May 6th, 2019

Dear *Science* Editors

We are pleased to submit the manuscript entitled “Something for nothing: a synthesis of active versus passive restoration in drylands”, co-authored by M. Florencia Miguel, H. Scott Butterfield and Christopher J. Lortie, to be considered for publication as a Report manuscript in *Science*.

The increasing transformation of lands and its impacts on biodiversity and humanity demand concrete actions to remediate degradation. Restoration is a complex discipline that allows for the recovery of degraded ecosystems and incentives the development of collaborative projects among researchers, stakeholders and other actors from society. Dryland ecosystems are exemplary case study to evaluate the success of restoration strategies, these systems are biodiversity hotspots threatened by land conversion (e.g. to agriculture), land degradation, and climate change. In this manuscript we performed a formal synthesis including meta-analyses to contrast active versus passive restoration strategies and specific techniques to examine restoration outcomes in drylands globally.

This synthesis includes more than 1400 independent observations from 19 countries, described almost 25 interventions, and examined outcomes associated with habitats, soils, vegetation and animals. Active restoration practices yielded significant positive outcomes for soils, vegetation, and wildlife. Passive restoration was a viable option only for limited recovery of vegetation but not for soils. These findings suggest that direct interventions are critical in many ecosystems especially those experiencing severe anthropogenic pressures and environmental stress. We consider the relevance of our findings and the fact that the manuscript includes a big amount of supporting data should make our submission of interest to a broad audience.

We have no similar work submitted, in revision, or accepted for publication in any other journal, and this is the first submission we do of these results. Support data and codes will be available at Zenodo.

We appreciate your assistance and look forward to hearing from you.

Sincerely,

Dr. M. Florencia Miguel on behalf of all authors.

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