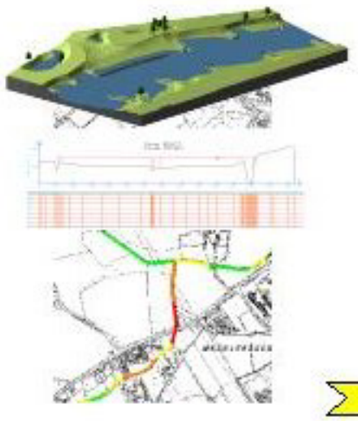
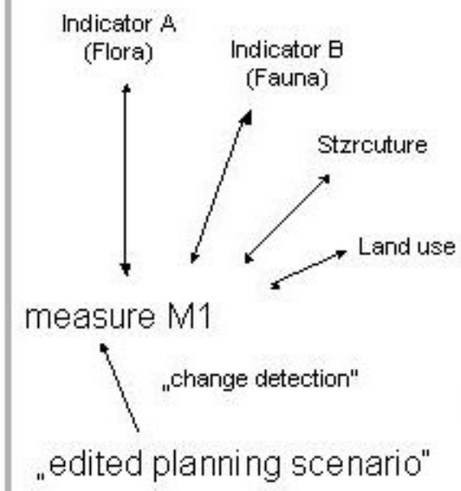
level of interaction

1. Visualisation and analysis of status quo

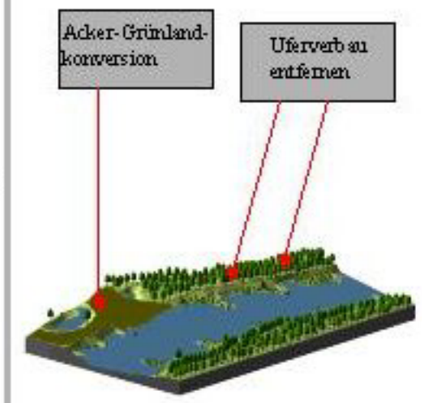


2. Landscape editing

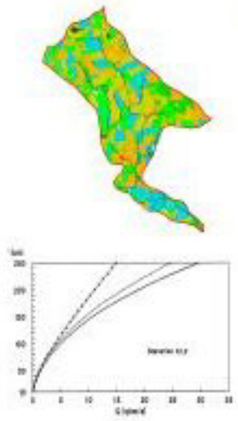
3. Measure derivation



4. Measure documentation



5. Simulation, prediction and controlling



System level

2D/3D-Visualisation and analysis

- catchment area
- water use
- use of flood plain
- protected areas
- ecological assessment of water body
- indication of significant pollutants
- biological components
- chemical-physical components
- hydromorphological components
- ideal model
- analysis of deficits
- ...

Tools for landscape editing processes

- interactive user interface
- tools for the editing of digital catchment areas and their attributes
- Identification of changes
- saving of changes in the virtual world for the derivation of measures

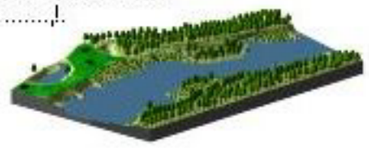
Knowledge bases

Zustand („Z1") :-
Indikator A(Flora) = „vorhanden",
Index B(Fauna) = „ > 4,5 ",
Ackernutzung („ > 50 %"),
..., !.

Landschaftsveränd.(„CD1") :-
Auennutzung(Extensivierung),!.

Maßnahmenvorschlag(„M1") :-
/ (Konversion(Acker_in_
/ Grünland))
Zustand Z1,
Landschaftsveränd.(„CD1"),!.

Szenario S1(„erreichbar"):-
/ (Verbesserung der Gewässer-
/ güte)
Maßnahme M1,
.....,!.



Sketches, text, pictogram, ...

- Analysis of the edited scenarios through GIS functions and model functions
- visualisation of measure suggestions

Models

v = double,
Q = double.

...

$v = sqrt(8g/\lambda) * I^{1/2} * r_{hy}^{1/2}$
Q = vA
.....

If
Q > 25 m³/s
Then
scenario 1(„Kommentar") =
„Massnahmen, nicht geeignet, da pot Abfluss-menge zu hoch"

Testing with planning practice