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Ground penetrating radar investigations in Quebrada Montes, Lobitos, Peru

Lai Bun Lok¹, Diego Almendrades², Michael Alderson², Alejandro Pizarro², Andres Bustamante², and John Shi³

¹Lancaster University, Engineering, United Kingdom of Great Britain and Northern Ireland (l.lok@lancaster.ac.uk)

²EcoSwell Peru, Lobitos, Peru

³University of Glasgow, School of Multidisciplinary Studies, Glasgow, UK

The dry equatorial forests in the north-western coast of Peru suffer from acute water stress and man-driven deforestation. Recent estimates indicate that the forests have reduced to approximately 10% of their original size. There are local reforestation efforts currently underway, for example to prevent the extinction of native species such as the Peruvian Plantcutter songbird (*Phytotoma raimondii*). However, irrigation needed to support such efforts is severely challenged by the issues of water scarcity in the region. These adverse effects are also being experienced at a local level by the nearby rural community in Lobitos.

The groundwater resources in Lobitos could potentially offer a solution to the above issues for the local community. However, a scientifically informed and sustainable method of mapping and utilising this resource is needed. To provide supporting evidence in this effort, an extensive ground penetrating radar survey was conducted using a commercial 80 MHz impulse radar to characterise the near subsurface within a 90 hectare plot called Ecológica Tallán, which is part of a natural dry water channel in Quebrada Montes and declared as an important conservation area for the district.

Through a pilot study between Lancaster University, EcoSwell Peru and University of Glasgow, we report on initial results from our ground penetrating radar survey to provide a better understanding of the subsurface characteristics in Quebrada Montes, Lobitos.