IMPLEMENTATION PHASE

To build a network of nature-based solutions, communities should encourage both public and private investments. This section provides tips for boosting public investment and incentivizing private investment. Many of these tips rely on the diverse benefits of nature-based solutions. Recognizing these diverse benefits can help pool resources from public and private partners to mobilize more funding for nature-based solutions. This section is aligned with the third goal of the National Mitigation Investment Strategy — to make mitigation investments standard practice.

BOOSTING PUBLIC INVESTMENT

Diversifying Local Resources

Traditional local funding sources for public infrastructure include general funds, bond proceeds, taxes, and fees. Support for nature-based solutions investments could come from taxes levied on property, special or business improvement districts, or tax increment financing (TIF) districts. Local fees could include development impact fees, fee-in-lieu payments, or utility fees (including stormwater utilities). Pooling resources is also a way to integrate NBS practices into planned or ongoing capital improvement projects. Consider NBS when creating or improving roads, streetscapes, stormwater management projects, parks, and parking areas. Incorporating NBS into public improvements is an opportunity to lead by example and to educate other departments, private developers, and the public.

GENERAL FUNDS	BOND PROCEEDS	TAX AND FEE REVENUES
PROS • Financial flexibility	**PROS** • Dedicated and consistent source of funding	**PROS** • Dedicated and consistent source of funding
CONS • Funds can be reassigned • Influenced by changes in community, including political climate	**CONS** • Could increase local taxes and fee rates • Influenced by credit rating • Repayment often includes interest	**CONS** • Lack of financial flexibility • Could increase local taxes and fee rates

While each funding source has pros and cons, communities should use more than one internal resource. Pooling resources is a more cost-effective and fiscally responsible funding choice. Pooling resources is also a way to integrate nature-based solutions practices into planned or ongoing capital improvement projects. Consider nature-based solutions when creating or improving roads, streetscapes, stormwater management projects, parks, and parking areas. Incorporating nature-based solutions into public improvements is an opportunity to lead by example and to educate other departments, private developers, and the public.

Attracting Grant Funding

To maximize public investment in nature-based solutions, communities should creatively combine local and external resources as often as possible. Since nature-based solutions provide many different co-benefits, a single project may be eligible for a variety of private, state, and federal grant programs. The key to leveraging These resources is to think outside the box when applying for funding, and to apply to diverse programs. For example, a coastal community may seek grant funding for a flood risk reduction project that uses nature-based approaches. In addition to applying for hazard mitigation grants, this community could apply for habitat conservation grants, water quality grants, and coastal resilience grants. The final section of this guide lists some of the most common federal grant funding opportunities for nature-based solutions. Communities should also identify and leverage the financial assistance available through state-specific programs. Other potential sources are non-profit organizations, special districts, and private foundations.

As a growing suburb of Kansas City, Lenexa, Kansas is managing the effects of increased impervious cover through nature-based solutions. To integrate nature-based solutions into major capital projects, such as rebuilding roads and parks, Lenexa is using funds from several internal and external sources:

1. sales tax revenues;
2. stormwater utility fees;
3. new development fees; and
4. state and federal grants.

Building Nature-Based Solutions into the Capital Improvement Plan

The Capital Improvement Plan (CIP) process is another tool for increasing investments in nature-based solutions. Many communities use a CIP to plan the timing and financing of public improvements over the medium term (approximately five years). Agencies submit projects to be evaluated and included in the CIP, and the CIP team analyzes and ranks submitted projects. Ultimately, highly ranked projects are funded first. Rankings often consider how the project advances mandated activities and community priorities. They are also based on whether the project is fiscally responsible. Including a nature-based component can help increase a project's ranking, as nature-based solutions may contribute toward federal Clean Water Act requirements, hazard mitigation, and other community priorities. It is important to emphasize the multi-functional nature of these solutions and how they can provide more bang for the public's buck.

Funding Nature-Based Solutions with Stormwater Utility Fees

Stormwater utility fee programs are designed to pay for the cost of managing stormwater runoff. Typically, stormwater fees are collected in a fund dedicated to the stormwater management program and stormwater-related projects. This can be a good, steady source of funding that does not compete with other community priorities.

Many stormwater utilities are structured to charge users based on their property's stormwater runoff volume. For example, communities can charge a fee based on a property's impervious area, rather than its total area. For this type of fee structure, communities need to have a good understanding of their impervious cover. Stormwater utilities are also able to collect fees from all property owners, including those otherwise exempt from property taxes.

The 2017 Western Kentucky University Stormwater Utility Survey identified 1,639 stormwater utility programs in 40 states. The smallest program served a population of 88.

Financing Nature-Based Solutions with the Clean Water State Revolving Fund

The Clean Water State Revolving Fund (CWSRF) is a financial assistance program established through the Clean Water Act. It provides low-interest loans for water infrastructure projects (including nature-based solutions) that address water quality.

The EPA provides funding to all 50 states and Puerto Rico to operate CWSRF programs. States provide a 20-percent match for all federal funds. Since the CWSRF was established, it has supplied more than $43 billion to state programs. With that support, states have given $133 billion in loans to communities.

For most projects, public, private, and non-profit entities get an average interest rate of 1.4 percent. The loan period must not exceed 30 years. A key benefit of the program's low interest rate is that communities may be able to cover debt service payments without raising the rates for local taxes or fees. By further reducing operation and maintenance costs for infrastructure, nature-based solutions help communities meet their loan repayment terms.

The Camden County Municipal Utility Authority was awarded a $5.4 million loan from the New Jersey Infrastructure Bank, the state's CWSRF, to fund a city-wide nature-based solutions project. The project has an estimated cost savings of $3.1 million over the 30-year loan. It involves building nature-based solutions throughout the City of Camden, including rain gardens and porous concrete sidewalks. The project also has a green jobs component. In the past 3 years, Camden trained about 240 youths in nature-based solutions maintenance.

Managed dune on Long Beach Island, NJ. Dune restoration is an example of nature-based solutions that can be funded by many federal funding sources.

INCENTIVIZING PRIVATE INVESTMENT

While public investment in nature-based solutions is critical and continues to evolve, communities should also investigate ways to incentivize nature-based solutions on private property. One option is to make these investments more appealing to homeowners, businesses, and developers. Incentives typically use public funds to seed additional investments by private parties. Innovative incentive-based programs can create unique ways to fund and build nature-based projects. Some examples are public-private partnerships, rebates and financing programs, grants, and cost-share arrangements. Banking or credit trading programs, development or redevelopment incentives, local fee or tax discounts, and community awards and recognition programs have also been useful. Such voluntary programs can increase the use of nature-based solutions on private land, where most traditional development takes place. They can balance regulations and may relieve some of the administrative burden that communities carry when adopting and managing their own nature-based policies or projects.

Public-Private Partnerships

Through partnerships, local governments and private-sector parties can invest together in public asset or service projects. These long-term partnerships are most successful when they have shared goals and benefits. Private partners may have more flexibility than a public agency. Linking any partnership with performance-based payments can encourage efficiencies in time and cost.

Local officials can work with private partners to develop and finance nature-based solutions in many ways. One key step is to demonstrate the benefits of nature-based solutions – to make the business case locally. Another is to offer continued technical assistance and coordination for nature-based projects. This may include policy support, training, or other ways to build capacity. Finally, seek long-term agreements with any private stakeholders that would provide these services traditionally delivered by the public sector. Above all, communities should create partnerships with private parties for specific projects.

Green Certification Incentives

Certifications such as LEED and SITES offer guidance for developers to incorporate sustainability when designing buildings and landscapes. States and communities can provide incentives to developers to incorporate these certifications into new development and redevelopment projects.

In Prince George's County, Maryland, a new water resources plan proposed extensive stormwater-related restoration. Also, 20 percent of the county's impervious surfaces needed to be replaced. Recognizing its challenges in volume and timing, the county built a public-private partnership. A private party was contracted to restore 2,000 acres, with the potential for extending the contract to an additional 2,000 acres if it met performance metrics. This partnership met its project costs and deadlines. It was also recognized for meeting social goals such as hiring and training minority-owned businesses and focusing on projects in lower-income areas.

Rebates and Financing Programs

Rebates, tax credits, or low-interest loans can encourage nature-based solutions and practices. For example, Tucson Water sponsors a Rainwater Harvesting rebate program. It provides rebates of up to $2,000 to single-family residential or small commercial customers who install a rainwater harvesting system. Eligible options include passive rainwater harvesting, which directs and retains water in the landscape, and active rainwater harvesting, such as tanks that store water for later use. Often, participants in this kind of program need capital at the beginning of a project. Since residents may not want or be able to fund improvements on their own, many communities target their rebates and loans at businesses. Philadelphia, for example, offers low interest (1 percent) loans for nature-based solutions retrofits on non-residential property.

Another finance option for promoting nature-based solutions is the Department of Energy's Property Assessed Clean Energy (PACE). Communities can use PACE to help property owners finance nature-based solutions. It also applies to installing renewable energy or energy-efficient assets on private properties. Depending on state laws, communities can create PACE programs by issuing a revenue bond to the property owner. PACE borrowers can benefit immediately from new nature-based solutions and repay their debt by increasing property taxes. For example, increases are at a set rate for an agreed-upon term, typically 5–25 years. The PACE assessment is attached as a tax on the property, not the property owner. Because PACE is funded through private loans or municipal bonds, it creates no liability to local government funds.

Grants and Cost-Share Agreements

Communities can also encourage nature-based solutions by directly funding property owners or groups. Onondaga County, New York has a Green Improvement Fund that funds nature-based solutions on private commercial and non-profit properties. Applicants in the target sewer districts can choose their own nature-based solutions techniques, but grants are determined by the amount of stormwater the project captures. The Green Improvement Fund has awarded 88 grants since 2010, for a total of nearly $11 million. Nature-based solutions projects have included the installation of porous pavement, added green space, rain gardens, green roofs, and infiltration projects. Together, the completed projects can capture more than 38 million gallons of stormwater runoff per year. Philadelphia manages a similar voluntary retrofit grant program. It covers the upfront costs of typical nature-based solutions on private property if the owner agrees to maintain it.

Banking or Credit Trading

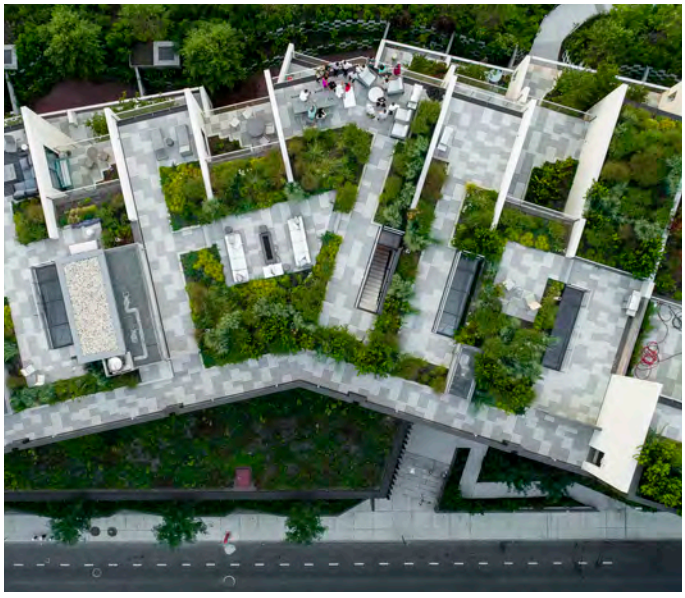
Banking or credit trading programs can help developers meet onsite stormwater retention requirements when nature-based solutions are not feasible onsite. They create a mechanism for developers to pay the community to build nature-based solutions off site. This concept is like that of wetland mitigation banking.

Washington DC's Stormwater Retention Credit (SRC) Trading program allows large-scale development and redevelopment projects to meet stormwater management requirements by buying credits from properties with voluntary nature-based solutions improvements. The credit trading program encourages developers to choose cost-effective, nature-based solutions. It also creates an incentive for other property owners to integrate green stormwater practices. Through this program, properties that use nature-based solutions or reduce impervious cover can earn and sell credits to the Department of Energy and Environment or in an open market.

Environmental Impact Bonds

Several traditional debt financing tools are available to communities. However, environmental impact bonds (EIBs) are a recent innovation. EIBs can help communities obtain upfront capital for hard-to-finance environmental projects. These bonds link project performance incentives to desired environmental outcomes. In practice, most EIBs function like traditional bonds, with a fixed interest rate and term. Unlike normal bonds, they offer investors a “performance payment” if projects perform better than expected. The primary benefit of this model is that it shifts the project performance risk to a private party and ties borrowing costs to the effectiveness of a project. If a project underperforms, investors must reimburse the borrowing entity; if it overperforms, the entity pays the investors. This model has potential applications for multiple areas of environmental restoration and resilience, including nature-based solutions.

Environmental Impact Bonds have already been issued in several cities, including Washington, DC and Atlanta, Georgia, where they are funding a range of nature-based solutions projects to reduce stormwater runoff and address critical flooding issues.



Modern rooftops, Brooklyn Heights, New York City

Development or Redevelopment Incentives

Communities can update their land use, zoning, or other local regulations to provide incentives for using nature-based solutions. Zoning incentives can allow a greater height, density, or intensity of development if a developer uses nature-based approaches. One common zoning incentive is an increased floor-to-area ratio (FAR), which regulates the density of development on a site. The City of Portland, Oregon offers increased FAR as an incentive for installing green roofs. Communities can also exempt green roofs or pervious pavements from any regulations that apply to impervious cover.

More incentives for adopting nature-based solutions approaches can be used in the development application and review period. These include discounted application fees and discounted or waived maintenance bonding requirements. The City of Chicago, Illinois waives permit fees for developments that meet specific nature-based solutions thresholds. For redevelopment, communities can also give a one-time tax credit for using nature-based approaches that benefit the public.

More communities are moving from strict standards to more flexible instruments that include incentives. They are encouraging developers to use nature-based solutions through unified development ordinances. They are providing options for flexibility and creativity during the site plan review process.

The City of Norfolk, Virginia recently created a "resilient quotient system." Developers earn points for adopting measures that reduce flood risk, manage stormwater, and increase energy resilience. Under this system, new developments must meet different resilience point values. The points are based on the size and type of development (residential, non-residential, mixed-use). Developers get points for installing green roofs, rain gardens, or other stormwater infiltration systems; using pervious paving systems; providing a community garden space; preserving natural, native vegetation; planting trees; and preserving large, non-exotic trees.

Stormwater Utility Incentives

Communities can use a local stormwater utility fee program to establish a dedicated funding stream for nature-based solutions. This type of program can offer incentives for property owners to incorporate nature-based solutions. For example, a program that charges users based on their property's impervious area could offer discounts when property owners "disconnect" some of their impervious area from the storm sewer system by adding nature-based solutions. Other incentives may be offered for creating more buildings with green roofs and other retention or infiltration systems, or for rainwater harvesting.

In Nashville, Tennessee, properties in a combined sewer overflow area may receive a discount on their sewer fees if nature-based solutions are incorporated. Similar incentives are part of stormwater utility programs in Philadelphia and Washington, DC. In Lancaster, Pennsylvania, stormwater credits available to all property owners can reduce fees by up to 50 percent a year. To qualify, owners must use nature-based solutions on the property.

Father and toddler examining plants in a park in Norfolk, VA