



4th workshop of the working group 2 (WGII) « Hazards and disaster risk management in Mountains » of the Working Party on the Management of Mountain Watersheds (WPMMW) of the European Forestry Commission (EFC).

Factsheet Kesselbach-Valley

Torrent-ID: WLV-WB-102966

Catchment area: 3.5 km²

Receiving water course: River Traun

Torrent characteristics

Design event: 32.0 m³/s

Main process: debris flow

Bed load: 40 000 m³

Tributaries: Steinkogleckgraben, Kriegraben, Sulzgraben, Rauheckgraben, Scharlinggraben

Location: municipal border between Bad Ischl and Ebensee – Northern Limestone Alps (district Gmunden, state of Upper Austria)

Highest elevation: Hohe Schrott 1 839 m.a.sl.

Outlet altitude (Traun): 459 m.a.sl.

Altitude difference: 1 380 m.a.sl.

Aspect: west

Torrent length: approx. 800 m

Geology: dolomite, limestone, lateral moraine, scree material

Climate: Nordstau weather system, Atlantic influenced, high precipitation level

Precipitation: average annual precipitation: 1909 mm

maximum daily precipitation: 217mm, 12.09.1899

Vegetation: spruce-fir-beech forest, forest cover approx. 40 %, timberline 1600 m.a.sl.

Settlement: scattered settlement on the alluvial fan (3 residential houses, 2 farms)

Protective structures, afforestation measures

First measures in 1901 for the protection of the railway line and traffic route, supplementary project in 1911; several later improvements during the 20th century: methodical torrent control structures in combination with afforestation and soil bioengineering structures (eg. brushwood set)

Latest project: started in 1994, finished in 2016

Recent developments: debris flow events in 2002, 2010 and 2013 caused by heavy rainfall led to deep fluvial erosion in the upper catchment and debris accumulation on the alluvial fan

storm events (Kyrill, Emma, Paula) with high amount of windfall in 2007, 2008 (Dry) avalanche event in 2009

Urgent measures taken: adaptation of the running project 1994: inclined rake barrier

Next steps: follow-up project

Protected goods: permanent settlement, Austrian Federal Railway line, main supply lines for natural gas and electricity (OÖ Netz GmbH), state road B 145 "Salzkammergutstraße" => **high level of protection required due to importance of linear infrastructure and subsequently also accessibility of towns up the valley**