

The marriage of business and ecology

Alongside the recent climate negotiations in Paris, the World Business Council for Sustainable Development (WBCSD) brought the world's leading businesses together to identify new ways to align the world's economic and ecological systems. The premise: Nature is the foundation of all economies, yet decisions about the use of natural resources – both by public institutions and private enterprise – rarely account for the true value of natural capital or ecosystem services. Resulting costs, including water scarcity, loss of biodiversity, climate change, the hazards associated with extreme weather events, and food shortages, are borne by society at large. The consequences of ignoring these costs is unprecedented and rarely quantified, and create direct challenges for corporations and, correspondingly, a strong need for ecological expertise to help to manage them.

Corporations and investors are increasingly realizing the importance of natural capital. They are also beginning to understand that by adopting practices that maintain the natural systems and resources upon which their operations depend, they can better ensure the long-term viability of their enterprises. Recognizing the high risk of inaction, the corporate sector is increasingly seeking ecological data and methods that can help them manage their operations and plan for an uncertain future.

Ecologists have data, insights, and analytics that can help, putting us in a unique position to dramatically influence corporate decision making and to create positive outcomes for global biodiversity and ecological systems. There are now exciting opportunities to incorporate ecological science into a forum where some of the most important decisions about the future of our planet are being made. The private sector has little access to the basic data and tools that are required to fully understand the status of natural capital in specific locations. In addition to the need for ways to effectively aggregate, integrate, and apply ecological data, designing ecological research with end-users in mind provides an attractive avenue for novel scholarship.

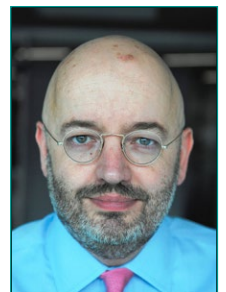
More than ever before, corporations are open to learning how they can eliminate or substantially reduce their risk, but they want to know their options in terms that are relevant to business decision making. For example, The Sustainability Consortium translates sustainability life-cycle analysis into practical business tools that Walmart and other leading consumer-goods companies use to inform purchasing decisions. Another example involves a recent life-cycle analysis that helped leaders at the Dow Chemical Company to determine that creating a wetland habitat could save the company more than \$200 million in initial and operating costs, while achieving higher efficiency in water treatment and fossil-fuel energy use (DiMuro *et al.* 2014; *Indust Ecol* 18: 631–40). Similarly, a growing ecological literature on the effects of management actions (eg land acquisition) on return on investment (ROI) could be easily applied to corporate decision making (eg Murdoch *et al.* 2010; *P Natl Acad Sci USA* 107: 20855–62). ROI has been applied conceptually to consider alternative soil conservation methods and to identify optimal investments in biodiversity conservation. The key is that companies need to have the data showing that these investments will deliver results that are at least comparable to the status quo.

These are ample reasons for ecologists to engage with businesses. Our challenge now is to develop a value proposition that appeals to the bottom line in the corporate world. To do so, an elementary fluency in business concepts – including incentives, corporate language, and the decision landscape – is required, thereby creating exciting new models for co-production of “translational ecology”. By providing businesses with the information they need to incorporate the environment into their decision making and long-term cost calculations, we can put our ecological expertise to use in improving outcomes, both for natural systems and for corporations.

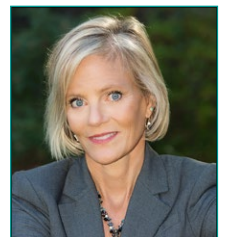
In summary, there is a high demand from the private sector for ecological science where there is promise for tackling the complex sustainability challenges facing our planet. Right now, corporations do not have access to the ecological knowledge or to the data necessary for their decision processes. As a result, corporate decision makers are not able to adequately consider the value of nature and the consequences of their activities on natural systems. We cannot think of any reason why ecologists who are motivated to use science to achieve real impact in sustaining nature's capital would *not* consider engaging with business. Can you? We invite you to contact us at biodiversity@asu.edu with your doubts, interest, and experience in engaging with the private sector.



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