

# FEMA BRIC FY2023 Analysis of Nature-Based Solutions

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## 1. Summary

On July 2, 2024, FEMA announced that [56 projects were selected](#) for the fourth annual Building Resilient Infrastructure and Communities (BRIC) National Competition. The selections are based on the highest composite score until the funding amount available was reached. The total amount funded was \$674.5 million for the BRIC National Competition. The selected competitive projects span across 22 states and the District of Columbia. FEMA asserts that 57% of this year's National Competition-selected projects incorporate nature-based solutions from 16 applicants and nine FEMA regions.

[FEMA defines nature-based solutions](#) (NBS) as “sustainable planning, design, environmental management, and engineering practices that weave natural features or processes into the built environment to build more resilient communities and mitigate the impact of climate change.” FEMA provides examples including, but not limited to, “aquifer storage and recovery, bioretention systems, coastal wetlands, coral reefs, dunes, fire mitigation through vegetation management, floodplain restoration, green roof(s), green stormwater management, green streets, greenway, habitat restoration/enhancements, living shoreline, low-impact development (LID), native plants, oyster reefs, permeable pavement, property acquisition, rain gardens, rainwater harvesting, sand trapping, setback levees, stormwater parks, stream restoration, tree canopy, tree trenches, urban greenspaces, vegetated swales, waterfront parks, wetland restoration and protecting, xeriscaping, and others.”

For the first time, as a part of the [Technical Criteria evaluation](#), FEMA implemented a tiered point system for projects that incorporate nature-based solutions. Watershed- or landscape-scale nature-based solutions received the full point allotment (15 points), whereas projects that incorporated nature-based solutions at the neighborhood- or site-scale received partial points (5 points), out of the possible 100 total points.

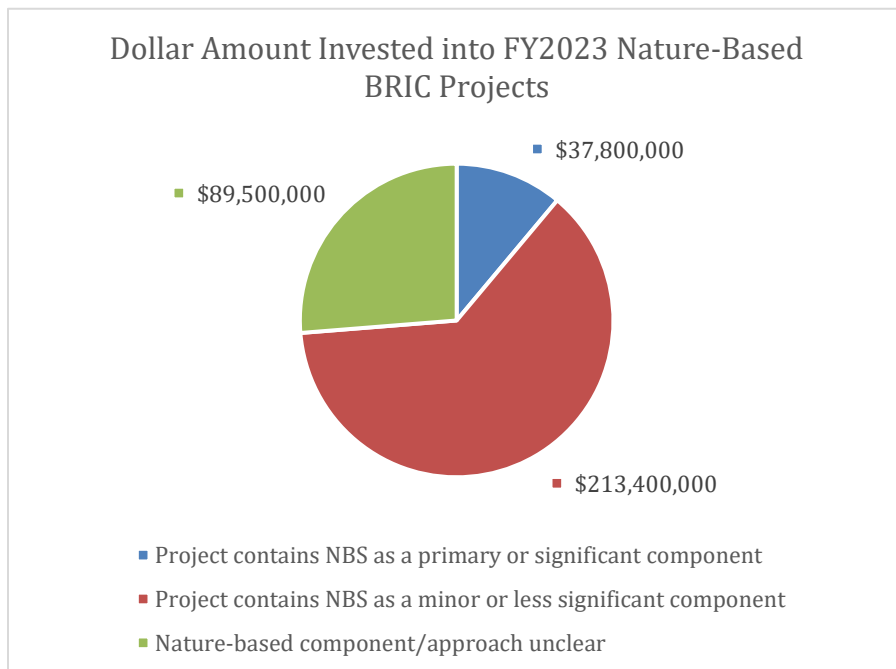
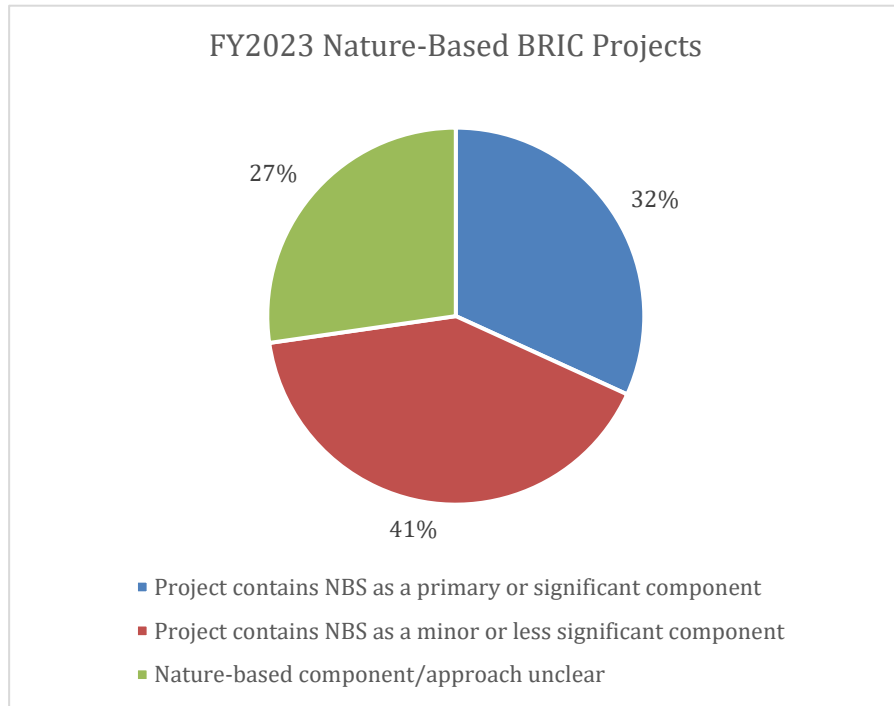
Based upon NWF's best-judgement review of the [BRIC FY2023 project descriptions](#), there are 16 out of 56 projects that FEMA identified as having nature-based project components, total funding equaling approximately \$251.2 million. Please note that dollar amounts throughout this analysis are based on total project cost – there is no way to separate out the nature-based project components. These figures are compared to FY2022, where FEMA tagged 64 out of 124 projects as NBS, FY2021 where FEMA tagged 21 out of 53 projects as NBS, and FY2020 where FEMA tagged 18 out of 22 projects as NBS.<sup>1</sup>

Based on this best-judgement review of the BRIC FY2023 project descriptions, 7 projects contain NBS as a primary or significant project component, representing \$37.8 million. 9 projects have NBS as a minor or less significant component, representing \$213.4 million. Additionally, there are 6 projects where the project description may include a nature-based component, but the description does not contain

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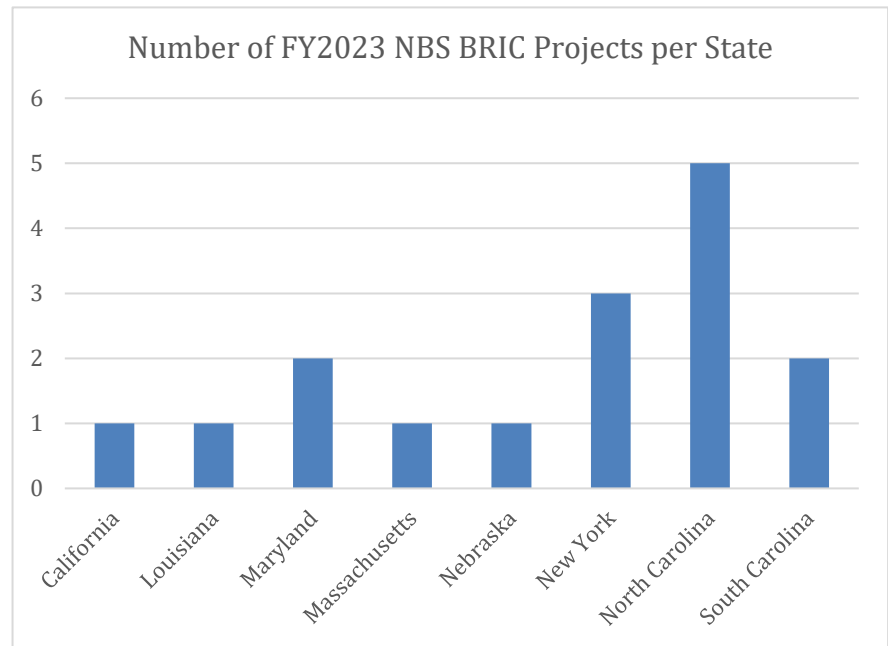
<sup>1</sup> See Emily Donahoe, *Funding Nature-Based Solutions through FEMA's BRIC Program*, National Wildlife Federation, Last updated October 25, 2022, <https://blog.nwf.org/2022/09/funding-nature-based-solutions-through-femas-bric-program/>.

enough information to meet our criteria, or the project description is very vague, making it difficult to understand the type and significance of the nature-based component (representing \$89.5 million).

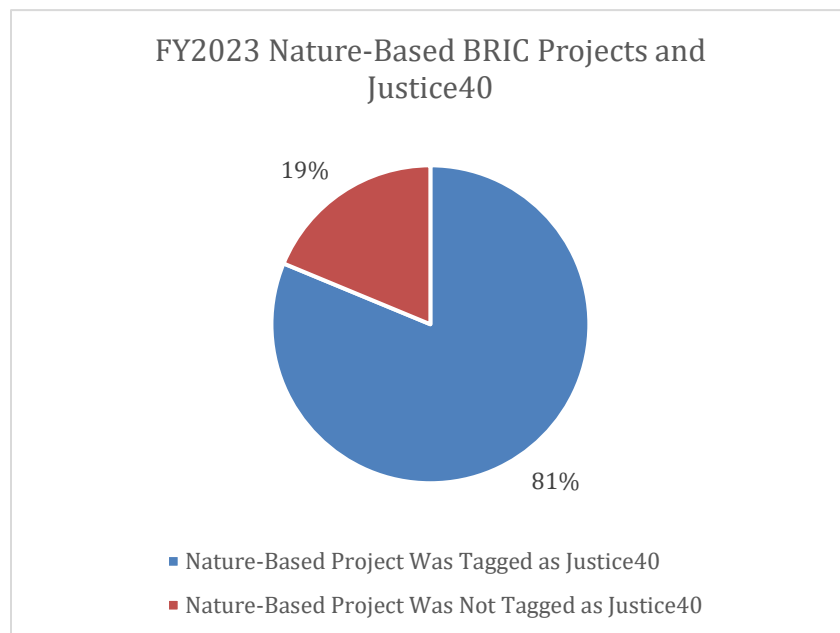


Projects that FEMA indicated include a primary or minor nature-based component are located in the following states:

- California (1)
- Louisiana (1)
- Maryland (2)
- Massachusetts (1)
- Nebraska (1)
- New York (3)
- North Carolina (5)
- South Carolina (2)



13 out of 16 projects (approximately 81%) that contain NBS as a primary or minor project component are identified as Justice40 projects. The [Justice40](#) Initiative aims to direct 40% of the benefits of certain federal investments to disadvantaged communities that are marginalized by underinvestment and overburdened by pollution.



## Recommendations for the Future

National Wildlife Federation (NWF) is encouraged by the continued interest in nature-based solutions, and is very supportive of FEMA's recent amendment to the FY2023 Technical Criteria announced in the [FY2023 Notice of Funding Opportunities](#). This amendment introduces a tiered point system for the evaluation of nature-based solutions, categorizing them into "neighborhood or site-scale" and "watershed or landscape-scale" projects. This refinement to the Technical Criteria, complemented by an increase in points for "watershed or landscape-scale" projects, are welcome developments and NWF continues to support these changes in current and future BRIC cycles.

In future rounds of the BRIC national competition, NWF recommends that all public-facing project descriptions should provide sufficient detail to clarify nature-based project activities. As demonstrated by this analysis, there is a discrepancy between the percentage of projects that FEMA claims to contain nature-based components (57%), versus the percentage of projects that contain nature-based components based upon NWF's best judgement review (29%). Clarified project descriptions will support enhanced understanding and transparency around which project components result in nature-based solutions points as a part of the Technical Criteria evaluation. Additionally, project descriptions for nature-based projects should indicate whether the project is considered "neighborhood or site-scale" or "watershed or landscape-scale" projects, to further understand how FEMA is categorizing these nature-based components.

## 2. Detailed Analysis

7 projects that FEMA tagged as NBS (representing \$37.8 million) appear to contain NBS as a primary or significant project component.

- **Maryland: Mobile Home Severe Storm Damage Mitigation**
  - Funding Amount: \$1.2 million
  - Project Description: This project will remove significantly damaged mobile homes and provide relocation assistance to the occupants. The town will plant trees and other plants in the remaining open space, which will serve as a floodplain buffer.
  - Nature-based solutions included: Buyouts combined with floodplain restoration
  - Tags: Primarily Benefits Justice40 Communities
- **Maryland: Sludge Management Sustainability and Resiliency**
  - Funding Amount: \$4.1 million
  - Project Description: This project will decommission a sludge storage lagoon and build a sludge digester and belt filter press in its place. Additionally, the existing stream will be redirected and restored to create a natural buffer and reduce future flooding risk.
  - Nature-based solutions included: Stream restoration, including using waterside vegetation to stabilize banks and improving aquatic habitat.
  - Tags: Primarily Benefits Justice40 Communities
- **Massachusetts: Tenean Beach Conley Street Resilient Waterfront Project**
  - Funding Amount: \$12 million
  - Project Description: This project will elevate parts of Dorchester, Massachusetts, to provide passive flood management. The project will also include nature-based solutions to restore degraded wetlands and waterside habitats, and will improve access to recreational opportunities.
  - Nature-based solutions included: Wetland restoration and improvements to waterside habitats.
- **North Carolina: Goldsboro Floodprint – Big Ditch Stream Restoration and Infrastructure Improvements**
  - Funding Amount: \$6 million
  - Project Description: This project will utilize nature-based solutions and infrastructure improvements to enhance flood resilience and equity. This project will improve water quality, provide new wildlife habitat, and allow more equitable access to recreational resources.
  - Nature-based solutions included: Approximately 2,300 linear feet of in-stream enhancements, and an expanded area of restored floodplain and park space.
  - Tags: Primarily Benefits Justice40 Communities
- **North Carolina: Wanchese Marine Industrial Park Living Shoreline Resiliency Project**
  - Funding Amount: \$2.8 million
  - Project Description: This project will use combine green and gray infrastructure to protect against coastal erosion and flooding.
  - Nature-based solutions included: 2,437 linear feet of shoreline stabilization and wave attenuation.
  - Tags: Primarily Benefits Justice40 Communities
- **South Carolina: Grove Creek Critical Infrastructure Protection and Stream Restoration Project**
  - Funding Amount: \$2.6 million

- Project Description: This project will relocate sewer lines away from a streambank and use basin-scale nature-based solutions to protect against future erosion.
- Nature-based solutions included: Stream restoration
- Tags: Primarily Benefits Justice40 Communities
- **South Carolina: Rocky Creek Basin Critical Infrastructure Protection and Stream Restoration Project**
  - Funding Amount: \$9.1 million
  - Project Description: This project will relocate a portion of the sewer lines and restore areas of stream to protect the stream corridor and reduce risk from flooding to sewer infrastructure.
  - Nature-based solutions included: Stream restoration

9 projects (representing \$213.4 million) appear to contain NBS as a minor or less significant project component.

- **California: Oakland Alameda Flood Adaptation and Community Benefits Project**
  - Funding Amount: \$50 million
  - Project Description: This project will add armoring and a floodwall to protect transportation routes, improve marsh habitat to address sea level rise, and close a gap in the San Francisco Bay Trail.
  - Nature-based solutions included: Marsh and upland habitat restoration; neighborhood greening
  - Tags: Primarily Benefits Justice40 Communities; Primarily Benefits Community Disaster Resilience Zones
- **Louisiana: City of Central Combined Drainage Project**
  - Funding Amount: \$39.8 million
  - Project Description: This project will improve creeks and detention basins in Central, Louisiana to reduce flood risk and protect homes and infrastructure from future flood events.
  - Nature-based solutions included: Green infrastructure features to improve water flow, reduce erosion, and lower 100-year flood levels.
- **Nebraska: City of Wood River Drainage Improvement Project**
  - Funding Amount: \$3.9 million
  - Project Description: This project involves drainage improvements to reduce flood risk, including culvert improvements and additions.
  - Nature-based solutions included: The use of grass swales and vegetated areas to increase sustainability and improve water quality.
  - Tags: Primarily Benefits Justice40 Communities
- **New York: Central Harlem Cloudburst Flood Mitigation Project**
  - Funding Amount: \$50 million
  - Project Description: This project involves innovative, climate-adaptive stormwater capture and control measures to improve flood resilience, including use of green infrastructure.
  - Nature-based solutions included: Green infrastructure; nature-based and climate adaptive drainage solutions
  - Tags: Primarily Benefits Justice40 Communities
- **New York: East Elmhurst Cloudburst Flood Mitigation Project**
  - Funding Amount: \$50 million

- Project Description: This project involves climate-adaptive stormwater control measures to manage 1.5 million gallons of stormwater in East Elmhurst.
- Nature-based solutions included: Installing porous concrete parking lanes and bike lanes; green infrastructure
- Tags: Primarily Benefits Justice40 Communities
- **New York: New York City Housing Authority Polo Grounds Houses Coastal Storm Surge Barrier**
  - Funding Amount: \$12.2 million
  - Project Description: This project involves innovative storm surge barriers to protect homes and a public school.
  - Nature-based solutions included: Native plantings
  - Tags: Primarily Benefits Justice40 Communities
- **North Carolina: Maple Avenue Green Stormwater Project**
  - Funding Amount: \$3.7 million
  - Project Description: This project involves the installation of piped infrastructure to reduce flooding and help create a new park in Maysville.
  - Nature-based solutions included: Green stormwater infrastructure
  - Tags: Primarily Benefits Justice40 Communities
- **North Carolina: Taylorsville Flood Mitigation Improvements**
  - Funding Amount: \$1.8 million
  - Project Description: This project involves replacing and upgrading sewer pumps and control panels, elevating and fortifying equipment, and installing a bottomless culvert.
  - Nature-based solutions included: Green stormwater infrastructure
  - Tags: Primarily Benefits Justice40 Communities
- **North Carolina: Western Princeton Drainage Improvements**
  - Funding Amount: \$2 million
  - Project Description: This project involves drainage improvements, including new and upsized culverts.
  - Nature-based solutions included: Native grasses and plantings to restore the waterside buffer along Beaverdam Creek.
  - Tags: Primarily Benefits Justice40 Communities

For 6 of the projects (representing \$89.5 million), the project description may include a nature-based component, but the description does not contain enough information to meet our criteria, or the project description is very vague, making it difficult to understand the type and significance of the nature-based component.

- **California: San Bernardino County Flood Control District – Mission Channel**
  - Funding Amount: \$36.4 million
  - Project Description: This project will improve flood protection by designing the San Bernardino County Flood Control District’s Mission Channel for 100-year storm flows.
  - Nature-based solutions included: A natural or articulated block bottom; description does not contain enough information to meet our criteria
  - Tags: Primarily Benefits Justice40 Communities; Primarily Benefits Community Disaster Resilience Zones
- **Maryland: Southern Crisfield Flood Mitigation Project**
  - Funding Amount: \$36.2 million

- Project Description: This project includes a two-phased approach, with Phase 1 involving data collection, permitting, property acquisition, and preparing construction documents. Phase 2 will build a nearly five-mile-long tidal flood protection barrier and new internal drainage system, including rehabilitating or replacing six tide gates.
- Nature-based solutions included: Improve wetland health; description does not contain enough information to meet our criteria
- Tags: Primarily Benefits Justice40 Communities
- **Montana: Slaughterhouse Creek Flood Mitigation**
  - Funding Amount: \$7.5 million
  - Project Description: This project involves channel improvements and culvert replacements, and will remove 1,122 buildings and 12 critical facilities from the floodplain.
  - Nature-based solutions included: Unclear
  - Tags: Primarily Benefits Justice40 Communities;
- **Pennsylvania: City of Scranton Acquisition Project**
  - Funding Amount: \$2.7 million
  - Project Description: This project involves the acquisition of 18 structures that were damaged during a September 2023 flash flood event.
  - Nature-based solutions included: Unclear
  - Tags: Primarily Benefits Justice40 Communities
- **Texas: Seminary Regional Detention Facility**
  - Funding Amount: \$2.7 million
  - Project Description: This project will build a regional stormwater detention facility and ditch extension to reduce the depth of flooding and protect 90 structures.
  - Nature-based solutions included: Unclear
  - Tags: Primarily Benefits Justice40 Communities
- **Texas: Southwest Weslaco Regional Detention Facility**
  - Funding Amount: \$4 million
  - Project Description: This project will build a regional stormwater detention facility and ditch extension to reduce the depth of flooding and protect 81 structures.
  - Nature-based solutions included: Unclear
  - Tags: Primarily Benefits Justice40 Communities

This analysis was completed on 09/24/2024.