Quantifying the Benefits of Nature-Based Solutions

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Agenda

1. Context Setting
2. Nature-Based Solutions
3. Quantifying Benefits of Nature-Based Solutions
4. Ecosystem Services Valuation

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About Radbridge

- Grown from the nonprofit sector
- Rich experience in ecosystem services valuation
- Experience developing national policy, while also working with on-the-ground applicants
- Reduce friction in the application process, making for more equitable outcomes

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TNC California –FEMA Partnership

- Shared interest in maximizing and facilitating the use of FEMA programs and expanded mitigation dollars for nature-based strategies.
- Cooperating Technical Partners (CTP) - The Nature Conservancy-CA and FEMA Region IX
- Challenges, barriers, and opportunities for NBS in FEMA's hazard mitigation funding programs
- Resources, outreach, & technical assistance
- Partnering with Radbridge to assist in this effort

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What is Hazard Mitigation?

Any sustained action taken to reduce or eliminate the long-term risk to life and property from hazards.

- *FEMA*

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$5 Billion

in hazard mitigation funds to reduce the effects of climate change

a strong focus on equitable benefits

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What are Nature Based Solutions?

Project solutions that are motivated and supported by nature and that may also offer environmental, economic, and social benefits, while increasing resilience. Nature-based solutions include both green and natural infrastructure.

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What is Benefit-Cost Analysis (BCA)

The method of estimating the future benefits of a project compared to its cost. The end result is a Benefit-Cost Ratio, which is derived from a project's total benefits divided by its total project cost.

- *FEMA*

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Types of Capital

Built

Human

Social

Natural

Financial

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Ecosystem Goods and Services

The natural resources and ecological functions of direct or indirect value to humans.

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Ecosystem Services and FEMA

2013: Initial ecosystem services policy

- Limited to acquisition & relocation/demolition projects
- Green open space, & riparian

2016: Policy expansion, new eligible project types

- + Forests & wetlands
- Post-wildfire mitigation, aquifer storage & recovery (drought mitigation), floodplain and stream restoration, flood diversion and storage, green infrastructure

2020: Ecosystem services policy update

- Restrictions removed on use of ecosystem services in BCA

2022: Ecosystem services value updates

- Value updates for current landcovers and new eligible landcovers

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FEMA Ecosystem Service Values

Land Cover	$/Acre/Year	$/Acre/100yr
Urban Green Open Space	$15,541	$221,758
Rural Green Open Space	$10,632	$151,711
Riparian	$37,199	$530,802
Coastal Wetlands	$8,955	$127,781
Inland Wetlands	$8,171	$116,594
Forests	$12,589	$179,636
Coral Reefs	$7,120	$101,597
Shellfish Reefs	$2,757	$39,340
Beaches and Dunes	$300,649	$4,290,036

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Ask Yourself…

Does is provide value?

Can I count this value?

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Thank You!

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