Table S . Author’s ranking of eight published SDM studies by reference to assessment criteria and issues proposed by Araujo et al. (2019). DB, David Bowden; OA, Owen Anderson; AR, Ashley Rowden; FS, Fabrice Stephenson. Rankings from best to worst are: Gold (G); Silver (S); Bronze (B), and Deficient (D).

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| **Criterion** | **Issue** | **Tracey et al. (2011)** | | | | **Baird et al. (2013)** | | | | **Compton et al. (2013)** | | | | **Anderson et al. (2014)** | | | | **Anderson et al. (2015)** | | | | **Anderson et al. (2016a)** | | | | **Anderson et al. (2016b)** | | | | **Georgian et al. (2019)** | | | |
|  |  | **DB** | **OA** | **AR** | **FS** | **DB** | **OA** | **AR** | **FS** | **DB** | **OA** | **AR** | **FS** | **DB** | **OA** | **AR** | **FS** | **DB** | **OA** | **AR** | **FS** | **DB** | **OA** | **AR** | **FS** | **DB** | **OA** | **AR** | **FS** | **DB** | **OA** | **AR** | **FS** |
| Response variable | 1A Sampling | D | D | D | D | D | D | D | D | D | B | B | S | D | D | D | D | D | D | D | D | D | D | B | D | D | B | B | B | D | B | B | B |
|  | 1B Identification of taxa | G | S | G | G | G | B | B | B | G | S | S | S | G | B | B | B | G | B | B | B | G | S | B | B | G | B | B | B | G | B | B | B |
|  | 1C Spatial accuracy | S | B | S | S | S | B | S | S | S | G | G | G | S | B | S | S | S | B | S | S | S | B | S | S | S | B | S | S | S | B | S | S |
|  | 1D Environmental extent | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
|  | 1E Geographic extent | S | B | S | S | S | B | S | S | S | B | B | B | S | B | S | S | S | B | S | S | S | B | S | S | S | B | S | S | S | B | S | S |
| Predictor variables | 2A Selection | B | B | B | B | B | B | B | B | B | B | B | B | B | S | B | B | B | S | B | B | B | S | B | B | B | G | B | B | B | G | B | B |
|  | 2B Spatial resolution | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | S | B | B | B | B | B | B | B | S | S | B |
|  | 2C Uncertainty | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | B | D | D | D | D | D | D | D | D | D | D |
| Model building | 3A Complexity | B | B | B | B | B | B | B | B | B | B | B | S | B | B | B | S | B | B | B | S | B | B | B | S | B | B | B | S | B | B | B | S |
|  | 3B Treatment of bias and noise in response variables | B | B | B | B | B | B | B | B | B | B | B | B | B | S | B | B | B | S | B | B | B | B | B | S | B | S | B | S | B | S | S | S |
|  | 3C Treatment of collinearity | B | S | B | B | B | S | B | B | B | S | B | B | B | S | B | B | B | S | B | B | B | S | B | S | B | S | S | S | B | S | S | S |
|  | 3D Dealing with modelling and parameter uncertainty | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | B | B | B | D | S | B | B | D | S | B | B |
| Model evaluation | 4A Evaluation of model assumptions | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S |
|  | 4B Evaluation of model outputs | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | G | B | B | B | S | S | S | B | B | B | B |
|  | 4C Measures of model performance | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | S | S | S | B | S | S | S |