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Exploring the dynamics of research collaborations by mapping social networks in invasion science

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Abstract:

Moving towards more integrative approaches within the invasion sciences has been recognized as a means of improving linkages between science, policy, and practice. Yet despite the recognition that biological invasions pose complex social-ecological challenges, the invasion literature poorly covers social-ecological or distinctly integrative research. Various initiatives and investments have been made towards building research capacity and conducting more integrative research aimed at improving the management of biological invasions. Using a combination of social network and thematic analysis approaches, and the South African Working for Water (WfW) program as a case study for the management of invasive species, we identify and explore the roles of core authors in shaping collaboration networks and research outputs, based on bibliographic records. We found that research produced under the auspices of WfW is authored by a handful of core authors, conducting primarily ecologically-focused research, with social research significantly underrepresented. Core authors identified in this study play an essential role in mediating relationships between researchers, in addition to potentially controlling access to those seeking to form collaborations, maintaining network cohesion and connectivity across institutional and disciplinary boundaries. Research projects should be designed to span disciplines and institutions if they are to adequately address complex challenges.