Pons P, Rost J, Tobella C, Puig-Gironès R, Bas JM, Franch M, Mauri E (2020).
**Towards better practices of salvage logging for reducing the ecosystem impacts in Mediterranean burned forests**
iForest – Biogeosciences and Forestry – doi: 10.3832/ifor3380-013

## Supplementary Material

**Tab. S1 -** List of ecological indicators of soil, vegetation, wood, arthropods and vertebrates monitored in the study area, with the main aim of testing differences between postfire treatments and across time. These are indicators based on raw data, more elaborared indices will be also used.

| Type | Subtype | Field method | Indicator |
|---|---|---|---|
| Soil | Physical properties | Soil samples | Range of granulometries |
| | | | Dominant granulometry |
| | | | Range of soil densities |
| | | | Average soil density |
| | Chemical properties | Soil samples | Range of soil pH ($H_2O$) |
| | | | Average soil pH ($H_2O$) |
| | | | Range of soil pH (KCl) |
| | | | Average soil pH (KCl) |
| | Biological activity | Soil samples | Range of soil organic carbon content |
| | | | Average soil organic carbon content |
| | | | Range of soil nitrogen content |
| | | | Average soil nitrogen content |
| | | | Range of soil phosphorus content |
| | | | Average soil phosphorus content |
| | | | Range of soil respiration |
| | | | Average soil respiration |
| | Erosion | 30-m line transects | Range of soil cover types |
| | | | Dominant soil cover type |
| | | | Visual signs of erosion: range of categories |
| | | | Visual signs of erosion: maximum category |
| | | | Visual signs of erosion: dominant category |
| | Compaction | Single ring infiltrometer | Range of speed of water infiltration into the soil |
| | | | Average speed of water infiltration into the soil |
| | | Penetrometer | Range of resistances of soil to vertical penetration |
| | | | Average resistance of soil to vertical penetration |
| Vegetation | Understorey regeneration | 30-m line transects | Foliage cover |
| | | | Foliage cover of resprouters |
| | | | Foliage cover of obligate seeders |
| | | | Foliage cover per plant life-forms |
| | | | Foliage cover of invasive species |
| | | | Total number of plant species |
| | | | Number of resprouter species |
| | | | Number of obligate seeder species |
| | | | Number of species per plant life-forms |

| Type | Subtype | Field method | Indicator |
|---|---|---|---|
| | | | Number of invasive species |
| | | | Average height of plants |
| | | | Maximum height of plants |
| | Damage to trees | Forest inventories | Range of canopy fire severity categories |
| | | | Dominant canopy fire severity category |
| | | | Visual signs of xylophagous insects |
| | Tree regeneration | Forest inventories | Range of tree heights |
| | | | Average tree height |
| | | | Range of tree volumes |
| | | | Average tree volume |
| | | Photography | Percentage of canopy cover |
| | General cover | Drone photogrammetry | Green Leaf Index |
| | | | Green Chromatic Coordinate index |
| | | | Normalised Difference Vegetation Index |
| | | | Percentage of bare ground |
| Wood | Timber | Forest inventories | Volume of existing wood before logging |
| | | | Volume of harvested wood for sawmill |
| | | | Volume of harvested wood for biomass |
| | | | Volume of harvested wood for firewood |
| | | | Volume of retained wood from living trees |
| | Deadwood | Forest inventories | Percentage cover of scattered woody debris |
| | | | Volume of snags and logs |
| | | Drone photogrammetry | Number of piles of branches |
| | | | Area covered by piles of branches |
| | | | Number of standing dead trees |
| | | | Number of fallen dead trees |
| Arthropods | Ants | Pitfall traps | Ant total relative abundance |
| | | | Ant relative abundance per functional group |
| | | | Ant species richness |
| | | | Ant species richness per functional group |
| | Spiders | Pitfall traps | Spider total relative abundance |
| | | | Spider relative abundance per functional group |
| | | | Spider species richness |
| | | | Spider species richness per functional group |
| | Beetles | Flight traps | Saproxylic beetles total relative abundance |
| | | | Saproxylic beetles relative abundance per functional group |
| | | | Saproxylic beetles species richness |
| | | | Saproxylic beetles species richness per functional group |
| | | | Non-saproxylic beetles total relative abundance |

| Type | Subtype | Field method | Indicator |
|---|---|---|---|
| | | | Non-saproxylic beetles relative abundance per functional group |
| | | | Non-aproxylic beetles species richness |
| | | | Non-saproxylic beetles species richness per functional group |
| Vertebrates | Birds | Line transect counts | Bird total relative abundance |
| | | | Bird species richness |
| | | | Bird relative abundance per feeding guild |
| | | | Bird species richness per feeding guild |
| | | Focal-animal method | Bird behaviour in piles of branches |
| | Small vertebrates | Camera traps | Use of piles of branches by animals |
| | Mammals | Camera traps | Mammal relative occurrence |
| | | | Mammal species richness |
| | | Seed removal trials | Number of acorns removed by rodents |
| | | | Distance of acorns removed by rodents |
| | | | Fate of acorns removed by rodents |

**Tab. S2** - Levels of variation and potential levels of comparison of ecological indicators used in the study.

| **Levels of comparison** | **Categories** | | |
|---|---|---|---|
| Treatment | Non-intervention (NI) | Sustainable logging (SL) | Conventional logging (CL) |
| Plot | Plot 1 to 12 | | |
| NI plots zonation | Single zone | | |
| SL plots zonation | Machinery tracks | Sites outsite tracks | |
| CL plots zonation | Little trampled areas | Severely trampled areas | |
| Invertebrate microhabitat | Open ground | Under shrub resprouts | Under piles of branches |
| Vertebrate microhabitat (SL) | In piles of branches | Outside piles of branches | |