



## Using UAV photogrammetric data to support multi-objective forest management plans

### Introduction

In the Italian and European context, there is an increasing demand for forest and agroforestry companies to focus on multifunctionality. Furthermore, in recent years, the possibility of certifying some ecosystem services and multifunctional services has emerged. The first step toward certification is to have a sustainable forest management plan that details these aspects.

In the case of the OG SURF project, to obtain spatial data covering the entire forested areas within the project intervention zones, a fixed-wing UAV was used to derive some of the multifunctionality indicators. High-resolution orthophotos, for instance, were utilized to map forest types linked to biodiversity and conservation. Infrared orthophotos were employed to identify the presence of standing deadwood, which serves as a proxy for biodiversity analysis related, for example, to saproxylic insects. Additionally, roads and trails were mapped to identify potential tourist routes. The UAV has enabled the accurate mapping of some of these indicators, which are subsequently integrated into the decision support system. These data can be used to develop multifunctional and multi-objective management plans.

### Lessons learned

The cost of the UAV used for mapping is indeed quite high, but companies have the option to collaborate with service providers rather than purchasing one themselves. The generated data, however, are crucial for developing multi-objective management plans. Compared to traditional survey methods, these data save time in terms of fieldwork. The use of this data also provides standardized information across the entire area, which is valuable for working towards certification of ecosystem services.

## For further information contact









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## Further information

<https://www.go-surf.it/>



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