

# Water for Agriculture Webinar Series



## Ideas for Leveraging Ecosystem Restoration Funding

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The Water for Agriculture Webinar Series welcomed Professor Lara Fowler who discussed innovations in ecosystem restoration financing, including a number of tools those working in water management might use to achieve their goals. “This particular presentation came about in part out of my own frustrations; hearing a lot of people say, ‘Oh, we need to do all this environmental restoration work, but we don’t have enough money,’” Professor Fowler shared. Having spent the last several years listening to people from the financial sector at water-related conferences, asking “How are you funding things? What does this look like?” Fowler sees a communication disconnect between those with program ideas and those willing to fund the projects. “What I noticed is really a compilation of hearing people say, ‘I have a project, but I need funding,’ and ‘I have funding, but I need a good project.’”

There is currently a lot of discussion about ESG (environmental, social, and governance) investments; however, what counts as an ESG investment is not consistently defined nor federally regulated. Despite its imprecise definition, the ESG space is rapidly expanding; between 2018 and 2020, domestic sustainable investing increased by 42 percent, with \$17.1 trillion having been invested in US ESG funds alone ([US Sustainable Investment Fund 2020 Trends Report](#)). “Even without a clear definition of ESG investments, you’re starting to see quite a few programs labeled as ESG coming to fruition,” Professor Fowler shared.

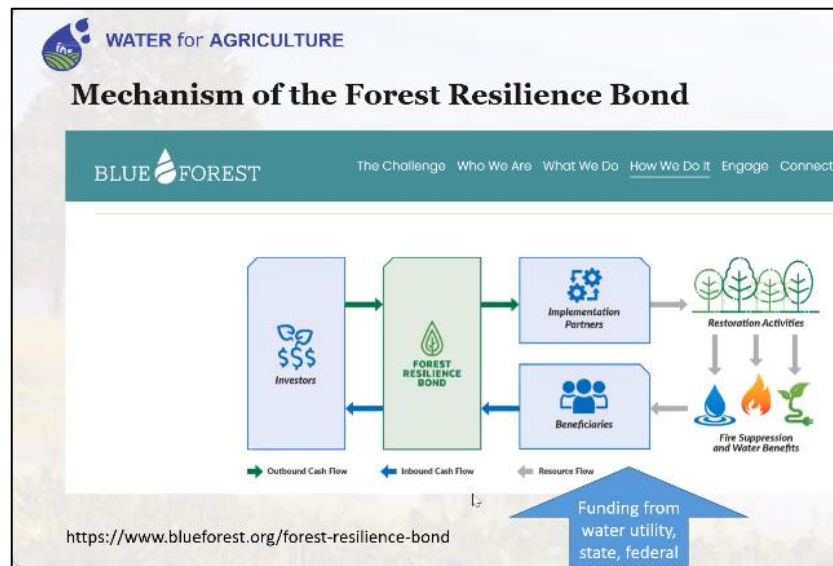
Regardless of the label, there is also an explosion of innovative finance tools for ecosystem restoration work. For example, the Forest Resilience Bond in Yuba County, California manifested from the county’s vulnerability to catastrophic wildfire. “Local water utilities would love to invest money in forest restoration work, but don’t have it,” Professor Fowler explained. “States and federal governments said the same thing.” Using a new creative financing tool, the Forest Resilience Bond pooled funding from the local water utility, the State of California, and the US Forest Service to finance wildfire prevention and forest restoration efforts. Mechanisms of the Forest Resilience Bond are shown in the diagram below. With a 3-5% rate of return, investors put their money toward a sustainably minded cause and benefit from a payback period over time.

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Similar investments have been made through so-called Green Bonds. Central Arkansas Water, for example, created a \$31 million municipal Green Bond to buy and protect forests to secure clean drinking water. Bond funds help to finance water infrastructure improvements and redevelop traditional water infrastructure. In the Netherlands, Sovereign Green Bonds are helping to meet the nation’s climate goals under the Paris Climate Agreement. Reflecting on opportunities for innovative financing for projects like Water for Agriculture, Professor Fowler pondered, “I think about how we can bring these ideas [like Green Bonds] into the domestic water and agriculture side. A lot of the same issues that are affecting renewable energy and energy efficiency are the same types of dilemmas that are affecting us on the water and agriculture side.”

Professor Fowler shared other financial tools used to fund environmental recovery and resilience work. Examples include but are not limited to the following (see Table 1, page 4 for examples):

- markets for carbon, biodiversity, stormwater trading and soil health
- conservation ballot initiatives
- voluntary investment programs
- labeling programs
- contractual approaches for restoration work
- insurance, including parametric insurance.

Parametric insurance differs from regular insurance because it is tied to a trigger: if the barometric pressure drops to a pre-ordained level indicating a hurricane is imminent in the Caribbean, for example, the Caribbean Catastrophic Risk Insurance Facility sends funding immediately before damage is incurred. Insurance companies are also engaging with others to mitigate potential damage in advance; for example, the Mexican Reef Protection Program on Mexico’s Yucatan peninsula is a partnership between a non-profit, a reinsurance company, and the local resorts and tourist industry to protect and restore local reefs before and after hurricanes. A non-exhaustive list with examples is included on the last page.

Professor Fowler noted that the Water for Agriculture Central Platte Local Leadership Team (LLT) identified the need for a steady funding source to address invasive species. “After meeting together, the LLT identified the need to handle phragmites management – an invasive species that grows up along rivers and streams. It was a question that was falling between different organizations’ management to take care of, so when the LLT came together to brainstorm things

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*“[The Central Platte Resiliency Fund is] an example of where you’re trying to deal with what people have termed a ‘wicked problem’ and think about potential solutions.”*

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affecting water and agriculture in the Central Platte, they identified this,” Professor Fowler explained. Recognizing the need to find a way to pay for the management of regional phragmites, the LLT created the idea of a resilience fund for the Platte River and worked with the Nebraska Community Fund to implement it. “This is a complete and direct outcome of the conversations on engagement that happened as a result of the Water for Agriculture project,” Professor Fowler shared. “It’s an example of where you’re trying to deal with what people have termed a ‘wicked problem’ and think about potential solutions.” This newly formed Resilience Fund is currently exploring innovative funding mechanisms to leverage their fundraising efforts.



Currently, “it’s kind of dizzying in terms of the width and depth of financial tools out there,” Professor Fowler shared. She concluded with a list of key questions that individuals interested in innovative funding strategies need to ask themselves before approaching potential funders:

- What is/are your ‘project(s)’?
- What is your budget?
- Can you create a pool of projects that aggregates these questions into one?
- Who are the stakeholders who might be interested in this?
- What are the sources of existing funding that could be leveraged?
- What is the time value of money worth in making an investment up front?
- What are the costs of failing to address the issue?
- What are the other co-benefits that could be leveraged to access funding?

A list of tools and examples is included on the last page. In the meantime, a few resources that may be of help in getting started:

- Conservation Finance Network: <https://www.conservationfinancenetwork.org/>
- Conservation Finance Alliance: <https://www.conservationfinancealliance.org/>

**To view the full webinar, [click here](#).**

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Table 1. Examples of financial tools used to fund environmental recovery and resilience work.

Potential benefit/funder	Example funder or project
Ecosystem restoration partnership w/ insurers, environmental groups	Mexico reef restoration & insurance fund: <a href="http://www.artemis.bm/blog/2018/03/12/swiss-re-nature-conservancy-partner-for-parametric-coral-reef-insurance/">http://www.artemis.bm/blog/2018/03/12/swiss-re-nature-conservancy-partner-for-parametric-coral-reef-insurance/</a>
Carbon markets/greenhouse gas emission reductions (forested areas, riparian buffers, soil health)	Carbon markets and forest restoration, The Nature Conservancy (TNC): <a href="https://www.nature.org/en-us/what-we-do/our-insights/perspectives/carbon-market-incentives-to-conserve-restore-enhance-soil-carbon/">https://www.nature.org/en-us/what-we-do/our-insights/perspectives/carbon-market-incentives-to-conserve-restore-enhance-soil-carbon/</a> Also part of TNC is Naturevest: <a href="http://www.naturevesttnc.org/">http://www.naturevesttnc.org/</a> Iowa State Extension on how to grow and sell carbon credits in U.S. agriculture: <a href="https://www.extension.iastate.edu/agdm/crops/pdf/a1-76.pdf">https://www.extension.iastate.edu/agdm/crops/pdf/a1-76.pdf</a>
Biodiversity credits	Credit Suisse & biodiversity: <a href="https://www.credit-suisse.com/about-us/en/our-company/corporate-responsibility/environment/biodiversity-natural-capital.html">https://www.credit-suisse.com/about-us/en/our-company/corporate-responsibility/environment/biodiversity-natural-capital.html</a>
Stormwater trading (urban, agriculture)	Primer on stormwater credit trading: <a href="https://www.iisd.org/sites/default/files/publications/stormwater-markets-concepts-applications.pdf">https://www.iisd.org/sites/default/files/publications/stormwater-markets-concepts-applications.pdf</a> Washington DC's stormwater retention credit trading program: <a href="https://doee.dc.gov/src">https://doee.dc.gov/src</a>
Nutrient trading	Maryland water quality trading program: <a href="https://mde.maryland.gov/programs/Water/WQT/Pages/index.aspx">https://mde.maryland.gov/programs/Water/WQT/Pages/index.aspx</a>
Marrying carbon + water quality (soil health)	Ecosystem Service Market News about: <a href="https://www.agriculture.com/news/business/new-market-planned-to-pay-farmers-for-soil-carbon-water-quality">https://www.agriculture.com/news/business/new-market-planned-to-pay-farmers-for-soil-carbon-water-quality</a> Website: <a href="https://ecosystems-services-market.org/">https://ecosystems-services-market.org/</a>
Wetland banks, development (often linked to transportation)	Ecosystem restoration in NY post-Sandy: <a href="https://www.ecosystemmarketplace.com/articles/wetland-mitigation-banking-arrives-big-apple/">https://www.ecosystemmarketplace.com/articles/wetland-mitigation-banking-arrives-big-apple/</a> Utah: <a href="https://blog.udot.utah.gov/2012/10/wetland-banking/">https://blog.udot.utah.gov/2012/10/wetland-banking/</a>
Conservation ballot initiatives	Trust for Public Lands: <a href="https://www.tpl.org/2018-conservation-ballot-measures">https://www.tpl.org/2018-conservation-ballot-measures</a>
Voluntary investments from individuals, utilities	Deschutes River Basin (Oregon) "Blue Water" Program: <a href="https://www.deschutesriver.org/how-to-help/blue-water-program/">https://www.deschutesriver.org/how-to-help/blue-water-program/</a>
Green banks focused on "green investments"	Maryland: <a href="https://mcgreenbank.org/">https://mcgreenbank.org/</a> Connecticut: <a href="https://greenbanknetwork.org/connecticut-green-bank/">https://greenbanknetwork.org/connecticut-green-bank/</a>
Green bonds	Netherlands Green Bond: <a href="https://www.climatebonds.net/certification/netherlands-sovereign">https://www.climatebonds.net/certification/netherlands-sovereign</a>
Other types of insurance mitigation credits	Hurricane mitigation credits in FL: <a href="https://www.floir.com/Sections/PandC/HurricaneLossMitigation.aspx">https://www.floir.com/Sections/PandC/HurricaneLossMitigation.aspx</a>
New forms of insurance tied to certain events (parametric insurance)	Caribbean Catastrophic Climate Risk Insurance Fund (parametric insurance tied to barometric pressure): <a href="https://www.ccrif.org/">https://www.ccrif.org/</a> Catastrophic bonds for NY's metro: <a href="https://www.artemis.bm/news/swiss-re-helps-ny-mta-to-transparent-parametric-metrocat-cat-bond/">https://www.artemis.bm/news/swiss-re-helps-ny-mta-to-transparent-parametric-metrocat-cat-bond/</a>