

# Using Ecosystem Service Benefits in the Benefit-Cost Analysis Policy

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Ecosystem services support risk reduction through erosion control, air quality, recreation space and water filtration. They're available in all natural elements and provide mitigation opportunities as well as benefit the ecosystem. A new program gives greater flexibility to include ecosystem service benefits in mitigation projects. This fact sheet highlights the ecosystem service benefits in benefit-cost analysis for FEMA Policy 108-024-02 implemented by the agency's mitigation programs.

## Removing the Threshold Requirement

This new policy, *Ecosystem Service Benefits in Benefit-Cost Analysis for FEMA's Mitigation Program Policy* (FEMA Policy 108-024-02), removes the 0.75 threshold required for the mitigation project's Benefit Cost Ratio (BCR) allowing greater flexibility for ecosystem service benefits to be included in projects. Incorporating ecosystem services into the overall quantification of project benefits for mitigation projects, when available, supports FEMA's mission of risk reduction. This policy is a response to feedback provided to FEMA from individuals and representatives from both public and private sectors. The policy aligns with BCA Guidance for the federal government and reduces the complexity of FEMA's Hazard Mitigation Assistance programs.

The agency's original ecosystem services policy<sup>1</sup> only allowed the use of ecosystem service benefits in acquisition projects with a BCR of 0.75 or greater. In 2016, FEMA released an expanded policy clarification<sup>2</sup> to use of ecosystem services benefits in the Benefit Cost Analysis (BCA) for all risk-reduction projects that enhance the natural environment and is not limited to acquisitions only. The mitigation project, however, was still required to have a BCR of 0.75 or greater before ecosystem service benefits could be included in the Benefit-Cost Analysis.

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<sup>1</sup> FEMA Mitigation Policy FP-108-024-01, *Consideration of Environmental Benefits in the Evaluation of Acquisition Projects under the Hazard Mitigation Assistance (HMA) Programs* issued on June 18, 2013.

<sup>2</sup> *Benefit-Cost Analysis Tools for Drought, Ecosystem Services, and Post-Wildfire Mitigation for Hazard Mitigation Assistance* issued on May 27, 2016.



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## Purpose

The Ecosystem Service Benefits in Benefit-Cost Analysis for FEMA's Mitigation Programs Policy<sup>3</sup> removes the limitation on ecosystem service benefits. Removing the limitation allows more mitigation projects to include ecosystem services. Communities now have more opportunities to include nature-based solutions in risk-based mitigation projects and benefit from ecosystem services.

## Requirements

- Ecosystem service benefits can be used for mitigation project types that support the inclusion and valuation of these benefits, and are eligible for three Hazard Mitigation Assistance (HMA) programs as well as Public Assistance (PA) mitigation programs. The HMA programs include the Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC) and Flood Mitigation Assistance (FMA). The policy does not affect other HMA and PA Mitigation programmatic eligibility requirements.
- Projects will need to meet all eligibility requirements and therefore must be aimed primarily at reducing risk to lives and/or property.
- Ecosystem service benefits cannot be combined with pre-calculated benefits.

## Frequently Asked Questions

### *What prompted FEMA to issue this policy?*

- FEMA recognizes the natural environment plays an important role in a community's resilience strategy. FEMA expanded the opportunity for communities to include allowable ecosystem services in their projects to the maximum extent. Many individuals and representatives from public and private sector entities provided input to this also directly supports the requests FEMA heard from its stakeholders to expand the use of ecosystem benefits in the BCA.

### *When does this new policy change take effect?*

- It applies to disasters declared on or after Sept. 28, 2020, when the Ecosystem Service Benefits in Benefit-Cost Analysis for FEMA's Mitigation Programs Policy (FEMA Policy 108-024-02) was issued. The change also applies for any grant application periods that were still open at that time. In addition, the policy also applies to non-disaster mitigation grants – Building Resilient Infrastructure and Communities (BRIC) and Flood Mitigation Assistance (FMA) – beginning in Fiscal Year 2020.

### *How can I leverage the ecosystem service benefits as part of the benefit-cost analysis?*

- Projects that do not reduce risk to people, structures, or infrastructure are not eligible activities. Documentation for the project must support the use of ecosystem service benefits in the Benefit-Cost Analysis. If these two criteria are met, grant applicants can conduct ecosystem service benefit analysis by

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<sup>3</sup> This policy replaces Considerations of Environmental Benefits in the Evaluation of Acquisition Projects under the Hazard Mitigation Assistance Programs (FEMA Policy 108-024-01).

identifying and quantifying land use types after the proposed mitigation project is completed. The applicant can then apply the monetized values (\$/acre/year) to the area.

- The [Benefit-Cost Analysis](#) Toolkit contains FEMA’s standard values for ecosystem service benefits. Users must input data for project area (in acres or square feet) and post-mitigation land use types. Supporting documentation to justify the use of ecosystem service benefits and for the values entered into the BCA Toolkit must also be submitted with the project application.

***Does this affect how I use the BCA Toolkit?***

- No, the BCA Toolkit was updated without any additional steps required by the user. Any entered ecosystem service benefits will appear within the BCR Toolkit’s calculation. All eligibility requirements still apply.

***Are ecosystem service benefits the same as environmental benefits described in the Hazard Mitigation Assistance Guidance (2015)?***

- Yes, ecosystem service benefits are the same as environmental benefits that are currently detailed in “Part IV. I.6 Environmental Benefits” of the 2015 guidance. The guidance is currently being updated and the new version will reflect the removal of the .75 BCR threshold.

***Where can I go to access more information on ecosystem service benefits?***

- To learn more, the following resources are available on FEMA.gov.
  - [Ecosystems Service Benefits Policy 2020](#)
  - [Hazard Mitigation Assistance Guidance](#)
  - [Public Assistance Program and Policy Guidance \(PAPPG\)](#)
  - [BCA Toolkit](#)

Additional resources on ecosystem services can be found on the Environmental Protection Agency’s [“Ecosystem Services” webpage](#) and by accessing the [Federal Resource Management and Ecosystem Services Guidebook](#).