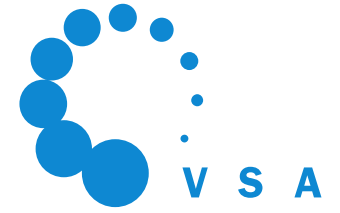


Verband Schweizer  
Abwasser- und  
Gewässerschutz-  
fachleute

Association suisse  
des professionnels  
de la protection  
des eaux

Associazione svizzera  
dei professionisti  
della protezione  
delle acque

Swiss Water  
Association



# The Sponge City Concept

7 December 2022, Stefan Hasler, Director VSA

Input presentation VSA in the framework of the project "Climate Action in Alpine Towns" on the sponge town concept





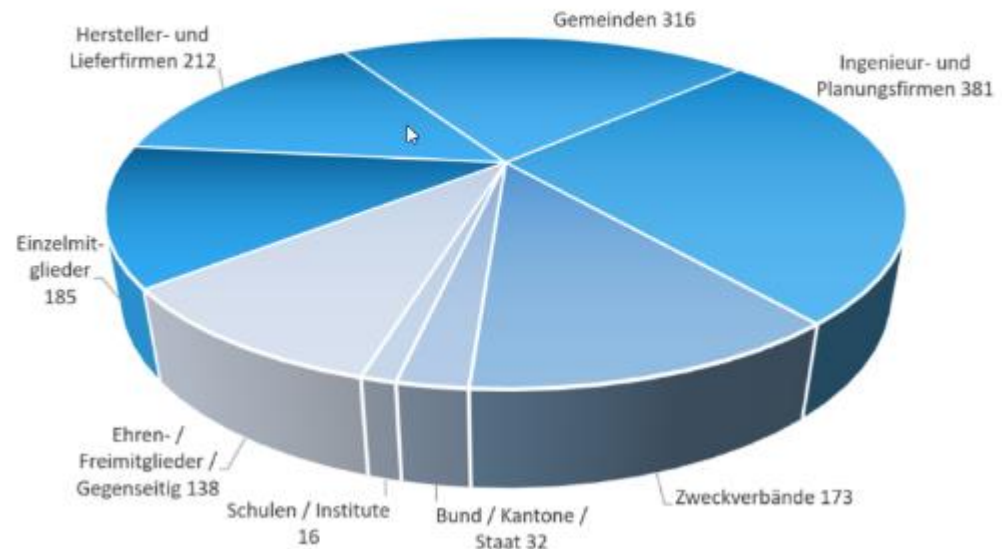
# Swiss Water Association (VSA)

VSA is committed to **clean and living waters** and the protection and sustainable use of water as a resource.

Focal points:

- Urban drainage
- Wastewater treatment
- Sewerage system
- Industrial and commercial waste wa
- Infrastructure management
- Groundwater protection
- Water quality
- Water ecology
- Revitalisation
- Integral water management

## Over 1500 members (organisations)





**Laws are over 30 years old:**  
**WBG 1991 Near-natural hydraulic engineering**  
**GSchG 1991 Infiltration before discharge**

Photo: Stefan Hasler





A photograph of a modern residential building with a lush green roof and surrounding vegetation. The building features a dark, vertical-slat facade and large glass windows. In the foreground, there is a dense, overgrown garden with various green plants and some red flowers. To the left, a paved road curves through a residential area with other houses and trees. In the background, a forested hill is visible under a blue sky with scattered clouds.

**Leads to construction in the 1990s  
of some settlements that today would be  
called „sponge cities“**

Photo: Stefan Hasler



# Settlement „In the Park“, Ittigen near Bern

Photos: Stefan Hasler







Photos: Stefan Hasler

"In the Park"







Fotos: Stefan Hasler






A photograph of a lush, green landscape. In the foreground, there are tall, green grasses and reeds. In the middle ground, there are dense bushes and trees. The background shows a blue sky with white clouds. The overall scene is a vibrant, natural setting.

Photo: Stefan Hasler

**The concept of blue-green infrastructures  
did not become the standard in the 1990s**





Instead, concrete deserts continue to be created

Photo: Stefan Hasler



# SVP will millionenteuren Sechseläutenplatz abreißen – für Wiese

In einer am Mittwoch eingereichten Motion fordern SVP-Gemeinderäte, dass die Steinplatten vom Sechseläutenplatz verschwinden.



VON  
Lynn Sachs



1/3



Der Sechseläutenplatz wurde ab 2012 umgestaltet. SVP-Gemeinderäte fordern nun in einer Motion, dass die Steinplatten entfernt werden.



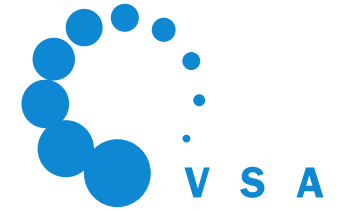


**Asphalt deserts are heat islands!  
Climate change triggers new push**

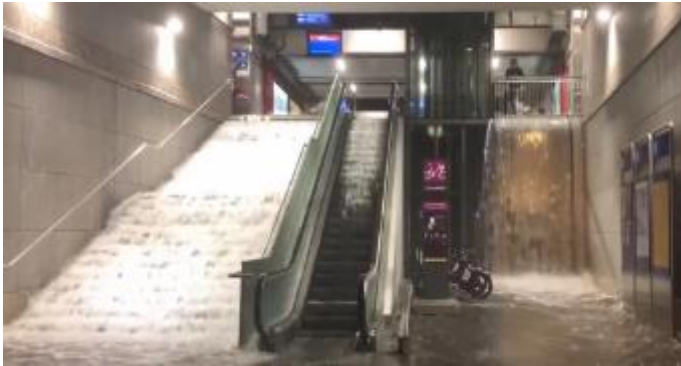




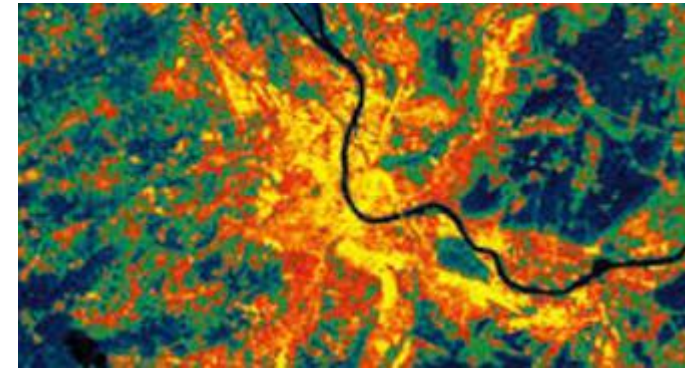
# Adaptation to climate change: Our contribution to liveable cities ("sponge city")



## Increase in heavy rainfall



## Increasing heat waves



**Water plays a central role in both phenomena**  
**Opportunity for more resilience, quality of life and biodiversity!**

- Near-natural rainwater management
  - Superficial (emergency) drainage routes
  - Multifunctional areas
  - Retention volumes
- More green (roofs, facades, green spaces, trees)
  - Evaporation needs water!  
(even after long dry periods)
  - More blue (water bodies, open water areas)



**Take measures that are proven for many aspects of climate change! (so-called "no-regret" measures)**



## What are "no-regret" measures?

- Closing water-cycle (separation of rainwater runoff)
- Above-ground emergency drainage routes ("green-blue corridors")
- Object protection



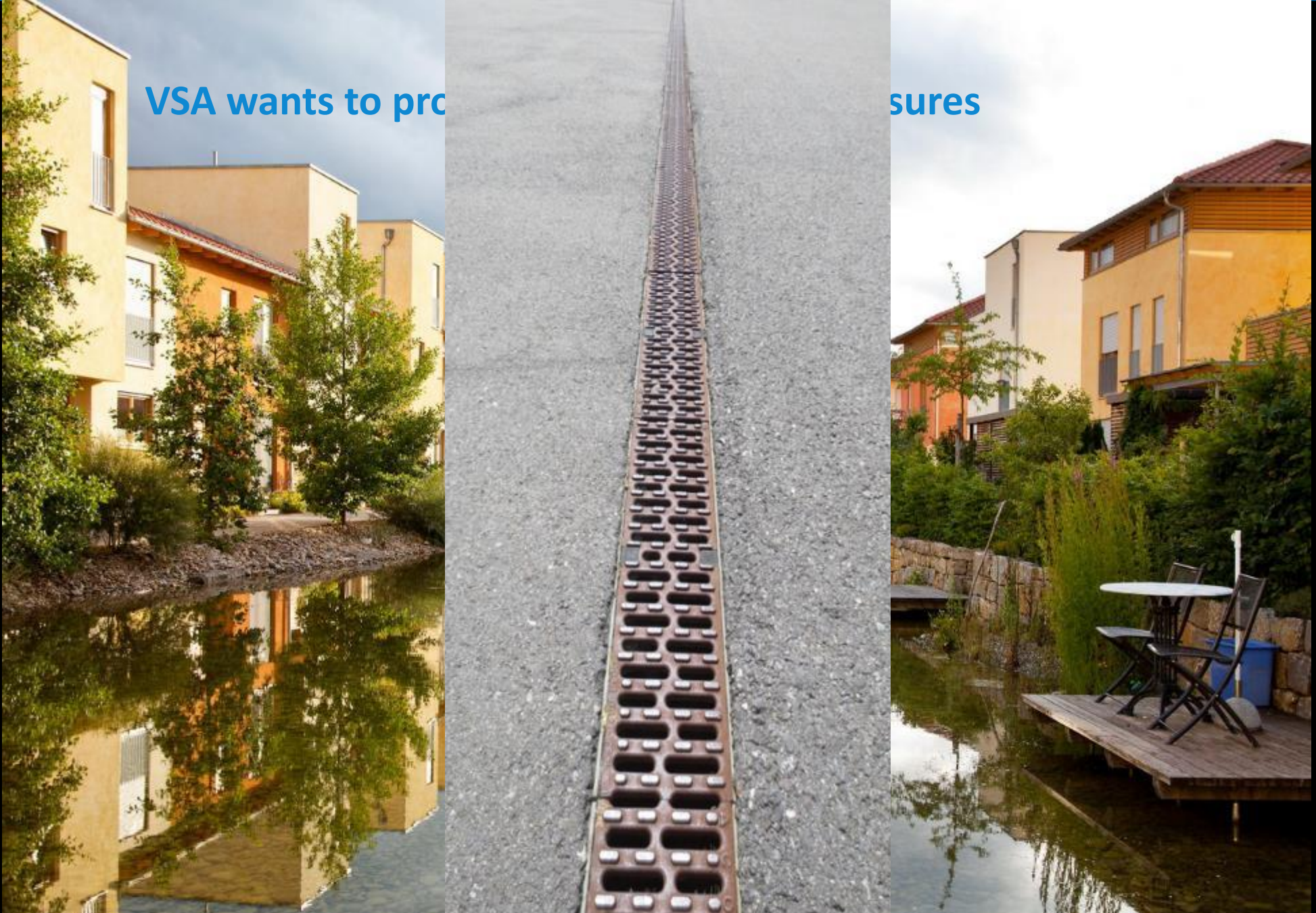
### What are not «no-regret» measures?

- Enlargement of sewers
- Flat rate assessment surcharges



VSA wants to pro

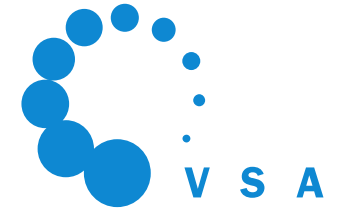
sures



Aim for settlements with resilient and well-integrated infrastructure!



# How do we make our cities more liveable and resilient?



Two basic rules that we must change consistently:

- 1 Keep rainwater on the surface and manage it decentrally
- 2 Always think about failure (heavy rainfall, surface runoff)





**Rainwater has been  
"disposed of" so  
far....  
(out of sight,  
out of mind)**







**Disposal disadvantage:**  
Deep craters so that the rainwater  
can be infiltrated superficially  
Must be secured with fence  
➡ Reduced groundwater protection  
➡ Waste of space!  
(Use space multifunctionally!)





**Basic rule no. 1:  
Keep rainwater on the surface!!!  
(and manage decentrally)**



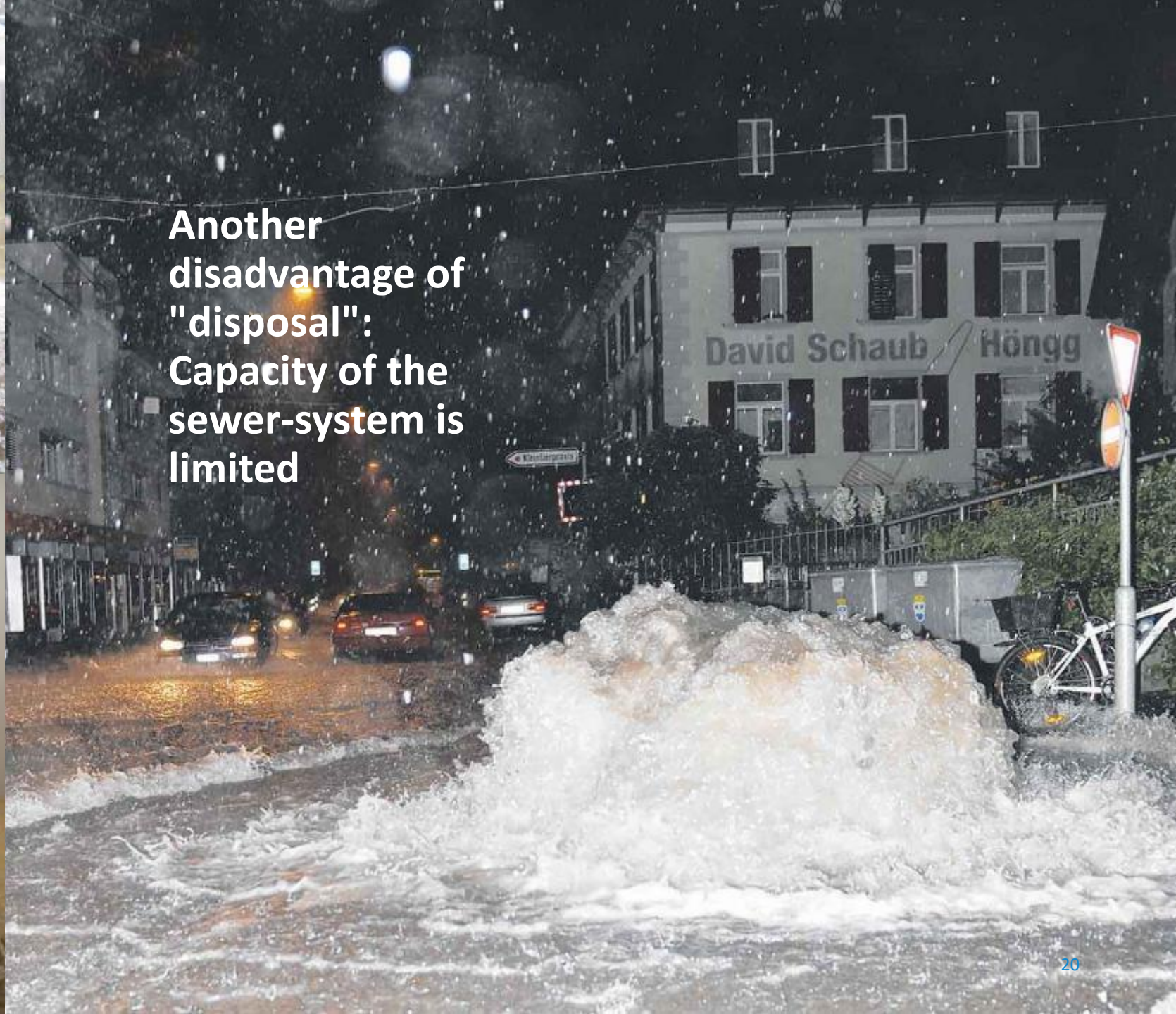


**Basic rule no. 2:  
Always think about failure!!!**





These are the  
consequences  
In case of overload

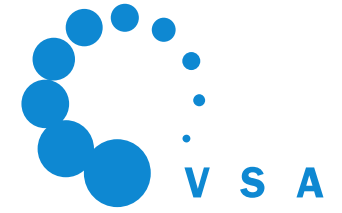


Another  
disadvantage of  
"disposal":  
Capacity of the  
sewer-system is  
limited



# Property protection ➡ Landowner's responsibility

## But: Municipality is responsible for solutions at larger scale!



Ground level elevated

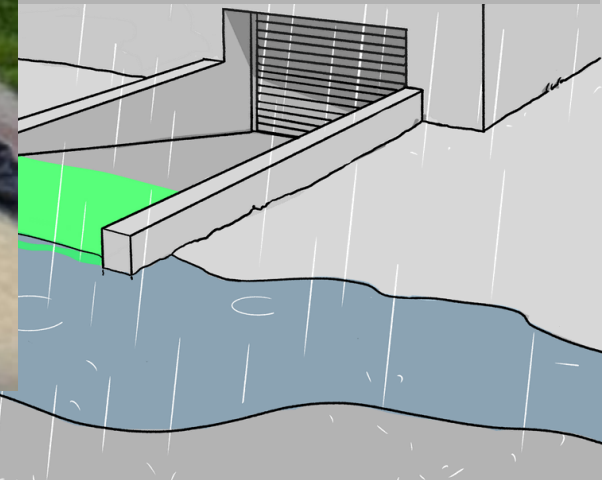


Object protection is not enough!

Municipality has a duty  
(GEP follow-up: integrate surface runoff)



not at ground level  
protect driveways

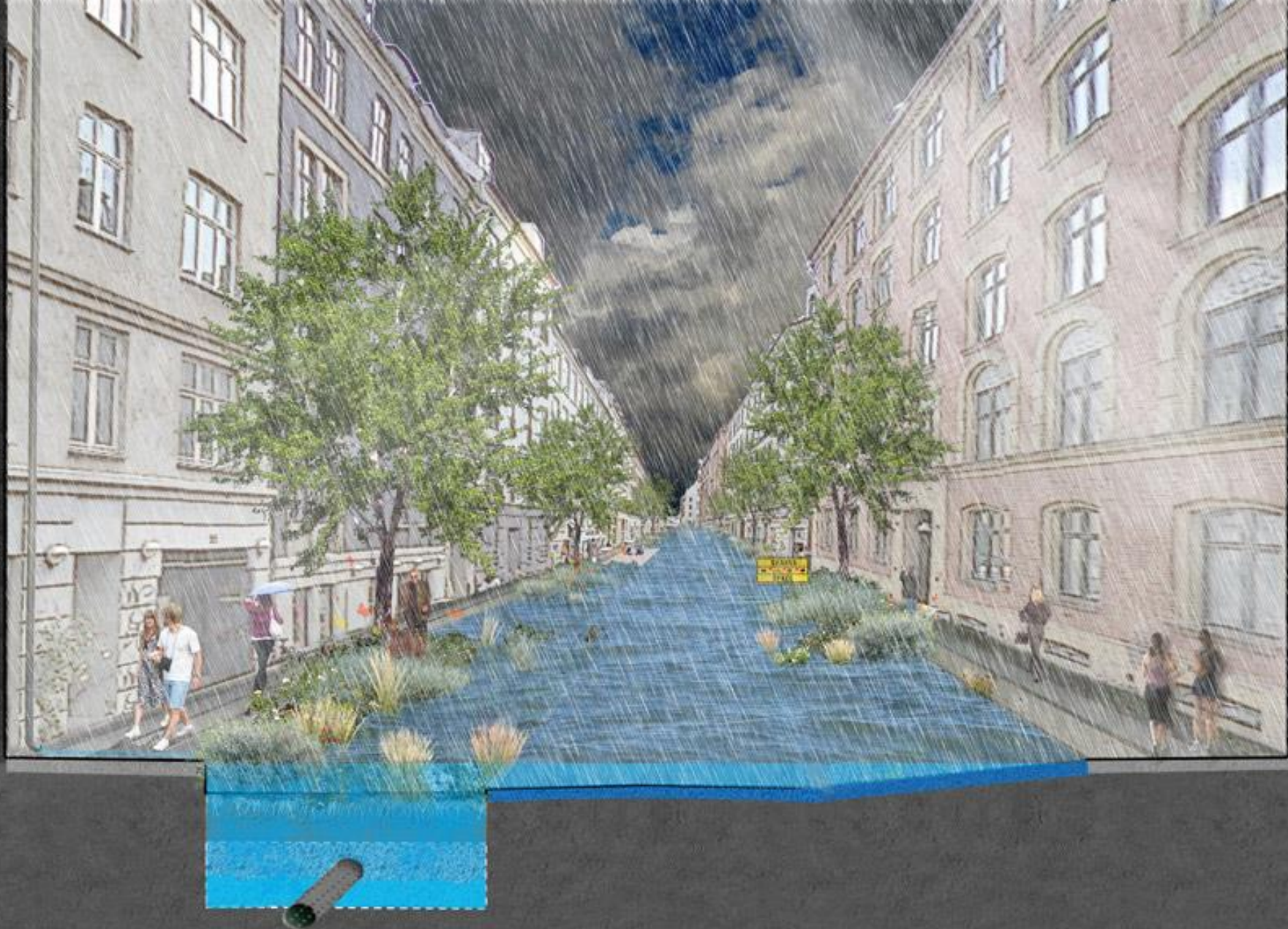






**Copenhagen: strategic flood master plan**  
**Roads are temporarily dammed**





**Copenhagen: strategic flood master plan**  
**Roads are temporarily dammed**



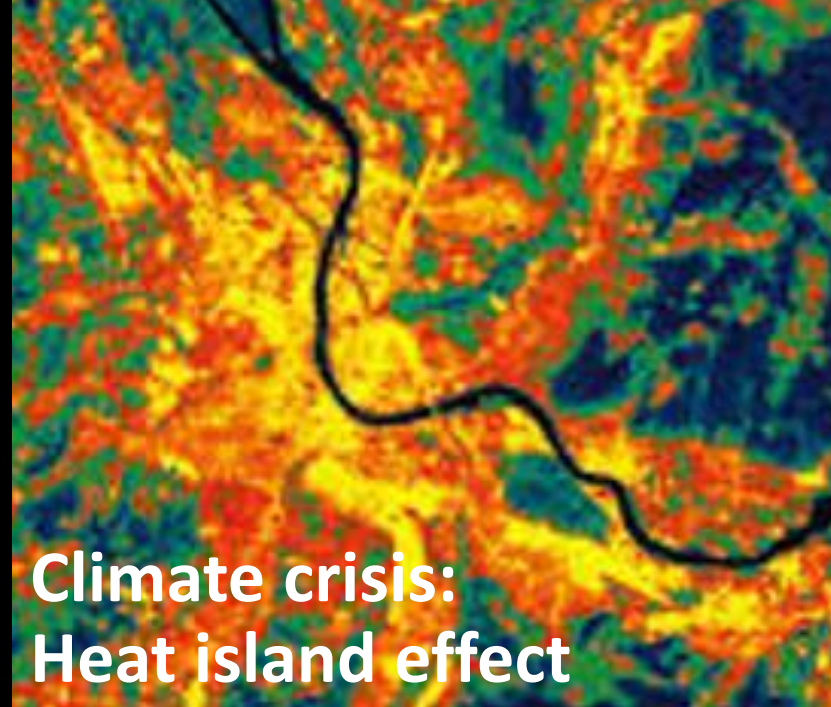


In the countryside also possible in a natural way  
(blue-green infrastructures)



Photos: Silvia Oppliger







# VSA Project «Sponge City»

## Involved stakeholder groups / project organisation



**Projekt-Oberleitung**  
(VSA, BAFU, PS, SIA, SVKI)

**Projektleiterin**  
(VSA)

**Projekt A** **Projekt B** **Projekt C** ...

### Begleitgruppe:

Städte / Gemeinden  
Kantone

Verbände (BSLA, EspaceSuisse, FSU, GVRZ, SVGW, VSSG, VSS)

Forschung (Eawag, OST, ZHAW, BFH, [WSL])

Bund (BAFU, ARE, KBOB)

Versicherungsbranche

Immobilien-gesellschaften

Fachleute aus: Siedlungswasserwirtschaft, Stadtgrün,  
Raumplanung, Landschaftsarchitektur, Naturgefahren,  
Gewässerschutz, Biodiversität etc.

**Nationwide d/f/i**

**Interdisciplinary**

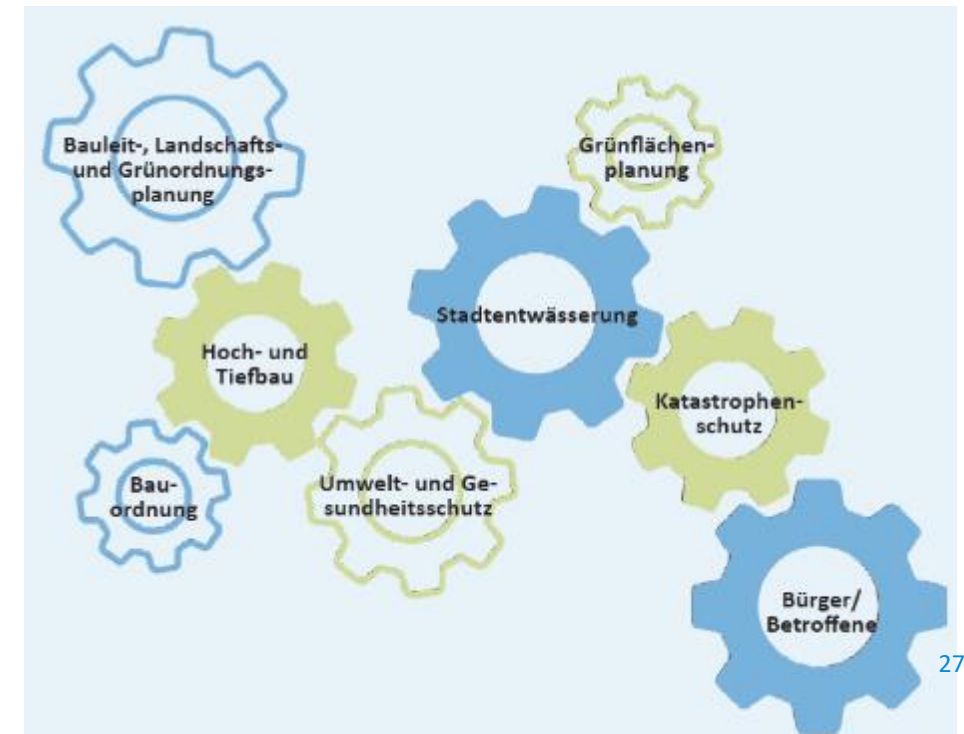
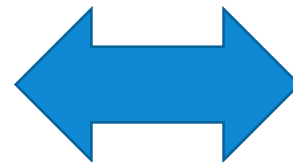
**Broadly supported!**





## What goals is the VSA pursuing with the project?

- Prepare a set of measures relating to "good practice" and make them available to municipalities. Goal: Disseminate the measures necessary for adaptation to climate change.
- Contact point for questions ("platform"); solutions for conflicting goals
- Training and further education for municipalities and other stakeholders
- Promote cross-sectoral cooperation!







**Albisrieder Dorfbach**

**Nebelbach**

**Albisrieder  
Dorfbach**

**Holderbach**

**Mühlehaldenbach**

**Dorfbach  
Schwamendingen**

**Holderbach**

Focus within  
natural





Back to daylight Sulgenbach  
provides green ribbon and shade

## Hardegg Settlement (Bern-Köniz municipal boundary)

Fotos: Stefan Hasler

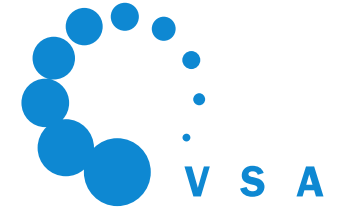


The image shows a vibrant garden scene. In the foreground, a weathered metal table with a checkered top and four matching chairs is set up on a grassy area. A large tree stands to the left of the table. The background is filled with dense green foliage and trees. A circular inset on the right side of the image provides a closer view of the lush vegetation, showing tall grasses and various shrubs.

**High biodiversity;  
high quality of life  
(no heat island!)**



# More Green and more Blue comes at the detriment of Grey



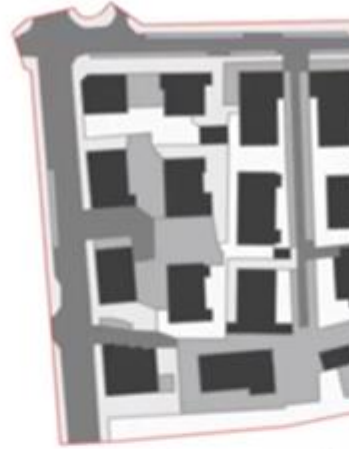
## L'espace sacrifié

Paris:  
voiture = 50% de l'espace public  
pour 13% des déplacements

Paris:  
Auto = 50 % des öffentlichen  
Raums für 13 % der Fahrten

Lausanne:  
selon quartiers, 57-87% espaces  
extérieurs réservés à circulation  
et stationnement

Lausanne:  
Je nach Quartier sind 57–87 %  
des Aussenraums Verkehr- und  
Parkbereiche



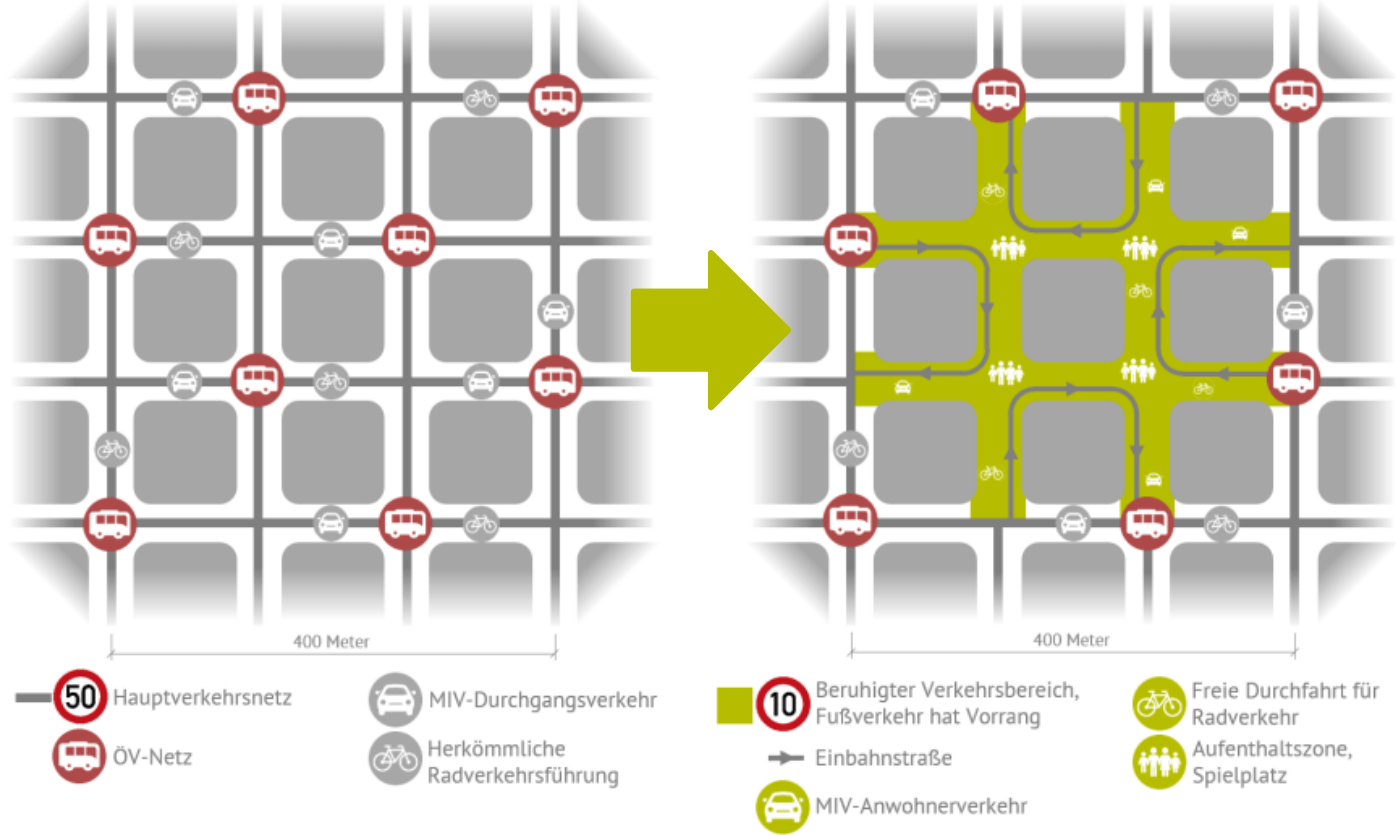
■ circulation TIM ■ ca

densité



Cars stand still 90% - 95% of the time!

## Barcelona creates «Superblocks»







**We have a choice between quality of life and automobility!**



**Barcelona's "superblocks" create room for BGI and a lot of space for the population**

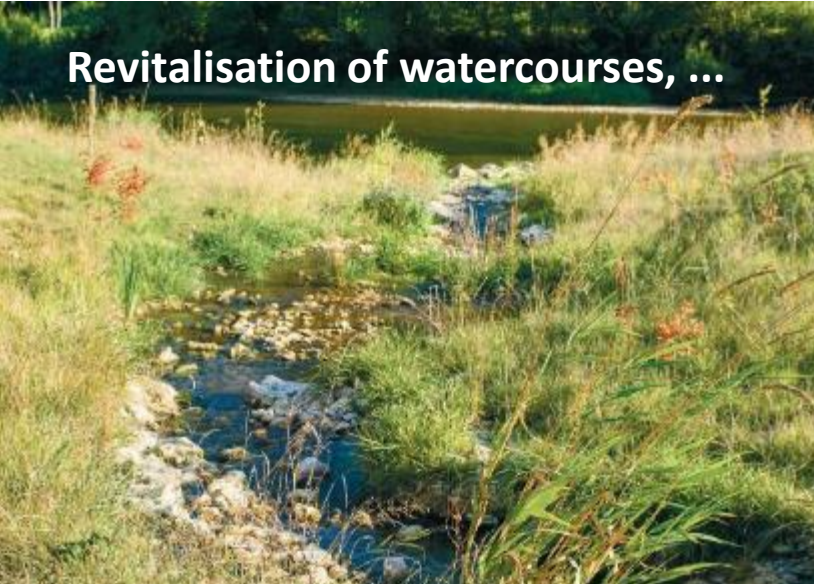




# What can you do as a municipality?



Revitalisation of watercourses, ...



...lakeshores, ...



Creation of "Green Streets"



...wetlands, ...



...sources etc.

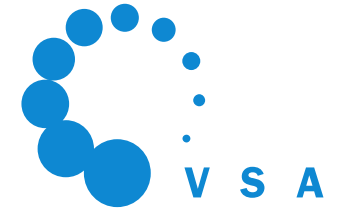


Promotion of green roofs and facades





# Municipalities should lead by example!



Green-streets!

Green roofs/  
facades!

Creeks back  
to daylight!

Rainwater is drained into the sewer system  
instead of being infiltrated on site.



# Municipalities can demand near-natural areas from private individuals

(clause must be anchored in local regulatory framework)



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Eidgenössisches Departement für Umwelt, Verkehr,  
Energie und Kommunikation UVEK  
Bundesamt für Umwelt BAFU

## Biodiversität und Landschaftsqualität im Siedlungsgebiet

Bestimmungen für Kantone und Gemeinden



for an ecological  
in the settlement area









**Plea: Let's do everything we can to make our cities more resilient and liveable with blue-green infrastructures!**





# Questions?

