FACTSHEET RISK REDUCTION MEASURES

Bank reinforcement for the course of the brook - Kirchsteigbachtal

Where was it implemented?

City of Meissen, Saxony, Germany

Fields of action

Watercourses, forests

Related to measure from the catalogue of measures

- Increasing the retention capacity of existing channels and floodplains by restoration
- Embankments in the bump curves of streambeds, boulder structures

Area characterisation

Area type: rural

Landscape type: hilly, forest

Bank reinforcement in a bump curve of the brook "Kirchsteigbach" **Source: P. Voigt**

Problem

On 27 May 2014, the district Meissen-Triebischtal was affected by a heavy rain event of 40-60 l/m² precipitation per hour in the catchment area of the Triebisch river and its tributaries. Resulting floodings and mud flows on and from farmlands passed the forested valleys, reached the settlement area of Triebischtal and caused damages of 6 mio. Euro.

There was severe damage in the area of the water body itself. The hiking trail running directly next to the watercourse was also damaged.

Description and aim

The instream measure is a near-natural bank reinforcement to maintain the course of the stream in the Stadtwald area. Embankments in the bump curves (undercut banks) of the brook course should prevent the river from overflowing its banks.

Terrain modelling was carried out in the lower area to create additional retention space and at the same time protect the banks from erosion.

Effect of measure

The embankment prevents the riverbank from flooding and uncontrolled water runoff, coming along with mud and sediment deposit. It prevents erosion and maintains the natural river course and its streamflow.

Description of implementation

Effect horizon: long-term	**Costs:** very low, funded by flood damage repair package 2013
Initiator / responsible: City of Meissen	**Involved stakeholders:** City of Meissen, building department

Lessons-learned	
Main success factor: The measure requires just few time for planning and realisation as well as material, machines and manpower.	**Main challenge:** The measure is located in a special area of conservation (SAC), so restrictions were expected, but did not occur. The brook is accompanied by footpaths and hiking trails. To protect this infrastructure sustainably, a carefully considered planning of the stream course is necessary.
Synergies / beneficial aspects: This near-natural measure increases the ecological value of the surrounding environment and is well-accepted by local residents.	**Conflicts / constraints:** none

Key message to others starting with a similar task	Contact
If there is enough space, river streams should always follow their natural habitus and course. Just small investments are necessary to protect the natural stream course and their adjacent road and track structures on a long-term perspective.	City of Meissen, Municipal Building Office, Markt 1, 01662 Meissen E-Mail: stadtbauamt@stadt-meissen.de

Further information (in German)	Steffen Wackwitz (2015): Das Starkniederschlagsereignis in Meissen im Sommer 2014, in: WasserWirtschaft 9/2015, URL: https://www.springerprofessional.de/das-starkniederschlagsereignis-in-Meissen-im-sommer-2014/6110106, 13.11.2019.