Using the Darwin Core Standard for Estimated Records

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Abstract

The Darwin Core Standard is a widely shared data standard within the ecological community. Despite recent developments on sampling events and abiotic records (De Pooter 2017), the Darwin Core only allows recording raw data, while public policies and biodiversity evaluations often need synthetic, estimated data. To be reliable, those estimation records, such as population size, population density, community diversity, and primary production, need to display statistical characteristics, such as standard error. Within the Enetwild consortium (https://enetwild.com/), financed by the European Food and Safety Authority (EFSA), we face this issue while aggregating data across European countries on wildlife surveys: occurrences, abundances and hunting bags. We therefore propose a revision to the Darwin Core Standard, taking advantage of the recent development corresponding to the Event core of the European Biodiversity Observatory Network and the extended measurement or fact of the Ocean Biogeographic Information System (De Pooter 2017). The proposed nested extended measurement or fact extension allows the recording of estimated densities with their confidence intervals or other precision measurements. It allows a measurement (the confidence interval, the variance) to be nested within another measurement value (e.g., the point estimation). We also provide metadata to record the useful statistical procedure information to best evaluate and use these data. We believe this development will be useful for all institutions aggregating results, especially the international Essential Biodiversity Variables community, allowing them to aggregate results data along with raw data.

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The full technical report is published on EFSA website (Enetwild consortium et al. 2020).

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References

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