



Conference Abstract

LifeDNAquatic: A priori settings and refined pipelines of eDNA metabarcoding to generate "big data" for solid fish, mussel and amphibian SDMs

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Abstract

Sound environmental management decisions - in accordance with the EU WFD for aquatic ecosystems – mainly depend on reliable species presence- and distribution- data. Here we present a workflow from sampling strategies to results and decision making using eDNA metabarcoding analyses for fish, amphibians, and mussels from habitat to landscape scales with focus on sampling strategies for "big data" in marine and freshwater ecosystems in Sweden. The project LifeDNAquatic highlights a solid eDNA pipeline and comparison of methods, which cover field planning and the entire pipeline generating data for Species Distribution Models (SDMs). Intense sampling over a large river catchment highlights previously unanswered questions and provides insights to a priori settings for sampling strategies to retrieve "big data". The results provide novel insights to DNA

distribution in the environment, seasonal and spatial changes in eDNA composition, and validation of data.

Keywords

aquatic eDNA, metabarcoding, method validation, storage,"big data", landscape scale, Species Distribution Models, a priori, predictions, novel spatial and seasonal eDNA distribution, mussels, amphibians, marine, wetland, lentic, lotic

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MH, KB, JS, JeS, MA - fieldwork

CT, JeS - eDNA extractions

CT - Metabarcoding and NGS, NGS data analysis

JoS - background data, species distribution analysis

MÖ - discussions, administrative coordinator