

- Forest managers, public administrations, nature conservation and research institutions can directly benefit from MySustainableForest products.
- Remotely sensed data provides low cost and regular forest information for efficiently monitoring forest biodiversity.
- The *Biodiversity* product assesses the tree biodiversity of forest communities using a set of species diversity and evenness indices.



The product in a nutshell

With the *Biodiversity* product you can:

- Assess the landscape ecology of your forest.
- Plan ad-hoc ecosystem restoration plans to revert forest biodiversity decline.
- Monitor regularly the biodiversity levels of your forest.
- Complete your forest biodiversity assessment with the MySustainableForest product *Habitat Fragmentation*.

The challenge

Forest biodiversity refers to all life forms found in forested areas and their ecological roles. Currently, climate change is the third most important driver of biodiversity loss. Halting biodiversity decline remains a major worldwide challenge, for forest managers, public administrations, and research institutions alike. Reliable data on forest biodiversity status are needed for managers to plan ahead ecosystem restorations and mitigate the risks related to natural disturbances.

To date, biodiversity indicators are obtained through substantial field works at sub-stand level. Nonetheless, public administrations and research institutions would benefit in having regular estimation of forest biodiversity indicators, which can allow them to plan ad-hoc biodiversity loss mitigation measures.



MySustainableForest solution

MySustainableForest (MSF) is a geo-information portfolio of products aiming to support silvicultural activities and sustainable forest management. The products are based on satellite data, LiDAR and sonic non-invasive measurements.

The *Biodiversity* product analyses, calculates, and represents the inner biodiversity of forest communities through spatial distribution indices that account for dominant species diversity (i.e.: Simpson Index, Shannon-Wiener Index, and Pielou Index). Higher index values represent more biodiverse forests.

To derive this product, the *Main Forest Types* product is a necessary input. The main forest type probability output (see User Guide #1) is used here to take into account the intrinsic characteristics of the forest. For example, a mixed forest is by definition more biodiverse than a monospecific forest plantation. MySustainableForest platform uses an algorithm that employs different observation scales using several moving window sizes to calculate biodiversity indices at specific times. The quality, coherence, and accuracy of the forest types input data provided and *Main Forest Types* product are necessary to obtain an accurate *Biodiversity* map. The accuracy of the *Main Forest Types* product typically ranges between 85-90%.

What do I need to provide?

The user has to provide only the geo-location of the **Area of Interest (AOI)**, through coordinates or a GIS vector layer.

What will I obtain?

The *Biodiversity* product will provide you three maps which classifies the forest biodiversity of your AOI using three species diversity indices.

The classification files are accessible through the [MySustainableForest platform](#). The information can be downloaded to any OGC standard GIS viewer with a Web Map Service. Product files are metadated.

Full technical specifications are available at MySustainableForest [website](#).



Image 1 (above). Assessing the degree of biodiversity gives useful information on ecosystem heterogeneity to mitigate their decline.

Map 2 (below). Biodiversity product overview. Sample mapping of Dubravos miškas, Lithuania.

