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Power to the people, break down the silo: an open checklist recipe to create GRIIS Belgium

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Abstract

We showcase the reproducible approach towards an open alien species registry followed by the TrIAS project in Belgium. Many initiatives tried to consolidate alien species information into centralised databases. The data these registries contain on introduction dates, origin, pathways, invasion stage etc. are typically used for publications but not openly available nor versioned. As project funding is often limited, many initiatives face sustainability problems and their datasets are not updated anymore. The country checklists of the IUCN Global Register of Introduced and Invasive Species (GRIIS), a comprehensive registry initiative in support of national governments, heavily relied on these non-sustainable project initiatives. GRIIS requires country editors to feed data and for quality control, a huge task given the range of taxa and environments. In Belgium, we created a software pipeline to automatically update the Belgian GRIIS register from individual taxonomic checklists maintained by the experts themselves in the format they want. Using an R recipe, their fields are standardized and published to GBIF where experts are acknowledged through citation. From these, we then harvest GRIIS Belgium. Regular updates ensure it has the latest information and is versioned. The process doesn’t require expert time and prevents propagation of mistakes in databases through publication of derived products. It flags inconsistent information on a species in different checklists which can feedback to the checklist curators and ensures provenance of records is clear to the user. GRIIS Belgium contains almost 3000 alien species but is far from perfect. We envisage future updates, quality control, coupling with new alien species occurrences in datasets and empowering the expert community to publish and maintain their own checklists. The recipe assisting data holders in standardizing their checklists is open and can be applied to other regions of the world wanting to strengthen their evidence base for IAS policy.