What metadata should be used to create a database for ecological restoration monitoring data ?

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Résumé

The erosion of biodiversity is unprecedented, and one of the ways of mitigating it is to initiate ecological restoration actions. The effectiveness of these actions, often carried out as part of voluntary initiatives or in response to regulatory requirements, is best assessed on the basis of ecological monitoring data. However, attempts to provide feedback from these data are coming up against difficulties throughout the world, making it impossible to distinguish natural changes in the environment from changes linked to fluctuations of the conditions of acquisition of the data. Part of the problem is related to data banking. Once the monitoring data has been acquired, it is stored in a database. The managers responsible for monitoring generally have their own databases built on the models of national and international databases which have a data and/or metadata standard. Metadata, which provides contextual information on data acquisition and compilation, is essential for analysing the data and taking into account any biases in acquisition. A descriptive analysis of 3 reference (national and international) data and metadata standards was carried out: DarwinCore for the GBIF database, Ecological Metadata Language (EML) for scientific databases and the SINP standard for the GeoNature tool; we showed that (i) these standards are generalist standards used to describe broad-spectrum biological and ecological data, (ii) these standards are not calibrated for the specific case of ecological monitoring data and, (iii) they have insufficient fields for a detailed description of ecological monitoring data. We suggest a list of descriptive information essential to the ecological monitoring database in the case of ecological restoration. This information specifically targets the data acquisition conditions (meteorology, observer detection capacity, protocol application conditions, etc.).

Mots-Clés: Ecological restoration, biodiversity monitoring, data and metadata standard

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