## Scaling up and applying qualitative social research on lay knowledge in invasive plant management

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Summary Invasive plants are a key feature of global environmental change. Research on the social dimensions of invasive plants is proliferating. Both physical and social scientists argue for the importance of understanding the social dimensions of invasive plants and their consequences for invasive plant governance and for governance of environmental change. Much of the social research on invasive plants uses qualitative methods. This work generates valuable insights into the values and experiences of lay people and landowners, and valuably highlights complexity, context, contingency through in-depth studies. features, however, pose challenges to effectively incorporating research insights into policy and practice, and to acceptance in the natural sciences. To 'scale up' qualitative invasive plant research we conduct a meta-ethnography of lay experiences and perceptions of invasive plants. Meta-ethnography is a systematic meta-analysis method for qualitative research developed in education and health sciences and largely used in those fields. It aims to "produce novel interpretations that transcend individual study findings, rather than aggregate findings". Our metaethnography of nineteen qualitative invasive plant studies generated six meta-themes that demonstrate an underlying coherence to this research without losing the nuance of the individual studies. These meta-themes represent higher level structuring concepts to the content and findings of qualitative invasive plants research. Our synthesis makes the contribution of qualitative research on invasive plants clearer to policy makers and natural scientists. It potentially provides a platform for dialogue in invasive plants governance and for asking new research questions. Further, the metathemes speak to lay rationalities of invasive plant assessment and management. They thus also represent capacity \_ inquiry, reflexivity, experimentation, observation, and engagement – to navigate the issues posed by invasive plants in uncertain environmental futures

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