

Don HHSS: case study on overland flow

Introduction: Mapping was undertaken for the Don Catchment Rivers Trust (DCRT) Hidden Heritage Secret Streams (HHSS) to identify areas of risk / problems (hotspot maps) and inform opportunity mapping for natural flood management (NFM). By combining open-source datasets representing the three main aims of the HHSS NFM interventions of reducing diffuse pollution, slowing the flow and increasing the ecological landscape connectivity, opportunities are able to be prioritised. This document serves as a worked example for looking at overland flow.

Further information can be downloaded from the [main report](#).

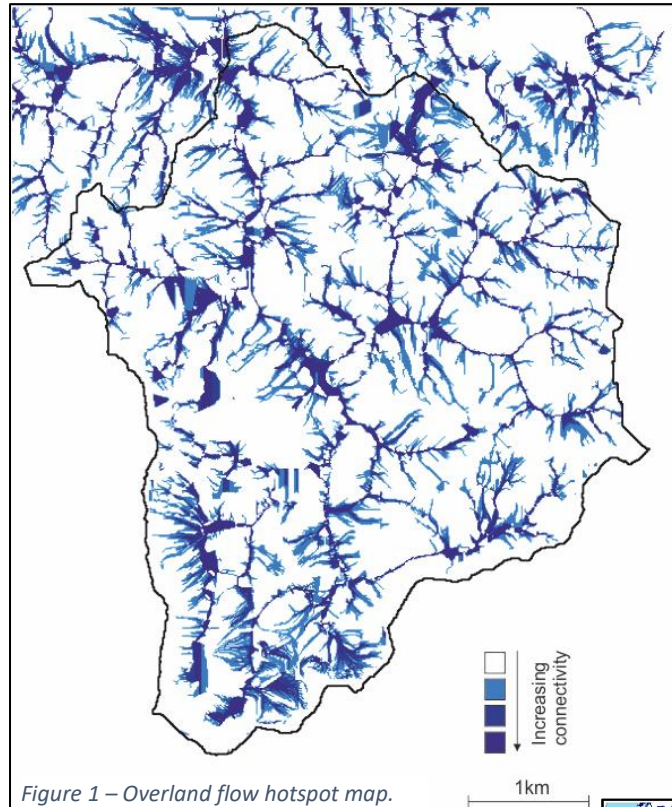


Figure 1 – Overland flow hotspot map.

Method: Briefly, SCIMAP¹ has been used to map overland flow for the study area. SCIMAP requires topographic information (digital elevation model), land use maps and rainfall information. Overland flow is calculated using the topographic and rainfall information. More information, including a step by step method can be downloaded from the [GIS method report](#).

Hotspot maps: Hotspot maps show problem areas. Within the context of overland flow, areas of risk are those that are capable of producing overland flow. Areas prone to overland flow contribute to in-stream flood risk. These areas are also capable of transporting diffuse pollution to the river course.

How to interpret the hotspot mapping: Figure 1 shows overland flow connectivity to the main channel network which ranges from low (light blue) to high (dark blue). Opportunities should focus on the areas of darker blue; these locations have a high potential of producing

overland flow, which could quickly enter the main river network.

Opportunity mapping: Opportunities in this sub-catchment are focused on areas of high overland connectivity (areas of dark blue). In the southern part of the catchment leaky woody dams have been proposed to help slow the flow, whereas in the centre of the catchment, ponds and scrapes have been proposed to slow the flow.

NB. Not all areas of opportunity are mapped on this figure, but those shown have been prioritised as they can achieve multiple benefits (see [main report](#)).

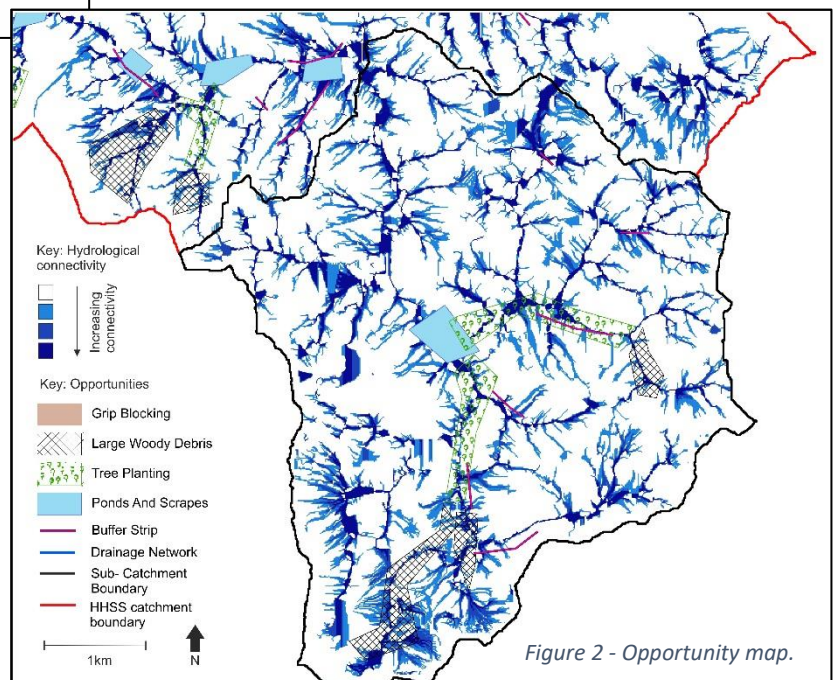


Figure 2 - Opportunity map.

¹ [More information on SCIMAP](#)