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A COMMON DATA STANDARD FOR LIFE-HISTORY TRAITS OF THE NORTHWEST EUROPEAN FLORA

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EXTENDED ABSTRACT

To provide an open European-wide database of plant traits relevant for the conservation and sustainable use of biodiversity in changing European landscapes, the LEDA Traitbase project was recently started. Its aim is to support different users including land use managers (from farmers to landscape planners), environmental agencies, policy makers, and researchers with a tool in their respective work. The central part of the tool will be a trait database (the Traitbase) that can be coupled to consumer-tailored spatial sites and habitat information and will be accessible through a user-friendly WWW interface for data retrieval and data mining. Starting with 3000 species of the flora of Northwest Europe, the database will be built from scattered national database initiatives, literature sources and measurements, focussing on over 20 plant traits that describe three key features of plant dynamics: *persistence*, *regeneration* and *dispersability*.
An important design step in the LEDA Traitbase is the development of a data standard that allows transferring information from existing databases and literature into the new database. It must also effectively support analyses for planning, nature conservation and restoration instruments.
To achieve these goals, the data standard provides definitions for attributes for plant traits, habitat types, geographical references, measurement methods, bibliographic references, and further specifications. The trait attributes were chosen to provide information for a broad spectrum of uses while at the same time ensuring that trait data is not too sparse to present a sound and reliable basis for statistical evaluation.
Other aspects taken into account include the definition of mappings between attribute domains to accommodate for data of different level of detail, laying down permitted types of aggregation, fixing requirements upon data quality – both from the database application domain and computational point of view – and devising procedures for coping with data of different quality.
A precise definition of mappings between domains of attributes present in source databases and domains of attributes in the new database are necessary in order to allow a correct automatic conversion of existing data into a format conforming to the new data standard.
All traits and their possible values will be precisely defined for users or contributors to the LEDA Traitbase. In order to maximise usability of Traitbase data the standard takes into account different aggregation types which are not limited to statistical aggregation but include heuristic types of aggregation defined by experts on a per-trait basis as well.

Key words: Biodiversity, clonal growth, dispersability, persistence, ecological database, regeneration, seed, nature conservation, data quality, plant traits, aggregation methods