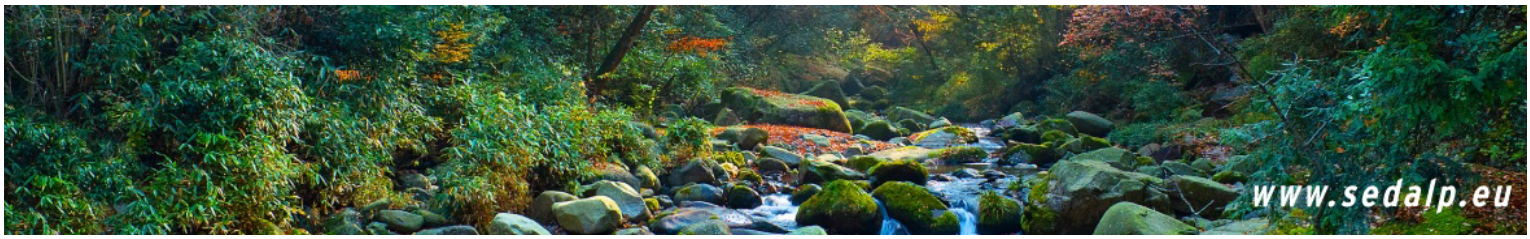

PP6 Bavarian Environment Agency - WP 5 - Monitoring stations

External Expert: Catholic University of Eichstaett-Ingolstadt - Chair of Physical Geography

Monitoring Station I – "Bibermühle"

a) General Catchment Characteristics

Geology: Limestone Alps with different lithology, Pleistocene deposits
Land-use: meadows and alluvial forest

b) Hydrology

Hydrology is strongly controlled by operation of the Sylvenstein reservoir, especially in case of high flood events.

c) General Description

Monitoring Station I – called "Bibermühle" because of its location near the mill Bibermühle - is located south of Bad Tölz between the villages Wiedmoos and Puchen and includes the distance between river kilometer 205.55 and 206.25.
Coordinates of the northern boundary of the monitoring site are: N 47°43'40.41'' – E 11°33'48.92''

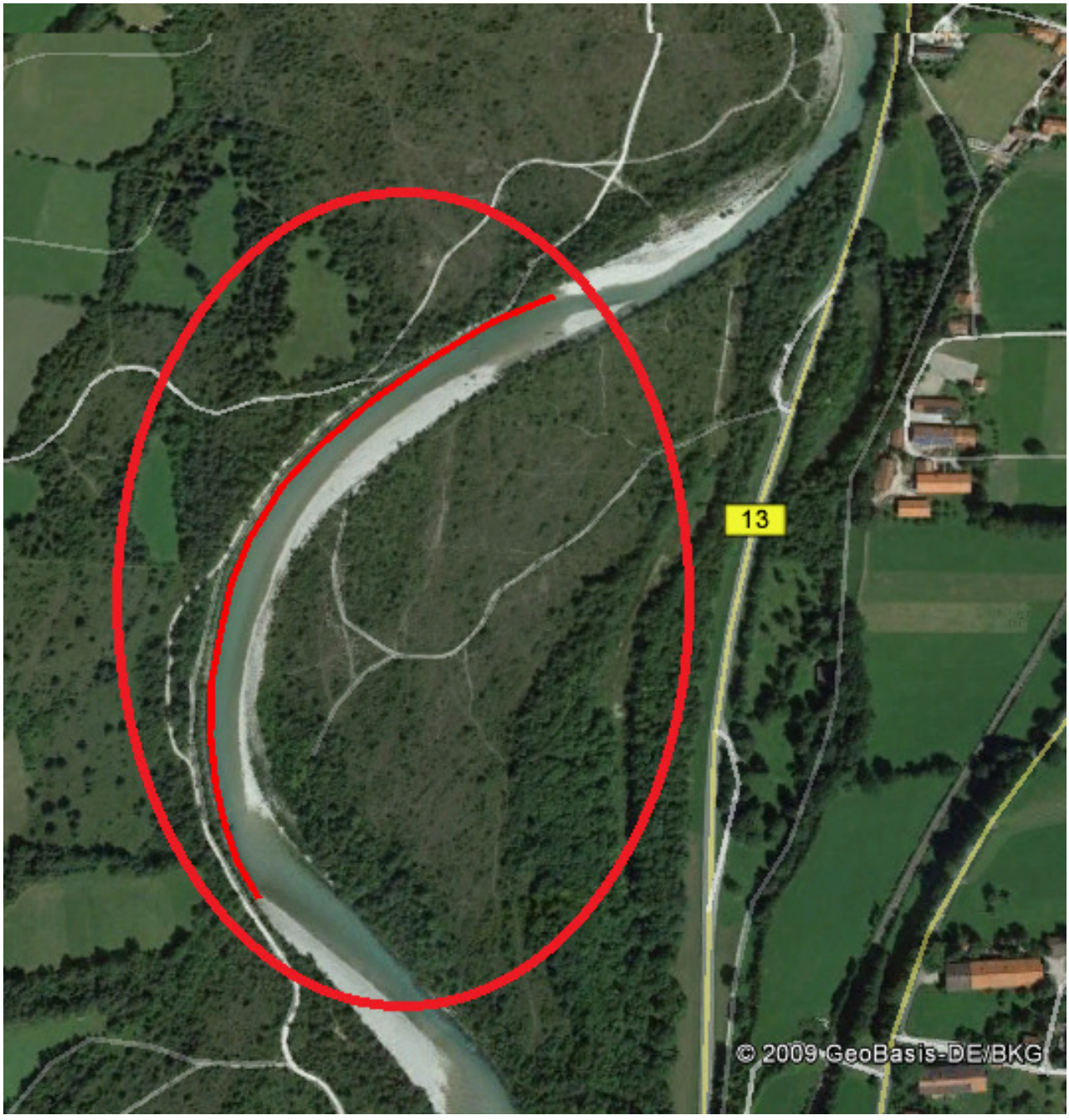

Figure 1: Overview "Bibermühle" and area of investigation (map based on Google Earth)

The map in Figure 1 gives an overview over the monitoring site and the red line marks the obstructed bank.

Figure 2: Bank obstruction and Isar near Bibermühle (Photo: panoramio.com – Gene666)

In winter 2013/14 the bank obstruction, which can be seen on Figure 2, is to be removed. The aim of the works conducted at this monitoring station is to analyse the effect on river morphology and the development of bank erosion along the river Isar.

d) Listing of applied Measurement Methods

- Transverse profiles (existing data from the LfU/WWA and own mappings via tachymeter and/or differential GPS)
- Discharge/deposit measurement (data from governmental climate stations)
- Terrestrial laser scanning (Riegl Z420i)
- Stereophotogrammetric analysis and repeat mapping based on aerial photos (UAV Falcon 8)

e) Listing of measured Parameters

- Transverse profiles (changes in sediment storage and water depth)
- Digital terrain models to quantify the changes in larger areas of the river bed
- Aerial photos for multitemporal information

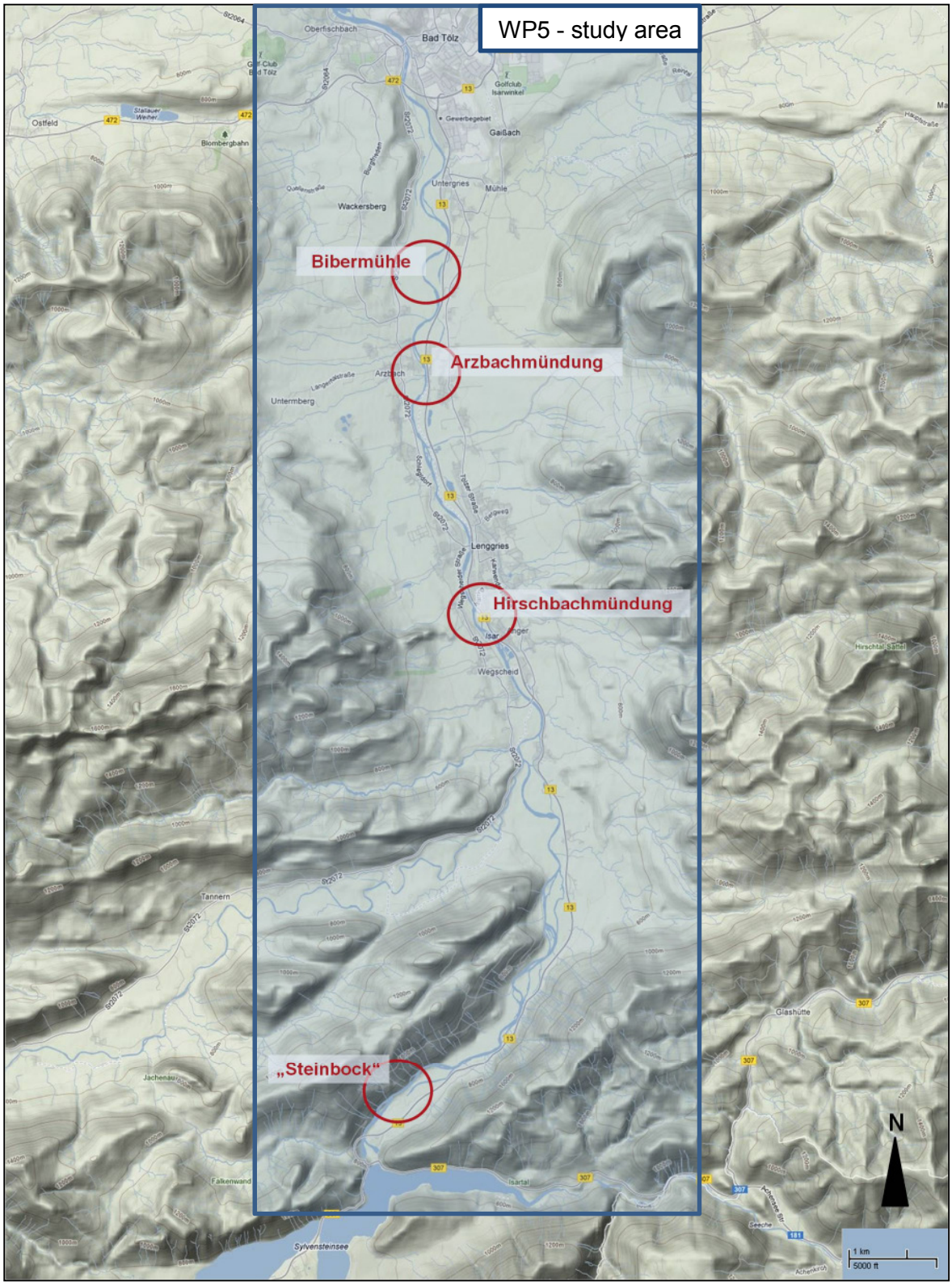

Figure 3: WP5-study area and monitoring stations along the river Isar (map based on Google Maps)