Change in Conservation Efforts

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Source: BioScience, 61(2) : 93

Published By: American Institute of Biological Sciences

URL: https://doi.org/10.1525/bio.2011.61.2.19

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As postdoctoral scholars in the field of conservation, we laud the empirically supported call of Arlettaz and colleagues (*BioScience* 60: 835–842) for conservation biologists to actively implement conservation recommendations and we offer further suggestions.

We believe that conservation scientists should begin grassroots change for gaining recognition within academia for implementation efforts. For example, in our curriculum vitaes we have a section that describes our efforts to implement our research-derived recommendations and the resulting impacts. We crafted this section because we believe that on-the-ground changes in conservation (in our case a regulatory change, revised marine park boundaries, and more than $100,000 of programmatic grants with lasting, tangible conservation products) speak more to our success as conservation scientists than just publications. If more people list implementation and impacts on their curriculum vitaes and yearly activity reports; if search committees ask for statements of implementation; and if lab heads, department chairs, and deans give rewards and acknowledgment for implementation, a widespread change will occur. A rewards system does not need to be established by new rules; all that is required is bottom-up development of a common currency to create acceptance throughout academia.

The authors aptly described the common barriers to implementation of conservation guidelines and implied that the conservation community should focus more on relevant but often complex issues. We agree, but recognize that scientists' sphere of influence can be quite limited within these complex global issues. In cases when it is not possible to directly implement their recommendations, we urge conservation scientists to actively escort their recommendations through the established implementation processes. Active escorting can include serving on advisory boards, requesting observer status at international governance meetings, submitting letters during public comment periods, writing reports about recommendations specifically for the implementing agency, and offering to be a resource to the individual agency staffer(s) responsible for the implementation.

To facilitate this process, we suggest scientists begin building connections with managers and policymakers in early research stages—even before recommendations have been formulated—as it often takes considerable time to build the trust necessary to create relationships that will lead to lasting change. We additionally suggest building the time and travel costs for implemenation or active escorting into grant proposals; this establishes implementation as more than an afterthought that is conducted on piecemealed time and funds, but instead gives this important piece of conservation science a prominent and tangible place in research design and funding.

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doi:10.1525/bio.2011.61.2.19

Response from Arlettaz and Colleagues

We agree with Jenkins and Maxwell that a fundamental change in assessment criteria would help move conservation biology beyond publications and toward an active discipline that places science within the policy and management realm. We also encourage all conservation researchers to highlight in their résumés how their scientific results have been implemented by policymakers and practitioners in the field, as well as the resulting impact on biodiversity. However, we doubt that this would be sufficient to overcome the immense research-implementation divide prevailing in biodiversity conservation, which partly stems from the practices currently ruling research institutions.

The reward system in academia for conservation scientists is heavily focused on publications in peer-reviewed journals. Although we believe that peer-reviewed research must be maintained, we think it is only one dimension of effective conservation science. Conservation biology differs from other disciplines among the life sciences in that it is mission driven. However, the consequential trade-off that conservation scientists face when ensuring that their scientific evidence is employed by policymakers and conservation practitioners is ignored by almost all research institutions when assessing academics for employment, promotion, or grant funding.

One first idea for trying to overcome this is developing a system of accreditation that rewards the full spectrum of activities that conservation biologists play, similar to the patent-based accreditation system of engineers. In addition to the bottom-up approach suggested by Jenkins and Maxwell, we propose top-down evaluation rules be recognized by academia. Indexes for biodiversity conservation impact similar to the traditional metrics estimating publications output must be developed.

A second idea is for new scientific journals or sections in existing conservation journals to publish results that are not simply novel but are proven to be useful for regional conservation in practice. In these sections, authors would provide a letter of support from practitioners demonstrating that their work is of practical importance, similar to the traditional approach of engineers for progressing relevant work in their field. Journals may also systematically request practitioners to function as reviewers for judging the applicability of results. Such concepts would tighten the collaboration between conservation scientists and practitioners, optimally from the start of the research process,