

Decomposition of *Sarcocornia quinqueflora* on an Iron-Smelting Slag Substrate

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Abstract

Restoration of salt marsh habitat is becoming more common in Australia. However, little is known about restoring salt marshes on substrates contaminated by slag from iron smelting, which could affect microbial activity. This study, conducted near Newcastle, Australia, compares initial C, N, and P mass and decomposition of *Sarcocornia quinqueflora* (glasswort or samphire) from (1) a restoration site with a slag-and-mud substrate, (2) the restoration site's donor marsh, and (3) other nearby sites sampled to provide information on background variability. A litterbag technique with a 180-day incubation period was used to quantify total, C, N, and P mass losses from decomposition. Although there were significant differences between sites in initial N mass and loss of C and P over the period of our study, the presence of slag did not slow decomposition rates as measured using litterbags. Further work is needed to assess other aspects of wetland structure and function on slag substrates.

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