

## Designing a Nature-Based Solutions Project Database to Meet Decision-maker Information Needs Related to Restoration Benefits

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Ecological restoration projects are considered nature-based solutions (NBS) when they generate multiple benefits that address pressing societal challenges for both nature and people. For example, they can help ecosystems and communities adapt to the impacts of climate change and can store carbon, contributing to climate mitigation. The U.S. is among a number of countries that are elevating NBS, including restoration, as a critical tool for tackling climate change. This is part of an ongoing trend where ecological restoration programs are increasingly intended to provide social, economic and environmental benefits. However, local decision makers, engineers, federal grant makers, and others continue to raise uncertainty around the performance and reliability of restoration for achieving climate and other social and economic goals as a challenge.

Current efforts to collate NBS and ecological restoration project information are not sufficient to meet this need. Existing databases have inconsistent structures and differ in the details they provide about projects, making it difficult to compare across projects or approaches. Many provide limited information beyond project type, location, and a short description. While there are several relatively simple changes that could improve these databases, there are limits to what can be achieved given missing data. Data on many important project benefits are not collected given how difficult they are to measure (e.g., impact on flooding). The surging interest in and federal support for NBS (coastal habitats, dunes, floodplain restoration and protection, urban parks, etc.) has created unprecedented opportunities for data collection which could be designed to better meet decision-maker needs. To take advantage of this opportunity and do so in a way that most effectively aligns data collection with decision maker needs, we are: (1) co-developing a blueprint for a synthetic NBS project database with decision makers and engineers, and (2) building a research network focused on filling critical evidence gaps.

In this session, we will share results from a review of existing NBS databases and a review of social and ecological metrics for restoration, introduce a proposed framework for the synthetic database and research network, and ask for your ideas, suggestions, and partnership in building this into a collaborative and effective initiative. We envision a future where this synthetic database pulls in data gathered across the country and is used to justify and evaluate the benefits and costs of projects, to develop and update engineering and design guidelines and standards, and to build reliable modeling tools for evaluating the social and economic as well as the environmental benefits of proposed projects. There will be multiple opportunities for attendees to provide their input at NCER and beyond.

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