Over the past decade EEB has explored various ways of improving our approach to job searches, including by asking applicants to provide materials that leave out information that might create bias. One thing we found is that blinding is often imperfect, especially in CVs and reference letters, which reduces the effectiveness of the approach. We have also long striven to get away from overly-simplistic methods of assessing candidates, such as simply counting publications or totaling research funding, and moved towards more holistic approaches to assess the depth of an applicant's experience and the quality of their research.

With these concerns in mind, we are requesting that applicants provide research, teaching, and diversity statements that leave out identifiers to their race, ethnicity, and gender. To avoid other forms of bias, we also request the removal of all references to specific institutions, advisors, funding sources, awards, and journals in these statements. Our initial review of candidates will be based only on these three documents.

The latter stages of the search will not be entirely blind because we need to be able to read published articles, understand candidates' relative career stages, etc. We also will not entirely ignore where work is published or how it is funded, as these issues have some bearing on potential to succeed in an academic position. By eliminating this information at the initial review stage, however, we aim to reduce the risk of bias, and to ensure that we concentrate on candidate's contributions, training and abilities, rather than simplistic scoring systems.

Below, we provide an example research statement to illustrate how to prepare your documents. You may refer to papers you have published, but please do so without naming specific journals or authors (e.g., either number the papers or use initials such as AB et al. 2021). Similarly, when referencing grants, focus on their intellectual/scientific contributions and leave out information on the funding agency and amounts. Apply similar approaches to other items that you discuss, and in your teaching and diversity statements. (Note that this research statement came from a plant ecologist, and is meant only as an illustration of the approach to take when modifying statements, not as an example of the type of scientific content statements for this position should contain.)

Research Statement

My research combines experimental and quantitative approaches to address key questions in ecology. The main questions I focus on include: 1) How is biodiversity maintained in natural systems and what is the role of natural enemies? 2) How is environmental change affecting biodiversity and the mechanisms that maintain it? 3) How does biodiversity affect the provision of ecosystem functions and services?

This research has resulted in several high impact publications[1–4] and led to three major grants in the last two years (two as lead PI). This body of work has demonstrated that interactions between plants and their natural enemies (particularly pathogens) shape the structure and diversity of tropical forest plant communities[1,3-4]. Recently-funded projects are "scaling-up" to investigate whether this process can explain regional variation in plant diversity across humidity gradients and if variation among species and communities can be linked to their traits and characteristics. Furthermore, my research has indicated that environmental change may disrupt these interactions, with potential consequences for plant biodiversity[5-7]. A recent grant is examining whether forest fragmentation can disrupt interactions between plants and their natural enemies, and the potential consequences of such disruption for plant diversity. My research has also examined the potential for climate change to alter the effectiveness of regional conservation area networks[8]. Furthermore, my research has shown that biodiversity regulates ecosystem functioning. In particular, different species contribute to different ecosystem processes, so managing systems for multiple purposes (ecosystem "multifunctionality") requires greater biodiversity[2,9].

The overarching goal of my research group will be to develop a mechanistic understanding of the processes controlling species coexistence and ecosystem functioning and to use this to explain patterns at multiple scales. We will seek to: 1) Understand how pathogens and herbivores shape plant communities at multiple scales; 2) Forecast how environmental change may affect natural communities; 3) Identify how environmental change may modify interactions among organisms and the potential impacts on community diversity and structure; 4) Explore the implications of coexistence mechanisms for the biodiversity-ecosystem functioning relationship; 5) Identify the mechanisms driving ecosystem multifunctionality.

I have established these themes in my current role, obtaining three substantial grants (two as lead PI) and contributing to a fourth in the last two years. This demonstrates my ability to develop a diverse agenda, combining empirical and quantitative approaches to address a wide range of questions in ecology.

How do interactions between plants and their pathogens and herbivores structure plant communities and maintain diversity?

A major part of my group's research will investigate the potential for variation among communities in enemy-mediated density dependence to act as a proximate mechanism for regional gradients in plant diversity. This program has been initiated through a recent grant I co-wrote examining variation in density dependence across a humidity gradient. Another recent grant is using cross-site comparisons of permanent plot data to link key functional traits of species (e.g. defense traits) and site characteristics (e.g. latitude) to the strength of density dependence in tropical trees. Once the gradients associated with variation in this process have been identified, we will use experiments to clarify the mechanisms responsible. A recently established project is investigating the importance of density dependence mortality at the key seed-to-seedling transition, using existing data sets spanning over 20 years. We intend to use the methods developed as part of this project to analyze similar data from a global network of sites. Through comparisons of sites and taxa we will link variation in diversity to the processes that drive them at multiple life stages. We will also examine how characteristics of natural enemy communities (e.g. host specificity, diversity) influence the strength of density dependence and translate into differences among communities in plant diversity.

How will environmental change modify animal and plant communities?

It is inevitable that environmental change will alter natural communities substantially. Forecasting these changes is essential for adapting conservation and management of natural systems to deal with environmental change. I recently developed a framework for forecasting future distributions of species while quantifying the uncertainties involved in such projections[8]. My group will use this framework to forecast the effects of various anthropogenic changes (e.g. climate change, land-use change) on future patterns of biodiversity using species' distribution data. This methodology allows exploration of poorly understood drivers of environmental change (e.g. land-use change) because explicit consideration of uncertainty identifies cases with insufficient evidence for robust conclusions.

Species distribution models can forecast where suitable conditions for species might exist given future environmental change. However, they provide limited information about species' abilities to move between areas of present and future suitability. I am developing approaches to model movement of plants, animals or genes across complex, fragmented landscapes. We are using these methods to identify potential corridors for endemic bird species of the Albertine Rift to move among conservation areas in East Africa. A current proposal as co-applicant (in review), is developing such approaches to quantify how landscape characteristics affect gene flow among fragmented Alpine plant populations.

How will changes in animal and fungal communities affect plant diversity?

Environmental change may affect animal, fungal and plant communities individually. Additionally, interactions among these groups may be disrupted, potentially with major consequences for biodiversity. Previous work has demonstrated that altered precipitation[7] and timber extraction[5-6] can modify the interactions between plants and their natural enemies, and therefore the processes that maintain plant diversity. My group will explicitly examine how defaunation, fragmentation and climate change affect the interactions between plants and their natural enemies using both experimental and analytical approaches. Current work is using the spatial structure of Amazonian tree populations to investigate how loss of large vertebrates affects dispersal and density dependence, and compares the effects among dispersal syndromes. I recently obtained funding to experimentally investigate how interactions between trees and their natural enemies are modified in a fragmented landscape (in the Western Ghats in India) and the consequences for plant diversity. A future direction for the work on variation in biotic interactions along humidity gradients is to forecast how altered precipitation due to climate change may impede species coexistence in tropical forests.

What are the implications of coexistence mechanism for the biodiversity-ecosystem functioning relationship?

Different coexistence mechanisms make alternative predictions about the functional similarity of coexisting species and the extent to which single species may dominate. This has implications for the biodiversity-ecosystem functioning relationship. For example, niche partitioning would predict that co-occurring species will be functionally dissimilar and hence have complementary effects on ecosystem functioning while density dependence will lead polycultures to perform better than mono-cultures of the most productive species (i.e. reduced sampling effects). My expertise in both fields makes me ideally placed to initiate projects that predict the relationships between biodiversity and ecosystem functioning given different coexistence mechanisms. These predictions will be tested by controlled environment and field experiments.

Furthermore, extinction trajectories will depend on coexistence mechanisms, allowing us to better predict the consequences of biodiversity change for the future functioning of ecosystems.

Establishing a theoretical basis for assessing biodiversity effects on multiple functions.

Following our paper on ecosystem multifunctionality[2] several studies have examined if provision of multiple ecosystem functions requires greater biodiversity. However, these studies have generally used *ad hoc* methods and extension to a mechanistic understanding of the basis of ecosystem multifunctionality is difficult. Multifunctionality results from trade-offs in the abilities of species to contribute to different functions. These trade-offs can be quantified by correlations among species' contributions to different ecosystem processes. I plan to explore the theoretical basis of multifunctionality further, establishing new methods to quantify it and developing a framework to understand it in terms of sampling effects and complementarity.

Summary

My research will contribute to a general understanding of the processes that control biodiversity in natural and human-modified landscapes and the role biodiversity plays in providing ecosystem services. This will advance our understanding of ecological systems and foster evidence-based conservation to help policy makers balance economic and social development with environmental sustainability and conservation.

References

1 **RB**, et al. *In press*. Pathogens and insect herbivores drive rainforest plant diversity and composition.

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3 **RB**, et al. 2010. Evolutionary history and distance dependence control survival of dipterocarp seedlings.

4 **RB** *et al.* 2010. Testing the Janzen-Connell mechanism: pathogens cause overcompensating density dependence in a tropical tree.

5 **RB** *et al.* 2011. Impacts of logging on density-dependent predation of dipterocarp seeds in a southeast Asian rainforest.

6 ..., **RB**, et al. 2010. Effects of Seed Predators of Different Body Size on Seed Mortality in Bornean Logged Forest.

7 ..., **RB** et al. 2012. Consequences of changing rainfall for fungal pathogen-induced mortality in tropical tree seedlings.

8 **RB** *et al.* 2013. Evaluating the effectiveness of conservation site networks under climate change: accounting for uncertainty.

9 ...., **RB,** *et al.* 2013. Higher levels of multiple ecosystem services are found in forests with more tree species.