



Sustainable Landscapes on Commercial and Industrial Properties in the Santa Ana River Watershed

EXECUTIVE SUMMARY

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The CEO Water Mandate



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PRESSURES ON WATER RESOURCES are intensifying due to aging infrastructure, population growth, climate change, and other factors. Marked by vast expanses of thirsty lawns and impermeable pavement, California's urban and suburban communities are ill-equipped to handle these pressures. Outdoor use represents about half of all water used in urbanized areas, and even more in the hottest, driest parts of the state.^{1,2} Runoff from lawns carries fertilizers and pesticides into waterways. Similarly, impermeable pavement impedes groundwater recharge; contributes to higher peak flows; warms the urban environment; and carries oils, metals, and other toxins into rivers, estuaries, and the ocean.

The good news is that there are more sustainable options for California communities. Replacing lawns with climate-appropriate plants that are irrigated efficiently can save water and reduce vulnerability to drought. When integrated with bioswales, rain gardens, and other green



Source: John W. Miller, iStock

infrastructure, these projects can boost local water supplies, reduce flooding, and improve water quality. These practices can also save energy, provide habitat, sequester carbon, improve air quality, boost property values, enhance community livability, and increase resilience to climate change.^{3,4}

- 1 Heberger, M., H. Cooley, and P. Gleick. 2014. Urban Water Conservation and Efficiency Potential in California. Oakland, Calif.: Pacific Institute. <http://pacinst.org/wp-content/uploads/2014/06/ca-water-urban.pdf>.
- 2 Hanak, E., and M. Davis. 2006. "Lawns and Water Demand in California," California Economic Policy 2, No. 2, <https://www.ppic.org/publication/lawns-and-water-demand-in-california/>.

- 3 Center for Neighborhood Technology and American Rivers. 2010. The Value of Green Infrastructure: A Guide to Recognizing its Economic, Environmental, and Social Benefits. Center for Neighborhood Technology, Chicago, Illinois. https://www.cnt.org/sites/default/files/publications/CNT_Value-of-Green-Infrastructure.pdf.
- 4 United Nations Environment Programme, International Union for the Conservation of Nature, The Nature Conservancy, World Resources Institute, Green Community Ventures, US Army Corps of Engineers. 2014. Green Infrastructure: Guide for Water Management. <http://wedocs.unep.org/handle/20.500.11822/9291>.

The scope and scale of our sustainability challenges warrant action by all Californians—including the business community. Most sustainable landscape programs have focused on residential parcels, yet commercial and industrial properties are disproportionately landscaped with turf grass and have large impervious surfaces. The opportunities for advancing sustainable landscape practices on commercial and industrial properties are not well understood.

This project is a collaboration between the Pacific Institute, the CEO Water Mandate, California Forward, and the Santa Ana Watershed Project Authority. For this study, the project team used data provided by the Santa Ana Watershed Project Authority to conduct a geospatial analysis of the water efficiency and the stormwater retention and capture opportunities that would potentially realize benefits from landscape conversions. In addition, the project team surveyed and interviewed business representatives in the region to understand barriers to and motivations for implementing sustainable landscape practices. While focused on the Santa Ana River Watershed, the approach and methodology can be replicated elsewhere.

The study finds that there are significant opportunities for the business community to contribute to shared watershed goals through investments in sustainable landscape practices on their properties. These landscapes can make substantial contributions toward improved surface water quality, flood management, and water supply reliability in the Santa Ana River Watershed. They can also reduce energy usage and associated greenhouse gas emissions, sequester carbon, improve ecosystem and human health, promote economic activity, and enhance community resilience. Some of these benefits accrue to the property owner, whereas others accrue to the broader community.

The opportunities and potential for realization of these benefits are distributed unevenly across the watershed (Figure ES-1). Most parcels provide at least one benefit, and many parcels, particularly in the northern (i.e., Chino Basin and San Bernardino Valley) and western (i.e., Orange County) portions of the watershed, were found to have the potential to contribute to two or more benefit categories.

A clearer understanding of the business community's motivations and challenges can help to develop programs and policies that effectively encourage businesses to act. Based on surveys and interviews, we find that the business community's motivations for and challenges with installing sustainable landscape practices are varied. Some are motivated by the need to maximize their return on investment, whereas others are motivated by sustainability or reputational benefits. Likewise, challenges range from uncertainty about the costs and benefits of the practices to limited incentives. Considering these motivations and challenges, we recommend the following:

I. Develop Resources to Assist Businesses Considering Sustainable Landscape Improvements

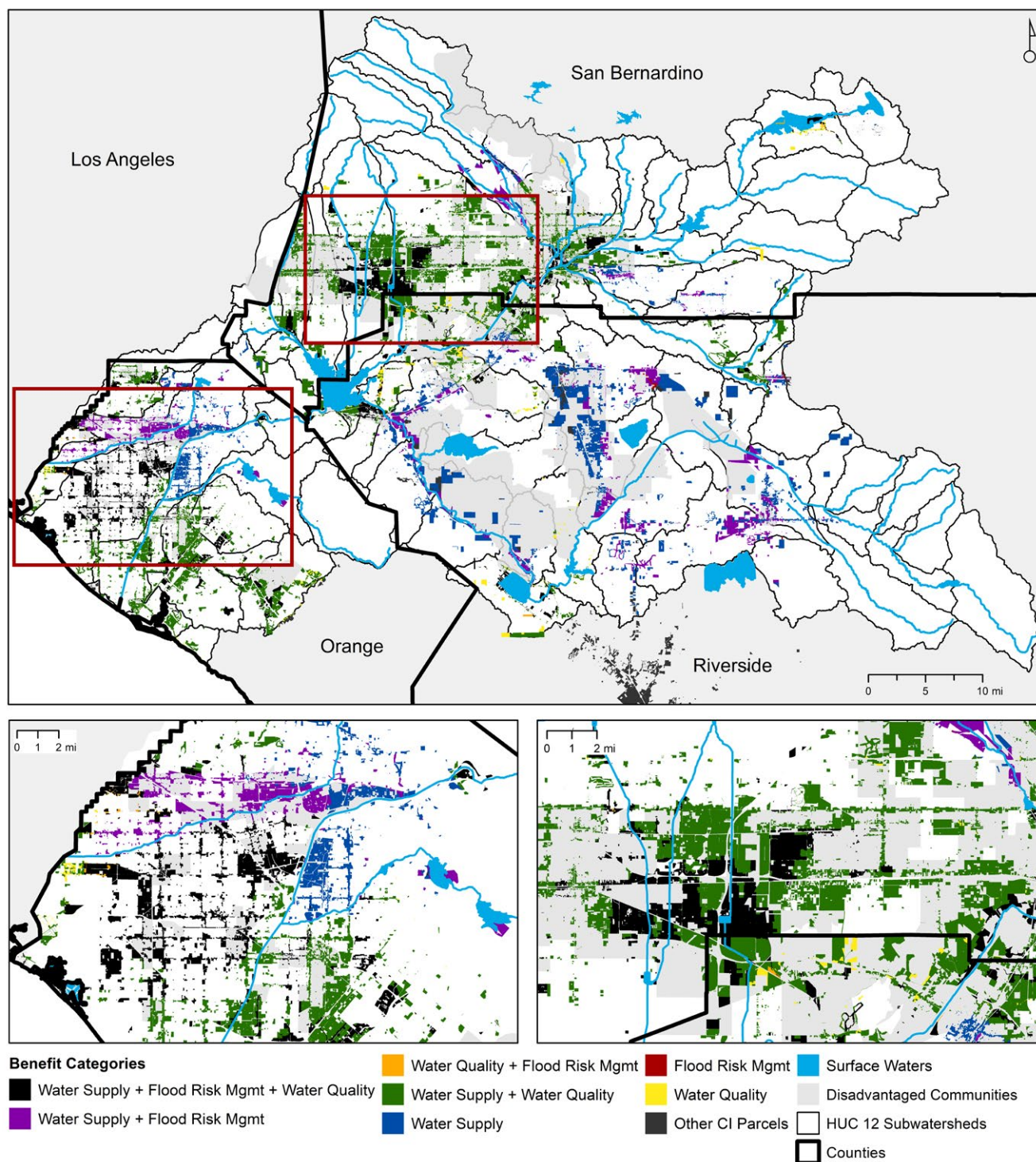
Many commercial and industrial property owners are unfamiliar with the opportunities and options for sustainable landscape installations and the associated costs and benefits. Some are also wary of making changes to the look and feel of their business. There are a variety of tools and resources that would help businesses implement sustainable landscapes. Estimates of the project cost, volume of water saved or recharged, and any changes in maintenance costs would be especially useful. Some businesses, especially larger corporations, have sustainability commitments, and articulating some of the sustainability benefits would provide additional justification for these investments.

Case studies highlighting local businesses that have made these investments would also be helpful, as would lists of design, construction, and

maintenance companies that are able to properly install and maintain these landscapes.

Figure ES-1

Commercial and Industrial Parcels Potentially Contributing to One or More Benefit Categories 🔍



II. Use Language and Examples that Resonate with the Business Community

Water utilities, cities, and community members who wish to encourage the business community to install sustainable landscapes should remember to use language and terminology that resonates with that community. Highlighting the ways that sustainable landscapes can reduce water risks can be especially effective, as can a discussion of new business opportunities these landscapes can provide. Tailoring materials to a diverse audience can be useful, as business operations and motivations are varied. For example, aesthetics and reputation are strong drivers for consumer-facing brands, and sustainability benefits would motivate companies with sustainability goals (and likely sustainability budgets). Likewise, the ability to charge higher rents for properties with sustainable landscapes would appeal to properties controlled by landlords whereas increased business activity would appeal to properties controlled by business owners.

III. Develop Appropriate Incentive Programs and Policies

A variety of programs can be used to incentivize sustainable landscape practices on private property, such as discounts on stormwater fees, rebate and cost-share programs, and recognition programs. Effective program design is predicated on understanding the constraints, drivers, and motivations of different types of property owners and implementing programs accordingly.⁵ With financial incentives like grants and rebates, determining the appropriate amount of the incentive is essential. To ensure that the program is

effective in getting businesses to participate while also maximizing uptake of sustainable practices, the incentive should be priced at a level that induces the business to act *and* is compatible with the cost of other water sources and stormwater management practices available to the water agency. Incentive programs can be especially useful when there are few examples and limited data available, as is the case with sustainable landscapes on commercial and industrial properties. However, as more case studies and better data become available, there is less need for incentive programs.

IV. Develop Targeted Financial Incentive Programs

Given that budgets for financial incentives are limited, programs and policies should be targeted to yield the greatest benefits. There are a variety of ways to target programs. Programs can be targeted geographically, such as by focusing on areas that provide the greatest benefit, are highly visible or visited, or that have historical environmental justice issues. Programs can also be targeted to specific customers, such as the most wasteful waters users, the largest polluters, or those properties that generate the most runoff.

V. Foster Long-Term Relationships Between Water Managers and the Business Community

Water supply, flood management, and stormwater staff do not typically have relationships with business facility managers or sustainability leads. Even in cases where relationships have been established, staff turnover at the company or utility can make it difficult to maintain those relationships. There are several ways for establishing and maintaining long-term relationships, such as creating a dedicated point of contact or working with a third party that consistently works with the business community.

⁵ Clements, J., A. St. Juliana, P. Davis, and L. Levine. 2013. *The Green Edge: How Commercial Property Investment in Green Infrastructure Creates Value*. Natural Resources Defense Council. New York, New York.

VI. Streamline Approval and Permitting Process

Permitting and approval processes can result in disincentives or delays in implementing beneficial projects. Steps to simplify and standardize approval processes can supplement and contribute to the incentive programs described previously. Steps to simplify and standardize the permitting process across the watershed could include:

1. coordination across functional responsibilities (retail water, stormwater, flood management, and city/county planning and building);
2. development of best management practices;
3. development of a multi-benefit general permit;
4. adoption of model requirements; and
5. establishment of a one-stop permitting assistance and approval process.

Developing a coordinated approach to permitting may also identify valuable regulatory relief incentives, e.g., providing expedited permitting for landscape conversion projects that are designed to achieve multiple benefits for the watershed.

VII. Explore Alternative Funding Sources

Funding collective action across a watershed requires creative thinking and innovative approaches. Several approaches warrant further exploration for business landscape conversion. The WaterNow Alliance has highlighted the ability of water agencies to debt-finance investments in water efficiency and green infrastructure (Harrington and Koehler 2016); although still relatively uncommon, debt-financing would substantially increase funds available for these investments. A green bond with dedicated repayment funding from public and private

program beneficiaries could be an effective tool for braiding funds to finance a sustainable landscapes program. A parcel tax based on impermeable area, such as Measure W in Los Angeles County, is a “polluter pays” approach that could also be replicated. Redirecting a fraction of development and building permitting fees to fund landscape conversions is another innovative option. Other financing approaches pioneered in the renewable energy field, such as on-bill financing and voluntary property assessments, could be applied to commercial and industrial properties. These alternative funding approaches can help lower up-front costs for sustainable landscaping investments and promote their uptake on a larger number of sites.

VIII. Coordinate Policies and Programs Across the Watershed

Water resource management is spread across multiple agencies, as are the benefits of sustainable landscape practices. Coordinating policies and programs across a watershed could help realize opportunities for greater uptake of these practices, thereby maximizing their benefits. For all the preceding recommendations, coordinating program design and administration could yield economies of scale and scope, reducing program costs for any single entity and helping to optimize the value of regional investments. Coordination and alignment of public agency goals, programs, and approvals would offer simplicity and efficiency, while a partnership approach would allow for a growing commitment by businesses to watershed sustainability.

For the full report, *Sustainable Landscapes on Commercial and Industrial Landscapes in the Santa Ana River Watershed*, please visit:

<https://pacinst.org/publication/sustainable-landscapes-santa-ana-river>



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