

# The inadequacy of current carbon storage assessment methods for rewilding: A Knepp Estate case study

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Article suggests that (at Knepp) browsed rewilding and scrubby woodland (i.e. wild apple pastures and regenerating wood pastures) probably have more carbon in the soil than the models expect.

Browsing caused the scrub to become thorny and multi-stemmed ... browsing caused:

*"less efficient resource allocation to vertical growth and more to defence against herbivores or pathogens. The absence of a significant correlation between dbh and h in woodland trees below the browse line indicates a possible change in growth patterns. Unlike blackthorn and hawthorn which have a naturally thorny strategy, oak trees do not naturally grow thorns. However, they have been known to exhibit thorny traits when subjected to herbivore pressures—similar to that of oak savannas reported in Grove and Rackham (2001). The trees produce thorns and allocate tissue to defend against browsing (Perkovich & Ward, 2021b), leading to a population of smaller trees below 2.5 m until browsing pressure is limited or defence mechanisms allow growth above the browse line (Vera, 2000).*

Interesting that wild apples aren't the only ones that become spiky in a wild situation!

They also found more roots than they expected;

*"a root: shoot ratio of 1.07. This ratio is higher than those reported for scrubland (0.32) by Mokany et al. (2006), and temperate hedgerows (0.94) by Axe et al. (2017). .. i.e. more carbon stored in the soil than than forestry models predict."*