



Nature, Paid on Delivery

Leadership by Louisiana, California, Maryland and Nevada in creating outcome-based opportunities for private investment in natural resource restoration and protection



NEW PARTNERSHIPS: INVESTORS AND STATE AGENCIES

Impact investing is a category of private capital investment which seeks to achieve a measurable social or environmental benefit in addition to monetary returns. The social and environmental outcomes can include public goods ranging from increased access to public housing or childhood health care, to lower pollution or enhanced wildlife populations. Through these investments, the traditional paradigm of addressing societal problems is shifting from a public- and philanthropic-only funding model to an ecosystem in which markets and incentive-based approaches play a role, side-by-side with government delivery of public goods.

State agencies charged with natural resource management missions have enormous potential as partners for impact investors. There are hundreds of state agencies tasked with managing water, wildlife, and environmental quality. Each of these agencies has a unique mission, authorities, and circumstances through which they can carry out their mission. The resources that states could put into such partnerships are significant. For example, 47 state environment agencies had a total

budget of \$10 billion in fiscal year 2015 with another \$4.9 billion in funding for the California Environmental Protection Agency.¹ State agencies specifically charged with wildlife conservation had a combined budget of more than \$5.6 billion in recent years.² Those resources are an opportunity to capitalize on new ideas in conservation finance, both for states and for impact investors. If states allocated just 5% of their budgets to partnerships with investors to deliver mission-related returns, doing so would yield more than \$1 billion in natural resource conservation activities delivered with less risk, cost and delay.

There are a number of circumstances in which government agencies may benefit from working with private impact investors and having them deliver outcomes related to the agencies' natural resource goals. State agencies may have a relatively predictable source of future revenue to invest in a program, but face an opportunity cost by only funding a small amount of activity each year. In such circumstances investors can help provide upfront capital for much larger projects than the agency could otherwise afford in a single year. This capital would be paid back over time much like a public or municipal bond, however unlike a bond, the public only has to pay back the private capital if the project succeeds. In other circumstances, private investors may be able to deliver projects much faster. Moreover, an agency's strengths may lie in setting goals, compliance monitoring, and performance-related measurement, as opposed to the private sector which can provide real estate, planning and construction expertise and is incentivized to deliver what clients want quickly and efficiently.

Helping States Avoid Risk

Government agencies tend to be appropriately risk-averse for political reasons – Congress, governors, and state legislators tend to punish failure rather than looking at failure as experience from which to learn from fast or even encourage, because it is a constructive part of innovation and adaptation of government services. Unfortunately, this can translate into slow execution of public programs or a resistance to trying new approaches that may fail. Partnership with impact investors offers a mechanism for government programs to shift some or all of the financial risk of innovative projects and performance risk from new techniques to the private or nonprofit sector, only paying for outcomes when they are achieved.

Pay for Success

While initially used to address social problems, “pay for success” approaches involving private finance are receiving more interest in natural resource conservation. Pay for success, or pay for performance, is an innovative approach to contracting that allows private investors to finance projects that are designed to meet a goal or target identified as a priority by a government agency. The government agency repays the private funder only after certain measurable outcomes are met. This can allow government agencies to engage in projects more effectively, efficiently and through innovative approaches. South Carolina, for example, launched the country's first pay for success initiative to provide healthcare to low-income children and their mothers until they are two years old through a mix of private sector and philanthropic investment.³ Whereas it can be difficult to identify the connections between social program interventions and outcomes because so many externalities play a role, environmental investments have less of this kind of complexity and it should be easier to fairly compensate investors for outcomes.

California, Maryland, Nevada and Louisiana

This paper reviews four recent examples of state agencies seeking to procure outcomes using a pay for success approach to contracting and impact investment or whose design could be tailored to use these approaches. Each example offers opportunities for impact investors to identify how their expertise and business models could help state agencies expand effective delivery of environmental goods. In short, these are situations in which state governments have funds available and conservation goals set, and want to capitalize on the private sector's inherent ability to quickly and cost-effectively carry out projects. The paper also reviews new legislation in Louisiana that could lead to very large scale impact investment in natural resource restoration.

1. Environmental Council of the States. 2017. https://www.ecos.org/wp-content/uploads/2017/03/Budget-Report-FINAL-3_15_17-Final-4.pdf

2. Association of Fish and Wildlife Agencies. 2015. http://www.fishwildlife.org/files/The_State_Conservation_Machine-FINAL.pdf

3. <http://www.payforsuccess.org/project/south-carolina-nurse-family-partnership>

CALIFORNIA'S WATER SUPPLY & HABITAT RESTORATION

California is working to provide reliable freshwater supplies to one of the world's top food-producing regions and to support an additional 12 million people by 2060. A key to this effort is the management of the two water systems—the Central Valley Project and State Water Project—that move water from the Sacramento River and nearby rivers to support cities, towns, and farms. In order for the state to expand, improve, and continue operations of major water infrastructure, it needs to offset impacts to habitat and endangered fish by improving ecosystems nearby. California's Department of Water Resources has funding to begin the restoration of more than 8,000 acres of tidal wetlands to address requirements for fish conservation.⁴ While the agency has tried to implement this work through traditional government contracting, a December 2016 Request for Proposals uses an innovative financing structure to the restoration.

Developed with the Governor's Office and Department of General Services, the Request for Proposals is one of the first pay for success contracting approaches in conservation for the state. The two successful bidders will use private investment to deliver 650 acres of restored habitat that meet the state's environmental performance standards. The winning bidders, Natural Resources Group and Reynier Fund, will be paid approximately \$12 million by the state after their projects meet performance standards, with partial payments as predetermined milestones are achieved along the way.⁵

Niche for Private Investment

The Department of Water Resources faced two primary challenges in meeting tidal wetland and floodplain restoration goals. The first stems from the state's land acquisition policies, which allow the state to purchase land at fair market value in accordance with the highest and best use of the land. Ideal land for tidal wetland restoration is not recognized by state oversight agencies as having a highest and best use as wildlife habitat, which often has a higher value than traditional agricultural and hunting club uses in the region. Thus, the agency struggled to find suitable areas for restoration from willing sellers at traditionally appraised land values. Under the pay for success approach, private bidders must demonstrate that they control the property and commit to transfer the land to the state as part of the overall restoration contract. The second challenge for the Department of Water Resources involves contracting. Under state policy, the agency typically advertises separate contracts for firms to design and construct a project. However, the growing sophistication of vertically integrated restoration businesses and investment partnerships allows single companies to handle the real estate, site planning, restoration design, and construction aspects of wetland and floodplain restoration. The Department of Water Resources worked with other state agencies to effectively package what might have been three contracts—land acquisition, project design, and construction—into a single contract. Thus, this approach is simply less administratively complex and time-consuming.

The contract offers a hybrid of traditional financing and pay for success which allows the project to begin generating returns early in its execution. Up to 15% of the overall contract amount can be disbursed at early milestones of the process, such as design and permitting. The largest portion of state funds—up to 50%—is awarded after the completed restoration has met performance benchmarks. The milestone payment model used in this contract and many pay for success approaches lowers public risk and incentivizes more rapid project initiation. Milestone payments limit the capital intensity of the project for the private sector, because the expenses and income from the project lower the capital deployed to fund the project. Additionally, providing milestone payments allows smaller firms, which may not have enough capital to finance large projects, more opportunities to participate.

Reduced Taxpayer Risk

California's government and taxpayers benefit from this approach because the private sector is taking the risk of finding and securing properties, carrying out restoration regardless of weather or climate conditions, and delivering outcomes quickly. Deploying private capital shifts some of the fiscal risk of public projects away from the state government and taxpayers. The state

further manages uncertainty by requiring a performance bond prior to construction to minimize the state's risk, should the bidder default during the process. In addition, a letter of credit on the bid price guarantees that the state gets the restoration outcome at the price agreed to under the proposal. The project appears to lower taxpayer costs associated with restoration. This contract has promise to speed restoration in the Sacramento-San Joaquin River Delta, while providing economic gains for restoration businesses and their investors. Although the contract represents only a small portion of Bay-Delta restoration goals, it could serve as a model for future proposals. The state has indicated it may solicit a second round of bids under a similar Request for Proposals.

4. California Department of Water Resources. 2017. "DWR Seeks Proposals for Habitat Restoration Projects in the Sacramento-San Joaquin Delta." <http://resources.ca.gov/ecorestore/2016/12/dwr-seeks-proposals-for-habitat-restoration-projects-in-the-sacramento-san-joaquin-delta-reposted-rfp/>

5. Those bids yield a restoration and land protection cost of approximately \$20,000/acre.

MARYLAND: CLEAN WATER SERVICES

The Chesapeake Bay is an important economic and ecological resource for the Mid-Atlantic states. Decades of pollution in the waterways that feed the Bay led the states and Federal government to establish regulatory goals in 2010 regarding pollution in the Bay, called a Total Maximum Daily Load. States in the Bay's watershed have agreed to reduce their pollution, and the pollutants are measured in quantities—tons of phosphorus, nitrogen and sediment—that fit well with outcome-focused investments.

In Maryland, a state program (the Chesapeake and Atlantic Coastal Bays Trust Fund) already exists to promote cost-effective and efficient use of state funds to improve the health of the Bay and meet Maryland's Bay restoration targets.⁶ The Trust Fund offers grants to non-profits, local government, and universities based on per pound reductions in nitrogen, phosphorus, and sediment pollution in the Bay watershed. The legislation which created the Trust Fund does not facilitate impact investing or pay for performance approaches. For example, it did not allow funding to be awarded to for-profit companies or B corporations. However, there was latitude for inventive payment structures to be built by grantees into how they used grant funds, provided that the grantees still deliver the most cost-effective pollution reduction.

In 2016, the private investment manager, Ecosystem Investment Partners, partnered with the Cecil Land Trust on a pay for success grant application that would deliver the outcomes sought by the state program and provide financial return for investors. The company identified multiple project areas in a small watershed covered under the pollution goals and important to the state's stream restoration program. The pay for success proposal will reduce 6,219 pounds of nitrogen, 1,850 pounds of phosphorus, and 1,344 tons of suspended sediment through restoration of 8,215 linear feet of streams and 24.8 acres of riparian buffers. The company uses its private equity to fund the entire project up front, with Trust Fund money awarded to Cecil Land Trust after performance metrics have been achieved that Maryland has defined, associated with pollution reduction. When completed, the county government will receive or "own" the credits for pollution reduction from the project.

The restoration project offers incentives for all parties involved. Ecosystem Investment Partners anticipates a financial return for its investors, and demonstrates to state agencies the ability of a private company to successfully complete Chesapeake restoration work. The state and county not only make progress toward pollution control targets, but they do so at lower costs than normal. For example, the project was awarded at a cost of approximately \$800 per pound of nitrogen reduced, whereas Maryland Department of Natural Resources typically pays nearly \$2,000 per pound in traditional projects.⁷ With state money tied to verification of outcomes, taxpayer risk is shifted to the private sector. In addition, by working with Cecil Land Trust, the investment manager was able to build on existing relationships with local landowners and greatly reduced project timelines so landowners see project delivery happening faster on their property. Finally, Cecil Land Trust furthers its mission to protect and restore ecosystems in Cecil County.

Implementation of the project was made more difficult by the grant-based structure of the program, which requires the land trust to serve as an intermediary. However, in 2017, a new law sponsored by Maryland Governor Larry Hogan allowed up to \$10 million in Bay Restoration Funds to be used to purchase such pollution reductions directly, which significantly expands the potential for pay for success Chesapeake Bay restoration in future years.⁸

6. Maryland Department of Natural Resources. 2017. Chesapeake and Atlantic Coastal Bays Trust Fund. <http://dnr2.maryland.gov/ccs/Pages/funding/trust-fund.aspx>

7. Interview with Maryland Department of Natural Resources official May 19, 2017.

8. Clean Water Commerce Act of 2017. The Act also directs the state government to adopt regulations for purchasing the nutrient load reductions, thus providing a strong, consistent regulatory signal to the private sector. Once fully implemented, Maryland's nutrient pollution reduction program may provide a working model for other state or local governments. <http://governor.maryland.gov/2017/05/04/governor-larry-hogan-signs-environmental-agenda-into-law/>

MARYLAND: INFRASTRUCTURE DEVELOPMENT

Clean Water Act requirements recently led the Maryland Department of Transportation State Highway Administration to initiate a request for proposals for 100,000 linear feet (19 miles) of stream restoration in eleven counties.⁹ This restoration will generate a supply of credits to serve as a pool of environmental offsets for impacts to streams caused by future highway maintenance or road infrastructure projects, with credits being delivered to the Department of Transportation by 2020. Having such an advance supply available is important to the state agency because this approach has been shown to speed up transportation project permitting times by up to 50%.¹⁰ This project has not been bid or awarded yet - the Department of Transportation's released the request for proposals in June 2017.

The request for proposals states that firms are required to bid a unit price per linear foot of stream restored, inclusive of all costs such as land acquisition, restoration design, construction, monitoring, and management after restoration. This per "credit" price represents the best example of which we are aware of a state agency procuring an environmental outcome like any other good or commodity, and using a full delivery contract to do so. Similar to California's wetland project, payments will be made at various milestones throughout project development and post-construction monitoring. The largest single milestone payment (30%) is made after construction is complete and the land easement is transferred to the state. In total, 65% of project payments will be made once the project and baseline monitoring is complete with another 35% of project payments made over five years tied to monitoring and ecological performance.

The potential for very significant future impact investment exists in Maryland in part because there is a Stream Restoration Credit Protocol in place that provides a transparent, repeatable way for private investors, and state and local government to consistently estimate the credit value of specific properties and restoration plans. Because many environmental programs, including stream restoration in other states, lack such protocols, it is more difficult for investors to understand and predict the future value of potential restoration projects. Agencies often underappreciate the need for this certainty, as it is not a feature of government-run restoration projects whose future public appropriations are less strongly tied to quantitative documentation of program outcomes. The private sector, however, actively seeks out such certainty, as it drives down their risk.

This approach by the Maryland Department of Transportation appears to be one of the most sophisticated examples of a state agency procuring advance delivery of a large supply of mitigation credits to offset future infrastructure development.

9. Maryland Department of Transportation State Highway Administration. 2017. <https://emaryland.buyspeed.com/bso/external/bidDetail.sdoj-sessionid=2C7A6FCC00FICD0836F28D62B3097BCA?bidId=MDJ0231032936&parentUrl=activeBids>

10. US Army Corps Institute for Water Resources. 2015. The mitigation rule retrospective: a review of the 2008 regulations governing compensatory mitigation for losses of aquatic resources. <http://www.iwr.usace.army.mil/Portals/70/docs/iwrreports/2015-R-03.pdf>

LOUISIANA: NEW IMPACT INVESTMENT POLICY

In May 2017, bipartisan members of the Louisiana legislature introduced a bill (HB 596) that was signed into law by Governor John Bel Edwards in June.¹¹ The legislation is the first of its kind in the country to give specific authorization to a state agency to use “outcome-based performance contracts” to deliver coastal protection and restoration projects in the state. Individual projects are not allowed to cost more than \$250 million, an order of magnitude greater than other projects described in this paper. The legislature and Governor Edwards passed this law to allow projects to move more quickly, deliver better value and performance, and lower costs.

Louisiana’s new law creates many of the enabling conditions necessary for pay for success to work. It requires that a “substantial portion” of no less than 75% of project costs be conditioned on specific outcomes and defined performance targets. It requires a competitive bidding process for award of future contracts, requires financial assurances for projects, and creates a process to vet the companies and investors who would seek to bid projects. This law appears unlike any other state policy around the country and has the potential to make the state an epicenter for private natural resource-focused investments.

Louisiana has some of the greatest potential need for large-scale impact investment because of the importance of enormous coastal restoration projects on its Gulf coast. The state is losing 16.6 square miles per year of its land, or an area equivalent to a football field every hour. This is due to coastal subsidence, erosion, sea level rise, and especially the loss of sediment-rich freshwater that used to be delivered to coastal areas by the Mississippi River. Instead, for past decades sediment has been dumped into deeper waters of the Gulf of Mexico because the River is channelized for navigation and other purposes. The faster that large-scale restoration projects are funded and implemented, the more likely the state is to be able to hold onto more of its land area and restore areas that have been recently lost. In addition, the state has a relatively predictable source of future funding associated with oil and gas revenues and damage payments associated with the BP Deepwater Horizon oil spill.¹² These payments will occur over many years, potentially allowing the state to work with investors to fund more restoration up front than the state could otherwise afford, to be paid off over time much like a bond.

The legislation allows the state agency to develop regulations to implement this performance contracting approach. While issuance of these regulations may create a delay before projects are initiated, this is nonetheless a model that California, Maryland, and other states could follow in clarifying authority to use pay for success approaches to attract private capital to help accomplish public natural resource missions of state agencies.

11. Louisiana Pay for Success legislation sponsored by State Representative Walt Leger and Representative Stuart Bishop. <https://legiscan.com/LA/text/HB596/id/1630397>

12. http://www.nola.com/environment/index.ssf/2015/10/louisiana_coastal_marshes_key.html



NEVADA: PUBLIC WILDLIFE INVESTMENT

Unprecedented collaborative conservation planning, described as the largest conservation effort in U.S. history, led the U.S. Fish and Wildlife Service to decide that a bird called the greater sage grouse was not an endangered species in 2015. While the decision received a great deal of press, less well known are the on-the-ground efforts that state and Federal agencies, and private organizations put into action behind these paper plans to give the bird and its biodiverse habitat the best chance at survival. In particular, the state of Nevada developed a program to catalyze habitat enhancement and protection: the Nevada Conservation Credit System, with similar systems in development in Colorado and Montana.¹³

Nevada's Conservation Credit System is unlike the previous examples above in that funding is primarily from the state government. Nevada's legislature and Governor Brian Sandoval have provided initial capitalization to pay for habitat enhancement and restoration. Those activities generate credits in quantities determined through a federally-approved accounting system or protocol. The credits can be sold to a third party to mitigate damage to sage grouse habitat that may be caused by mining, electricity transmission, or other projects impacting sage grouse habitat.

Upon the sale of credits, the state is reimbursed its initial investment in habitat restoration and landowners keep the remaining value if it is greater than the state's contribution. Nevada has announced over \$2 million in funding for credit-generating projects since the system's inception in 2015.

While this is not an impact investment, Nevada's program could be expanded to take advantage of such private capital. Currently, the risk that no credit buyers will materialize is very high, and the quantification tool to define credited outcomes is still being adjusted. Additional risk exists because of the behavior of the federal Bureau of Land Management – at present that agency is still considering allowing companies that damage public land to offset their impacts in other ways and with lower standards, potentially undercutting the market for credits secured under Nevada's system. Unpredictable behavior by this federal agency is perhaps the greatest risk to future private investment. Over time, if businesses purchase credits to manage future regulatory risks it will be clearer there is demand for credits. If the state instead put its capital into a guaranteed floor price at which it would purchase exchange credits, that would diversify the pool of potential buyers and lower investor risk. Such actions would make demand more predictable and allow impact investment to play a large role in an expanded program.

The same potential exists in Colorado, Montana and eight other states with sage grouse habitat. All of these programs could attract private capital to supplement state funding and rapidly expand conservation efforts, but only if states act to lower the risks that make the future value of credits difficult to predict or to guarantee floor prices in a way that would provide significantly more certainty to investors.

13. Nevada Sagebrush Ecosystem Program. 2017. <https://www.enviroaccounting.com/NVCreditSystem/Program/Home>

EXPANDING IMPACT INVESTMENT FOR STATE CONSERVATION AGENCIES

While each approach to financing conservation described in this report faced unique challenges, some similarities are apparent (Table 1) that would be essential to address in any future efforts to expand impact investing opportunities at the state level:

Full delivery pricing

The Maryland Department of Transportation project bases contract bids—and thus success payments—on a single per credit price. This price is inclusive of all anticipated costs as well as a financial return for investors. Similarly, full delivery pricing was used for bids on California's habitat restoration. In these cases, the state agencies are focused on getting a fair price for achievement of their environmental goals. By using a single, inclusive pricing scheme, states can simplify the bidding process and make it easier to compare the cost-effectiveness of various private sector proposals with traditional expenses of doing the work themselves.

Balancing public risk reduction against payment timing

In the Maryland Department of Transportation and California projects, states require performance bonds and other forms of insurance that help guarantee that companies perform on schedule and consistent with their bid price. Both programs additionally reduce public risk by reserving significant portions of contract funds until environmental outcomes are verified. Louisiana's new law creates similar requirements. However, states must recognize that these requirements come at a cost to firms. The advance funding put into restoration up front is an expenditure that weighs on the balance sheet of investors. If a state agency carefully balances its risk reduction requirements with a detailed understanding of the risks and expenses that investors assume, they can likely design better programs to meet both agency and investor needs. Milestone payments are an effective strategy to disburse public funds throughout the entire project lifetime to help companies free up capital to maintain their future project pipeline, while still holding partners accountable for longer term outcomes.

Environmental accounting

Private investors seek as much clarity and certainty as possible in conducting due diligence for a potential investment. State agencies need to develop, approve, and then abide by methodologies that define credits and thus affect the value of those investments. Clearly defined methodologies make it possible for third parties to predict the number of credits they would derive from potential conservation projects. Accounting systems like those in Nevada and Maryland are essential to make it possible for investors to find optimal investments, and to understand the risk they will bear in developing projects. Where agencies are unable to agree on metrics defining credits or performance, or want to customize it on a project-by-project basis, that decision alone is likely to undermine most investment potential.

Land transfers to states

The Maryland Department of Transportation and California programs both require restored land to be transferred to the state prior to final contract payments, whereas Nevada is using a system of temporary or term credits more akin to a leasing program. Impact investment may be an asset for any state program in which land or easement acquisition is a goal or requirement. The private sector may have far greater real estate expertise available to them than what is available to an agency.

Conclusion

The opportunity for impact investment in conservation is far broader than the pay for success and other examples described in this report. However, these examples show how small steps by states can provide a solid foundation upon which to grow their ability to deliver on their public missions. This report simplifies or omits description of the hard work, creativity and leadership that each project required of state personnel, elected leaders, and private investors to use existing statutory authority, and program structures designed for traditional publicly-funded procurement to allow the use of private investment for delivery of state objectives.

Table 1.

Important elements of state-led natural resource impact investment opportunities.

	California	Maryland DOT	Maryland Clean Water	Nevada	Louisiana
Has an existing regulatory driver	●	●	●		
Payments triggered by ecological performance	●		●		●
Land is transfer to state	●	●			ALLOWED
Includes performance bond or insurance to lower public risk from bidder	●	●			●
Includes insurance feature to eliminate public risk from cost overruns	●				
Uses full delivery pricing	●	●			●
Produces an advance credit supply to compensate for future impacts		●		●	
Cash flows via milestone payments throughout project development and construct	●	●			●

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PHOTOS

COVER: After restoration at the Colusa Mitigation Bank in Colusa County, California operated by Westervelt Ecological Services, Inc. <http://www.wesmitigation.com/cabanks/name-of-california-bank/>

INTERIOR COVER: The Colusa Mitigation Bank before restoration; in Colusa County, California and operated by Westervelt Ecological Services, Inc. <http://www.wesmitigation.com/cabanks/name-of-california-bank/>

PAGE 7: Before and after pictures of the Jesuit Bend Mitigation Bank operated by Restoration Systems, LLC illustrating the kind of private restoration that is possible in coastal Louisiana in just a few years. <http://restorationsystems.com/projects/jesuit-bend/>

BACK COVER: After pictures of the Jesuit Bend Mitigation Bank operated by Restoration Systems, LLC illustrating the kind of private restoration that is possible in coastal Louisiana in just a few years. <http://restorationsystems.com/projects/jesuit-bend/>



About Environmental Policy Innovation Center

The Environmental Policy Innovation Center was established to develop innovative policies that expand environmental markets, improve water quality, speed endangered wildlife recovery, and incentivize conservation on private lands. We also provide solutions that allow water, energy and other essential infrastructure to move forward while benefiting natural resources. We believe in having an organizational culture built upon trust for a staff of creative people. Taking down non-profit cultural barriers to innovation and risk taking in the development of policy gives the Innovation Center a unique niche from which to provide valuable tools to make conservation faster, bigger and stronger.

About Sand County Foundation

Sand County Foundation is a non-profit conservation organization dedicated to working with private landowners across North America to advance ethical and scientifically sound land management practices that benefit the environment.

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