

November 17, 2020 Proceedings

Recommended Reading

Incorporating Multiple Benefits into Water Projects: A Guide for Water Managers <u>https://pacinst.org/publication/incorporating-multiple-benefits-into-water-projects/</u> and other reports and material created and provided by The Pacific Institute <u>https://pacinst.org/</u>

Agenda

- 12:00 PM Introduction to SRRR: David Berry, SRRR Director https://sustainableroundtable.org
- 12:15 PM Dr. Robert Wilkinson, SRRR Co-Chair, Introduction of Dr. Sarah Diringer, Pacific Institute, and the Multiple Benefits work https://pacinst.org/
 - 12:25 PM 12:55 PM: Multiple Benefits of Water Management Strategies
 - Dr. Sarah Diringer, Pacific Institute, Introduction to "A Multi-Benefit Approach to Water Management" (20 minutes)
 - Questions Part I (10 minutes)
- 12:55 PM 1:35 PM: Inspiring action through Multiple Benefits
 - Morgan Shimabuku, Pacific Institute, Building Collaborative Funding through Multiple Benefits
 - Sonali Abraham, Pacific Institute, Incentivizing Sustainable Landscapes on Commercial Properties in Southern California
 - Tien Shiao, Pacific Institute, Engaging Corporates through Multiple Benefits: Accounting for Carbon and Water Benefits of Nature Based Solutions
- 1:35 PM Discussion and Questions
- 1:55PM Wrap-up and Invitation to What's Next: SRRR Director & Co-Chairs

Introduction to Sustainable & Resilient Resources Roundtable David Berry Director, Sustainable and Resilient Resources Roundtable Learn more at: <u>https://sustainableroundtable.org</u>

Moving Toward a Multi-Benefit Approach to Water Management

The Pacific Institute creates and advances solutions to the world's water challenges, focusing on: Vulnerable communities, Nature-based solutions, Water efficiency, and reuse. The Pacific Institute works with public and private sector to build a resilient water future. Their approach is to use: science-based research, interdisciplinary approaches, and collaboration.

Learn more at: pacinst.org



The Pacific Institute also serves as the Secretariat of the CEO Water Mandate, a United Nations Global Compact that focuses on mobilizing business leaders to advance water stewardship and sustainable development goals (SDGs).

Defining a "Multi-Benefit Approach" to Water Management

Presented by Dr. Sarah Diringer Senior Researcher, Pacific Institute

Opportunities for Stormwater Capture in California

Study conducted with NRDC showed that 420,000-630,000 acre-feet per year (AFY) in Bay Area and Southern California, 6-10% of the total water supply. It is an economical source of water.



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Expanding on Stormwater Capture Cost Estimates: looked at fifty projects and found the average cost is \$816/AF. Calculation is attributed to water supply, volume. Through this work, they identified multiple benefits. Categories include:

Systematically including benefits provides a more accurate cost-benefit analysis: Stormwater capture cost decreased from \$807/AF to -\$21.3/AF

Negative costs show that all of the other benefits are paying for the project and the water supply is a bonus.

- Water Supply
- Flood Control
- Water Quality
- Community

- Habitat
- Energy Savings
- Greenhouse Gas





Multiple Benefits Challenges

- Applications quantified a limited number of co-benefits
- Different methods were used throughout proposals

As a result, we can't fairly compare storm water capture projects and weigh the benefits and the costs.

Working to Define a "Multi-Benefit" Approach to Water Management

- Created a team of stakeholders, largely led by The Pacific Institute and University of California, Santa Barbara
- Support from public and private donors
- Large advisory group, meeting quarterly

A Multi-Benefit Approach to Water Management

- Inclusive for a broad range of strategies
- Modular for different decision-making processes
- Centers equity and stakeholder engagement



Multi-Benefit Areas of Work

- Research
- Practical Guidance
- Resource Libraries (247 resources in library)
- Test Cases and Applications

A Multi-Benefit Framework for Incorporating Benefits and Trade-Offs Into Decision-Making

Step 1: Envision the Project or Program (what are you trying to achieve?)

Step 2: Identify Benefits and Trade-offs (think broadly, don't only try to quantify)

Step 3: Characterize Benefits and Trade-offs (the nitty gritty)

Step 4: Inform Decision Making (how to communicate based on who decision makers are and what their process is)

Outcomes of Incorporating Multiple-Benefits

- Provide a more objective basis for comparing of water management options
- Optimize investment of time, money, and resources
- Identify opportunities to share costs
- Building community support for a project or program
- Increase equitable investments and mitigate adverse impacts

Stormwater capture is already economically feasible. But we can't yet prioritize projects that yield the greatest benefits. Incorporating multiple benefits provides that opportunity and more.

Multi-Benefit Projects and Resources

Incorporating multiple benefits into water projects: a guide for water managers

Case Studies

- Incorporating Multiple Benefits into Regional Funding (Los Angeles, CA)
- Building Collaboration through Rainwater Capture (Austin, TX)
- Sustainable Landscapes on Commercial Properties (Santa Ana, CA)
- Engaging Corporates in Nature-Based Solutions (Global)

Multi-Benefit Resource Library at <u>https://pacinst.org/multiplebenefits/</u>

Q&A:

Q: How did you get value information for non-quantifiable benefits?

A: It is harder to quantify social benefits and things that will happen far in the future. For each project, work to identify the benefits and then work with stakeholders to figure out which indicators work best for each project. An example is the change in property value, but that indicator doesn't work in communities that are mostly rentals. Defining appropriate metrics relies more on engagement with community members.

Q: Do you have a sense of how to best get this information to decision makers (DM)? Are they open to it, or have there been challenges?

A: It depends on who the DM is. Bringing the DM in early is important to understand what their interests, needs, and wants are early on and thinking consciously about what the process looks like and how to engage them. Ex: Engaging commercial spaces, thinking about business owners and property manages as the DM. What will resonate with them isn't the same supply or flooding, they're more thinking about carbon footprint or worker satisfaction benefits. The most important thing is to know what's important to the DM.

Q: How do we fairly argue the value of those multiple benefits that no one has mandated or asked for, or perhaps, identifies with?

A: 90% of the investment comes from the local-level. The federal government is the least. Investments must be justified based on cost-benefit analysis. This is a tool that shows a value of the multiple benefits instead of one option over another.

PART II - Inspiring Action Through Multiple Benefits

Stacking Incentive Programs to Encourage Multiple Benefit Projects

Presented by Morgan Shimabuku Research Associate, Pacific Institute Learn more at <u>https://pacinst.org/publication/multiple-benefits-in-austin-texas/</u>

Rain Catcher Pilot Program (Austin, Texas)

Departments of the City of Austin had different rebates. (Urban Forestry gave rebates for tree planting, Watershed Protection Department was

interested in supporting rebates around stormwater.) The city designed the Rain Catcher Pilot program to combine the different rebates. The Pacific Institute helped the city to evaluate multiple benefits of the program and opportunities for enhancing stakeholder engagement with it.

Goals of the Rain Catcher Pilot Program:

Reduce erosive events and improve water quality. They worked with other departments and groups locally. Project options that emerged:

- Rain Cisterns
- Rain Gardens
- Trees

From combining these options into a single rebate offering how can multiple benefits increase engagement with other city departments, homeowners, and local NGOs?



Benefits and Trade-offs

IDENTIFY- Cast a wide net

- Water
- Energy
- Land and Environment
- Community Benefits
- Risk and Resilience

EVALUATE - Don't let the perfect be the enemy of the good

- Erosive events
- Base flow improvements
- Water conservation volume
- Reduced urban heat island effect
- Energy and greenhouse gas emissions reductions
- Educational opportunities

Connect Benefits with Beneficiaries

Watershed Protection Department, residents, utilities, NGOs, other City Departments

	Wastewater	Reuse	Stormwater	Watershed Protection
Water Supply & Conservation	Indoor conservation measures	Onsite reuse systems	Rain barrels and rain gardens	Conservation easements in source water- shed
	Energy	Parks	Public Health	Affordability
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Stackable Incentive Opportunities

Co-fund • Co-brand • Co-create • Co-educate

Open Discussion and Q&A:

Jan Surface, Natural Resources Conservation Service, part of USDA.

They work with farmers, but also programs that are more broad, larger scale. Regional Conservation Partnership program is national. It leverages partner contribution and addresses water supply, water quality, sedimentation, etc. Through the Environmental Quality Incentives Program, there is a National Water Quality Initiative that program that focuses on source water protection. State-level recommendations for watersheds that qualify. First there's a funded assessment of the watershed, which is a benefit for states who do not usually have funding for planning or assessment before a project begins. Every state has a NRCS office who will serve as the direct conduit to access. For more information contact jan.surface@usda.gov.

Motivating Adoption of Sustainable Landscapes on Commercial Properties

Sonali Abraham Research Associate, Pacific Institute

Project Overview

Objective: Implement and measure the impacts of, sustainable landscape practices on commercial and industrial properties in Southern California.

Phase 1 (completed in 2019):

Identify potential water-related benefits across the Santa Anna Watershed, as well as motivations and barriers for greater uptake.

Phase 2 (current):

Work with the business community—providing tools, resources, and support—to advance the adoption of sustainable landscape practices.

Image: selection of the se

Geospatial analysis informed our understanding of the potential multiple benefits of sustainable landscapes. Analysis at watershed and parcel scale:

- Water supply
- Water quality
- Flood risk mitigation
- Disadvantaged communities

The analysis is accessible in this online mapping tool: <u>https://pacinst.org/santa-ana-benefits-map/</u>



Framework to motivate adoption of this project:

- 1) Understand business interests to make connections with landscape benefits (ex: public facing interested in public feedback and aesthetics vs. operational companies interested in efficiency.)
- 2) Business role/motivations to invest in sustainable landscapes vary depending on the company (financial savings, sustainability goals, social responsibility, water risk)

Barriers to adoption:

- Project benefits not fully understood and distributed among multiple parties.
- Business decision-making processes complex and varied.
- Few financial incentives for benefits beyond water savings.
- Business community often unaware of available rebates.
- Permitting and regulatory requirements complex and varied.
- Specialized knowledge needed to install & maintain landscapes.

Connect business interests to landscape benefits

Foster Long-term Relationships between Water Managers and the Business Community

Create Tailored Materials (language and resources) that Speak to the Business Community so they understand the ROI **Next steps:** Engage with businesses, build relationships, create resources including working with those interested in installing sustainable landscapes

Discussion/Q&A

Q from John Wells: I assume the business motivations may have many sources, including interest in employee as well as community health and happiness. Did you find one focus more important than the other?

A: It is hard to generalize businesses as a uniform community. Employee wellbeing was more of interest to certain companies, maybe the smaller ones. Another driver is where they use water. Public facing vs. not public facing is a big distinguisher.

Q from Alexandra Sokol: We've also been finding that companies that have pressure from investors to meet ESG ratings are more likely to buy into all sustainability, including landscape and water savings solutions.

A: That makes a lot of sense. External pressure is always a good thing if they are pushing in the right direction.

Jan Surface:

NRCS economist Hal Gordon, Portland West Technical Support Center, published a series of papers "The value of ..." (i.e., the value of flood control, the value of nutrient management, etc.)

https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/technical/econ/ref erences/?cid=NRCSEPRD1667618

Engaging Corporates through Multiple Benefits: Accounting for Carbon and Water Benefits of Nature-Based Solutions (NBS) Tien Shiao Senior Researcher, Pacific Institute Senior advisor, CEO Water Mandate

Scaled implementation of NBS remain limited

- Nature-based solutions (NBSs have the potential to deliver sustained improvements in watershed health with multiple benefits
- However, scaled implementation remains limited due to:
 - Lack of awareness and expertise
 - Under investment
 - Weak project pipeline
 - Inappropriate policy and governance frameworks

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NBS addresses key elements of corporate water stewardship

Optimize water management internally

Understand water risk and impacts

Develop a comprehensive water stewardship plan and set targets/goals Work with stakeholders to advance water stewardship

Communicate and achieve meaningful dialogue with stakeholders

A standardized approach is needed

Outcomes from landscape assessment (2020)

- NBS have not been implemented at scale because of a lack of a business case.
- There is no consensus among existing approaches on how to properly account for NBS benefits accrued over time.
- A standardized approach to identify and account for benefits is needed.

A standardized approach can spur investment in NBS

Corporate example: Dow Chemical Company Constructed a wetland for their

manufacturing site in Texas

- Used the Ecosystem Services Identification and Inventory (ESII) tool to evaluate benefits
- Incorporated multiple benefits into business and site decisions to contribute to resilience

Project Team:

- UN Global Compact CEO Water Mandate
- Pacific Institute
- The Nature Conservancy
- LimnoTech
- Danone

Funders:

- SIDA (Swedish International Development Corporation Agency)
- Microsoft
- Danone
- APP Sinarmas

Benefit accounting of NBS for watersheds deliverables

Method: The process developed to account for the stacked water, carbon, and biodiversity benefits and identify wider co-benefits of NBS for watersheds.

Guide: A document detailing the project vision and scope; steps for the methoddevelopment processes; indicators and calculation methods to account for multiple NBS benefits; global case studies.

Tool: Will adopt the developed method to present multiple options for benefit identification and calculation on a user-friendly interface.

Project Outcomes

- Build the business case
- Meet sustainability targets
- Interface with carbon and related markets
- Identify opportunities and trade-offs
- Increase decision-making and transparency

Method flow through benefit calculation

Activites (human actions) > Natural processes > Benefits identification > Benefit calculation

Next steps

- Pilot test
- Tool development (making the method more user-friendly)
- Explore estimating, quantifying and valuing benefits

If you want to dig deeper:

- Economic evaluation of stormwater capture in California
- Incorporating multiple benefits into water projects: a guide for water managers
- Pacific Institute's Multi-Benefit Resource Library
- Scaling Green Stormwater Infrastructure Through Multiple Benefits in Austin, TX
- Sustainable Landscapes on Commercial and Industrial Properties in the Santa Ana River Watershed
- Benefit Accounting of Nature Based Solutions for Watersheds Landscape Assessment

http://www.pacinst.org/multiplebenefits info@pacinst.org

Q&A:

Sarah D posed Q to other presenters: How do you impose political will? What are drivers and impetus?

Morgan (Austin TX): For stacked incentives and local government, leaders have to have the vision of how the different agencies/departmental goals can overlap and make a shared space for collaboration and implementation.

Sonali: Communicating the value added that appeals to policy makers, showing them how the work contributes to their goals.

Tien: Showing case studies to show how this is creating value, and also having user-friendly tools.

Sarah: Make the case for "What happens if we do nothing?" and demonstrate the cost of doing nothing, or the status-quo. Business as usual doesn't work forever, use that to help create the drive among risk-averse leaders.

John Wells: Tien mentioned that nature-based solutions sometimes lack a "business case." Is this, perhaps, instead the symptom of a problem with some businesses, themselves, lacking the social case their charters require? Businesses are focused more on the dollar than on their contribution to society.

Tien: Some of the barriers include lack of expertise, even within the company, so that takes a longer time for them to know benefits have accrued. Many companies see their contributions of reducing risk and contributing to corporate social responsibility goals.

Jason Morrison: What can we say about the way we think about the green infrastructure vs. other investments, when it comes to the assets that come over time. The interesting thing about NBS is that they appreciate over time (vs. gray that depreciates). How do you think about the value? It hasn't worked its way into the discourse among the investors. **Sarah:** With storm water capture work cost/benefits were calculated along timelines like replacement costs, operation and maintenance cost. For NBS work, it's a question on what the ROI the investor wants, some of the projects do not accrue benefits at first (like reforestation) but when you look at changes over time, you do start to see benefits.

Subijoy Dutta - With Rivers of the World (ROW) Foundation <u>https://rowfoundation.org</u>. Have you looked at any project in the Tijuana River watershed - US-Mexico border, east of San Diego area? It is facing a serious level of contamination.

Sarah: No we have not, but we have done work on water and conflict that involves the US/Mexico border. We are looking for more applications for this work.

Subijoy: Thanks Sarah. We have a team from Palm Desert who are working on this. We'd love to discuss further.

Jan Surface:

Alex Kaplan – Swiss Re Designing a new type of insurance to protect the coral reefs, economies and the planet. <u>https://www.swissre.com/our-business/public-sector-solutions/thought-leadership/new-type-of-insurance-to-protect-coral-reefs-economies.html</u>

Economics of Climate Change <u>https://www.swissre.com/our-business/public-sector-solutions/thought-leadership/economics-of-climate-adaptation.html</u>

Swiss Re has partnered with TNC, Rockefeller Foundation, Mexico, and tourism sector in Cancun to develop a new tool to ensure coral reefs for storm protection. In addition to the reinsurance program, TNC has worked with the partners to establish a coastal trust fund to address more regular and frequent impacts that wouldn't qualify for insurance. This program is just recently established so still working on the details of implementation. I found this interesting information from Swiss Re at a coral reef task force meeting I attended.

Meeting Adjourned with comments from David Berry

Comments and suggestions:

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