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## **The current opportunity and ecological functions of natural large woody debris in Irish rivers**

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Large Woody Debris (LWD) occurs naturally in forested streams. It can manifest as a single piece of wood or multiple accumulated pieces which form a debris dam (DD). Most LWD in waterways comes from riparian forest within the immediate surrounding area.

There is lack of research conducted on LWD in Irish rivers. Here we aim to address this by firstly identifying locations in Ireland where there is high potential/opportunity for the natural occurrence of LWD by mapping the location of riparian forests adjacent to small stream networks (1st and 2nd order streams). Second, we undertook a pilot study of two sites (old growth forest and Sika Spruce plantation) to quantify the style, abundance, and resilience of LWD.

Overall, our data suggests that 57,000 km length of Irish streams have the opportunity for the installation of leaky dams and 22% of those have riparian forests within 20 m of the channel. We find that 1. there is a lower LWD and DD abundance in Irish streams than studies in other similar international locations. 2. There is no significant difference in the LWD or DD abundance in streams between the old-growth broadleaf forest and the conifer plantation. 3. the function rating of LWD appears to be slightly higher in the old-growth broadleaf forests than conifer plantation though further data will need to be collected to confirm significance.

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