

# Publishing and analysing biodiversity data rapidly, repeatably and FAIR-ly for agile policy relevant results

***Quentin Groom<sup>1</sup>, Sonia Vanderhoeven<sup>2</sup>, Lien Reyserhove<sup>3</sup>, Damiano Oldoni<sup>3</sup>, Tim Adriaens<sup>3</sup> and Peter Desmet<sup>3</sup>***

<sup>1</sup>*Meise Botanic Garden, Belgium;* <sup>2</sup>*Belgian Biodiversity Platform, Belgium;* <sup>3</sup>*Research Institute for Nature and Forest (INBO), Belgium*

Corresponding author(s) e-mail: [quentin.groom@plantentuinmeise.be](mailto:quentin.groom@plantentuinmeise.be)

**ABSTRACT:** Informing policy on invasive species requires rapid mobilization of biodiversity data from many sources and converting these raw data into simple metrics and reliable information. Yet the data are collected by a wide variety of actors, both professional and amateur, and they are often divided by political and language barriers. Belgium is typical in that sense, we struggle with the fragmented data sources and restrictions on data mobility, while trying to answer the policy needs at both national and local levels. In 2017 we launched the TrIAS project that aims to resolve some of these problems. We envisage a future where data are rapidly mobilized, the spread of exotic species is regularly monitored, future risks are evaluated and potential impacts assessed [1]. In many ways we have similar aims to GFBio, though we may have found different solutions to the same problems. TrIAS is building workflows that openly publish species information and primary biodiversity data, then harvest those and other data, to create indicators, predictive models and policy support documentation. TrIAS is a consortium of 12 Belgian institutions together with another 9 stakeholder organizations. We aim to address terrestrial, freshwater and marine environments. The organizations involved include those involved in citizen science, pure and applied research, and wildlife management. TrIAS is an open science project; all the software are shared under an MIT Licence; all the data are shared under a CC0 licence waiver and all the documentation is shared under Creative Commons licenses. The hope is that this approach will contribute to the post-project sustainability, because the data and software can all be reused as a whole or in part, either in Belgium, or anywhere else it is needed. Such reuse need not be confined to alien species monitoring, but there is also a need for repeatability and rapid mobilization in other fields, such as red-listing of conservation worthy species.

**KEYWORDS:** invasive species, rapid data publication, sustainability, biodiversity monitoring, cost-effective, Global Biodiversity Information Facility, R tools, controlled vocabularies, policy relevant

## REFERENCES:

1. Vanderhoeven, S., Adriaens, T., Desmet, P., Strubbe, D., Backeljau, T., Barbier, Y., Brosens, D., Cigar, J., Coupremagne, M., De Troch, R., Eggermont, H., Heughebaert, A., Hostens, K., Huybrechts, P., Jacquemart, A., Lens, L., Monty, A., Paquet, J., Prévot, C., Robertson, T., Termonia, P., Van De Kerchove, R., Van Hoey, G., Van Schaeybroeck, B., Vercayie, D., Verleye, T., Welby, S., Groom, Q. 2017. Tracking Invasive Alien Species (TrIAS): Building a data-driven framework to inform policy. *Research Ideas and Outcomes*. 3, e13414. <https://doi.org/10.3897/rio.3.e13414>