Engineering and Physical Sciences Research Council Doctoral Landscape Award

PROJECT TITLE: Ecosystem Engineers: Developing Mechanistic Understanding into the Hydrological Impacts of Beaver Wetlands

Lead Supervisor: Dr Alan Puttock

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Project details: Ecosystem Engineers: Developing Mechanistic Understanding into the Hydrological Impacts of Beaver Wetlands The Eurasian beaver (Castor fiber) is being reintroduced to Great Britain after an absence of ~400 years. Beavers are well known as a keystone species and for their ecosystem engineering activities. Via the creation of structures such as dams, ponds and canals beavers can create extensive and complex wetlands. These wetlands have been shown to have a significant impact on hydrology, increasing water storage within the landscape and attenuating downstream flow regimes. This in turn has led to significant interest in whether beavers can act as a Nature-based Solution increasing resilience to the hydrological extremes of drought and flood.

However, there remains a lack of detailed understanding into the mechanisms by which beaver engineered structures such as dams function. There is a direct need for this information from policy makers and managers seeking to incorporate beaver wetlands into management and policy. Using a suite of approaches including hydrological and hydraulic models, flume experiments and field validation this PhD will seek to gain novel understanding of the mechanisms by which beaver engineering could change river systems.

Project specific entry requirements: A good undergraduate Honours degree (UK Upper Second Class Honours or equivalent) in a relevant field is essential. A Masters degree or relevant professional experience is highly desirable.

Potential PhD programme of study: PhD in Geography

Department: Geography

Location: CREWW Building

Please direct project specific enquiries to: Dr Alan Puttock (a.k.puttock@exeter.ac.uk)

Please ensure you read the entry requirements for the potential programme you are applying for.

To Apply for this project please click on the following link - **APPLY HERE**