



Whitaker Institute Policy Brief Series

Policy Brief No.: 70

October 2020

Cluster: SEMRU

Theme: Sustainable and Inclusive Societies

Further Reading:

Deely, J., Hynes, S., Barquín, J., Burgess, D., Finney, G., Silió, A., Álvarez-Martínez, J.M., Bailly, D., Ballé-Béganton, J. (2020). Barrier Identification Framework for the Implementation of Blue and Green Infrastructures. *Land Use Policy*, 99, 105108. [Available online: <https://doi.org/10.1016/j.landusepol.2020.105108>]

Contact: john.deely@nuigalway.ie

Read More About: The Socio-Economic Marine Research Unit Cluster (SEMRU) within the Whitaker Institute for Innovation and Societal Change [here](#)

This research was supported by EU Interreg Atlantic Area Programme 2014–2020 as part of the ALICE project.

The content and views included in this policy brief are based on independent, peer-reviewed research and do not necessarily reflect the position of the Whitaker Institute.

Sign up to the Policy Brief Series [Here](#)

Barrier Identification for Blue-Green Infrastructures

Blue-green infrastructure (BGI) is becoming a more popular means of dealing with climate change and climate change-related events. The idea behind BGI is to use natural or semi-natural infrastructure to reduce the risk of harmful natural events in a manner that also delivers additional ecosystem services to a wide range of individuals. As the concept of BGI is relatively new, many urban and rural planners are unfamiliar with the barriers they may face during the lifecycle of a BGI project. As a result, some have been hesitant to adopt BGI solutions. The literature has unveiled many of the barriers that inhibit the successful development of BGI, however, this information has yet to be presented in a manner that allows for easy identification. With this in mind, this research aims to deliver an evidence-based resource that will enable planners to identify the barriers that may face in BGI project development and implementation.

Research Findings

A systematic review was conducted of the relevant literature, combining the terms “green infrastructure” and “blue infrastructure” with the words “barrier”, “challenge” and “obstacle”. The Search yielded 535 results, leading to 40 papers that dealt with the barriers that inhibit BGI at different stages of their lifecycle. A total of 56 potential barriers were identified. Barriers with significant overlap were combined leaving 25 unique barriers. The barriers were then categorised into 5 groups: Institutional and Governance, Socio-cultural, Knowledge, Technical and Biophysical, and Funding and Market. From the categorised barriers, an identification framework was constructed which allows the user to assess the potential risk of known barriers to their project.

By consolidating the most relevant information within the framework and accompanying reference tables, BGI planners have, for the first time, an accessible source to evaluate the potential pitfalls for their BGI project. The framework has been designed so that comparison across projects is also possible, as well as providing additional non-monetary information that may go into a cost-benefit style analysis. The framework has been successfully applied under the EU ALICE project to potential projects in Spain and Portugal with further use planned in France and Northern Ireland.

Policy Implications

Many Urban and rural planners are much more familiar with tradition grey infrastructure in comparison to BGI. As a result, planners and eco-system service managers may be somewhat reluctant to implement policy advocating for the use of BGI. The barrier identification framework enables an easier transition from grey infrastructure to BGI by highlighting areas of potential concern in a BGI project. Consequently, the framework may enhance the viability of policy aimed at promoting the use of BGI. The framework also enables better comparison of potential projects extending beyond cost-benefit analysis. This, in turn, can assist in developing policy that have a better chance of success.