



Methods of Post Flood Field Investigation: Lessons learned from trial on Selščica Sora River, Slovenia

L. Marchi (1), E. Gaume (2), **V. Bain** (3) and HYDRATE TEAM.

(1) CNR IRPI, Corso Stati Uniti 4, 35127 Padova, Italy, (2) Laboratoire Central des Ponts et Chaussées, Nantes, France, (3) CERREVE, ENPC, 6-8 avenue Blaise Pascal, 77455 Marne-la-Valée, France (bainv@cereve.enpc.fr / Fax: +33 164153764)

Post flood event field investigation is carried out to understand the nature of the flood characteristics and what happened during the event with the aim of supporting better flood forecasting and flood risk assessment and management. A methodology for post flood field investigation was developed under the FLOODsite project. As part of the EC project HYDRATE, the methods have been tested in Slovenia, where there was widespread flash flooding on 18 September 2007. The field investigations focussed on the 150 km² Selščica Sora watershed to Železniki, which was one of the most severely affected areas. The work was carried out in partnership with the Železniki municipality and the Slovenian Environment Agency, ARSO. The field data collected included 24 cross section surveys, 13 witness interviews and geomorphological reconnaissance of key features. The collected data enabled peak discharge estimates and flood hydrographs to be reconstructed. Debris flow processes and the impact of large woody debris were investigated at selected locations. Specific peak discharge estimates range from 2 to 10 m³/s/km², supporting field observations that the magnitude of the flood and its impacts were highly spatially heterogeneous. Initial analyses of the rainfall-runoff processes show that the volume of effective rainfall appears to represent a small proportion of the total rainfall and that sub-surface flow was an important process during the event. The main lessons learned from the trial of the post flood field investigation method are that the proposed techniques and templates for data collection were appropriate, there are quick techniques for approximate cross section survey where a detailed survey is not necessary, working in partnership with local agencies can be

very productive and proposed management models were successful.