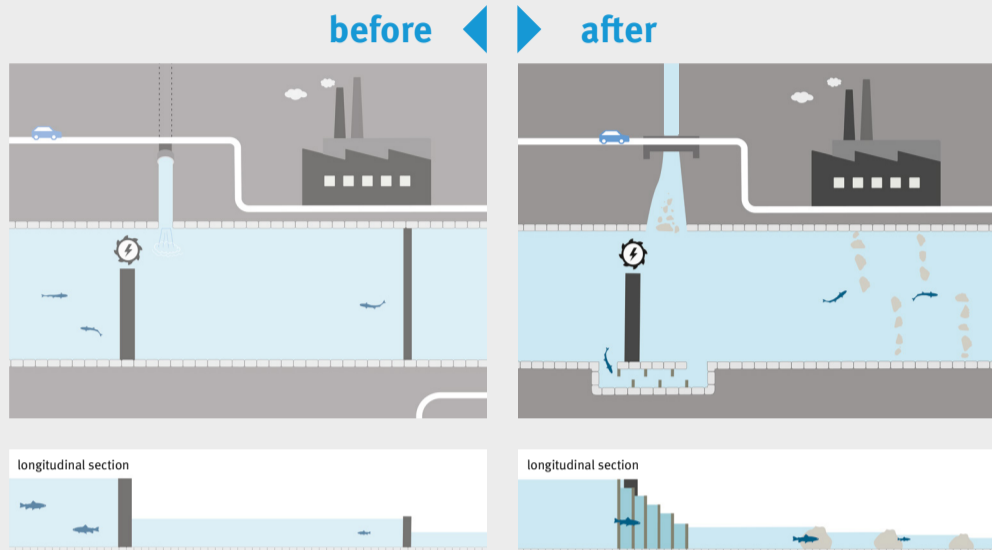


# Measures for river restoration

Bulldozers are not always needed to restore a river. Lively waters manage their restoration themselves when space for development is provided and initiating measures trigger the dynamics of a river. If the watercourse cannot be changed, small measures can still considerably improve the structure of

a river. Over 90% of German rivers and streams are straightened, constricted, piped or interrupted by structures such as weirs or barrages. Restoration can improve the ecological status and attractiveness of water bodies.

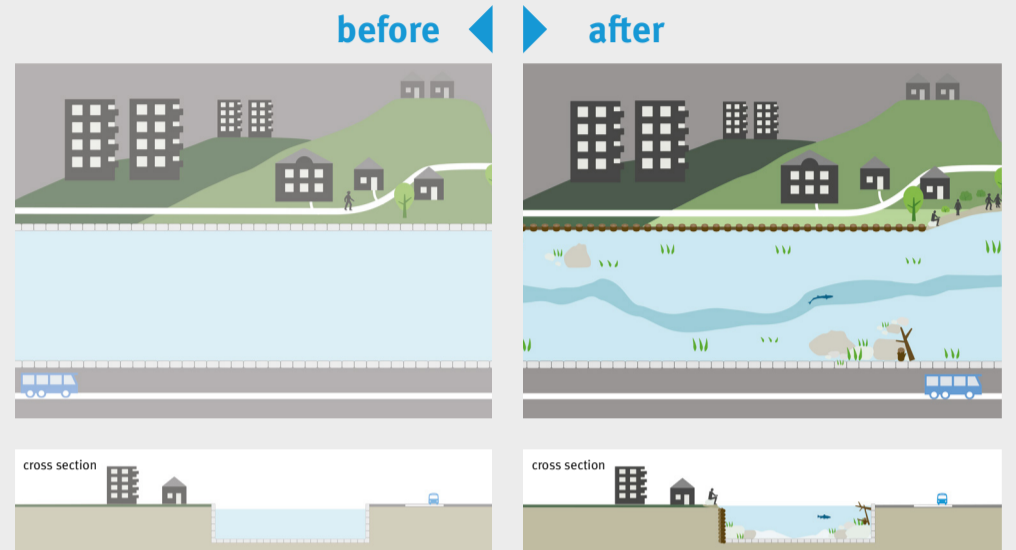
## If obstacles interrupt the river's continuity:



- remove obstacles
- convert obstacles to small cascades
- establish fish protection or migration system
- redesign culverts and pipe systems
- reconnect tributaries
- near-natural river maintenance

For more information about measures to achieve watercourse continuity:  
[uba.de/massrenat-hinderniss](http://uba.de/massrenat-hinderniss)

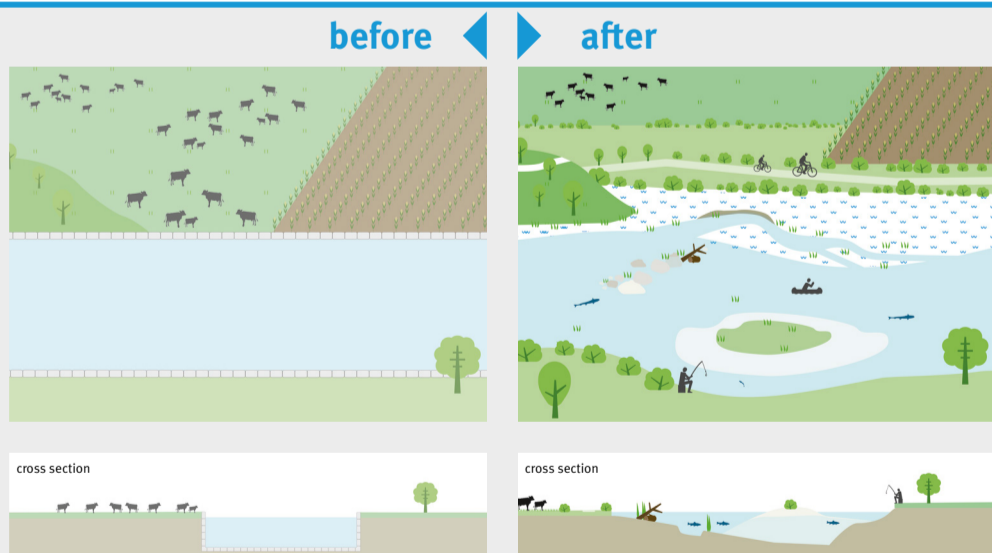
## If the watercourse cannot be changed:



- allow accumulation of sediments and growth of aquatic plants
- install natural elements (such as dead wood)
- lift the river bed
- adapt channel to periods of low flow
- create natural river bed
- replace technical river bank protection
- flatten river banks
- near-natural river maintenance

For more information about measures using the existing river profile:  
[uba.de/massrenat-laufbleibt](http://uba.de/massrenat-laufbleibt)

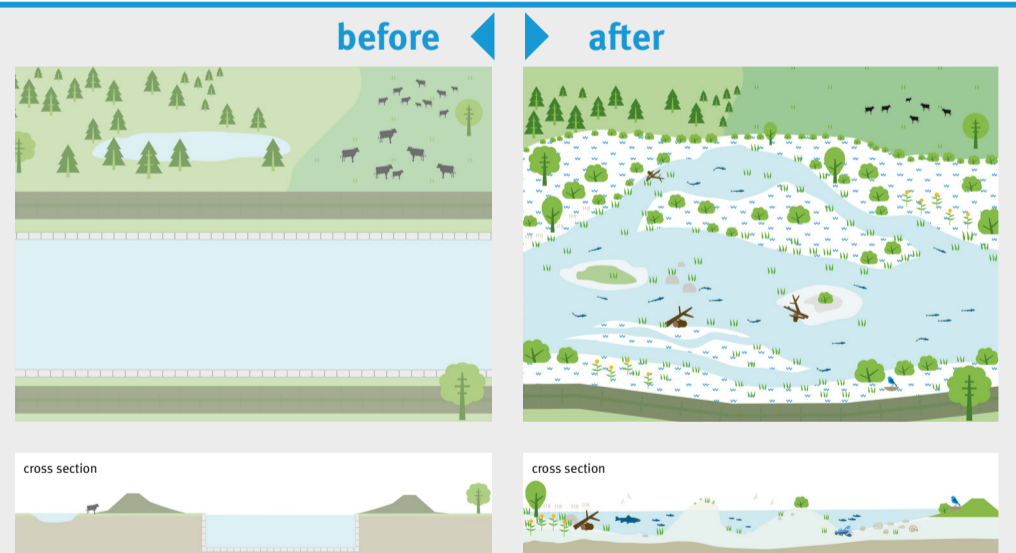
## If river profile and banks can be changed:



- re-route the straightened watercourse
- remove river bank protection
- incorporate structures for diverting flow
- flatten river banks and surrounding area
- design diverse river banks
- create riparian buffer strips
- allow the river to develop naturally in some areas
- near-natural river maintenance

For more information about measures in the river and the surrounding areas:  
[uba.de/massrenat-uferprofil](http://uba.de/massrenat-uferprofil)

## If large-scale development is possible:



- Relocate dykes further away from river
- Reduce land use intensity in surrounding area
- create wide river development corridor
- secure and extend flood areas
- re-establish oxbow lakes or create branches
- trigger dynamics of river through initiating measures
- near-natural river maintenance

For more information about measures extending into the floodplain:  
[uba.de/massrenat-weitraum](http://uba.de/massrenat-weitraum)