**Supplementary information**

**Title**

Something for nothing: a synthesis of active versus passive restoration in drylands

**Authors**

M. Florencia Miguel1\*, H. Scott Butterfield2, Christopher J. Lortie3

\*Correspondence to: fmiguel@mendoza-conicet.gob.ar

**Supplementary Fig. 1.** Disturbances reported in dryland ecosystems globally and the restoration strategy implemented, active or passive.The *y*- axis represents the frequency of studies that reported each disturbance. Red represents the frequency of studies that applied active restoration practices while blue represents the frequency of those studies using passive recovery practices.

Imagen que contiene captura de pantalla

Descripción generada automáticamente

**Supplementary Fig. 2.** PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) report of a meta-analysis comparing active versus passive restoration strategies, and individual practices for restoration in dryland ecosystems globally.

Imagen que contiene captura de pantalla

Descripción generada automáticamente

**Supplementary Table 1.** List of restoration practices, outcomes and response variables included in a meta-analysis comparing active versus passive restoration strategies in dryland ecosystems globally. The outcomes listed describe target goals from each restoration practice. Sample size indicates the number of observations and data entries obtained for each restoration practice from the studies included in the meta-analysis (n = 40).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Restoration strategy** | **Category of Practices** | **Outcomes** | **Practices** | **Response variables** | **Sample size** |
| Active | soil | habitat | carbon addition, topsoil removal, seeding | microbial abundance; plant biomass | 45 |
| habitat | carbon amendment | moss cover; soil nutrients content | 27 |
| soil | fertilization, bio stimulants, seeding | nutrients content and plant biomass | 48 |
| vegetation | mycorrhizal inoculation | soil nutrients content and soil properties | 128 |
| vegetation | habitat | burning, mowing | soil nutrients content and soil properties | 24 |
| vegetation | mechanical disturbance, seeding | plant cover and density | 4 |
| habitat | mowing | soil nutrients content and plant richness | 3 |
| habitat | planting | plant biomass, density, cover, diversity and richness; soil nutrients | 369 |
| vegetation | planting | plant height and cover; invertebrate and lizard abundance, diversity, dominance, evenness and richness | 26 |
| soil | planting | soil nutrients content and soil properties | 84 |
| animals | planting | invertebrate abundance, diversity and richness; soil properties; plant cover, density, height and richness | 24 |
| vegetation | seeding | plant cover and density; seedling emergence and establishment | 44 |
| soil | seeding | soil nutrients content and soil properties | 117 |
| vegetation | seeding and ripping | plant cover and abundance | 12 |
| habitat | seeding, cutting, grazing treatments | plant cover and richness | 2 |
| habitat | seeding, gypsum and organic mulch | soil properties; seedling emergence and surviving plants | 9 |
| vegetation | seeding, irrigation | seedling emergence | 7 |
| habitat | seeding, mowing and herbicide, mulching | plant cover and richness; soil nutrients content and soil properties | 18 |
| vegetation | seeding, mulching, weeding | plant cover | 6 |
| habitat | seeding, planting | plant evenness, diversity and richness; floristic index | 15 |
| vegetation | seeding, safe sites for seeds, fencing | plant cover and biomass | 8 |
| vegetation | seeding, soil tilling, fertilization | plant biomass | 7 |
| water supplementation | vegetation | seeding, irrigation | plant cover, abundance, biomass, density and survival | 63 |
| habitat | water supply | plant biomass, density, cover, evenness, productivity and richness | 12 |
| Passive | grazing exclusion | vegetation | fencing | plant height, cover and diversity | 21 |
| vegetation | grazing exclusion | plant height, cover, diversity, biomass and richness | 8 |
| soil | soil | mycorrhizal recovery | microbial richness and density | 6 |
| soil | natural recovery | soil nutrients content and soil properties | 198 |
| vegetation | habitat | facilitation | soil nutrients content and soil properties; plant survival, biomass, height, width, abundance, and richness | 59 |
| habitat | natural recovery | soil nutrients content and soil properties | 30 |
| vegetation | natural recovery | plant openness, frequency and richness | 4 |
| habitat | fencing | plant biomass, evenness, cover, density, diversity, height and richness; soil nutrients content and soil properties | 15 |
| vegetation | grazing exclusion | plant cover, density, height, biomass and richness | 17 |