

Conservation Finance Roundtable

October 3-4, 2019 | The Hatchery | Chicago, IL

Day 1

Welcome and Introduction

Presenters: Kari Cohen, NRCS; Leigh Whelpton and Allegra Wrocklage, Conservation Finance Network

To begin the day, Kari Cohen of the USDA Natural Resources Conservation Service (NRCS) welcomed and thanked everyone for participating in the 8th Conservation Finance Roundtable. Leigh Whelpton and Allegra Wrocklage of the Conservation Finance Network (CFN) continued the introduction. Leigh gave a welcome to the Roundtable and the Hatchery, with a particular welcome to the many new attendees in the crowd. She noted that this is intended to be a community of practice, and as such is continually looking to grow the capacity and knowledge base of the field. Leigh highlighted that the Roundtable agenda attempts to capture all that's happened in the field since the last convening, and noted some of the exciting developments and projects that have come online in the time since:

- The Delta Institute and the Croatan Institute published their *Soil Wealth* report, a comprehensive analysis of private investment in food and agriculture (including several farmland investors in attendance)
- The Carbon Yield Fund was selected as winner of the Kellogg Sustainable Investment Challenge. Created by a student team from Kellogg, the fund aims to finance midwestern farmers' organic transitions providing loans to begin the certification process.
- The Conference of Great Lakes and St. Lawrence Governors and Premiers launched their new Great Lakes impact investing platform
- 3 new funds were created by Sustainable Land Management Partners, Lyme Timber, and Dirt Capital
- Iroquois Valley Farms began offering shares in their 12-year-old REIT to unaccredited investors with as little as \$10,000, via a direct public offering
- Quantified Ventures and Neighborly closed their Atlanta Environmental Impact Bond – the first publicly listed environmental impact bond
- The Conservation Fund closed 150m in green bonds for forest conservation
- TNC Delaware and i2 Capital launched their Revolving Water Fund in Delaware
- Blue Forest Conservation received funding for their first privately finance forest resilience bond
- Launch of Ecosystem Service Market Consortium
- We have new farm bill implementation which we'll hear about later today
- On the CFN front:
 - We wrapped up our 13th annual Conservation Finance Boot Camp and added a new member to the team, Michele Haynes, as program associate for strategic initiatives. Michele is helping to grow and evolve CFN's strategy while standing up a new conservation finance initiative with Sentinel Landscape Partnerships.

Leigh concluded by noting that the Roundtable is designed to be a convening for people taking part in catalytic activity around natural resource stewardship. The hope is to instill a meeting ethos to be candid, open, and share insight. She asked prior attendees to help welcome new attendees into the fold, and

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encouraged new attendees to not be shy in diving in. She noted that although Conservation Innovation Grant (CIG) funding would be up in April, the team is committed to a spring roundtable. She reiterated the commitment to advancing the mission as well as the meetings, and thanked NRCS for its funding and sponsors Great Lakes and St. Lawrence Governors and Premiers for their support. Finally, she asked that all attendees observe the Chatham House Rule, so as to create an environment in which participants could freely share insights from their work.

Allegra continued by reiterating the excitement to see so faces – both new and familiar – in the room. She thanked the Hatchery and the caterers for their support and introduced the Roundtable volunteers. She then opened up introductions to the room, with all attendees briefly introducing themselves to the group.

Mary Fran Riley of Accion Chicago welcomed the Roundtable attendees to the Hatchery, and provided some history on the newly completed facility. She explained the “lasagna financing” of TIF dollars, grants, investment, and tax credits that made possible the \$34 million project. Through co-development of the building with Accion, the Hatchery looks to provide 900 jobs in the next 5 years and bridge the gap in the market between home and commercial kitchens. She noted that the Hatchery sits on the lot of the former Roseanne’s Bakery, which remained vacant for over five years before becoming home to a neighborhood market. Through partnership with the local Garfield Park Community Council, the project was able to develop the building design around the market and house over 30 plus entrepreneurs. Mary concluded by stating her excitement to be hosting mission-aligned events such as the Roundtable to show how the space could help serve diverse functions in the community.

Keynote: David Rankin, Great Lakes Protection Fund

David began his remarks with thanks and admiration for the Hatchery. He thanked all of the attendees and gave his appreciation for the work this community is doing together. David started by offering an intro to this particular place. He noted that although our planet is defined by water, only 3% is usable freshwater. Of that, two thirds lie underground, with a further two thirds of aboveground water locked up as icecaps. David noted that the Midwest region is defined by water resources, hosting 18% of world’s surface fresh water and fueling 30% of US GDP.

On average, any drop of water put into the Great Lakes will stay for 167 years: what goes into the system stays in the system. A \$6 trillion enterprise is defined by this region’s water.

David continued by offering a background on the Great Lakes Protection fund. He noted its origin in the 1980s, spurred by concerns over toxic pollution, water withdrawals, and a changing economy. He cited an eagerness toward locating the biggest shared problems and fixing them. David highlighted the history of new technologies and markets, such as automated emissions reductions, partnerships for ag resource management, or the impact of Ballast Management standard on reducing invasive species in shipments. David noted that these transitions provided opportunity to remove risk and damage from the system by introducing a new alignment of incentives.

He continued with a plea for help. Specifically, he asked how value might be found in the upper Midwest in the face of challenges such as climate change, under-investment in infrastructure, and a changing demographic/economy. He offered that one solution might be found in new disruptive models: performance-based capital and construction for water infrastructure, a focus on prices rather than fees,

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the integration of smart technology. He questioned how we can unlock the value that's in water distribution and collection networks? Finally he noted that future development will require finding fixes to what we thought were solutions – confronting the unintended consequences of older solutions. David noted that we managed to separate commodities from the land, and value from commodities. He noted that we need to rethink how we examine water infrastructure on a more fundamental level.

Session 1 – New Funds for Real Asset Impact

Moderator: Margot Kane, Spring Point Partners

Panelists: Paul McMahon, Sustainable Land Management Partners; Peter Stein, Lyme Timber; Jacob Israelow, Dirt Capital

Moderator Margot Kane opened the panel with background on Spring Point Partners, and some observed trends from her experience in water investment. She noted that much of the venture's work has focused on sustainable water from a human rather than climate priority, emphasizing clean, safe, and affordable water from populations. Margot explained that in water we see a fairly anemic market, mostly due to the fact that water is mispriced. She pointed to the fact that although water is the single most important input to humans, we price it below gasoline. There is not enough value in compensating for innovative solutions for water markets. Additionally, Margot highlighted that water is nuanced: unlike solar, the sheer fact of investing in water does not mean you're having a positive impact. Everyone who is impact investing has an impact on water. There is a large material downside risk involved in impact investment. She highlighted "do no harm" and downside management as the first hurdle of the investment space. In terms of upside management, she questioned how incentives are tied to water? She cited partnerships with civil society and NGOs as opportunities to draw examples and value for investors.

Margot continued by pointing out that resiliency requires a systems strategy and mindset. A systems approach in water means also managing waste and considering environmental justice issues. She noted the opportunities for addressing multiple problems with integrated solutions, citing the example of addressing broadband access as a key economic challenge by tethering the laying of cable with water infrastructure projects. She noted how this stacking and diversifying of revenue streams could generate additional community and investor benefit. As community engagement and empowerment play an important role in water investment, she highlighted the importance of co-benefits for communities as part of resilient infrastructure work. Margot emphasized that is a material investment risk, and investors without a proactive outreach strategy for engagement with farmers or the community face severe risks, as seen in Flint. Margot concluded by noting the correlation between degradation of land and exclusion of individuals from land. She then turned the microphone over to Paul McMahon of SLM Partners.

Paul began with a background in investment in regenerative farming, highlighting the 2012 Australian grassland beef fund designed to store carbon through holistic grazing. He cited Ireland's sustainable forest fund, aimed at moving from clear from clear cut to continuous. He pointed to the investments within the United States looking to scale up organic row crops and grains. Paul then turned to framing real asset investing for impact from the perspective of SLM. He explained that SLM focuses on institutional investors seeking a market rate of return (rather than those seeking little/no return). He noted that while agriculture is a more recent investment space, really coming to the forefront in the last 10-12 years, it presents a real asset with real demand. Regenerative approaches can result in higher profitability, be it from higher yield, lower costs for inputs, higher market price, or environmental

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payments. Paul noted that the single most common question from institutional investors is “what’s your track record?” – recognizing that investors don’t want to go first. As a result, we see a need for impact-motivated investors.

Paul spoke about SLM’s developing new, which looks to raise \$150 million to scale up organic row crops and grains. It’s an area where the firm thinks there is alignment the market dimensions and the opportunity. He explained that organic grain pricing averages 2-3 times that of conventional prices, but that the challenges still create a fundamental barrier to transition. He spoke to how the fund can mitigate these challenges. With respect to land access, the fund is structured so that SLM purchases the land and enters into long term lease with farmers, providing the right to purchase at the end of the tenure. To mitigate income loss during transition, the fund charges below-market rent during transition, moving into base rent plus a profit share after certification. Paul spoke to how the fund can help develop access to markets by arranging offtake contracts and aggregating supply, in turn passing the attractive terms back to farmers. Finally, spoke to the opportunities for developing knowledge and skills to smooth the transition process.

The panel continued with Peter Stein of the Lyme Timber Company. Peter highlighted the opportunity areas presented by wetland mitigation banks, forest carbon sequestration, and conservation real estate. He raised the concern that by moving to large scale conservation forest transactions, we leave out some of the forest community. He cited the Trust for Public Land, The Nature Conservancy, and the Conservation Fund as key partners in this area. Peter pointed to the developing opportunity to create smaller-scale investments. He brought attention to two consultants/partners in this effort, Eco-Capital Advisors and Finite Carbon. Peter stated that these smaller-scale efforts were not remarkably well noticed by investors, and failed to move the needle of larger fund as much as was hoped.

He noted that in two of its three sub-strategies, Lyme has exclusive partnerships with best-in-class firms that have extensive experience and a track record of successful investments. He then presented the group with an investment project at Chocolate Bay. In 2018, Lyme purchased 9,500 acres on the intracoastal waterway near West Galveston Bay, 40 miles southeast of Houston. A portion of the property is to be resolved via mitigation. Peter flagged that the fund started in late January, and will be done raising capital next year. He then handed off the discussion to Jacob Israelow of Dirt Capital Partners.

Jacob provided some background on Dirt Capital’s 22 farmland investments since 2014. He emphasized the regional nature of the model, with a focus to date on the Northeastern United States. Jacob highlighted financial and technical resources around land access and business planning as key issue areas. He explained that the firm is agnostic regarding production type, instead focusing on partnering with farms that meet criteria requirements and are located within the focus region. The model of the investments is that of a lease purchase agreement with a defined exit, culminating in sale of property to the farmer. Dirt Capital often works with conservation easement partners, and aims to fill gaps in the conventional agricultural financing system in the region. Jacob outlined the key project strategies: relocate an existing farm to more secure or larger property; expand a successful operation through acquisition of nearby land; transfer of a farm to non-family or family successors; conservation easement deals in coordination with land trusts; transformation of farm infrastructure with updates for the next generation’s efficiency.

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Jacob provided a case study, Triple 3 Livestock, located in Marathon, New York. The 700-acre property is home to 130 cows and was purchased for \$625,000. Dirt Capital provided a \$100,000 investment in improvements, building out a milking parlor for the farm. Jacob highlighted a direct market focus on diversified partners, selling to CSAs and restaurants rather than as a direct commodity. He explained that project evaluation consists of 4 central criteria: business viability, market for products, value of real estate, ecological management practices. Jacob concluded by noting that Dirt Capital is currently raising its 3rd fund, looking to close by the end of year. The panel then turned over to questions.

Q&A

- Margot: Your three firms are operating at different scales. Can you discuss what importance scale has in your work?
 - Paul: it's a big problem for translating projects on the ground to funds at scale. Institutional investors are generally looking for large-scale projects and funds, so we're searching for a mechanism to move toward growth.
 - Peter: one of the reasons our forestland investments have grown is that we an opportunity for micro/small banks. The kinds of density of forest we're looking for in this strategy are not at the 50,000 acre scale, but rather the 5,000 acre scale.
 - Jacob: at some point there are decreasing ecological returns from scaling up agricultural purchases. The larger dollar-value projects we're doing are the conservation projects. In agriculture - dairy for example - you have dairy cows managed on grass spending their time outside. There is a limited distance they can walk to go to milking facility 2x per day. When you're talking about grain or grass-fed beef, there is more opportunity to scale but also greater global market pressure.
- Margot: what were the hardest or most surprising things you encountered in setting up your most recent funds?
 - Paul: separate strategies in separate geographies. It always seems to take 2-3 years, 1-2 million in cost. If you knew that before you started, you probably wouldn't try it. That's the uncomfortable reality of becoming a new fund manager. Before you raise your fund, you need to figure out how to finance the fund manager. Additionally, getting an LP investor to commit is critical.
 - Jacob: find a really aligned investor who wants to do a pilot project with you. Only spend as much time as you need on whitepapers - ground test a strategy until you think you have something workable.
 - Margot: what I'm hearing from group is that GP backing is key. Note, fund managers coming from less traditional background (women, people of color) may not have those networks. Additionally, anchor investors can provide a form of fund signaling (pilots can help here too).
- Audience member comment: just last week I interviewed 2 female farmers, 1 African American, who's farming 4.6 acres. Multiple members of the family own the land. The other farmer is growing hemp on 25 acres. The approach is based in collaboration and being place-based. Community can be a great base for support. First loss partners, can help with sourcing. If we hyper-collaborate, enabled by technology, we can collaborate to get around some of those barriers,

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- Audience: you referenced leveraging the EQUID program/ new farm bill programs to help advance the conservation/investment opportunities. Have you used other Farm Bill programs? How do you see using the 2018 Farm Bill programs to help fill that gap?
 - Jacob: our leases require that farmers take advantage of Farm Bill programs, where applicable. Especially for the dairies, we're already working with a lot of farmers working closely or at cap with NRCS funds. Conservation deals with ACEP support. We increasingly work closely with FSA on loan program - now capped at 600,000 for mortgages. FSA has a program with lowest interest rate and longest terms - FSA will be co-lenders with Dirt Capital, can help invest and take advantage of the opportunity.
 - Peter: conservation opportunities fund is probably not the place for most of the title. Project in Colorado for ranchland easement
 - Paul: Crop insurance can be a dirty word. But the asset class by nature is low return, so crop insurance can be important. Public payments for public goods would be the ideal – this is happening slowly in Europe, and it would be great to see that come to US.
- Audience: Investors eventually want their capital back. How do you think about enshrining that ecological value after you've been forced to exit?
 - Peter: This is a key question about durable impact. A certain amount of sustainable practices will be part of the easement. For strategies we do, wetlands conservation will require easements. Carbon - compliance markets in CA - they hate offsets, that's why it's so difficult - 100 year. Carbon contract
 - Paul: attempts at structuring fund as evergreen, not forced to exit. Exploring proving concepts and then convincing investors to convert and restructure fund.
 - Jacob: Few pilot projects around easement requirements that have land management/tillage built in - even when we sell an easement there's no guarantee except that the land won't be sub-divided in future. Requirements vary by land/area. There's not a guarantee though - for us the most durable way to keep farmlands at a high level of production and not degraded is to build intergenerational stewardship and invest in the partners.

Session 2 – Soil Wealth: Investing in Regenerative Agriculture across Asset Classes

Panelists: Joshua Humphreys, Croatan Institute; David LeZaks, Delta Institute

Josh Humphreys of Croatan began by providing a background on the Soil Wealth report. He noted that its reframing out of the CIG wasn't necessarily anticipated. The report, published in July, was forged out of place-based work in rural communities and an attempt to capture the socio-economic dividends associated with regenerative agriculture. The basic idea: how can we highlight the constellation of benefits associated with soil wealth? How do we quantify soil wealth?

David LeZaks of the Delta Institute continued by describing the initial 2017 CIG proposal: 19 project partners, \$700,000 in USDA funds plus a \$700,000 match for the 3 year project timeline. He outlined the aim of figuring out mechanisms for investing in regenerative ag. David cited a \$30 trillion transfer in generational wealth, with millennials on the receiving end of social and environmental returns. He went on to consider the shifting patterns of land ownership and management, and the effort to wrap these considerations into a broader context of financial flows. He highlighted a question in how to shift the framing from not making it worse to actively making it better?

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David explained that a fundamental level, the research aimed to understand what “regenerative” means. Regenerative is deeply tied into the health and resiliency of people and communities. What are the new due diligence tools in this space? Between agriculture and its value chain there’s a shared language of risk. On the day-to-day, farmers are professional risk managers. Yet there is an outstanding question in how soil figures on the balance sheet. David noted that resilience of soil is not talked about as much on the financial side. He noted that the idea and terminology of “regenerative” ag has caught fire, but that we’re still trying to understand what we’re talking about. There is a suite of public and private benefits stemming from regenerative ag, and different pools of capital that can be allocated to the public/private returns spectrum. Yet the mechanics of distributing public and private benefits are fuzzy. David continued by posing a new question: how do we create a more complete understanding and accounting?

David spoke about a total portfolio activation approach, focusing not on a single point, but rather at capital deployment across a more wholistic framing of the agricultural value chain. He also highlighted an integrated capital approach, and the framework of how financial and non-financial capital can be used to generate a suite of social and environmental benefits. He explained the opportunity to catalyze the flow of private capital into the space and reduce transactional risk.

David considered the innovations that could facilitate more movement of capital, given the formative role of capital as a catalyst and its potential to align incentives toward full mission impact. Looking at this from the perspective of an environmental studies PHD, David introduced the concept of biomimicry. He noted that one of the pieces explored in researching was Drawdown’s climate focused solutions, and climate-friendly ag as a potential mitigant of 170 GtCO_{2e} for cities, while generating nearly \$10trillion net financial return. He concluded by considering how we can move away from an extractive use of both capital and soil.

Josh continued with an overview of the regenerative agriculture investment landscape. He framed this from the perspective of Porter’s forces, and a consideration of the available strategies within the market. Josh noted that the team was able to measure and consider in asset-weighted terms, how different criteria were being in the regenerative asset space. He explained that soil and crop management and operational management were the two largest areas, with sustainable livelihoods closely behind. He highlighted the heightened activity around public funds in this space.

Josh then shifted into addressing how private equity and venture capital investors are entering the space. He framed the interest in understanding the varying potential exposure level within food and agriculture, as a full or partial component of investment portfolios. He noted that in private equity and VC there is very little full exposure, seeing instead much more limited exposure. Regenerative ag is just one of many pieces of the picture. Josh outlined the evaluation of the mechanisms being used to get deals done. The report team catalogued 67 across a spectrum of maturation or “regenerative readiness.” He explained that from this study we see that it’s a hugely experimental space, with room for developing further. He highlighted that most deals are in a nascent (prospective to developing) stage, with very few categorized as ready to scale or established.

Josh called attention to a few priority areas for increasing investments: cash and public fixed income, as well as real assets. He explained that most financing for agriculture is through bank lending, none of which has regenerative criteria associated with the loan. He cited mission-aligned CDFI sector as

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another pool of capital. Josh raised the question of how to bring community development lens into the process, calling on the example of Farmer Mac securities that didn't perform well in financial crisis. He concluded if we can provide these securities to small hobby ranches, we should be able to create more thoughtful lending mechanisms.

David continued the conversation by following up on the lending for organic farming. He noted that banks have been closing the door on farmers. The United States is a net importer of grains, presenting a ripe opportunity for novel lenders in space. David mentioned Pipeline Foods as one partner. He noted that one area for further development is in providing data to banks to help understand the profitability (or lack thereof) of conventional farming, creating products for farmers.

David stated that in looking at land value, there is no ticker symbol for farmland. It's a variable market, and institutional investors are just now becoming active in space. Yet we don't see a real relationship between the underlying asset and what the prices are. He drew a parallel to conventional real estate, explaining that if you pulled the bricks from your construction and crumbled the foundation, you would slowly destroy the value of that asset. He emphasized that we are undermining and extracting the very assets that we expect to perform in the long term, yet prices continue to go up and up. He posed the questions: how can we reframe so that the value of the land is tied to the real value of the soil? What is the fiduciary duty to maintain for the long term? As an institutional investor looking at a long term, taking money from pensions, teachers, or public money, what is the fiduciary duty to not invest in conventional agriculture?

David concluded by noting that catalytic and integrated capital present an opportunity for those with excess pools of capital (foundations, etc.) to engage and manage risk associated with transition. The Soil Wealth report identified 67 approaches for catalyzing investment. One has been picked up: that leaves 66, and there are surely more. David ended with an invitation to the community - especially this practitioner community- to engage further. He presented a call to action, emphasizing that we don't have another choice. If we fail to turn around our agriculture system quite soon, the consequences are dire.

Q&A

- This is an unusual economic situation in which there's more capital looking for deals. Thinking of the other side and the social/cultural components, where are you guys at in terms of the other side?
 - David: From the perspective of a safety net, how can we provide that safety net culturally, but also in these larger risk mitigating mechanisms such as insurance (eg. 508H)
 - Josh: agriculture is intrinsically place-based. Certified organic is a USDA program, and a lot of people are being left out of that rapidly growing market. Socio-economic dividends are associated with those organic clusters (notably absent in regions such as the US South). What that means is that, while there may be some practices in place in those regions, they are not densely clustered enough to create those organic hotspots. One of the places we are exploring is land-secured financing mechanisms for this space = PACE financing for regenerative ag. Why not explore new bond finance to provide up-front capital to help stomach the transition that will be amortized over the next ~15 years? If there's a policy and stakeholder environment that's open, would be great to get

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- public support. Otherwise, can look at public-pilot partnerships (eg. with the OARs project). We explored in 4 geographies with different traditions, we welcome other places to step up and say we're interested. You've got to cluster those folks together so it's not just pioneers going it alone.
- Current debate in regenerative agriculture world - is it about practices or outcomes?
 - David: we're definitely going toward a more holistic outcomes approach. How do we look at going from measuring each of those individually to wrapping outcomes together? How do we price agricultural goods more effectively? If we can't do that, we're going to have to go to something practice-based, but I'd like to see outcomes-based.
 - Josh: our interest at this stage is to observe what's going on in the field. What I'll observe (as a participant-observer) is that there's a lot of debate, including on how regenerative interfaces with organic. My personal preference is to engage the community around lower toxicity as well. Other pressing debates: ag tech and alternative protein movements have different priorities, eg. plant based meat using GMO crops. How can responsible animal husbandry play into the carbon cycle?
 - Leigh asked the panelists for a final word:
 - David: let's work on putting soil wealth on the balance sheet
 - Josh: Some of our investors are really thinking about how to do soil wealth metrics. I think there's a lot of interesting work to be done on the metrics side too

Session 3 - Federal Agency Updates: Changes to RCPP & USFS Innovation Fund

Presenters: Kari Cohen, NRCS; Tommie Herbert, USFS

Tommie Herbert of the USFS kicked off with a presentation on Innovative Finance for the National Forests Grant Program. Tommie expressed the interest within USFS to connect private capital with its missions. She noted David's comments at the conclusion of the prior panel, and emphasized the imperative need to think about all available options. Tommie provided some background on the IFNF team and the general shape of the grant program. She noted that since first joining the Roundtable a couple of years ago several partnerships have arisen from this forum, and USFS has been able to start exploring new things.

Tommie explained the motivation behind IFNF, and the increasingly severe threats to national forests and adjacent lands such as drought, fire, disease. She stated that the scale of needs outpaces existing resources, which has necessitated new approaches to finance land management. She spoke to the ability to leverage current and out-year dollars is inhibiting thinking toward large-scale projects. She expressed a desire to consider how private investment partnerships could create benefits to forests. Tommie explained that the USFS is looking for scalable, replicable finance tools to help the Forest Service advance at landscape-scale deals to address 80 million acres of restoration projects.

Tommie highlighted two focus areas in which USFS is seeking proposals: forests as watershed infrastructure and jurisdiction/land ownership. Areas considered include national forest system land, adjacent lands, and a cross-boundary combination of forest and adjacent lands. She stated that up to \$2.5 million in funding is available for 2019, ranging from 10k to 500k. She concluded and handed off the presentation to Kari Cohen of NRCS.

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Kari provided an outline of Regional Conservation Partnership Program. He noted that \$300 million is available across 5 years, and emphasized that NRCS is at the mercy of the quality of proposals it receives. He noted that RCPP can help the practitioners in the room by reducing risk for funds. Under RCPP the NRCS can cover the same scope as EQUIP, and looks to fund compelling projects. He outlined a few core principles: impact, partner contributions, innovation, and project management. Kari presented RCPP as the future, an iteration or evolution of previous programs with an emphasis on outcomes. He noted that the structure of funding arrangement is more “grant-like” than the traditional program, providing the example that Dirt Capital could get \$6 million to deliver and oversee with its farmers, with the sole requirement of held accountable and meeting Farm Bill requirements. Kari also highlighted the more customer-friendly nature of the programmatic agreements, and noted a public comment period on the interim final rule that will be open for 60 days.

The discussion then turned over to comments and questions from the audience.

Launch of the Great Lakes Impact Investment Platform

Presenter: David Naftzger, The Conference of Great Lakes-St. Lawrence Governors & Premiers

The Great Lakes and the St Lawrence Seaway are the best competitive advantage for this region, both in the past and looking forward to the future. The Conference (a council of governors and premiers) uses impact investing to create competitive, market-based financial returns. They are beginning to consider the ways in which they operate as a single economic unit that crosses national borders - and beginning to see water as the resource and the pathway that binds them.

The group has found support from the US Endowment of Forest and Communities (pilot program), the Fund for Lake Michigan (pilot program), and the Great Lakes Protection Fund (real-time dashboard). In order to tackle the region’s challenges, they are taking on ambitious goals:

1. 20% reduction in nutrient deposits
2. 10% increase in energy efficiency for water utilities
3. 10-15% reduction in emissions resulting from less energy use, forestry, nutrient management.

In order to accomplish these synergistic goals, they are launching the Great Lakes Impact Investment Platform, which brings together projects and investors in the fields of forestry, smart water systems, and agriculture. In order to ensure that ESG goals are met and to be able to compare projects, all firms will have to enact annual reporting of environmental performance based upon The Nature Conservancy metrics.

Metrics will include:

- Gallons of Water Saved
- KiloWatts of Energy Saved
- Tonnes of Carbon Stored/Reduced
- Tonnes of Nutrients Reduced
- Forest and Farm-land - Certified Acres

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David is very proud of their two pilot projects with Milwaukee Stormwater Management testing Green Lending and the Bailey Mountain Biking Trail System which is testing Environmental Impact Bonds on former strip-mining land.

The Conference is looking for partners - feel free to reach out.

Session 4 - New Frontiers for Groundwater Markets

Moderator: Adam Chambers, NRCS

Presenters: David Primozich, The Freshwater Trust; Sarah Heard, The Nature Conservancy; Nick Brozovic, University of Nebraska-Lincoln

Sarah - California is the last western state to pass a law regulating groundwater. The bill, Sustainable Groundwater Management Act (SGMA) requires groundwater management but does not strongly define what groundwater management entails and delegates great power of the local level. One method that is being used for groundwater management is a Groundwater Market. While California has groundwater markets already as a result of court decisions, the Fox Canyon market is more intensive and expansive. Continuing to describe the region, Sarah notes that Ventura County, is an area which holds valuable free-flowing rivers and wetlands. It is also under constant pressure from Los Angeles encroachment. As a result, The Nature Conservancy seeks to support growers and preserve agriculture and sees water markets as one way of doing that.

When SGMA was passed, The Nature Conservancy was already at the table because of its 4500-acre holding and accompanying groundwater allocations. The region also already had a groundwater agency due to a history of saltwater intrusion.

This was a grower led initiative - many have seen the writing on the wall and anticipate a 40% cut in groundwater usage in the next two decades. In order to ensure local buy-in, TNC has also partnered with a local university, California Lutheran, to build out the project.

Sarah suggests that it is important to have a slow, dedicated process. At this point, no trades have yet occurred. She noted that growers have been in the driver's seat of the process and create goals, rules, and plans. Advanced Metering Infrastructure usage is incentivized. Both agencies and third parties can see data, but trading will eventually be online and anonymous. Most water market transitions today are done person to person in so-called "coffeeshop deals"

The Nature Conservancy has created a White Paper with information and suggestions for other water markets.

David - The Freshwater Trust initially was created for water issues in Oregon, and focused on providing distributed wastewater facilities as an alternative to large end of pipe technology. They initially moved into the California market to help farmers who had inadvertently violated sedimentation requirements.

David noted that growers were concerned that upon the passing of SGMA, there input from growers at the county level. The Freshwater Trust has come in to help an industry that is only able to change a precious few aspects of their business plan and who cannot move their assets. TFT focus on specific practices and their effect on groundwater quality and quantity and surface-level quality and quantity. Of

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particular concern is nitrogen intrusion in shallow water basins; these basins are necessary for ecosystem health and rural domestic wells.

The Freshwater Trust is tracking environmental data by smart ledger technology and blockchain and is interested in using ever more sophisticated “internet of things” technology and satellite imaging.

Their goal is to leverage markets and conservation finance to put a conservation plan on every farm and ranch in the United States.

Nick - Nick first started getting into water markets as a graduate student in California, and has focused on a theory of algorithmic trading. Currently, his groundwater trading company, Mammoth Trading, is part of the prestigious Techstars Sustainability Accelerator in partnership with the Nature Conservancy.

Nick asks the audience to imagine what a water market might look like. Does it look like a commodity market, where all goods are fungible and sterile. Does it look like a street market, full of life and vitality? Right now it looks like an empty grocery store.

Groundwater is a very small tool in a very large toolkit for dealing with resilience in the face of climate change. He notes that organizations will develop hundreds of pages of rules for how to responsibly govern groundwater assets and only one of them will be about the marketplace. This is partly because most water markets have developed over hundreds of years and are part of a vast tapestry of water regulation.

Four takeaways:

1. “Markets will stress-test your system” by monetizing the water. People are going to cheat the system because an item which was previously not for sale now has monetary value. Good governance is the most important element in creating a market. A robust government or regulatory system (which can be informal and autochthonous) needs to be in place before the market is launched. Idealists often assume that good governance comes after the market is created - it must come first.
2. “Technology is not a substitute for trust.” Trust comes over years - blockchain and other forms of digital transparency require human input for algorithms and assumptions.
3. “You need to focus on people and their problems” People have pain points that need to be addressed. Your technology, while innovating, is not a substitute for providing a real service to customers.
4. “You need to know the history of the land.” You are not inventing the wheel - there is probably already an informal water market on this landscape, and you need to tap into that local experience in order to make any sort of formal marketplace operate.

Q&A

- Will technology substitute for trust?
 - David - No. Blockchain is completely dependent on all stakeholders agreeing on the rules that are embedded in the algorithm.
- What is the perspective from the point of the landowner?

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- Sarah - Flexibility. When growers are looking at a 40% cut in usage over the next two decades. They (and the Nature Conservancy) are concerned that these farmers are going to go out of business. This water market gives growers the possibility of fallowing crops and stepping down the water allocation without debilitating shocks to the market. Right now, The Nature Conservancy is in just the pilot stages - we are willing to buy water on the market and send it to restoration sites. We want to stress test the market and see how it works before we open it up to growers.
- Do we run the risk of running farmers out of business and transforming everyone into water speculators?
 - Nick - Most existing water markets in the American West prevent the transfer of water to non-agricultural purposes, which has the effect of limiting water speculation. The value gained from the market is not when there is a drought (because no one is willing to sell water) and not when there is flowing water (because everyone has enough), it is in the middle.
- A lot of environmental markets have restriction on third party traders. Could we see these shares being traded on the Chicago Futures Market?
 - Sarah - The eventual goal is to have third party traders. Currently, our pilot project only allows members to buy and sell amongst themselves and limits the trades to one year or less, restricting permanent trades. Once this market reaches its full scale, we anticipate a strong debate over the acceptability of coffeehouse trades and third party trades.
- How will The Freshwater Trust scale?
 - David - We are going to target non-centralized structures that have a current dependence. His suspicion is that most activities are going to be for deep wells. Small growers can participate in the market but not create their own supply. The main question that he is hearing is whether there are land management practices that small farmers can enact today and continue over the next decade which can be used as a sort of “savings account” when the next drought hits. There are thousands of growers who are going to struggle to adapt to new farm management practices in a changing California. This creates opportunities for thousands of other participants to create a better future.
 - Sarah - Adaptability is needed. A practical experience is more important than interesting theory. She thinks that is important to have a pilot project and build upon your experience.
 - Nick - We need social cohesion and culture bonds. The United States has a very atomized culture, even though we’ve seen these practices have severely degraded water quality and quantity for everyone. Now that we’re trying to build water markets, we’re often doing so without the thousands of years of social cohesion that have made international water markets function.

Session 5 - Taking the Pulse of Outcomes-Based Financing

Moderator: Tim Male, Environmental Policy Innovation Center

Presenters: Ashley Allen, i2 Capital; Mark Lambert, Quantified Ventures

Tim - Example of outcome-based financing: We need to ensure a marsh is installed below New Orleans to provide habitat and protect communities against storm surges. In order to create this, the parish proposed their first “Pay for Success Contracts.” Before this point, contracts for marsh restorations were

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paid based upon completion of construction - which led to a huge amount of work for governments and led to multi-year delays. Instead of paying upfront, the parish paid the contractor approximately 80% at the end of construction and then five years after the project is done, a consultant determines if the marsh will still be existing in another twenty years. If that is the case, the contractor is paid the additional 20%, and if not, they receive nothing further. This incentivizes good workmanship and reduces the contracting cost for the government agency.

Q&A

- What is the transaction structure for i2 Capital and Quantified Ventures?
 - Ashley - There is a really interesting intersection between social and environmental outcomes and how we bring capital to that. As a young venture, the CIG has been incredibly important to understanding how outcome-based financing can operating. We've been able to pilot a couple of projects, including sage grouse grasslands. Over the past five years, we've learned a lot and now are in the process of creating a dedicated fund.
 - Mark - Quantified Ventures is an outcome-based capital firm that works by convening stakeholders. QV primarily creates environmental impact bonds, two of which have been structured and sold. The first was for a Washington DC stormwater system and the second is for a similar stormwater project in Atlanta. We are taking what we learned from both of these two projects and using it for other municipalities and other environmental needs, including coastal resiliency, agriculture, forestry, and recreation. Other municipalities have learned to use their balance sheets to create low-cost capital. The rate of return for this bond is determined by the outcome of the project so that investors are keen to create lasting outcomes. Quantified Ventures is looking at municipal and eventually corporate bond, but they are also looking at other forms of outcome plans for situations in which a bond is not useful.
- I know that you initially started looking at midwestern stormwater systems - why didn't that work out for you?
 - Mark - Yes, our initial operation was focused on stormwater systems in Des Moines, Cedar Rapids, and Clive to incentivize their water management and create better practices for water and nutrient outflow. We discovered after a yearlong feasibility study that using the municipal balance sheet was an absolute non-starter. Even though Cedar Rapids has a very progressive water system, convincing the city budget manager was very difficult. The type of bond, for instance, is very important - the project at one point hinged on whether this was a revenue bond or another type of municipal bond. In some ways, we turned this performance-based bond upside down and became a service contractor for the cities. Municipalities are procuring regulatory relief, which is a familiar form of contract for them.
 - Ashley - She would like to build on this notion of turning a performance-based bond upside down. I2 worked with Quantified Ventures and TNC to create a revolving fund. The main goal is to get conservation funds deployed on the ground in as many places as possible. She says that her firm isn't always clear where the demand is coming from, but they know the supply. There are great conservation organizations that have plans for farmers. There is a whole uniform list of best practices and values attracted to them. Ashley knows the supply, and thought she could raise the money, but isn't sure about creating the return. She suggests that municipalities are really interested in pollution

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- reduction in order to meet their regulatory obligations. Using the pay for success model pushes the ball forward. Even though she is a financial person, not a regulatory person, regulations are what creates business. The advance demand, stricter regulations are needed.
- Carrot - Hard to see where there's a demand
 - Stick - Regulation. Normally this has been the most powerful factor for carbon markets and other environmental markets that have a public good.
 - Voluntary - i2 is seeing more of this, but it doesn't make investors comfortable because demand often comes in pockets.
- Do municipalities agree to a price before going you enter into practice?
 - Ashley - Everything is up to negotiations. "We're targeting the sweet spot between what is below the costs of municipalities so we can offer a compelling product, but above our own costs" i2 don't know if we can pull a profit above the cost of capital and expenses, but they're working on it.
 - How do you verify outcomes? Modeling or Fieldwork
 - Mark - I think the high cost of continued fieldwork is what dooms environmental outcomes. Verification costs need to be extremely low and get lower - less than 5% of the total cost. Therefore Quantified feels it must focus on models. They allow the government to go in and subsample these areas and check the model against that data. Quantified have the nutrient tracking rule as a baseline, and we can take a model off the shelf and run with it. IT that that sort of model is well established and easy to run. In our pilot project, Quantified is also running Common Farm to account for the monetization of carbon and water and welling them to two different buyers. This allows them to lower costs.
 - With all of your energy and partners, you've been running interface between municipalities and policy markets. Have any regulations or policy people been helping?
 - Ashley - No, we would welcome help from any policy or regulation group. Right now we have some people in Pennsylvania and Delaware who are committed to putting language into their regulatory documents - but nothing at a nationwide level.
 - Mark - Currently there is hesitation that a municipality would ever want or need to bank credits for future activities. Regulators haven't been able to get their heads around that idea.

Section 6 - Coordinating Financial Resources at the Landscape Scale; Report Out from Multi-Project Landscape Finance Event

Presenter: Seth Shames, EcoAgriculture Partners

Prior to the Conservation Finance Roundtable, EcoAgriculture also held a stakeholder meeting in Chicago. Seth Shames of EcoAgriculture spoke about integrated landscape investment. Landscape Investment, a term of art, encompasses not just conservation finance, but also other forms of finance which are necessary to support the increasingly interconnected human/natural community. Like conservation finance, Integrated Landscape Investments create portfolios that blend capital source to achieve synergies and impacts at scale. For instance, integrated landscape finance would include land and water restoration as well as electrification, transit, and brownfield conversation.

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Seth and the other members of the conference have drafted a paper titled “A Review of Models of Financing Integrated Landscape Investment: Mobilizing Finance Across Sectors and Projects to Achieve Financial and Ecological Transformation” and would love to share it with members of this conference.

Session 7 - Fireside Chat: The Conservation Fund Green Bond

Discussants: John Gilbert, The Conservation Fund; Todd Gartner, World Resources Institute

John began by the model and the ideals of The Conservation Fund. Initially chartered for economic development and environmental conservation, it has grown to fit a variety of gaps in the conservation industry. This includes a working forest model and a holding agency for land that will eventually be transferred to public agencies or putting easements on the land and selling it to sustainable loggers. They are able to use their \$800M balance sheet to roll through properties to preserve large swaths of habitat.

Moving on to their future goals, they see the need for green bond. In order to meet their next milestone of conserving another million acres, they require a billion dollars. John notes that in some ways, this is a debt IPO - people are investing in The Conservation Fund as an organization, and The Conservation Fund can use these assets to leverage more capital for even bigger projects.

He describes working with a major investing house who was shocked at how “vanilla” the proposal was, and even got pushback because it wasn’t “groundbreaking”. They are offering a ten year bond with 3.47 treasury rate plus 1.7% return. It is rated as an A3 from Moody’s. In addition, The Conservation Fund is able to provide solid information about carbon sequestration and water.

In terms of who buys these green bonds - generally The Conservation Fund is looking for more family offices and impact investors, so that we aren’t crowded out by monolithic investors such as BlackRock. If we had too few institutional investors, it might dilute the impact we want to have, but it is too big for a single family office - so we need a mixture of the two. The response from family offices is mixed.

Q&A

- Was your board accepting of the fact that by putting the conservation easement on first, you were increasing the risk on your investment?
 - John replied that because it was part of the model that was initially put forward, the board did agree and it wasn’t a major sticking point. John also notes that while this project increased the debt ratio for the company, and The Conservation Fund received advice to raise philanthropic dollars first before market investment, they felt it was important to raise all the funds at the same time.
- Would you consider applying this model to agroforestry projects?
 - John - Not something that we have really considered. Interestingly, John noted that in the process of institutional investing, there is a credit reviewer who checks the Moody’s score and then it is passed on to the portfolio manager who sees how it might impact the fund’s risk. The merits of any particular project from a sustainability/impact point of view rarely come up.
- Why would you seek outside capital if the cost of capital is 80 points?

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- John - unfortunately, we don't have the grant pipeline necessary to just use philanthropic dollars to protect these landscapes.
- How do you accredit your conservation practices?
 - John - we use a third party accreditation system. He notes that self-accrediting is a terrible idea and raises the issue of China accrediting green bonds to raise capital for coal power plants because they provide energy security.
- Do you have local opposition for buying land and putting a conservation easement on it?
 - John replies there is sometimes minor local opposition when the land is first being purchased, but The Conservation Fund is very clear to market the project as “preserving forests for people” rather than “protecting forests from people.”

Day 2

Leigh opened the day with a brief welcome and reminded attendees that a survey will be sent out next week.

Session 8 – Unpacking Lessons Learned: CIGs in the Rear-View Mirror

Lessons learned and their significance – how did those funds advance market development?

Moderator: Jason Weller, Land O'Lakes SUSTAIN

Panelists: Kari Cohen, NRCS; Adam Chambers, NRCS

Jason Weller from Land O'Lakes SUSTAIN welcomed the panelists and wanted to briefly define some terms that were mentioned yesterday and relevant to Session 8. He explained that The Natural Resource Conservation Service (NRCS) began in response to the dust bowl, which was the start of the world's soil health movement and the beginning of restorative agriculture. His first question was what role does the NRCS, which focuses primarily in farmland, have to play in financing conservation programs? Kari Cohen explained that while they touch 15% of acres annually, those at NRCS are still concerned about the 85% of acres that they do not directly interact with. The NRCS wants to find stakeholders that fund projects to work with land owners that do not wish to be involved with the government. Adam Chambers went on to explain that while erosion rates have improved since the 1990s, all water sources in the nation are impacted. The public cannot protect our resources alone, so the NRCS looks for finance partners to work with state governments for desired outcomes.

Jason asked from a policy standpoint and NRCS lens, what is the ROI for NRCS to fund millions of dollars in markets? Adam explained that the return on investment for NRCS is the level of conservation they can achieve in the United States. As an organization, the NRCS has grown and has offices in every county aiding landowners. Kari added that many of their conservation finance projects started in 2015 are still ongoing, and would appreciate any colleagues touting their accomplishments thus far to lawmakers to maintain funding. Jason, Adam and Kari went on to discuss that since CIG is a venture fund, that failures can provide valuable learning experiences. Adam said that since policy is not always in your control you have to find a balance between ambition and being conservative. Kari added that administration turnover can change project's futures on a moment's notice. Proposals change and you need to pivot and deviate from your original plan.

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When considering next steps, Jason wondered what the effects of this roundtable are on other federal agencies in attendance. Adam mentioned how great it is to see the other agencies here, and outlined plans for the NRCS to further collaborate with colleagues at the EPA and to increase the partnership with private capital. Kari mentioned that CIG cohorts announcements will be made in December, with a focus on Regional Conservation Partnership Program (RCPP). Kari and Adam both made a call to action to those in the room to further support NRCS at the local and national level by speaking to their representatives. With more people advocating for this community, we can continue this great work that has been done up to this point.

Session 9 – Innovative State-Level Ag Finance Policies

Presenters: Maggie Monast, Environmental Defense Fund; Vincent Gauthier

Discussants: Adam Kiel, Iowa Soybean Association

Maggie Monast, from the Environmental Defense Fund (EDF), gave a brief overview of the project herself and Vincent Gauthier, a master's student at Duke University have been working on. While most projects center around private or federal funding, they had the idea to investigate agricultural finance policies happening at a state level. The main thinking behind this project was to identify different state agriculture policies that have been successful, and to disseminate this information to other states that may be interested in adopting the practices. One program highlighted was the Iowa Water State Revolving Fund (SRF). Instead of using SRF for gray infrastructure like most states, Iowa is using them for non-point source loan program. They found that most farmers learned about this from their lenders rather than agricultural extension programs. This kind of program is something directly transferrable to other states.

Vincent Gauthier explained further the different types of programs they examined in the study. 15 innovative financing tools were identified and grouped into two different groups – innovation at the funding level, how states gather the money, and innovative financing tools, how the farmers receive the money. One example in the funding source group is using environmental double dividends, taxing something that has a negative impact, such as pesticides, and using the funds collected for conservation practices. Some states are using SRF program funds for agriculture programs rather than water treatment. The financing tool innovation bucket includes some programs such as transferrable tax credits, crop insurance incentive programs in Iowa, and best management practices for water allocation in Arizona. This report revealed the curiosity of states to see what other states are doing, and that there is a desire for more collaboration and learning. While this all sounds great, there are some roadblocks encountered; competition with cost-sharing programs farmers already use, some opportunities are more project based, and over the time the market becomes saturated with loans and there are no more farmers in need of them. States are unable to collect data from these programs and cannot tell if they are more beneficial than cost-share programs.

Maggie added that while there is variability among states in terms of carrying forward tax credits to future years, credit transferability to other businesses, business sponsorship, credit refunds, what practices are funded, and the percentage of land value credits, these differences provide opportunities to learn which are providing best conservation and finance outcomes. Some programs have already begun to be replicated. The cover crop project in Iowa is spreading to Illinois. Farmers use crop insurance (95% of people), so it is a good way to reach farmers. States provide a rebate to farmers of \$5/acre for those that participate in planting cover crops. This program reaches farmers through their crop insurers,

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which have been identified as a business partner, since 95% of farmers use crop insurance. Mechanisms of evaluation in terms of environmental and economic effectiveness, such as efficient use of state dollars, how these practices differ from existing programs, behavior change, political feasibility, and stakeholders involved, have been developed but have yet to be applied. When finished with this initial study, EDF and Duke partnered with National Association of State Departments of Agriculture (NASDA) to further spread this information, in which it was very well received. NASDA is interested in adopting climate smart agriculture and resilience on a national level, so there is a great opportunity for partnership there.

Q&A

- Maggie Monast asked Adam Kiel, from the Iowa Soybean Association (ISA), how practitioner groups interact with these different conservation groups?
 - Adam: Since the Iowa SRF program is very innovative, the ISA was able to work with three municipalities in Iowa to build a watershed plan that not only improved wastewater management, but benefited source water, water quality, and recreation. This relationship continued to educate municipalities about their watersheds and built a community between farmers, land owner and other stakeholders. In the future, an outcome-based approach may be helpful when working with this issue.
- Maggie: How do these innovative programs add to the traditional cost-share programs, in a competitive or additive way?
 - Adam: Many farmers are confused about the different opportunities available to them. For example, they have many different avenues of funding for cover crops. It is our role within the ISA to help them navigate these opportunities. We have found that working with crop insurers is quite efficient.
- Maggie: Are there opportunities for practitioners in the room to leverage state funding?
 - Adam: Yes. SRF was very willing to give us money so we have many opportunities. Our goal is to utilize SRF after the pilot this year with philanthropy dollars.
- Could states leverage off of the NRCS programs rather than duplicate? Can you streamline payment schedule?
 - Maggie: We are thinking about this since there has been soil health legislation across multiple states. We identified that there is some competition, but need to develop this conclusion much further to come up with solutions to avoid confusion.
 - Adam: We had about 700,000 acres last year planted in cover crops, and when you consider the number of acres in Iowa, we have many more farms to target.
- Were any programs too localized to be transferrable? Is there a breakdown between those that are transferrable and those that are not?
 - Vincent: Yes, the water allocation flexibility type model is not feasible on the East Coast. So that type of policy is not transferrable since it is region specific. Some programs are more transferrable since they are dependent on agriculture type. For example, in Delaware they focus on poultry and dairy, which is transferrable to states that have this type of agriculture. However, you could always transfer the style of program to a different agriculture type.

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- In Maryland we have upgraded wastewater treatment to open up a nutrient buy to the farming community. The farm bureau did not want to be a part of it, even though there was money involved. They did not want to get involved with any urban policies. Some farm bureaus have a cultural barrier, so how can we break this down?
 - Maggie: In my experience I have found that every state is different and personality dependent. No matter how involved the bureau wants to be, there is always some push-pull tension between the rural and urban dynamic.
 - Adam: Exposing farmers to new ideas is always good, and when they see them, they will give you an honest response. If that opinion is different than a state farm bureau, so be it.
- If we design these programs, are there difference between infield and structural practices?
 - Maggie: We push the private sector to support the farmers, such as input providers and lenders. Targeted use of public dollars are good for things that just won't be paid for privately.
 - Adam: In Iowa, municipality leaders are advocating for soil health when they learned about the impacts of the watershed on their infrastructure. This has a profound impact on the farmers listening.
- There was some litigation in Iowa recently, would you address that?
 - Adam: The litigation was about tiling and point source pollution. It was thrown out, but it drove a wedge between collaboration. The lawsuit got more press than the good things happening in Des Moines.
- To what degree have these programs been affected by the national and global agricultural markets?
 - Adam: It is a tough time and farmers are thinking mainly about paying bills right now. There is some rebound in soy prices recently, but it will take a while to play itself out. However, we looked at the books of 20 conservation leaders in Iowa, and all of them were leaving money on the table in terms of conservation opportunities.
 - Maggie: At a farmer-level, things are tough for a while. For agricultural organizations, the message has never resonated more. EDF realizes they have to change their approach; to get more money for conservation and to tout the profitability of these programs.

Dolphin Tank

Introduction

Leigh Whelpton introduced the “Dolphin Tank” section of the Roundtable by explaining its origins as an outgrowth of CFN’s effort to figure out how to provide on-demand coaching for early conservation finance pilot ideas. She said that “swimming with the dolphins” is an act of bravery because presenters are likely to hear their underlying assumptions about their work challenged. Leigh said that Dolphin Tank presenters may be at a pilot project stage, working to prove a project on the ground, or demonstrate willingness to pay for a service. She urged presenters to highlight where they are in the piloting stage of their work, and “dolphin” and audience commentators to look for ideas for solutions in addition to pointing out problems with the pilot projects.

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She then turned to the dolphins to introduce themselves and say why they thought they were selected to be part of the Dolphin Tank:

- Mary Kelly of Culp & Kelly LLP said she has worked on a variety of impact investing approaches in the water space
- Margaret Bowman of Spring Point Partners has developed impact investing approaches for water in the American west, and is engaged on impact investing and grantmaking
- Siobhan King of The Nature Conservancy San Francisco works on conservation finance deals for TNC's NatureVest arm, and has experience working on impact pilot projects and leveraging impact capital for environmental markets
- Nicole Chavas of Greenprint Partners said that her company has had a "Dolphin Tank" approach for the past five years

Dolphin Tank Session 1: Chesapeake Conservancy

Presenter: Jeff Allenby, Chesapeake Conservancy

Jeff Allenby of the Chesapeake Conservancy presented first on his organization's work on carbon aggregation. The group is conducting research to determine which NRCS practices with soil health and carbon benefits should be their top priority for meeting the Total Maximum Daily Load limit for water quality in the Chesapeake Bay. They are planning implementation in four pilot counties, Allenby said, but are faced with the challenge of how to pay for water quality improvements.

The implementation plan has a funding gap, and they are trying to figure out how to fill it. The Conservancy has projected that carbon credit revenue could address their maintenance costs, but that is only about 10% of the funding shortfall. Questions they are considering, Allenby said, include the mechanisms and players that could aggregate carbon credit transactions enough to make them feasible, like counties, states, or the Chesapeake Conservancy; whether it is possible or appropriate to capture the carbon value for water quality action already happening (ie. does that meet the definition of "additionality"); whether the verification of practice implementation already happening for the TMDL requirements could reduce transaction costs for carbon revenue; and whether the longer carbon and shorter TMDL timeframes are compatible.

Q&A

- Question: Is exploring carbon credit revenue a way to prioritize new projects, or apply funds to work already happening?
 - Allenby: It comes from the organization asked whether money is being left on the table if they are only focusing on water quality and not talking about carbon. They are looking to see if they can recoup some implementation costs and take advantage of new markets for work already being implemented.
- Comment: Carbon markets work through stacking, and you have to have more than one revenue source for them to work. Allenby is asking the right questions. Chesapeake Conservancy should look at this situation from the standpoint of TMDL regulators, and also farmers. How much paperwork would they have to do? They would get a tiny amount of additional money in exchange for a 50-100 year commitment. Who would the carbon credit payors be? What do they think about this approach? Toggling between farmers and payors can narrow down the project.

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- Comment: Certification is very different between TMDLs and carbon markets, so trying to do both together may not actually reduce transaction costs.
- Question: What is going to motivate regulators to add carbon into the project if they don't want to now? What entity are you proposing would be responsible for it?
 - Allenby: This is still a question they are trying to answer. Is there a carbon play around TMDLs? Does it make sense for an outside group like the Chesapeake Conservancy to facilitate the market? The organization's goal is just to incentivize improved practices faster.
- Question: How did you figure out that carbon credit revenue could cover 10% of current TMDL implementation cost shortfall? Where does that number come from?
 - Allenby: This is based on state of Pennsylvania estimates of \$50 million as the annual cost of the project.
- Comment: In the carbon markets, you'll be competing against larger-scale projects in places like Iowa, and the transaction costs at this smaller scale will make it impossible to out-compete them. One workaround would be to find companies who care about the Chesapeake and would pay a premium for local credits.
- Comment: Pick just one practice and one geography for consistency at the pilot stage.
- Question: With a low carbon price and without supply chain willingness to pay, how will you get government involvement?
 - Allenby: Chesapeake Conservancy has a good relationship with state agencies, and there may be a willingness to look at state-level sources for carbon offsets.
- Comment: The key issue for landowners with carbon credits is what their economic benefit will be. Chesapeake Conservancy should research how credits would sell in a voluntary market if they can be packaged.
- Question: Have you talked to farmers? How will they respond to this idea?
 - Allenby: Not yet. Wanted to do this thought exercise first to determine if that makes sense as a next step.

Dolphin Tank Session 2: Xerces Society

Presenter: Eric Lee-Mader, Xerces Society

Eric Lee-Mader of the Xerces Society began by thanking the group and introducing himself and the organization. He explained that the organization is working to combat the decline in insect biodiversity and protect endangered insect species, and gave a summary of the latest research on insect population declines, biodiversity loss, habitat conversion, and the spread of insecticides. He then laid out the economic value provided by insect biodiversity, and explained that companies are increasingly trying to harness it.

Mader said that in response to competing label claims between competitors, companies reached out to the Xerces Society in order to develop an insect-friendly certification system that would have their backing as a neutral third party. They used NRCS Conservation Innovation Grant funding to develop their Bee Better standard that certifies the protection of insect habitat, integrated pest management practices, and pesticide restrictions.

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He explained that 20,000 acres are now either Bee Better certified or pending certification, primarily almonds, small grains, and berries. Products have now begun showing up in the marketplace, and companies pay a fee of half a cent per dollar of gross sales to use the Bee Better seal on products. The program now has a near-term revenue surplus that they are trying to decide what to do with, and are considering paying it out to farmers as a dividend, hoping it will incentivize them to do more.

Q&A

- Question: What scale do you need to make a difference for bee health in a given geography, and does your current certifier have the capacity to do that?
 - Mader: No one has a handle on the geography question. One goal would be to get back to the high point of the Conservation Reserve Program of 100,000 acres in California's central valley, but we don't know if it's likely. That could make a difference for the survival or extinction of certain pollinator species. The certifier Oregon Tilth has good US capacity, but now Bee Better is getting inquiries from South America, Africa, and the Middle East, and they may not have capacity for that. Some companies bring in produce from South America and lose their certification for half of the year.
- Question: What is the supply chain risk? How do you ensure that certification is traceable and, for example, all Nestle products are certified?
 - Mader: The program uses a supply chain mass balance model, and companies are aggregated. Produce can be mixed in a processing facility as long as a company is certifying an equivalent amount. This was necessary to manage the complexity of the process.
- Question: You said the program pays for itself. What are the economics of farmer implementation? How do you maximize scale?
 - Mader: This question is being simplified by research. There is strong evidence, for instance, for a return on investment in 3-4 years for blueberries in Michigan, since yields are increased by an increased wildflower population. This can add a few hundred dollars of profit per acre, but encounters cultural resistance. Many adopters are new farmers, and that is not a coincidence, since new practitioners have fresh eyes.
- Question: Are bigger farmers adopting the certification?
 - Mader: We're strategically focused on large farms feeding corporate supply chains.
- Question: Could the Regional Conservation Partnership Program be a play for this?
 - Mader: That is a complicated program to understand, but we are digging deeper into that.
- Question: What is motivating farmers to do practices? What has led companies to see value?
 - Mader: Companies see the marketing value, and they recognize their supply chain risk. There are no blueberries, cranberries, almonds, or canola without bees. Farmers get a premium, and they are sometimes interested in that. But there is also a genuine conservation ethic.
- Question: Instead of paying the surplus back to farmers, why not use it for case studies, outreach, and efforts to help scale the program? Could that help show the program's value for bottom lines and resilience?
 - Mader: The surplus figures into the core communications budget, but it is projected to be higher than what is needed for that. There are still different internal ideas about what to do with the surplus revenue, though.

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Dolphin Tank Session 3: Climate and Forest Capital

Presenters: Maggie Monast, Environmental Defense Fund; Daniel Pike, Climate & Forest Capital

Maggie Monast of the Environmental Defense Fund and Daniel Pike then introduced themselves and began their presentation. Monast noted that a central challenge in discussions at the Roundtable was in how to move from one-off conservation finance projects to scale. In a Conservation Innovation Grant focused on scaling agricultural practices that improve soil health and reduce climate impacts, she saw similar challenges.

Monast noted that investors typically require proven financial benefits, easy replication, and well-understood risks in order to scale up. But in agriculture, farm financial data is hard to find, there may not be a clear return-on-investment to demonstrate, and every farm is different. Lenders also have limited data available to use to compare risk.

Pike then explained that they have a hypothesis for solving this problem that they will be working on in the next 6-9 months: a blended finance organization with deep expertise, an impact goal, and the flexibility to use blended finance to scale promising projects. It would use program-related investments, grants, subordinated debt, junior equity, and loan guarantees as financing tools, and would draw support from a network of expert advisors and farm technical assistance providers.

Monast offered an example from her current work, saying that if this facility existed, she would use it. They are working with a major agricultural lender on a lending product with built-in conservation incentives—if a farmer achieves conservation-related key performance indicators, they would get a better risk rating or interest rate. The theory is that these farmers would be less risky borrowers, but Monast doesn't have the data to prove that. The lender could partner with the proposed facility to bring in supply chain or impact investment money to support the loan, and get technical support to verify that the hypothesized benefits are being produced.

Monast and Pike then asked the audience if an organization like the one they are proposing would be useful, what it would take to want to participate, and what audience members would need from this organization.

Q&A

- Question: What is this solving? How is each player in the field currently playing a role that isn't working? What will bringing them together unlock?
 - Monast/Pike: Lenders are providing traditional finance, but with no insight into conservation outcomes. They aren't willing to offer favorable terms with no loan support. Under the new approach, farmers would interact with a typical lender but getting a better lending product through conservation.
- Question: Why can't existing lenders do this? Does layering on impact and conservation increase the cost of capital? How do you overcome that? Is it a scale issue? What is the farmer perspective on how to overcome these issues?
 - Monast/Pike: We need to hone in on why people aren't doing this anyway. Lenders have limited expertise, and don't have much data on conservation. But they are interested and see its value, it's just not proven.

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- Question: Do lenders need to have expertise? Could you not just layer third party technical assistance onto an existing product?
 - Monast/Pike: We can provide expertise, but lenders still want to see numbers, and we don't have that. That would come through an intermediary. Would a more centralized hub of support and money accelerate what everyone is doing individually?
- Comment: Keep this as simple as possible. You risk creating something bigger than the problem you're trying to solve. The core problem is that we don't have enough data to derisk agricultural lending. The technical assistance and impact investing problem needs to be solved, but it isn't clear that a blind pool impact investing fund is necessary to do that.
 - Monast/Pike: To collect data, we need to try something with farmers, and to do that you need loan support. That's why we're proposing packaging them together.
- Question: Who would do this? Are you proposing to be the entity? Blind pool investment is hard when you have apples and oranges, different types of plays. It's hard for an investor to put money in when you don't know what you're funding. Would you have a matchmaking shop doing the data? Just coming up with a big pot of money isn't going to solve all the problems—it also needs to be put together.
 - Monast/Pike: The working hypothesis is that a new nonprofit would do the matchmaking, and sourcing of ideas from the field and technical assistance providers as they see opportunities. It would set up a new special purpose vehicle.
- Comment: Don't lead on the special purpose vehicle side, lead with other sources of capital. I work with liquid assets, and this would have been very helpful. Having an entity with confidence and a track record is a giant hurdle for getting off the ground.
- Comment: Don't work in agriculture, focus instead on municipal conservation. If there was a centralized one-stop shop with structures to facilitate deals, that would be way more efficient. There is a huge need, but the devil is in the details.
- Comment: Look at other sectors. In housing, this has happened a ton—you should figure out how they did it. Instead of having to diligence each individual deal as an investor, you can just diligence one entity that has done a ton, there is value there. Looking at other sectors can avoid reinventing the wheel.
- Comment: Does the cost of capital for operating loans provide a leverage point for conservation practices? In my experience working on this for a CIG grant, I was surprised to find it was much less of a lever than I thought. What is holding back adoption if not economics? It could be behavioral factors.
- Comment: I would want to be involved in this, and my company would. There is some data out there, and to help mature the field, this should be completely open-source.
- Comment: Make sure to have an equity lens, and support minorities, women, and smaller entities that don't have access to this capital.
- Comment: It makes me nervous to create a structure with a team. Who is going to execute this?

Wrap up Session

Presenters: Kari Cohen, Adam Chambers, Leigh Whelpton, Allegra Wrocklage

Leigh thanked all of those in attendance, participants of the dolphin tank, and the Hatchery for hosting us. A location for next year's conference is open to suggestions. Again, a survey will be sent out to attendees in order to identify where the CFN can improve and grow.

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Allegra announced the new wireframe that she will be working on the website to include all minutes from the roundtables. To keep in touch with the network, attendees can sign up for the CFN monthly newsletter which sends out webinars, job listings, and other relevant information. The Boot Camp is a week-long training course which has been operating for 14 years with over 500 members in its alumni network. It will be held in New Haven this year and applications open in December.

Adam wants attendees to note that CIG announcements will be made available in December. The RCPP application deadline is December 3rd. AFA announcements for alternative funding will come in January or February.

Leigh then opened the floor for comments before lunch and networking:

- Thank you to the incubation idea of the dolphin tank from a member that participated last year. Keep using this format. This roundtable conference is kind of the CFN boot camp alumni, and we are considering starting an alumni network based on that.
- This group serves a unique role. I would love to see a synopsis of all the CIGs somewhere, especially by categories (building markets, finance, etc). There is an environmental market and finance conference in March if anyone is interested.