Sustainability requirements for green urban areas

– Learning from the Wild Campus project

Lotte Nymark Busch Jensen
Project manager VILD CAMPUS

Sustainable Maintenance of Urban Areas
Tuesday 21 August 2018

UNIVERSITY OF COPENHAGEN

Agenda

VILD CAMPUS

- Why *wild* urban areas?
- Project presentation: Wild Campus
- Reflections on sustainability and urban green areas
- Learning from establishment and maintenance
- Sum up

Lotte Nymark Busch Jensen

VILD CAMPUS

- Master in Nature Management
  (Landscape, Biodiversity and Planning)
  University of Copenhagen

- Communications Officer
  Center for Macroecology, Evolution and Climate,
  Natural History Museum of Denmark,
  University of Copenhagen

- Project Manager
  Wild Campus
  (2016 -)

Photo: Lizette Kabré

Why *wild* urban areas?

VILD CAMPUS

In Denmark we have around 20.000 species of insects, including:

- 3,700 beetles
- 230 bees
- 60 ants

How many can you name?

Why *wild* urban areas?

VILD CAMPUS

Tendency

- **Urban population growth:** 10% in Copenhagen and the 29 biggest Danish cities (KL)
- **Distribution between countryside and urban areas**: 45% and 55%, respectively (DI)
- **Movement from country side to cities:** DK amongst the fastest in EU (OECD)

Wild **urban nature can:**

create "close to nature" experiences in the city

→ *better mental health?*

support learning about Danish nature

→ *strengthen humans relationship with nature?*

assist cultural change towards more natural areas

→ *improve living conditions for animals and plants in cities?*

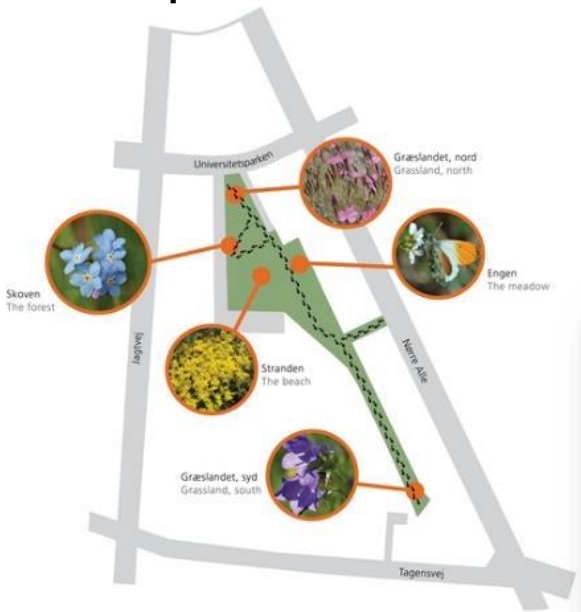
The mission of Wild Campus

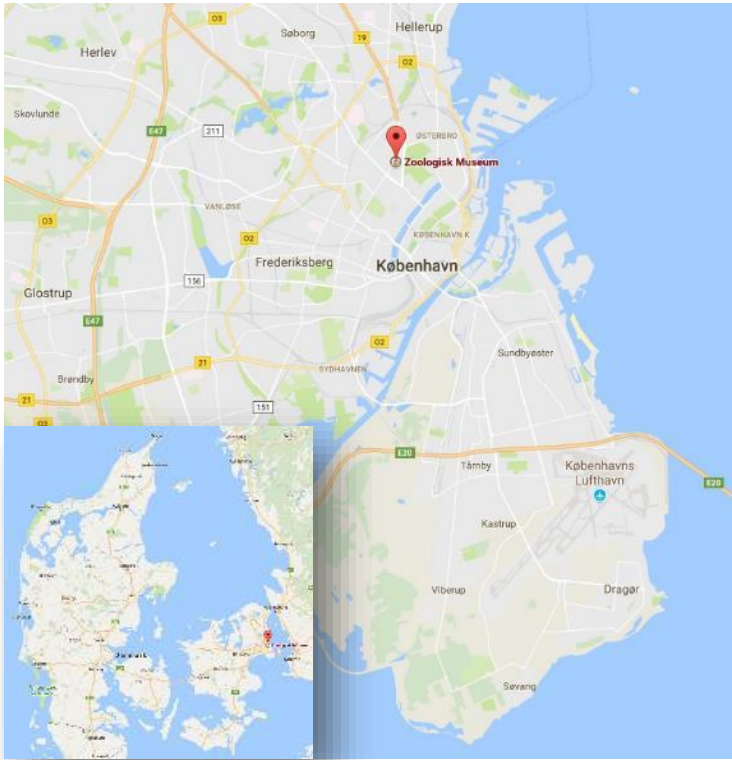
VILD CAMPUS

"We want to create exciting urban nature and inspire people to visit nature outside the city"

620 m² established in 2015
80 wild Danish plant species:

- Forest floor
- Beach
- Grassland (x2)
- Meadow





The University park before Wild Campus

The University park after Wild Campus

Sustainability and green urban areas

VILD CAMPUS

Basics of a *sustainable* urban area
– from natures point of view?

- **Dead wood and hollow trees**
  (food and nesting)

- **Disturbances and different kinds of soil**
  (nesting)

- **Plants with offset blooming**
  (food source)

Sustainability and green urban areas

VILD CAMPUS

Basics of a *sustainable* urban area – sector's recommendation

- Dead wood and hollow trees, but the sector recommends:
  Removal of dead material and "risk trees"

- Disturbances and different soil types, but the sector recommends:
  Reestablishment of exposed soil

- Plants with offset blooming, but the sector recommends:
  Removal of "weed"

The sector: *Kjøller, C. P., et al. (2015)* Kvalitetsbeskrivelser for drift af grønne områder 2015*: Branchestandard. Frederiksberg: Institut for Geovidenskab og Naturforvaltning, Københavns Universitet*

Sustainability and green urban areas

VILD CAMPUS

Why focus on sustainable maintenance, if the areas are not designed in a sustainable way?

Considerations as Manager of green urban areas:

- What is our responsibility? – to people and nature? – now and onwards?
- Should we give citizens what they *(think they)* prefer?
- How can we design a *sustainable* urban area?

Wild Campus: Sustainability on 3 levels

VILD CAMPUS

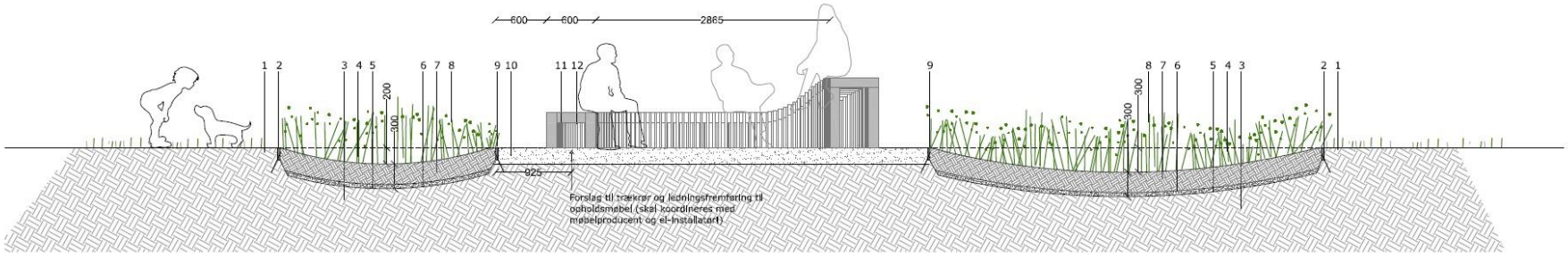
Physical components

Maintenance

Impact

- environmental and social

Sustainability: Physical components



Sustainability: Physical components

Component	Learning from Wild Campus	Considerations
10.000 plants (80 species)	International vendors	Growing conditions? (e.g. open air) Local produce? - Pesticides? – Irrigation? Fertilizer? - Delivery time? - Native species?
Soil disposal	Landfill and reuse	Reuse on site?
Boundary	PE-plastic	Materials? - Reuse? - Durability? – Degradability? Release of toxic substances?
Membrane	Geotextile	Durability? – Degradability? Release of toxic substances?
Soil	Seed contamination → increased need of maintenance	Sterile soil? Place of origin (e.g. valuable nature; sphagnum from peat)
Transportation	Cargo bike (practical reasons)	Fuel? – Optimization of transport (empty trucks)?
Furniture	Accoya (longevity 50 years) - FSC	Certification? – Tree species? – Place of origin?
Light	LED	Electricity consumption? – Critical components? Light pollution? – Sustainable energy source?
Wood	Local (Gribskov)	Place of origin? Transportation?

Sustainability: Maintenance

VILD CAMPUS

Sustainability: Maintenance

VILD CAMPUS

Component	Learning from Wild Campus	Considerations
Location of plants	Meadow in the wettest area Forest species below cluster of trees	Natural conditions? (e.g. water source or shadow)
Planting	10,000 plants planted by volunteers → Learning and support	Involvements of locals?
Maintenance schedule	Scything → less maintenance than a lawn Weeding requires knowledge → Group of volunteers (biology students)	Use of fertilizer, water and machinery? Establishment of weeding community? Open-ended biological development?
Training and involvement	Scythe training → Concerns became support Involvement → More wild areas on own initiative → Cultural change?	Training of gardeners? Ongoing involvement of operating personnel?
Interaction with the existing	Information signs → lawn mowing difficult People create litter	Location of information materials? Litter bins?
Master plan	MP in the making: Wish for more native plants in the University Park "Sustainable" honey project prevented	Nearby natural areas (dispersal of species)? Influencing +/- projects (e.g. Honey bees)

Sustainability: Environmental and social

VILD CAMPUS












Sustainability: Environmental and social

VILD CAMPUS

More pollinators

- Almost 5 times as many bees
- More than twice as many bee species
- 4 bees on IUCN's **red list** (the Schleswig-Holstein)

A place to play and learn

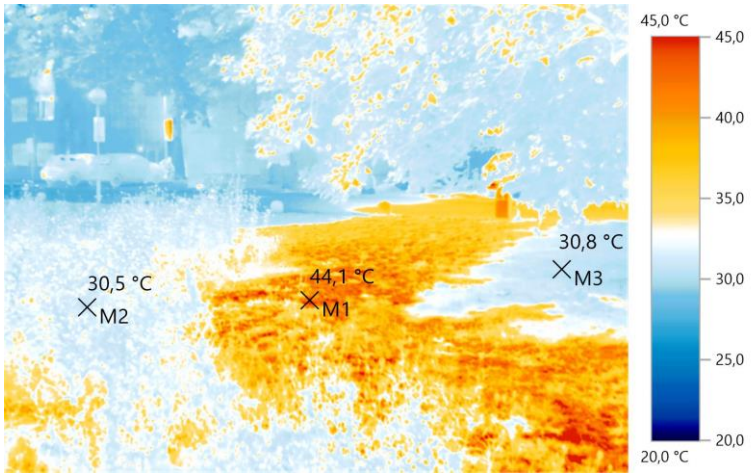
- Users say: natural, beautiful and inspiring
- Learning about Danish nature - locally
- Invites to involvement, hang-out and activities

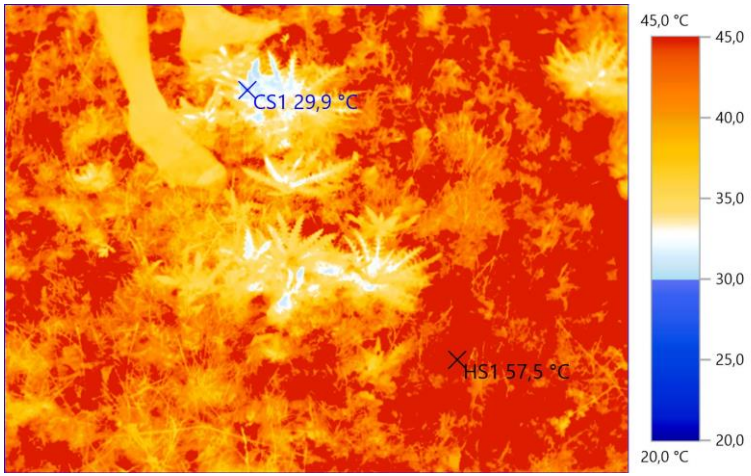
→ increased value of the University Park

Sustainability: Local climate effect

VILD CAMPUS

Photos taken on Wednesday 8 August 2018 between 10 and 11 AM





Thanks to *Buhl and Bundsøe* for lending of camera

To sum up: Sustainability

VILD CAMPUS

To reach *sustainability* in green urban areas, we need to:

- Challenge the sector's business as usual
- Design green areas to be sustainable (tender requirements)
- Change a culture → Ongoing communication of benefits and value for humans *and* nature

To sum up: Sustainability

VILD CAMPUS

Thanks for listening …

VILD CAMPUS

For more information and materials about the project, contact:

vildcampus@science.ku.dk
Lotte.Jensen@snm.ku.dk
(+45) 21 93 90 87

NORDEA FONDEN
Vi støtter gode liv