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Conference Abstract

Born from Destruction: Biological Invasions and Restoration Ecology

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Abstract

Ecological restoration and invasion science are disciplines that emerged from the recognition that human activities can have profound and often negative consequences for ecosystems and their species and that these systems and species may not recover or even continue to exist without further human intervention. Yet the two fields developed differently. Invasion science has largely focused on prevention, minimizing introductions and spread, managing pathways, prediction, social and economic drivers, and mitigating the impacts and risks of biological invasions. Restoration ecology, on the other hand, has focused more on repair, recovery, reassembly, resilience, and future ecologies. While perhaps initially perceived as distinct, these two ecological fields have become increasingly interdependent as biological invasions have risen globally across regions, ecosystem types, and taxonomic grous and disturbed and damaged ecosystems have been further compromised by biological invasions. Restoration efforts must account for non-native propagule pressure, altered disturbance regimes, introduced pathogens, soil and microbial legacies, reinvasion potential, and the possibility that restoration practices themselves may create invasion pathways, while management of biological invasions rarely succeeds through removal alone and often requires restoration of ecological processes, social legitimacy, governance support, and long-term stewardship. This talk explores the increasingly reciprocal relationship between invasion science and restoration ecology, arguing that invasion science can sharpen understanding of the ecological processes, thresholds, and legacies that shape recovery, while restoration

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ecology can expand invasion science toward resilience, repair, and the stewardship of future ecosystems.

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Conflicts of interest

The authors have declared that no competing interests exist.