



Revitalisation of the Feuerbach Stream

Municipality of Stuttgart

09.11.2011



EUROPEAN UNION
EUROPEAN REGIONAL
DEVELOPMENT FUND

Basics

Basics

Goals

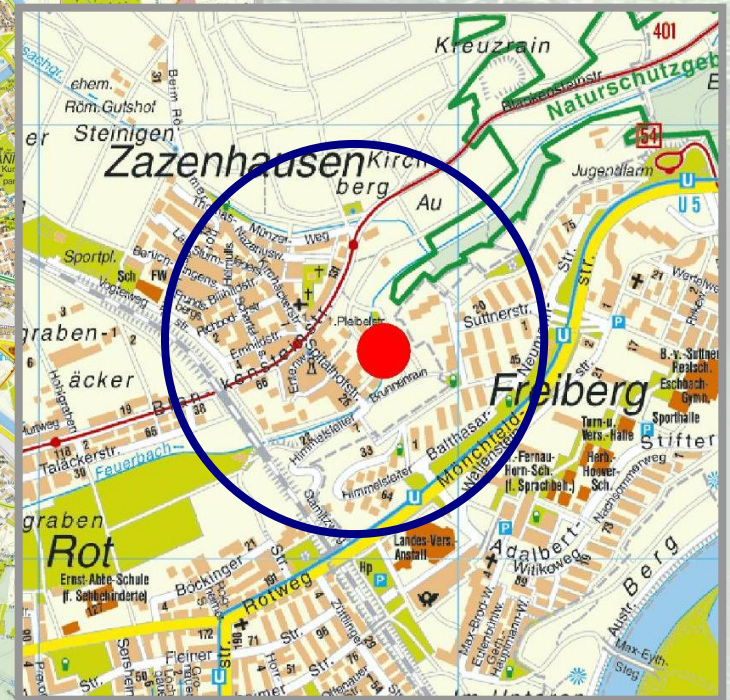
Challenges

Planning stages

Public participation

Future scenarios

Location of the
pilot investment



Basics

The Feuerbach

Basics

Goals

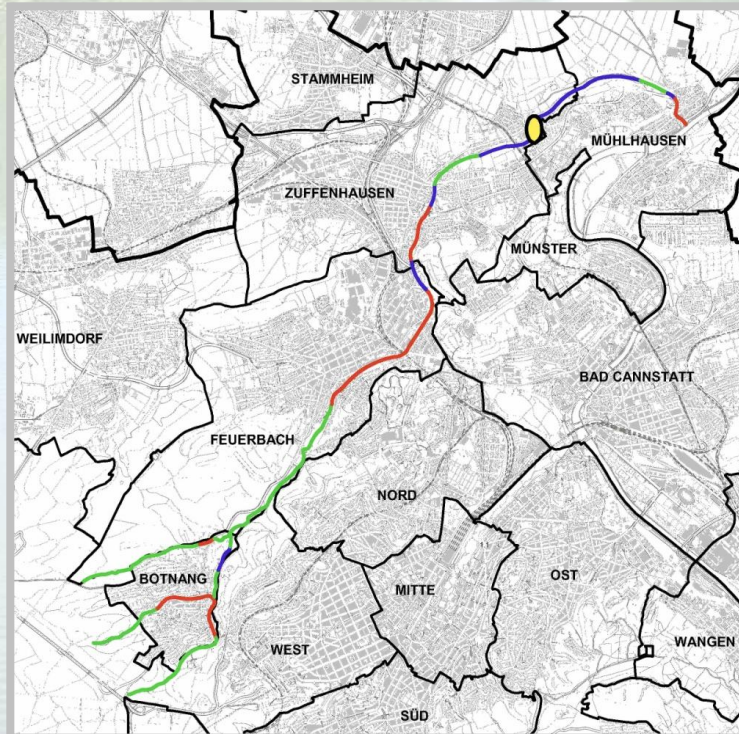
Challenges

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Future scenarios

- 15 km long, opens out into the Neckar
- catchment area (35 square km) is covered by
 - housing and industrial zones (60%),
 - woods and forests (20%)
 - grassland and cultivated land (20%).



80 % tubed or with paved river bed and banks

- Subnatural and revitalised passages of River Feuerbach
- Open but mostly paved / channeled passages of River Feuerbach
- Completely tubed passages of River Feuerbach
- Site of pilot projekt

Basics

Topic: Brownfield revitalisation

Basics

Goals

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- Feuerbach paved in the 1930s
- Sports field abandoned in 2002



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before revitalisation

Basics

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Goals

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Strengthening of environmental functions

- linking different areas of high importance for nature conservation on local and regional level
- providing habitats for endangered species of plants and animals
- serving as retention area



Bachflohkrebse



Bergmolch (männlich)



Zwergfledermaus



Sumpfrohrsänger



Blutweiderich

Goals

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Fostering social functions

- contributing to complete the system of green corridors and green axes
- improve the possibilities for outdoor leisure and recreation



Goals

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Valley of river Feuerbach in 1825 – model for renaturation

Challenges / Lessons

Brownfield revitalisation

- existing infrastructure
- possibly contaminated sites
- demolition of installations
- recycling of material
- disposal of waste and leftover material
- remodelling of the area

Basics

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Challenges

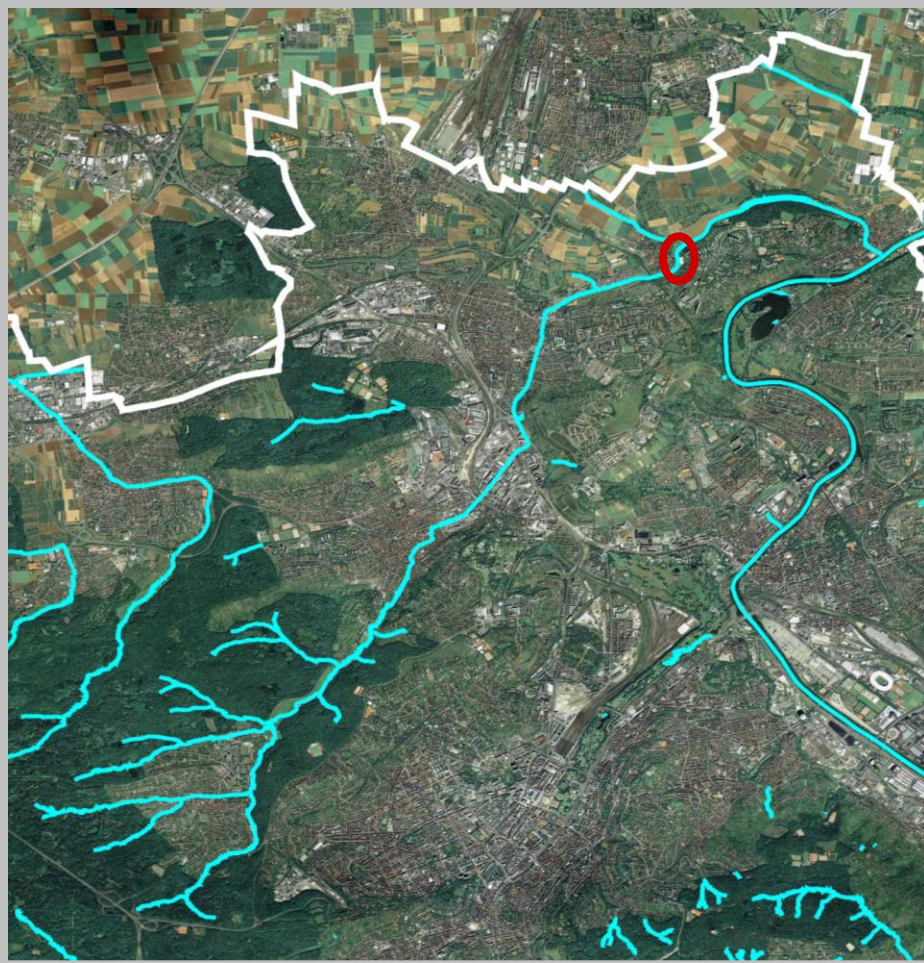
Planning stages

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Challenges / Lessons



Revitalisation in urban areas

- restoring the original stream bed not possible
- area experienced major changes
- run-off characteristics varying between extremes: high degree of soil sealing in the stream basin
- canalisation spilling over
- need of considering flood protection (hydraulic modelling)
- social aspects: recreation area for inhabitants

Challenges pilot action Stuttgart

Big administration with many parties involved

• amount of time needed for coordination

Basics

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| Planning and implementation step | responsible department | departments additionally involved |
|----------------------------------|---|---|
| conceptional planning | City Planning and Urban Renewal | |
| ground acquisition | Housing, Stock and Properties | |
| preliminary draft planning | City Planning and Urban Renewal | Environmental Protection (water aspects, nature conservation aspects, contaminated sites), Civil Engineering (technical aspects, hydraulic aspects) |
| planning for permission | Civil Engineering | statements by the other departments |
| permission | Environmental Protection | |
| draft planning | City Planning and Urban Renewal | Environmental Protection, Civil Engineering |
| planning of execution | Civil Engineering or Garden and Parks | |
| implementation | Civil Engineering or Garden and Parks | - |
| maintenance | Garden and Parks (banks and floodplain) Civil Engineering (riverbed) | - |

Planning stages



Plan of permission /
documentation



Draft plan



Plan of execution

Planning stages

Basics

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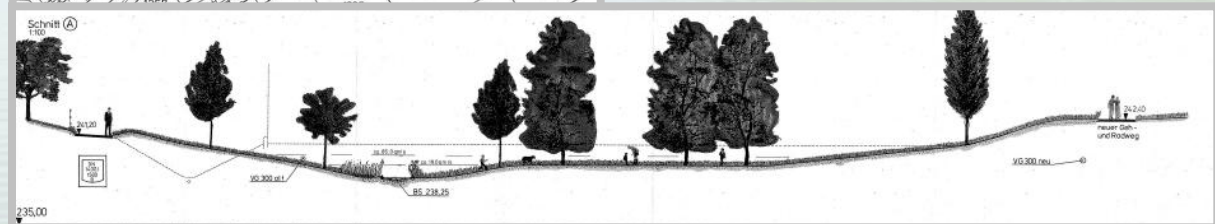
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Plan of permission / documentation

- former bed demolished
- excavation of the area
- creation of a new meandering stream bed



Planning stages



Planning stages



Planning stages

Basics

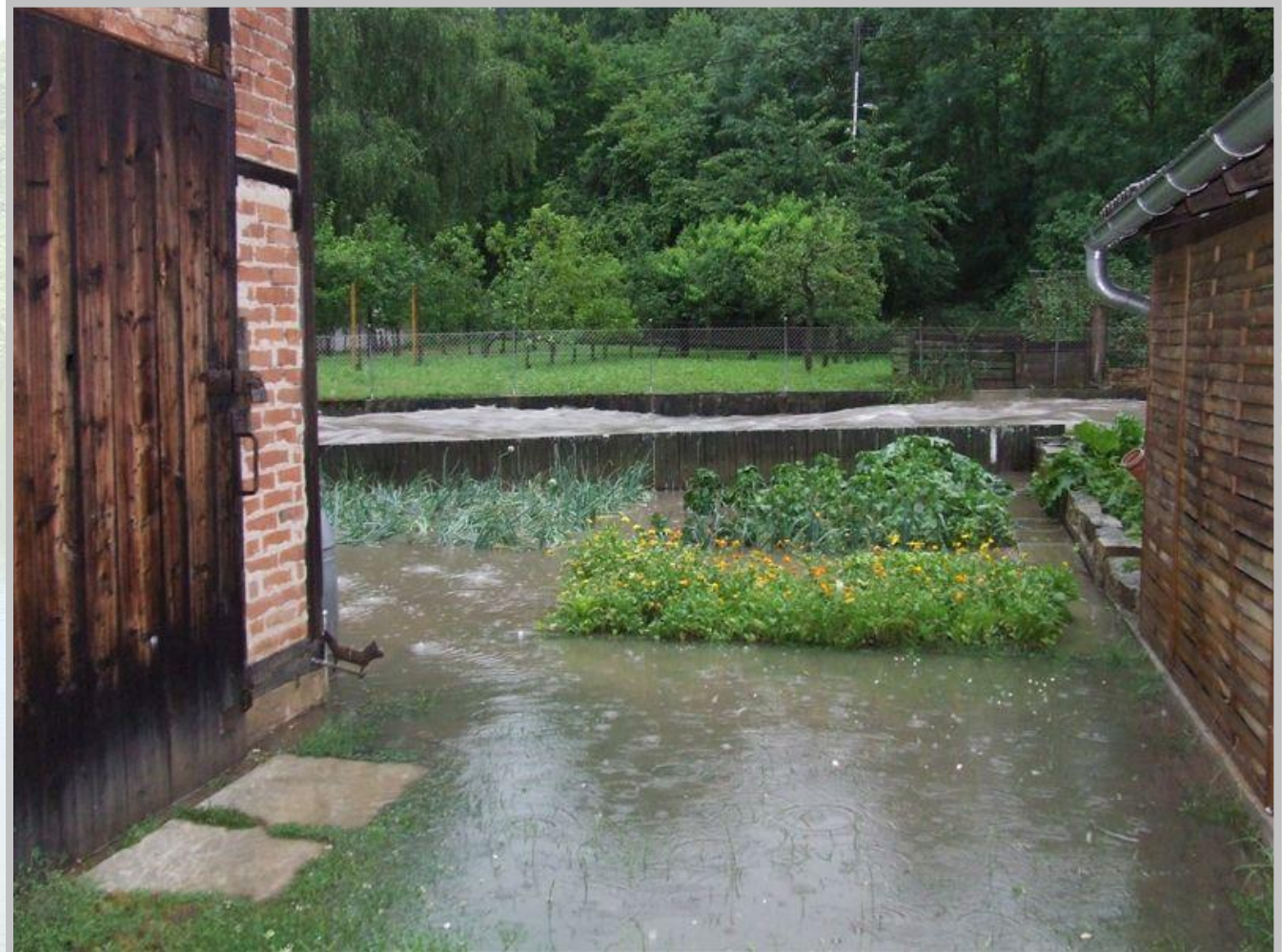
Goals

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Planning stages



Planning stages

Basics

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Draft plan

- former stream bed used as flood channel
- avoiding aquatic species to be washed away



Planning stages

Basics

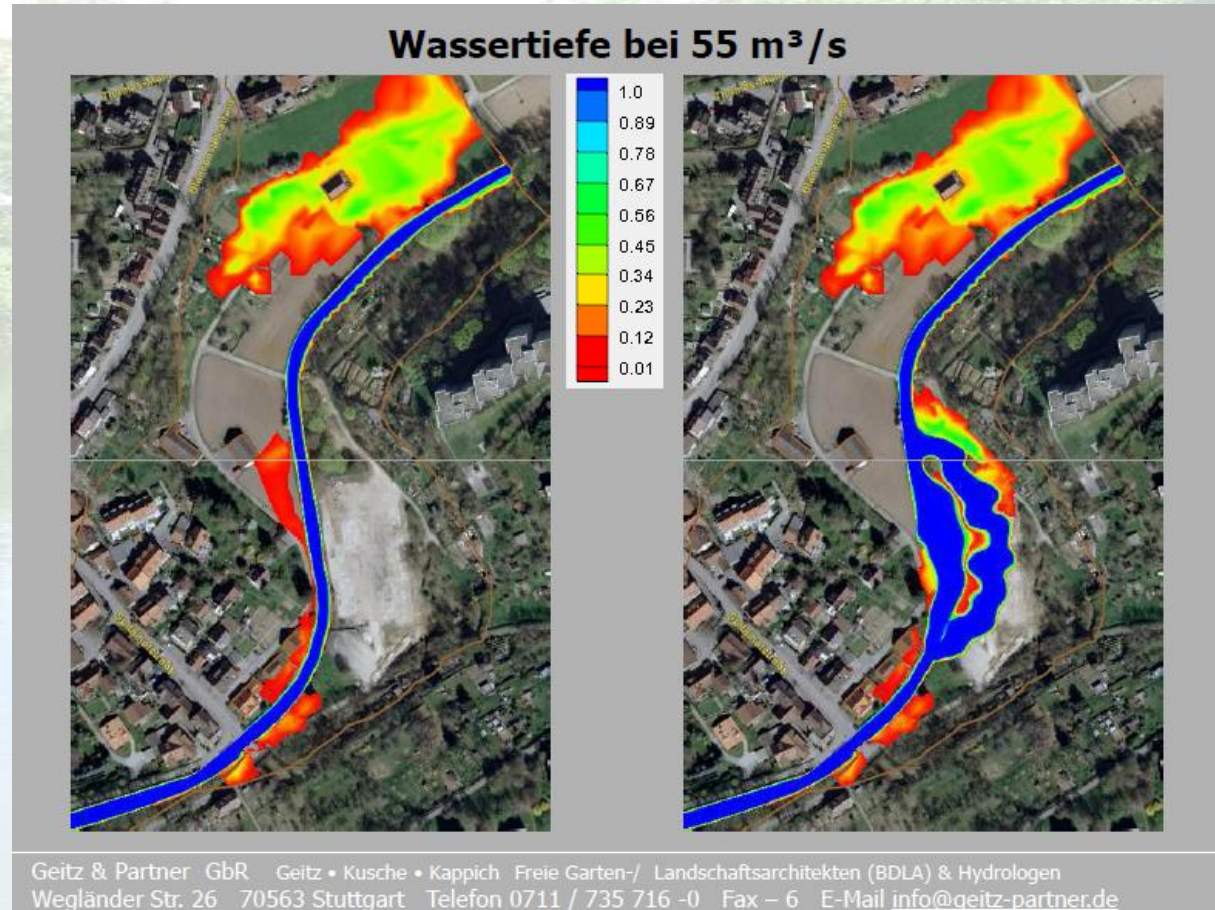
Goals

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Hydraulic modelling – exploring impacts

Planning stages

Basics

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Plan of execution

structural diversity

securing banks

bio-engineering

- fascines

- live stakes

- deadwood

- trunks

Planning stages

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Planning stages ◀

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Planning stages

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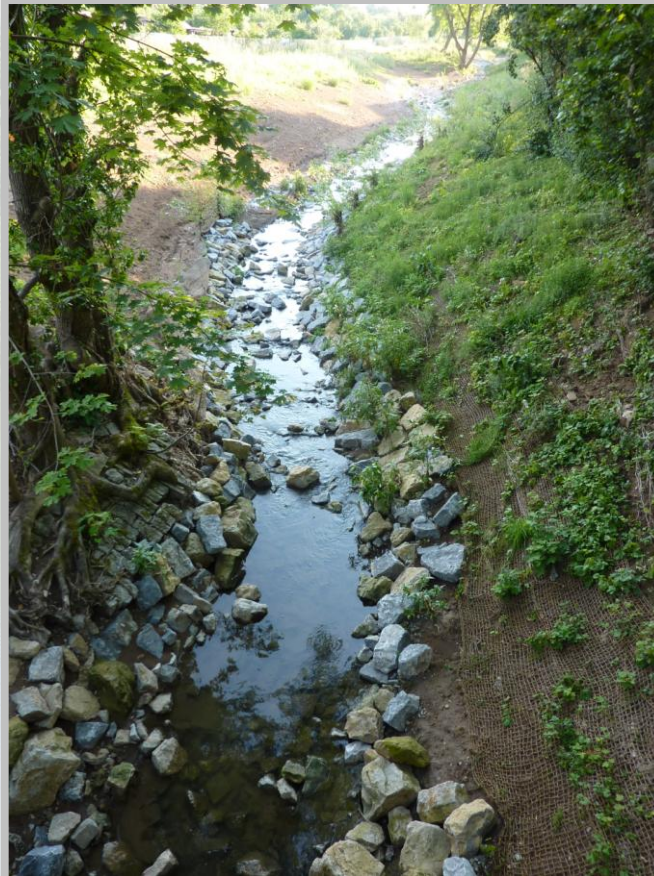
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Future scenarios Stuttgart

Feuerbach

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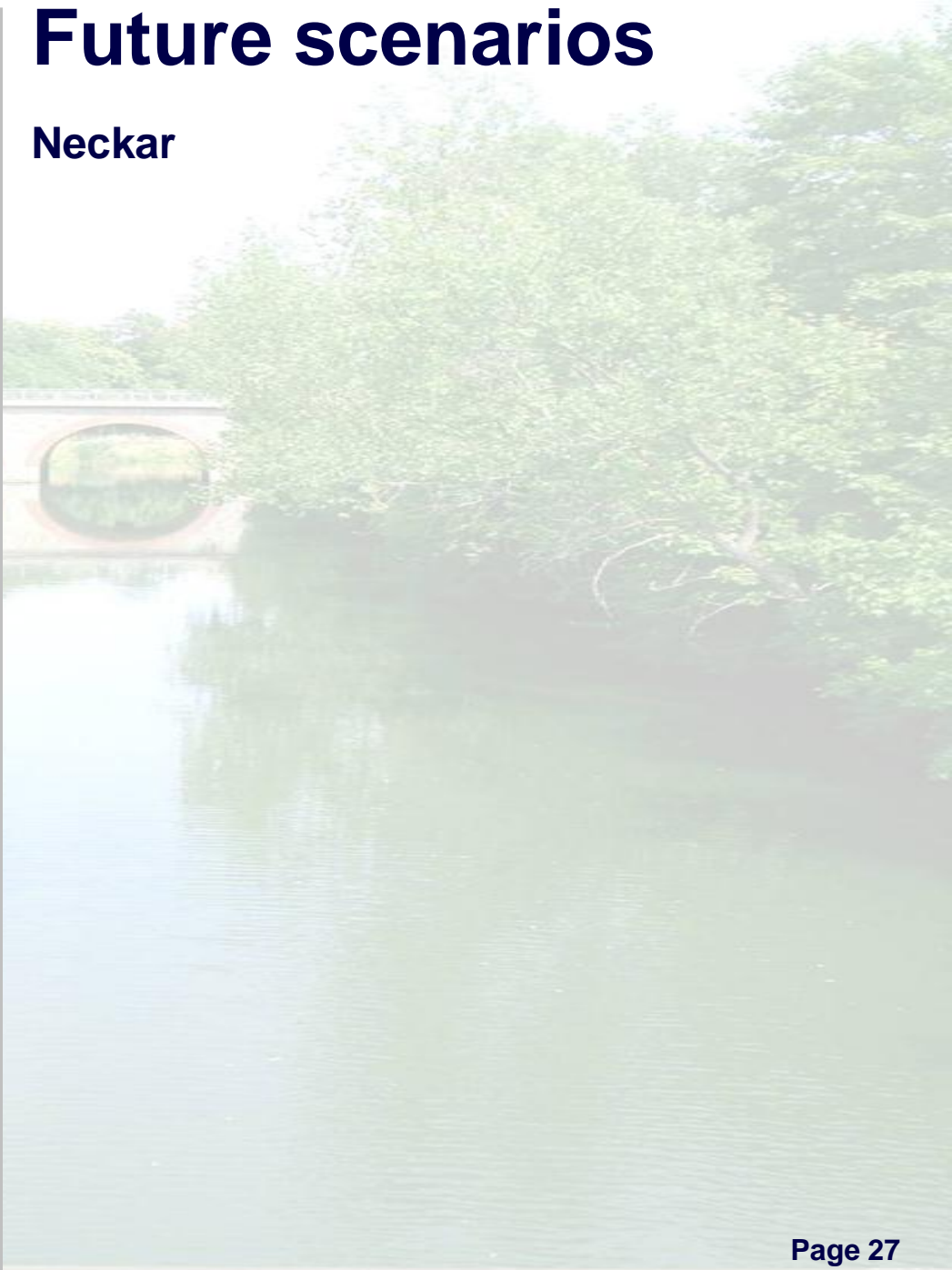
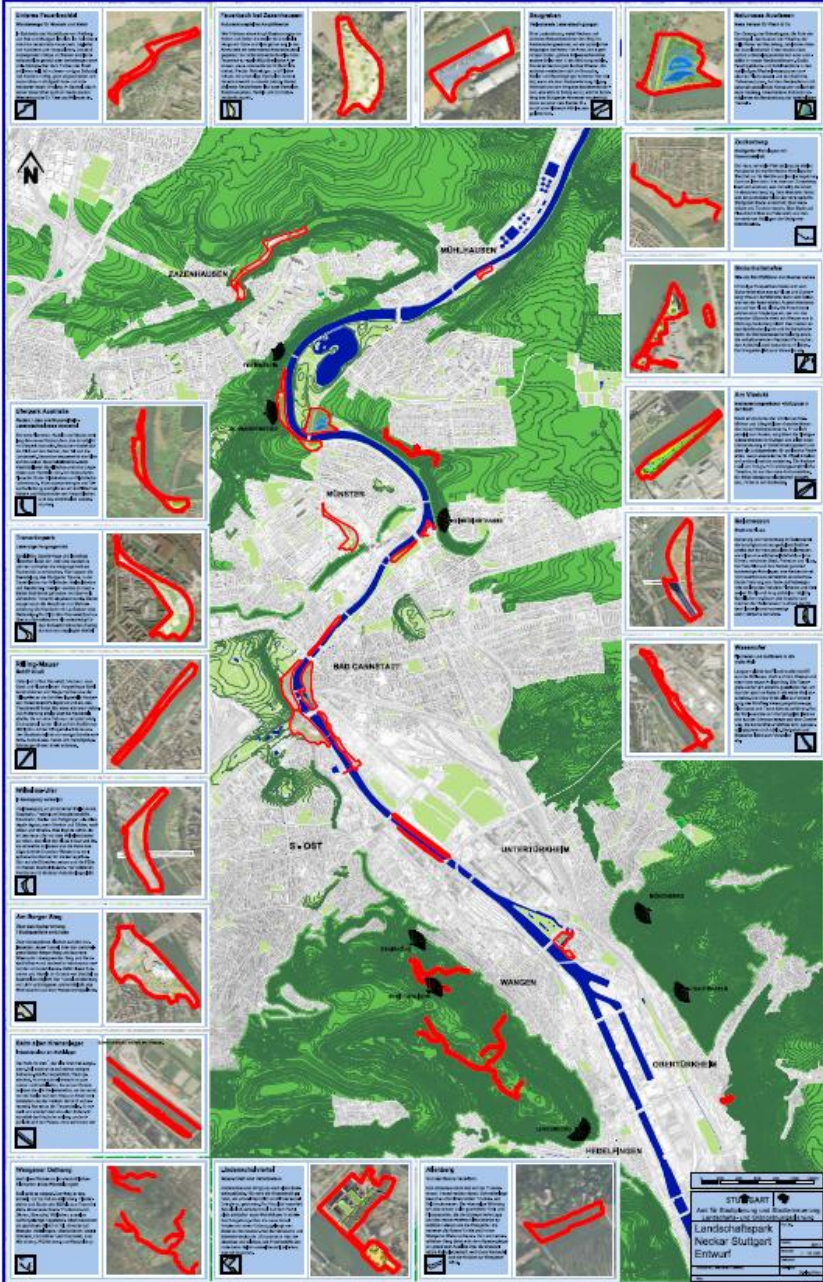
Public participation

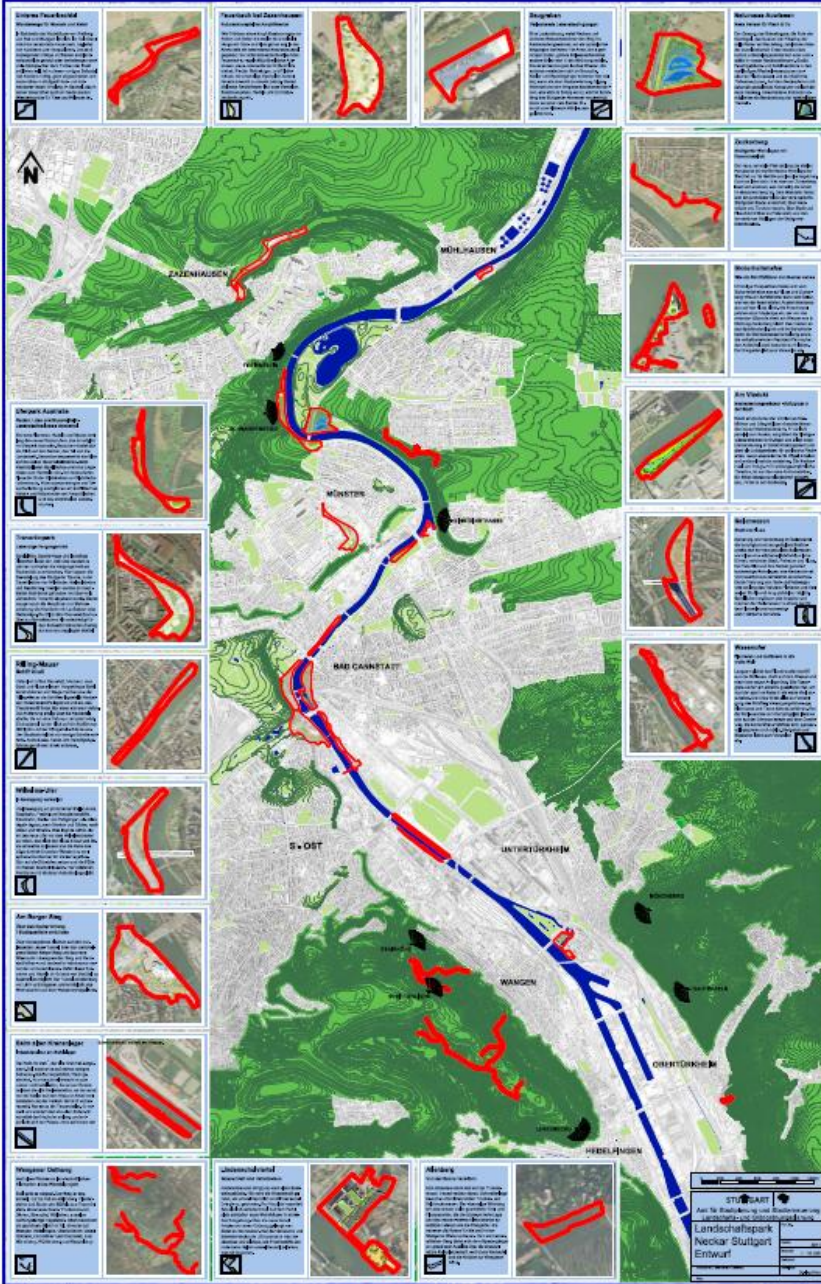
Future scenarios



Future scenarios

Neckar



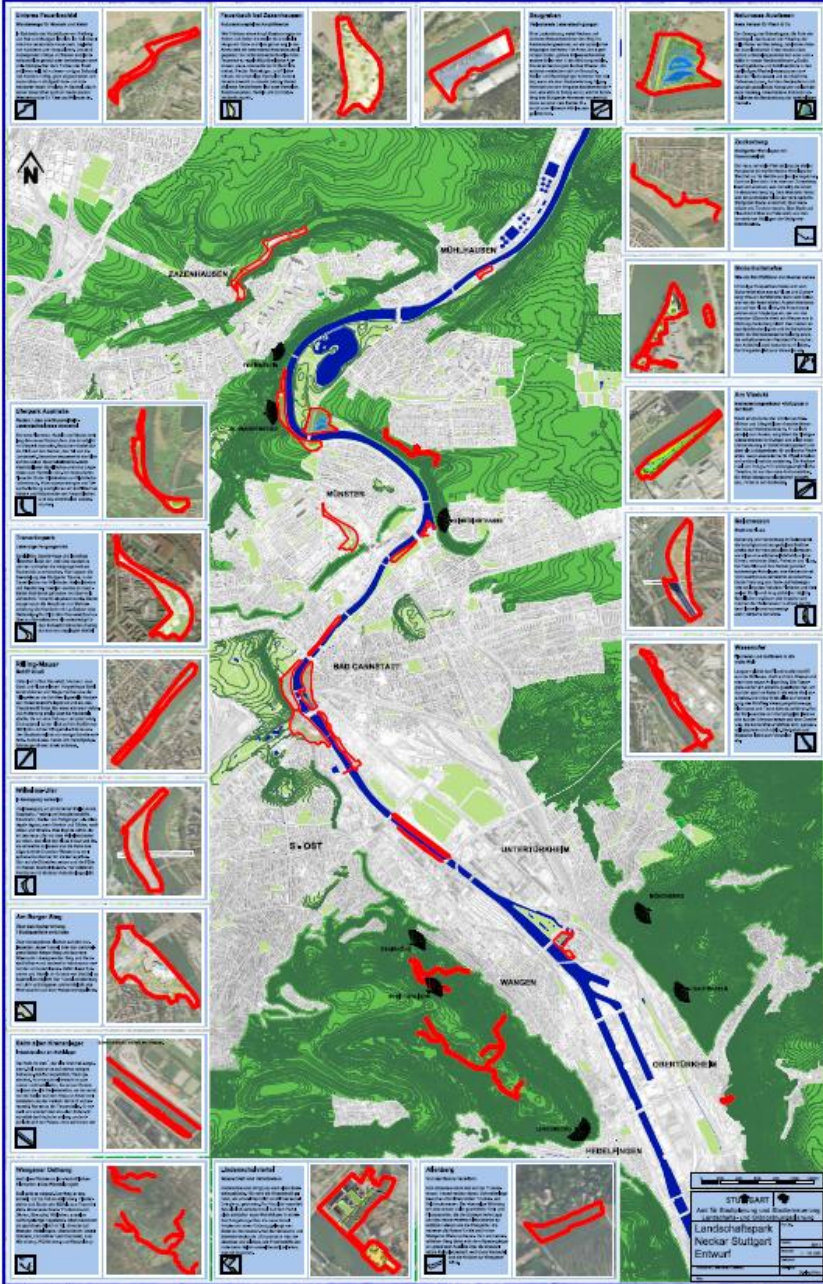


Future scenarios

Neckar



Riverside park Austraße



Future scenarios

Neckar



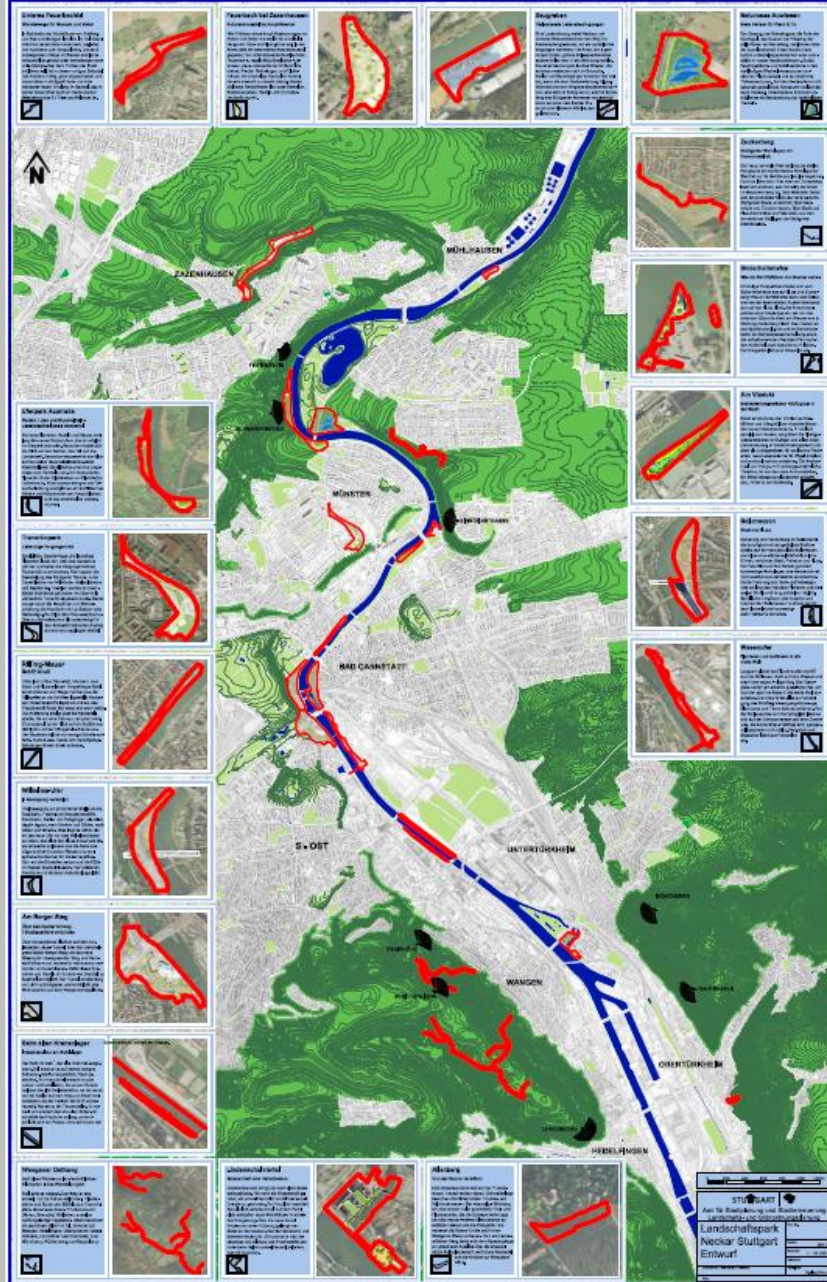
Riverside park Austraße



Nature Oasis Auwiesen

Future scenarios

Neckar



Riverside park Austraße



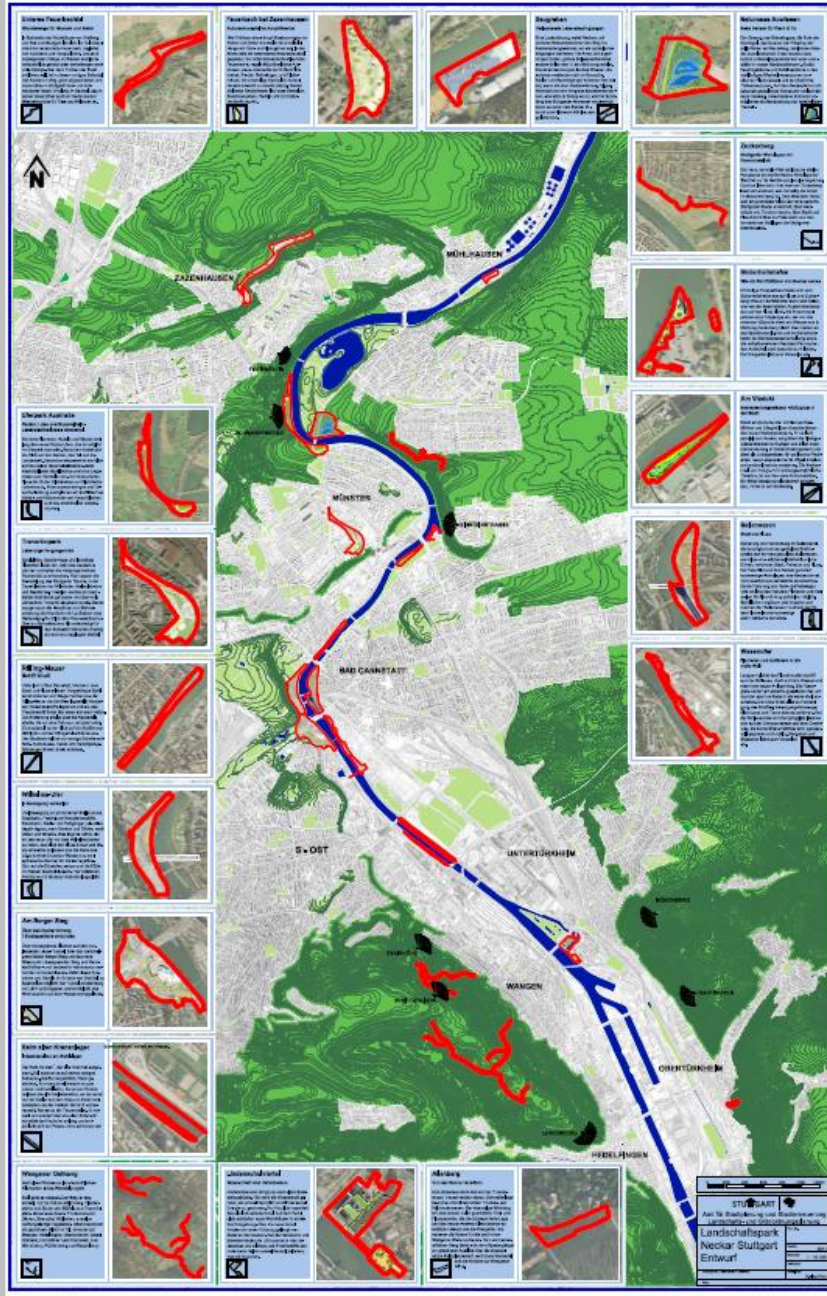
Nature Oasis Auwiesen



Bank at Wasen

Future scenarios

Neckar



Riverside park Austraße



Nature Oasis Auwiesen



Bank at Wasen

Sicherheitshafen



Thank you for your attention!

Future scenarios Stuttgart

Feuerbach

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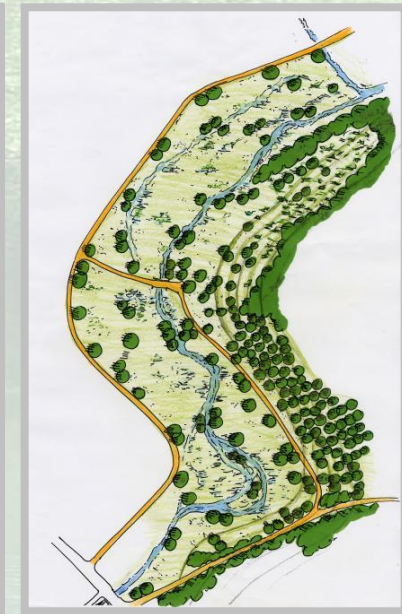
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Future scenarios Stuttgart

Feuerbach



Competing interests/difficulties

- land availability
- waste water pipe (red)
- land use
- traffic
- nature conservation–recreation

Future scenarios Stuttgart

Feuerbach



Public participation

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Public participation ◀

Future scenarios

Administration

- Administration work group

Meetings with

- political panels
(city council / district councils)
- locally engaged NGO's
(work group biotope network planning, citizen's association)
- affected people
(local farmers and the local farmer's association)
- Public presentation



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Planning stages

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Estimated construction cost: 770.000.- Euro

Financing:

- **EU / ERDF (REURIS): ca. 180.000 Euro**
- **Verband Region Stuttgart: 85.000.- Euro**
- **Impact mitigation charges: 460.000.- Euro**
- **Municipality of Stuttgart budget means: 45.000.- Euro**