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Soil Organic Carbon assessment on two different forest management

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Soils from arid and semiarid zones are characterized by a low organic matter content from scarce plant biomass and it has been proposed that these soils have a big capacity to carbon sequestration. According to IPCC ARS WG2 (2014) report and WG3 draft, increase carbon storage in terrestrial ecosystems has been identified such a potential tool for mitigation and adaptation to climate change. In ecological restoration context improve carbon sequestration is considered a management option with multiple benefits (win-win-win). Our work aims to analyze how the recently developed restoration techniques contributed to increases in terrestial ecosystem carbon storage. Two restoration techniques carried out in the last years have been evaluated. The study was carried out in 6 localities in Valencian Community (E Spain) and organic horizons of two different restoration techniques were evaluated; slash brush and thinning Aleppo pine stands. For each technique, carbon stock and its physical and chemical stability has been analysed. Preliminary results point out restoration zones acts as carbon sink due to (1) the relevant necromass input produced by slash brush increases C stock on the topsoil ;(2) Thinning increase carbon accumulation in vegetation.