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► To cite this version:

Frederic Revers, Marie-Lise Benot, Didier Alard, David Rosebery, Marie Barneix. Biodiversity indicators based on several taxons help identify the range of pressures on coastal dunes. *Sféologie-2016*, International Conference of Ecological Sciences, Oct 2016, Marseille, France. 2016. hal-01606417

HAL Id: hal-01606417

<https://hal.science/hal-01606417>

Submitted on 5 Jun 2020

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Biodiversity indicators based on several taxons help identify the range of pressures on coastal dunes.

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Loss of biodiversity is growing up and it is urgent to get tools to evaluate biodiversity state from local to global scales in order to better assess this phenomenon. One of these tools is the development of indicators, based on ecological and environmental metrics, which have to reflect biodiversity state as a whole. The good representativeness of indicators is still on debate among scientists as many contradictory results have been published on the robustness of species-based versus environmental-based indicators or on the congruence of multi-taxon approaches. The present study addresses the question of biodiversity assessment along the 230 km-long Aquitaine coastal dunes, an area of great ecological interest but threatened by natural and anthropic factors. Our aim is to produce indicators allowing a good estimate of the dune conservation state. As a first approach, we have undertaken a breeding bird census along the coastal dunes in order to identify hotspot of bird diversity and explanatory environmental factors of bird assemblages. Results were confronted with plant surveys which have been performed for almost two decades. Birds and plants reflect the typical internal gradient of coastal dune from the foredune to the forest fringe. However, bird species composition are also explained by landscape variables including shrubs or urban area cover, while a north-south environmental gradient along the coastal dunes represents a major gradient explaining plant composition. The scope of this study on the assessment of the conservation state of the dunes will be discussed.