



Nature Based Solutions for Puerto Rico

4-5 May 2022 - A symposium hosted by USACE Engineering With Nature® and FEMA Community Planning & Capacity Building

Two opportunities to hear from subject matter experts on the science, benefits, and application of nature-based solutions for infrastructure. Please join either day, register here.

What are NNBF?

Natural and Nature-Based Features (NNBF) refers to the use of landscape features to produce Flood Risk Management benefits. NNBF projects may also produce other economic, environmental, and social benefits known as co-benefits. These landscape features may be natural (produced purely by natural processes) or nature based (produced by a combination of natural processes and human engineering). Landscape features can be used alone, in combination with each other, and in combination with conventional engineering measures such as levees, floodwalls, and other structures.

Objective: Develop a path forward for Natural and Nature-Based Features (NNBF) in Puerto Rico (PR) for flood risk reduction and other infrastructure projects.

Time	Topic	Lead/Speaker
0830 - 0850	Welcome and Opening Remarks FEMA and USACE partnership Workshop objectives	Luis Rivera-Herrera <i>Federal Emergency Management Agency</i>
0850-0920	Introduction to EWN® and NNBF Engineering With Nature® Natural and Nature-Based Features	Todd Bridges <i>US Army Corps of Engineers</i>
0920 - 0950	Systems Approach and Performance of NNBF A systems approach to implementing NNBF. How to measure the ability of a system to meet objectives, metrics, and uncertainty.	Candice Piercy <i>US Army Corps of Engineers</i>
0950 - 1020	Benefits and Costs of NNBF Risk reduction, co-benefits, accrual over time, valuation, metrics, reasons for quantifying, and monitoring	Boris Ton Van Zanten (virtual) <i>World Bank</i>
1020 - 1040	Break <i>20 minutes</i>	
1040 - 1140	Fluvial NNBF Objectives, descriptions, flood-risk management, benefits, challenges, and case studies to include, wetlands, reservoirs, and streams	Chris Haring (virtual) Nathan Beane <i>US Army Corps of Engineers</i>
1140 - 1300	Lunch	



Time	Topic	Lead/Speaker
1300-1330	Beaches and Dunes Overview of dune/berm design, renourishment, lab studies, modeling capabilities, and case studies	Duncan Bryant <i>US Army Corps of Engineers</i>
1330-1400	Mangroves Design considerations, monitoring, lab studies, modeling capabilities, and case studies	Tori Tomiczek <i>US Naval Academy</i>
1400-1430	Community Engagement Interaction between the organization delivering the NNBF project and relevant stakeholders, including communities where NNBF projects may be built. Consider a wide range of engagement types with corresponding tools and methods.	Maria Dillard (virtual) <i>National Institute of Standards and Technology</i>
1430-1450	Break	
1450-1520	Reefs Coastal protection benefits, co-benefits of reefs, design process, construction consideration, and case studies	Safra Altman <i>US Army Corps of Engineers</i>
1520-1550	Enhancing Structural Measures Augmenting benefits of existing coastal and fluvial infrastructure, design considerations, costs and benefits, implementation, monitoring, managing risk, and case studies	Burton Suedel <i>US Army Corps of Engineers</i>
1550-1600	The Way Forward Where to find out more. Upcoming opportunities.	Todd Bridges <i>US Army Corps of Engineers</i> Luis Rivera-Herrera <i>Federal Emergency Management Agency</i>
1600	Dismiss	