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Book Review:
Sutherland, W.J., Dicks, L.V., Ockendon, N., Smith, R.K. (Eds). What works in conservation. Open Book Publishers, Cambridge, UK. http://dx.doi.org/10.11647/OBP.0060

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The book "What works in conservation" is the product of the "Conservation Evidence" project (www.conservationevidence.com) which consists of four parts: i) a searchable database, ii) synopses of the evidence reported in the database for different species, habitats and conservation interventions, iii) the book itself and iv) the journal "Conservation Evidence". In this open access journal, evidences of management actions and their *post hoc* monitoring are always reported on, usually by the comparison with a control or a previous situation. By the way, it is worth noticing that a recent special issue of the journal dedicated to amphibians has been recently published (Meredith et al., 2016).

The volume "What works in conservation" consists of an short "Introduction" (pages 1-7) and seven chapters dedicated to different animal *taxa*, habitats or conservation interventions: 1) Amphibian conservation (pages 9-65); 2) Bat conservation (pages 67-93); 3) Bird conservation (pages 95-244); 4) Farmland conservation (pages 245-284); 5) Some aspects of control of freshwater invasive species (pages 285-292); 6) Some aspects of enhancing natural pest control (pages293-315) and finally 7) Enhancing soil fertility (pages 317-338).

The interventions are listed according to IUCN categories, while worldwide conservation evidences were obtained by reviewing the available scientific literature in English and, when needed, also in other languages. Two criteria are requested to be included in the assessment: first the intervention was fully implemented in the field and second the effects of intervention were monitored scientifically, to allow some kind of statistical inference about the results. Therefore, this approach excludes predictive species modelling and also correlative studies that are sometimes used to plan or realize conservation projects.

The book is not descriptive or based on illustrated case studies, as is the case of conventional books on conservation (e.g., Sutherland, 2000), but is a synthetic guide intended to provide a rapid overview of the scientific evidence as obtained from specialized literature. Effectiveness and harmful effects of conservation actions or management interventions are assessed by a panel of experts cited in the first page of each chapter. Experts were asked to classify interventions in six categories from "Beneficial" to "Likely to be ineffective or harmful" (Table 1). The experts were asked to judge anonymously the evidence and the certainty for each intervention and to review their own judgment after seeing the overall scores and comments from the entire panel. Revision rounds were stopped after a large consensus among experts was achieved. This method, based on published data judged by experts, is a modified Delphi technique, which is now becoming a relevant decision tool in ecology and biodiversity conservation (Mukherjee et al., 2015). References to the reviewed literature are not reported within the book, but the link to the online literature database is always given and, therefore, the reader is bound to a web connection to retrieve citations and deepen each conservation outcome.

In this review I will comment only on the first chapter regarding "Amphibian conservation". The expert panel for amphibians was composed by 28 scientists and man-

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Table 1. Synthesis of the categories for judging conservation interventions used in "What works in conservation".

Intervention result	Short definition
Beneficial	Evidence for high effectiveness and no harm
Likely to be beneficial	Evidence for medium effectiveness and low harm
Trade-off between benefit and harms	Both effectiveness and harm present; to be evaluated according to local circumstances
Unknown effectiveness	Insufficient or inadequate quality of data
Unlikely to be beneficial	Lack of effectiveness not clearly demonstrated by data; no agreement among experts
Likely to be ineffective or harmful	Ineffectiveness or harm clearly demonstrated by data

agers and at a first glance it is clearly European Union biased (14/28 = 50% of experts) with a large prevalence of UK experts (10 out of 14). Experts from USA constituted the 19% (5/28), Africans the 15% (4/28) and Asians only the 7% (2/28). In this panel, the scarcity of South American amphibian conservationists, represented by only one member, is also noticeable.

Many different threats were assessed in the chapter "Amphibian conservation": agriculture, urban development, transportation, collecting, logging and habitat modification. For each threat, a table with the final judgment of the experts on the conservation action is given, following the classification given in the "Introduction" (see also Table 1). Then, a short text explaining the scientific bases on how the consensus was reached and in particular the number of studies, countries in which the actions were implemented and their main results is shortly given. In addition, the experts scored "effectiveness", "certainty" and "harms" related to the intervention, expressed as percentages. Going through the many different conservations actions assessed to reduce amphibian threats, some well-known interventions are confirmed to have large beneficial effects, with little or no harm at all, such as "Remove or control fish by drying out ponds", "Deepen ponds to prevent desiccation" or "Create ponds". On the other hand, there are some interesting responses to some long-debated conservation actions, such as "Commercially breed amphibians for the pet trade" or "Use amphibians sustainably", for which no scientific evidence was found. Another example is the response about interventions to reduce population declines of amphibians crossing paved roads. Thus, the common practice to "Use humans to assist migrating amphibians across roads" (i.e., the use of volunteers to rescue toads on roads), was evaluated by the panel of experts as "Unlikely to be beneficial". In this specific case, the best alternative conservation action should be "Close roads during seasonal amphibian migration" or "Modify gully pots or kerns".

In short, the volume "What works in conservation" is an original, useful and practical tool for conservationists, managers, activists of non-governmental organizations and also for amphibian ecologists, All of them will obtain relevant information about conservation actions to be realized or eventually to be avoided, this latter information almost never discussed in classic conservation textbooks. The book should always be consulted before (and I stress the word "before") planning any kind of conservation intervention to correctly evaluate, not only possible positive outcomes but, also non-desired and collateral harmful effects. It should also be used by local and national authorities that are charged to judge and fund biodiversity conservation actions. These actions are sometimes based not on scientific evidence but only on some self-assessed evaluation. The fact that "What works in conservation" is online and downloadable free of charges should facilitate its wide consultation by private and public entities working on the long-term conservation of amphibian populations.

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