



Deadwood assessment protocol

The protocol is based on observational indicators used in forest ecology and biodiversity monitoring, adapted for citizen science to allow reliable recording without specialised equipment.



20' -40' (average time to complete activity, depending on the presence and amount of deadwood)

Introduction



Deadwood is an essential part of forest ecosystems. Fallen trunks, branches, and standing dead trees provide habitat for insects, fungi, birds, mosses, and many other organisms. As wood slowly decomposes, it also plays an important role in the circulation of nutrients and in the formation of soil.

In managed forests, deadwood is often removed, while in more natural stands it can accumulate and create a wide range of microhabitats. Observing the presence and condition of deadwood helps to understand the ecological quality of a forest and its capacity to support biodiversity.

This protocol guides a simple observation of deadwood near the selected tree or within the surrounding forest area.

When & Where to do it



Deadwood can be observed at any time of the year.

Choose an area with a radius of approximately 50 meters, where fallen branches, logs, or standing dead trees are visible.

You may carry out this observation near the tree selected in the previous protocols.

What you need

Mobile phone with the app

Notebook (optional)

Camera (optional)

Measuring tape (optional)

Careful observation is enough.



What counts as deadwood

Deadwood can include:

Fallen trunks

Fallen branches

Standing dead trees

Broken tops

Large pieces of decaying wood on the ground

Very small twigs do not need to be recorded!



Step-by-step observation



Look around the selected tree or within the selected area of the forest.

1. Firstly, observe for any presence of deadwood

None / little / moderate / a lot

2. What Type of deadwood you see?

Standing dead tree / Fallen trunk / Fallen branches / Stump / Decomposing wood in the soil

3. Notice the stage of decomposition (simple)

Try to estimate the condition of the wood:

Fresh : bark intact, hard wood

Partly decomposed – bark loose, wood softer

Strongly decomposed : wood soft, breaking easily, covered by moss or fungi



You do not need to be precise.

Choose the stage that seems closest.

4. Signs of life

Look for:

Fungi

Insects or holes

Moss or lichens

Plants growing on the wood

Animal traces



Deadwood is often full of life!

Indicators to record

Using the app and record the following:

Presence of deadwood

Type of deadwood

Stage of decomposition

Visible signs of organisms



Photos can be added if possible.



Data entry in the App

The mobile application guides the observation and provides simple categories for recording the amount and condition of deadwood.

Observations collected by participants can help describe how deadwood is distributed in different forest types.



Methodological background

The quantity and diversity of deadwood are important indicators in forest ecology. This protocol is inspired by methods used in forest biodiversity assessment and habitat monitoring. Standing and fallen deadwood, as well as different stages of decomposition, are recognised as key indicators of ecological continuity and habitat quality in forest ecosystems.

Many specialised species depend on decaying wood, and different stages of decomposition support different communities of organisms. Deadwood also stores carbon, retains moisture, and contributes to soil formation. For these reasons, the presence of deadwood is often used to assess biodiversity potential and ecological continuity in forest stands.

The simplified observation method used here focuses on recognising types of deadwood, decay stages, and visible signs of biological activity. The protocol is adapted for educational and citizen science use, while reflecting approaches applied in biodiversity monitoring and conservation studies.

Based on the sources:



ANF. Großmann, J. & Carlson, L. 2021. Erfassung biodiversitäts-relevanter Waldstrukturen an Einzelbäumen und Baumgruppen: Methodenleitfaden zur systematischen Erhebung von Baum-Mikrohabitaten und Totholz. Forstliche Versuchs- und Forschungsanstalt Baden-Württemberg. DOI: 10.6094/UNIFR/193828

Humphrey, J. & Bailey, S. (2012). Managing deadwood in forests and woodlands. Forestry Commission Practice Guide. Forestry Commission, Edinburgh.

Lassauce, A., Paillet, Y., Jactel, H., Bouget, C. (2011). Deadwood as a surrogate for forest biodiversity: Meta-analysis of correlations between deadwood volume and species richness of saproxylic organisms. *Ecological Indicators*, 11(5), 1027–1039. <https://doi.org/10.1016/j.ecolind.2011.02.004>

STATEC (2025). La biodiversité en chiffres – Édition 2025. Institut national de la statistique et des études économiques, Luxembourg. Available at: <https://statistiques.lu/> STATEC publication.

