

**Case Study Details**

Study Site: **15 Guadiamar**  
Country: **Spain**  
Soil Threat: **Soil contamination**  
Partner: **19, IRNAS-CSIC**

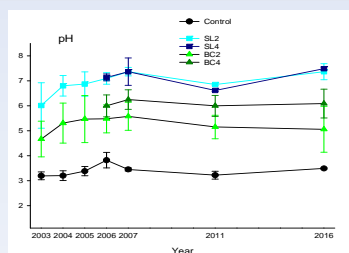
# Impact of measures to remediate soil contamination and provide ecosystem services

T. Marañón, P. Madejón, M.T. Domínguez, M. Gil-Martínez,  
C. M. Navarro-Fernández, F. Cabrera, E. Madejón & J.M. Murillo

## WP6 - Effects of measures

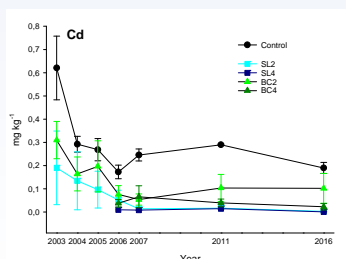
### (A) Amendment addition

- Change of soil property: Increase of pH



Temporal changes in soil pH and CaCl<sub>2</sub>-extractable Cd, in the 0–15 cm (2003 – 2016).

- Effect on soil threat: decrease of bioavailability of trace elements

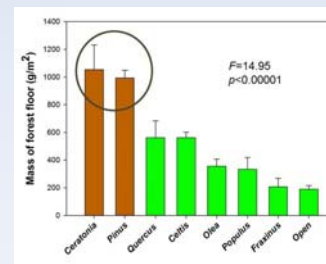
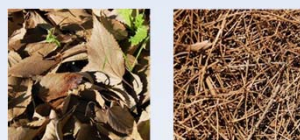


Control = non-amended control;  
SL2 = sugar beet lime applications in 2002 and 2003;  
SL4 = SL applications in 2002, 2003, 2005 and 2006;  
BC2 = biosolid compost applications in 2002 and 2003;  
BC4 = BC applications in 2002, 2003, 2005 and 2006.

### (B) Tree plantation

- Change of soil property: increase of organic matter

#### Forest floor mass

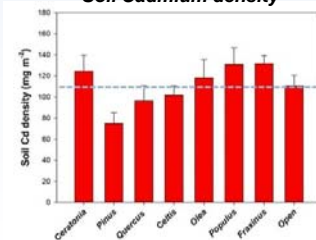


Differences between seven tree species in accumulation of forest floor mass and soil carbon underneath.

- Effect on soil threat: decrease of bioavailability of trace elements

Differences between seven tree species in phytostabilization of soil trace elements.

#### Soil Cadmium density

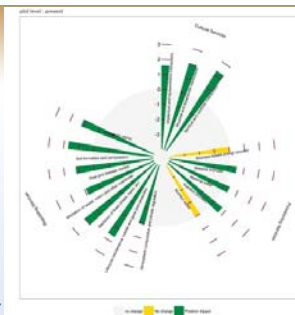
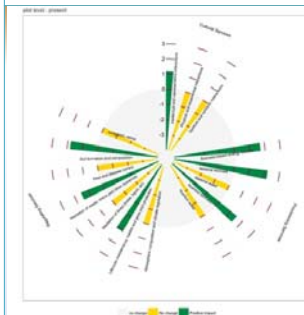


## WP7.1 - Provision of ecosystem services

The impact of different measures (amendments addition and tree plantation) on soil properties and indicators have been evaluated to know how they affect the ecosystem services.

### Amendment addition

### Tree plantation



## Stakeholder involvement

Stakeholders selected and evaluated the amendment types and the tree species at the Second RE CARE Participatory Workshop.



## Dissemination activities

- Collaboration on soil biodiversity with **Prof. Mark Tibbett** (University of Reading), and RE CARE partner 25.
- Visits to the study area and experimental plots from Master students of the University of Seville, and colleagues from the University of Córdoba.



## Other dissemination activities

- Several communications in the XIV MEDECOS & XIII AEET meeting. Human driven scenarios for evolutionary and ecological changes (Seville, Spain).
- 5th International Ecosummit. Ecological sustainability. Engineering change (Montpellier, France).
- Symposium LIFE 2016. New trends and challenges in the remediation of contaminated soils (Madrid).
- Integrated Biology PhD programme conference (Seville, Spain).

