

Brashly Improving Water Quality

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Brash, a by-product from harvesting trees, can negatively impact watercourses.



When left on site, brash decomposes and exports dissolved organic carbon, phosphorous, and nitrogen into freshwater environments, potentially causing eutrophication and oxygen loss in water bodies.

The aim of my PhD is to understand how to avoid this and provide solutions, by investigating:

1. How can we best manage brash on site
2. Can we repurpose brash – by creating brash biochar water filtration material



Innovative brash management on sites may reduce negative impacts on watercourses, by enabling efficient brash removal and/or by keeping brash mats further away from watercourses.

By converting waste brash material into a new product – in this case a biochar based water filter – we could create a local, environmentally friendly way of 'cleaning' impacted watercourses.



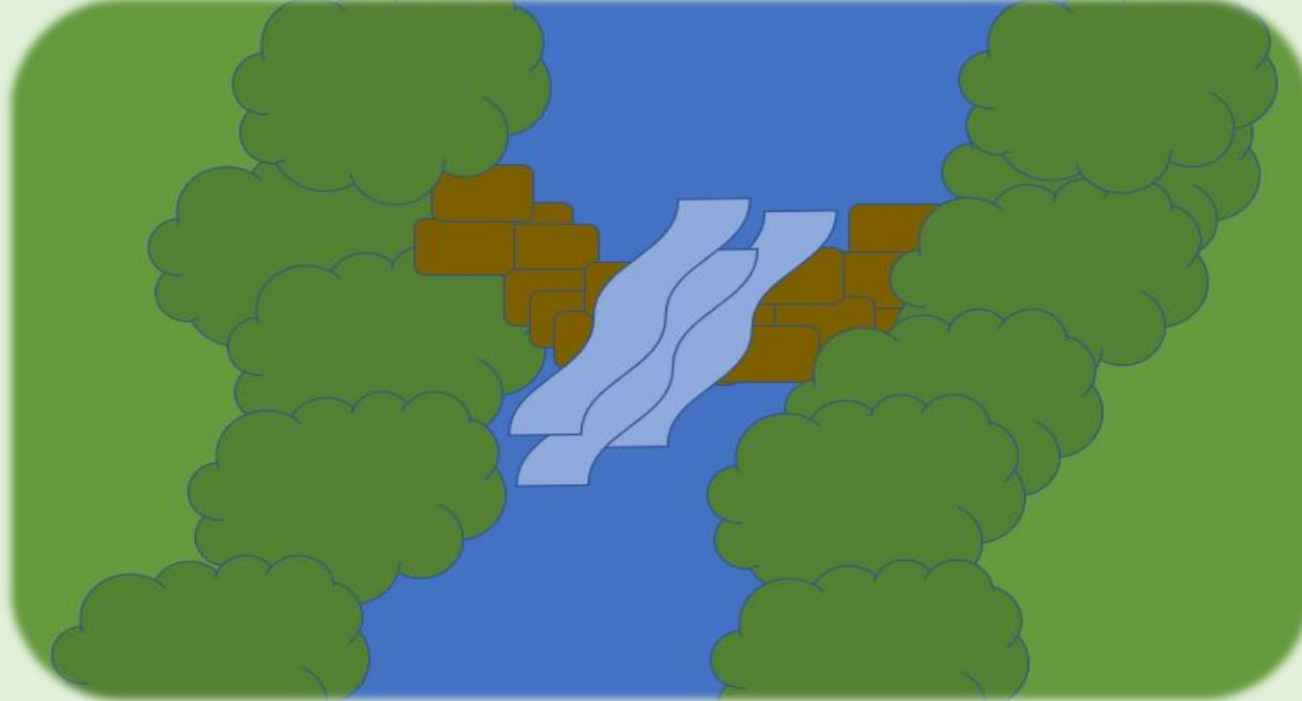
Conventional harvesting – many brash rows close together



Multiple tree rows felled (as one) and all brash rows kept further apart



Brash based biochar



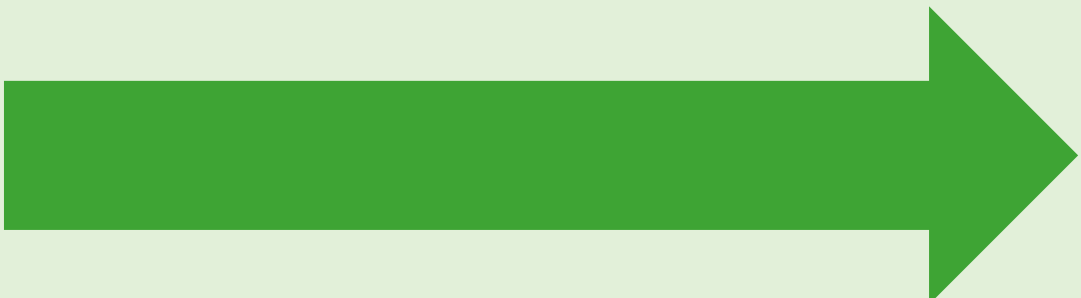
Brash based biochar filters used in watercourses to clean felling impacted water



Whole trees mulched



Ground smoothing



Restored healthy peatland – an ideal 'endpoint'

Methodology



Field monitoring for water quality



Water samples collected



Water table depths monitored



Impacts on water assessed



Multiple water quality tests

