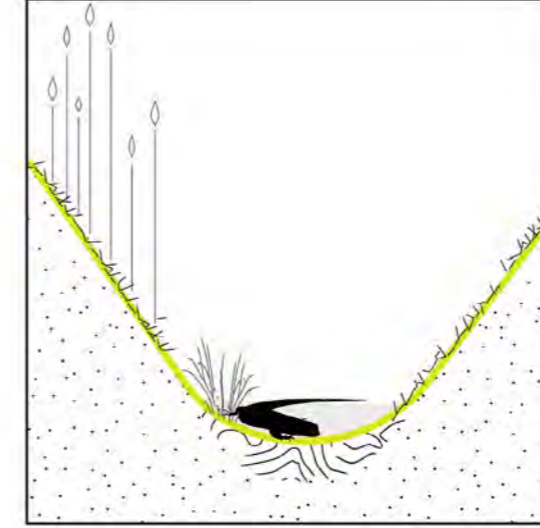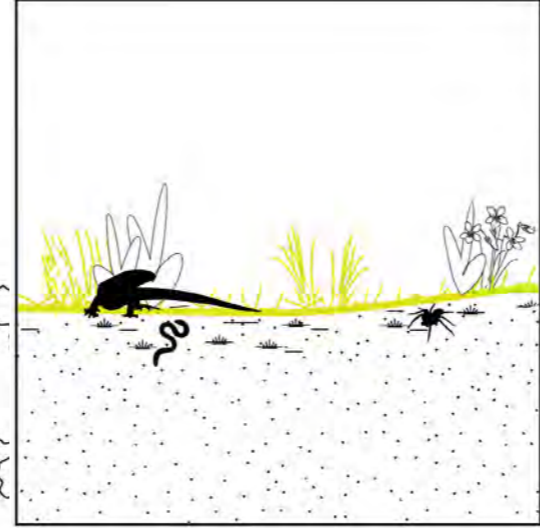
Conflicts and conditions

STREAMVALLEY HET MERKSKE

PEAT
SAND
CLAY LOAM
REMAINS OF THE ACE AGE

ARID GRASSLAND

SWAMP

STREAM VALLEY

ECOLOGICAL DRY CONPOUND BELS LIJNTJE

OLD TRAM LINE / BICYCLE PATH
SAND
CLAY LOAM
REMAINS OF THE ACE AGE

POOL
DITCH
AGRICULTURAL ARID GRASSLAND
RUBBED BUSHES

SUNBATHING

MOVEMENT

NESTING

MOVEMENT

Human and animal trail

1. Decreasing planting due to fertilizers, poor mowing management and increasing nitrogen

2. Desiccation of the stream valley: developping former parts of the stream valley as a dry ecological connection. The ditches and 'houtwallen' are already there: overlapping flora and fauna

3. Disappearance of the brook valley at the crossroads with an enclave

4. Crossing with the former 'Bels Lijntje' and the N260 cutting up the brook valley

5. Seepage water

6. Construction of the Weelde-Statie bee junction

7. Realisation of stepping stone landscape Beatrixhoeve

8. Current mow management

9. Enclave as a missing link in ecological structure 'Bels Lijntje'

Side research and design of the ensemble
Iris Bol / Studio Crossing Borders / December 2020
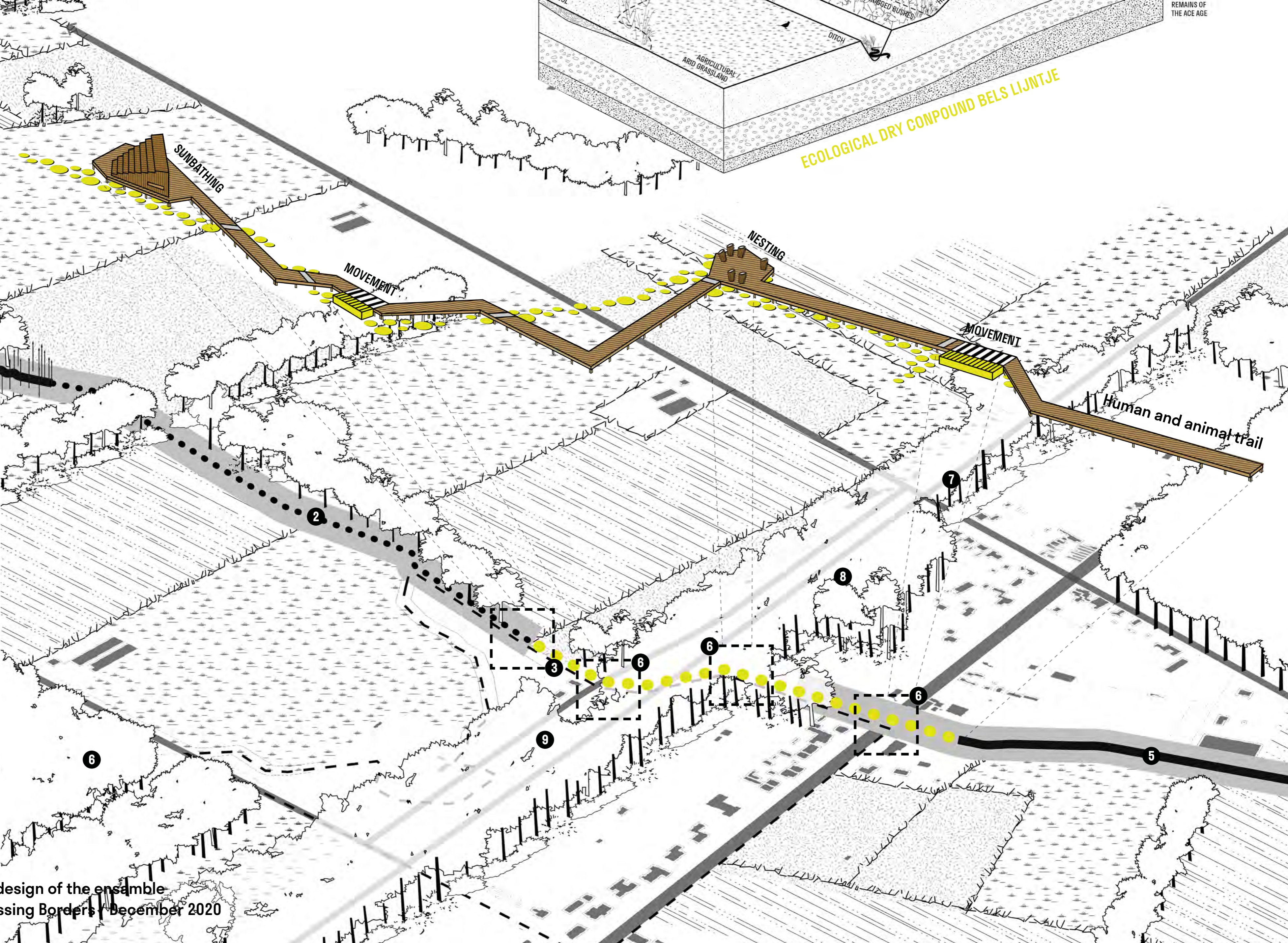
Interventions between human and animal

SUNBATHING   **MOVEMENT**   **NESTING**

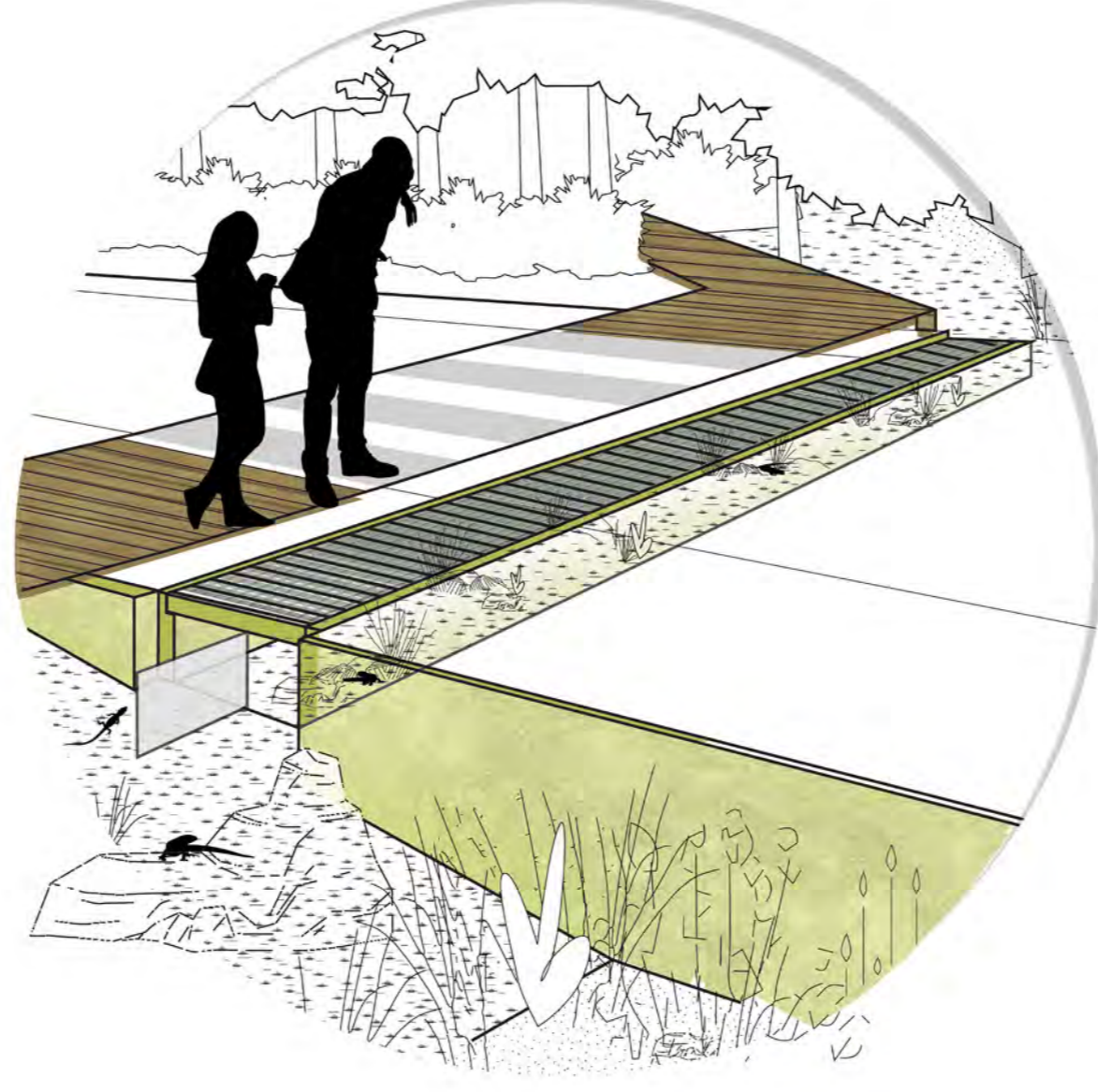**Technical materialisation trough human perspective**
Sunbathing hut   *Boardwalk*   *Peepholes*

Natural elements trough animal perspective
Sunbathing lawn   *Faunapassage*   *Nesting places*
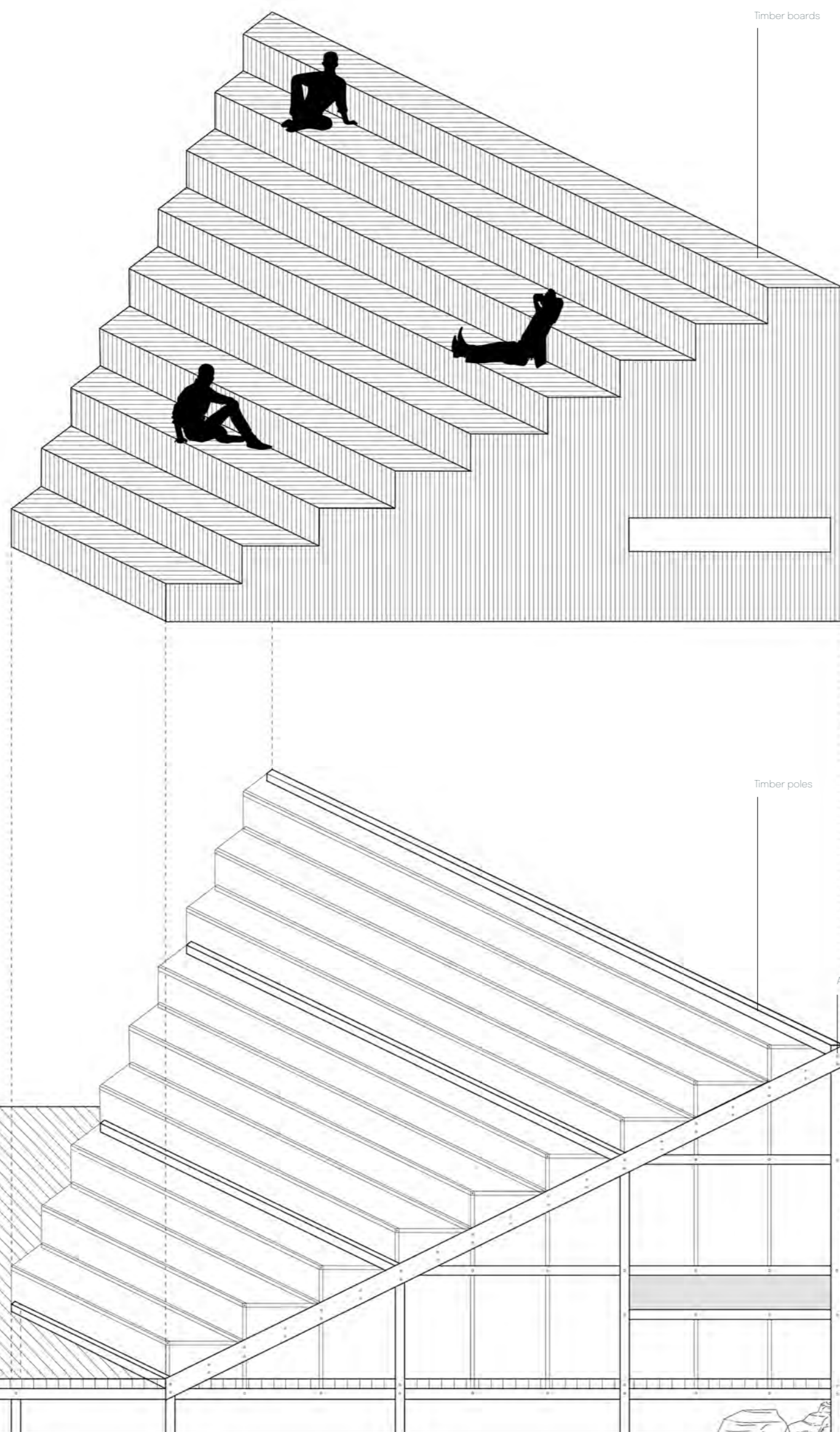

Detail of the fragment
Human: sunbathing hut   *Animal: reptile nesting place*

Design, detail and materiality of the fragments
Iris Bol / Studio Crossing Borders / December 2020

"Healing ecological borderzone structures in a minimalistic way that answers today's challenges as a statement to us human beings: how we have overdominated nature and lost sight of animal perspective."