NETWORK FOR ENGINEERING WITH NATURE

PROJECT FACT SHEET

DEVELOPING AND IMPLEMENTING A HOLISTIC FRAMEWORK FOR MONITORING NATURAL INFRASTRUCTURE PROJECTS

BACKGROUND

Large infrastructure projects represent important investments. To ensure that they function as intended throughout their lifespan, they often include monitoring programs. Innovative nature-based solutions have the potential to efficiently provide multiple services for societal benefits at lower cost than conventional infrastructure. However, we are still learning how to design projects to maximize these benefits and ensure they continue over time. Therefore, we need to invest in research monitoring to learn from these investments, so that designs can continually improve.

There is a need for a framework to guide the development of monitoring programs, beginning with the purpose of monitoring and incorporating guidance from past studies that is scattered throughout the scientific and grey literature, and which addresses all benefts and co-benefits of natural infrastructure projects.

OBJECTIVE

Our goal is to create a flexible framework for designing effective, cost-efficient monitoring programs for natural infrastructure projects. We will field-test the framework with real-world projects and develop training materials to make the approach easily and widely accessible.

APPROACH + DELIVERABLES

To achieve our goal, we plan to focus on eight objectives. We will first review and synthesize past monitoring research. This will lead to development of a holistic framework, which will be introduced in a concept paper. We plan to explore the avenues to maximize cost-effectiveness of monitoring through use of community monitoring, remote sensing, and other tools and we will also explores barriers to widespread use of adaptive management in NNBS projects. After building an understanding of monitoring and adaptive management needs, effectiveness, and barriers, we plan to use this background to develop tools to support widespread adoption of the monitoring framework. This will be tested on real-world projects and improved with feedback from partners. Ultimately, we intend to incorporate these tools into teaching and training programs for academics and practitioners.

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