# Conservation Finance Practitioners Workshop

*Investigating the scalable models of the future*

The Federal Reserve Bank of San Francisco – January 21/22, 2014

## 1. AGENDA

### Agenda

The Workshop is designed to bring together a select group of experienced practitioners to identify and discuss new ideas in conservation finance that target major institutional capital to achieve scalable and sustainable project and business models. The moderators will not only facilitate but help drive participants to get engaged. The Workshop is designed for networking. Some successful examples will be presented to spark off discussions, new ideas explored and barriers to implementation dissected. The goal is to end the second day with a set of actionable ideas, projects, business models and tasks to move the ball forward on important innovative ideas. The end of the Workshop is critical as it will crystalize the two days efforts. It is intended that there be a follow up in a year's time.

**January 21**

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| 11:30 a.m. | **Registration and Buffet Lunch** |
| 1:30 p.m. | **Welcome and Logistics** (David Chen and John Tobin) |
| 1:40 p.m. | **Workshop Objectives, Approach and Agenda** (moderators, Jim Levitt and Drummond Pike) |
| 2:00 p.m. | **Session 1: Some Big Deals and Business Models**<br>*Objective to outline different sources of capital and their particular role in deals as well as to understand how exemplary transactions have worked (or not) in detail. Short sequential case studies are:*<br>- St. Croix/Brule River Forest (Peter Stein, The Lyme Timber Company, and Evan Smith, The Conservation Fund)<br>- The Great Bear Project (Richard Jeo, The Nature Conservancy) |
| 4:00 p.m. | Break |
| 4:30 p.m. | **Session 2: The Process to Develop A Market – Developing and Applying Conservation Finance Methods**<br>*Objective to look at the different forms and roles of capital, and its authority in the evolution of a market, with a particular perspective on time. Short sequential inputs by:*<br>- Adam Davis, Ecosystem Infrastructure Partners, on the established market of wetlands mitigation banking<br>- Ann Mills, Acting Under Secretary for Natural Resources and Environment, on regulatory frameworks<br>- Todd Gartner, followed by a moderated discussion on the developing water credit market with perspectives from Packard, The Freshwater Trust, The Nature Conservancy, and USDA |
| 6:30 p.m. | End of formal discussions; relocation to dinner place |
| 7:00 p.m. | **Dinner at One Market Restaurant, 1 Market Street** |
| 9:30 p.m. | **End of Day 1** |

**January 22**

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| 8:30 a.m. | **Coffee and Tea** |
| 9:00 a.m. | **Session 3: Current World of Institutionalized Investments**<br>*Objective to define the term "investment grade" in conservation finance and to learn from the experience of actors that have broken through to institutional capital. Also explore the positioning of conservation finance in the traditional asset class framework. Sequential panels with:*<br>- Impact-Oriented Gatekeepers: Taylor Jordan (Imprint Capital), Jessica Matthews (Cambridge Associates), Michael Miller (Colonial Consulting)<br>- Pensions Plans: Howard Kaplan (Farmvest) |
| 10:30 a.m. | Break |
| 11:00 a.m. | **Session 4: The Unique Role of Foundations in Catalyzing Markets**<br>*Objective to explore the full gamut of capital tools (grants > PRI > investment capital) and to challenge the current application of these tools to the transactions and to the development of the markets. Panel with:*<br>- Aileen Lee (Gordon & Betty Moore Foundation), Susan Phinney Silver (David & Lucile Packard Foundation), Tom Trinley (Gaylord & Dorothy Donnelley Foundation) |
| 12:00 a.m. | **Session 5: Removing Barriers and Moving to Landscape Scale**<br>*Objective to identify key barriers that currently prevent the scalability of successful models and to agree on approaches that can spur major institutional investments. Short inputs on:*<br>- Puget Sound (Gene Duvernoy, Forterra)<br>- Chesapeake Bay (Daniel Nees, University of Maryland, and Patrick Coady, Coady Diemar Partners) |
| 1:00 p.m. | Lunch Break |
| 2:00 p.m. | **Wrap Up Session**<br>*Moderated brainstorming exercise: What is the "great idea" to accelerate the conservation finance market?* |
| 4:00 p.m. | Break |
| 4:30 p.m. | **Next Steps**<br>*The conference organizing team puts a set of next steps on the board and asks for reactions and suggestions.* |
| 5:30 p.m. | **End of Roundtable. Optional Drinks** |

## II. BIOGRAPHIES OF PARTICIPANTS

**Matt Arnold**

Matt is Managing Director and Head of Sustainable Finance Advisory at JPMorgan Chase (JPMC). JPMC is working to identify, develop and market new and existing financial products/services to create meaningful conservation outcomes. JPMC seeks to advance thought leadership in the conservation finance space by working with business leaders and other organizations. JPMC has created innovative partnerships with environmental leaders from non-profits, foundations, and other organizations to explore developing, deploying and scaling innovative tools and financial services/ products that create investment opportunities for investors, while helping to advance the conservation priorities of their clients and the communities in which they operate. In addition to these partnerships, the JPMC Foundation has provided grants to non-profit organizations to help advance their conservation focused work streams and programs.

**Ricardo Bayon**

Ricardo is a Partner and Co-Founder of EKO Asset Management Partners. EKO Asset Management is a specialized asset manager and investment firm focused on conservation finance. The company runs a carbon fund aimed at the California market and are designing numerous financial products related to conservation, in areas such as fisheries, stormwater management, etc..

**David Chen**

Dave is a Co-Founder and Principal at Equilibrium Capital Group. Dave's commitment to sustainability is a result of his work in venture capital, regional economic development and climate change policy. Equilibrium Capital Group is a global asset management firm of sustainability driven real assets funds for institutional investors. They build and manage an investment portfolio of assets in green building, agriculture, energy, and water. They see sustainability as an economic shift in risk and value that can be a source of portfolio performance advantage and alpha.

**Patrick Coady**

Patrick is a Founder and Senior Advisor at Coady Diemar Partners, a specialized investment bank headquartered in New York City. The firm raises capital for conservation funds, mitigation banking companies, works in the wind, solar and energy efficiency sectors as well as other sectors. For over a decade Patrick has been involved in financings and advisory work related to land conservation, active involvement in promoting the involvement of private capital in land conservation (contribution to book *From Walden to Wall Street* and Investment Committee of Verde Ventures, a private investment operation of Conservation International). He is also a founder and now Chairman of the Northern Virginia Conservation Trust. In support of these activities he is an active presenter at conferences promoting financing to preserve open space and habitat and the related ecosystem values therein.

**Stuart Davidson**

Stuart is a Co-Founder and Senior Managing Director with Sonen Capital, an investment management firm dedicated to investors seeking financial returns with lasting social and environmental impact. Sonen offers multi-manager, multi-themed investment solutions via pooled vehicles, portfolio strategies and customized mandates. They invest in funds focused on conservation finance through their pooled vehicles as well as customized mandates. Their private markets platform (consisting of multi-manager pooled investment vehicles) includes two strategies that incorporate conservation finance themes within their investment mandates – Global Sustainable Real Assets and Global Environmental Growth.

**Adam Davis**

Adam is a Partner and Director of Research, Policy & New Markets at Ecosystem Investment Partners (EIP). EIP is a private equity firm now investing its second institutional fund of $181 million. EIP was established in 2006 to capitalize on the PES markets surrounding wetland, stream, and endangered species habitat mitigation throughout the US. EIP acquires, entitles, restores, and manages properties across the US that generate wetland, stream, and endangered species mitigation credits. EIP's team of experienced investment professionals believes that environmental markets and mitigation banking provide both attractive investment returns and long-lasting, positive conservation outcomes.

**Josh Donlan**

Josh is the Founder and Director of Advanced Conservation Strategies. The company is focused on outcomes and incentives. Their foundation is science, yet they work and collaborate outside of science to innovate and implement new solutions and ventures for environmental and sustainability challenges. Advanced Conservation Strategies leverages science, markets, design, finance, and behavioral economics for organizations trying to solve problems. They specialize in designing custom incentive programs focused on biodiversity conservation that attempts to leverage market opportunities.

**Gene Duvernoy**

Gene is President of Forterra, a non-profit organization that executes on its Cascade and Olympic Agendas to advance a sustainable and prosperous Pacific NW well into the next century. It engages in landscape conservation and community development projects that can reach into the many tens of millions of dollars. To this end, Forterra has: 1. Pursued legislation to authorize revenue backed tax-exempt Community Forest Bonds to support acquisition of large working landscapes. 2. Utilized commercial debt, private debt, lines of credit and equity investment in various conservation transactions. 3. Issued a closed-end, private-placed security to capitalize a rotating property holding fund.

**David Festa**

David is Vice President of West Coast operations, as well as of the national Land, Water and Wildlife Program at Environmental Defense Fund. He is an expert in developing market-based solutions to environmental problems. His and his teams' notable successes include ending chronic overfishing and increasing fishermen's income by working with fishermen and communities to win approval for the sustainable practice of fishing "catch-shares." David serves as the President of EDF's sustainable fishing loan program, the California Fisheries Fund, a recipient of a 2013 Governor's Environmental and Economic Leadership award. David served on the Obama transition team for the U.S. Department of Commerce, where he worked during the Clinton administration as Director of Policy and Strategic Planning.

**Todd Gartner**

Todd is a Senior Associate for the World Resources Institute's Food, Forests & Water Program. He runs WRI's *Natural Infrastructure for Water* project working with governments and businesses to invest in conserving and restoring forests, wetlands, and other ecosystems in order to secure freshwater supplies, reduce flood risks, and obtain other economic and social benefits. Todd works with partners to develop new ways to finance conservation and restoration though the use of conservation incentives and market-based strategies such as habitat offsets, payments for the protection of drinking water, water quality trading and carbon markets. He assists with all facets of conservation program development including - convening, facilitation, design, pilot operations, and scaling.

**Kent Gilges**

Kent is a Managing Member of Conservation Forestry (CF). CF's mission is to align private equity with conservation capital for the purpose of acquiring and managing large forest landscapes. CF does so in a manner that seeks to provide a competitive rate of return for their investors while enhancing the conservation values of the forests. CF was founded in 2004 and is currently managing over $700 million in client assets. They have invested in conservation-oriented transactions in all major timber regions in the U.S. and their transactions have secured the permanent conservation of approximately 187,000 acres of high priority forestland, habitat for nine endangered species, and over 520 miles of permanently protected streams and rivers.

**Patrick Holmes**

Patrick is an advisor in the office of the Under Secretary for Natural Resources and Environment at USDA. In his current role, Patrick offers counsel on a diverse suite of issues for the Department including climate and energy, environmental markets, public-private partnerships, and forest restoration. Patrick is a graduate of the Yale School of Forestry and Environmental Studies and Colorado College, a past fellow of the Kinship Conservation Institute and a Wyss Scholar. Previously he has worked for the Colorado Conservation Trust, the Sonoran Institute, the Yale Center for Business and Environment and the State of the Rockies Project.

**Fabian Huwyler**

Fabian is a Vice President with Credit Suisse's Sustainability Affairs group based in Zurich, Switzerland. He's an elected member of the IUCN World Commission on Protected Areas Young Professionals Group and has been instrumental in conceptualizing Credit Suisse's emerging conservation finance program. Most recently, he has co-authored a research report on *Conservation Finance. Moving beyond donor funding to an investor-driven approach* that was developed in cooperation with the WWF network and McKinsey & Co.. Credit Suisse has been involved in some conservation finance transactions, such as debt-for-nature swaps in Indonesia or a $500 million PE fund-of-fund focused on African agribusiness, but currently considers scaling up its limited investment activities in this nascent field. In addition, Credit Suisse has provided various grants to non-profits for habitat mapping and rainforest conservation work in Asia.

**Michael Jenkins**

Michael is the President and CEO of Forest Trends. Forest Trends seeks to shift the economic paradigm towards recognizing the value in all natural ecosystems, connecting policy-makers, businesses, communities, and investors to develop new financial tools to help carbon, biodiversity, and water markets work for conservation and sustainability. Their Public Private Co-Finance Initiative is especially engaged in this effort and is strategically focused on creating public-private architectures that increase the amount of capital flowing to land use practices that reduce emissions from deforestation and degradation, improve the productivity of agricultural and livestock systems, and enhance livelihoods of rural populations. Forest Trends works with public and private sector partners to create innovative, integrated, and efficient financial architecture.

**Richard Jeo**

Richard is currently the State Director for TNC in Montana and has worked for TNC for over 10 years, including a stint as Director of the Conservancy's Canada program. He has worked with a variety of remote communities to find innovative conservation solutions for people and nature in places ranging from the Arctic, the Caribbean, Northwest Territories and Southern Africa. He was instrumental in the development of the Great Bear Rainforest conservation efforts which have driven the creation of over 5.5 million acres of legislated protected areas, embedded in a new system of sustainable management over the entire 21 million acre Great Bear Rainforest. A key part of this effort was a fund-raising campaign that resulted in the creation of a new $120 million public-private fund to support conservation management and sustainable development in indigenous communities throughout the rainforest.

**Taylor Jordan**

Taylor is a Managing Director and Co-Founder of Imprint Capital Advisors. Founded in 2007, Imprint Capital is a registered investment advisor that assists institutional and individual clients with investments that seek both financial return and positive social and environmental impact. In its seven-year history, Imprint has worked with its clients to make more than 90 investments across asset classes, geographies, and social sectors. Imprint has advised clients on investments in US timber, ranchland restoration, agriculture (including direct farmland ownership), water quality trading, and carbon credit generation. These investments have been structured through intermediary private equity funds, as direct loans, and as direct land acquisitions, and they represent both market-rate and concessionary capital.

**Juerg Kaeppeli**

Juerg is an Associate Principal with McKinsey & Company, the global management consulting firm. Through their Sustainability and Resource Productivity (SRP) Practice, they have established an unparalleled depth of knowledge in the field of climate change mitigation economics – with a specific distinctive base on abatement curves. Since 2006, McKinsey has been working intensively with governments and leading companies across the world to establish a global greenhouse gas abatement data base. As part of their global GHG abatement cost curve, and their extended country work in Low-Carbon Development and Climate-Compatible Development, McKinsey has developed extensive experience in assessing the economics of avoided deforestation, afforestation, reforestation, and sustainable forest management, including the development of abatement cost curves for important forest countries like Brazil.

**Charlotte Kaiser**

Charlotte leads The Nature Conservancy's work on developing opportunities to drive private capital to conservation. She managed the launch and sale of the $25 million Conservation Note, which sold out in less than twelve months. TNC's conservation finance work seeks to harness the power of private capital to invest in nature's benefits, achieving their mission alongside a financial return. TNC invests in sustainable management of land – timber, farmland, and ranches – and water – fisheries, freshwater quality and quantity. And they support the development of markets that attach a value to nature's benefits, such as REDD and other policy-based incentives.

**Howard Kaplan**

Howard, Founder and President of Farmvest, Inc., has dedicated himself to providing consulting and advisory services in renewable resources for over 30 years. Farmvest advises institutional investors on global agriculture, global timber, and domestic mitigation banking. Mitigation banking is included in Farmvest's natural resource real estate investment consulting practice. Specifically on conservation finance, Farmvest has provided due diligence services and an investment recommendation to a client for an investment with Ecosystem Investment Partners.

**Peter Kelly**

Peter is an Associate in the Energy and Environment Practice Area for Imprint Capital Advisors. Founded in 2007, Imprint Capital is a registered investment advisor that assists institutional and individual clients with investments that seek both financial return and positive social and environmental impact. In its seven-year history, Imprint has worked with its clients to make more than 90 investments across asset classes, geographies, and social sectors. Imprint has advised clients on investments in US timber, ranchland restoration, agriculture (including direct farmland ownership), water quality trading, and carbon credit generation. These investments have been structured through intermediary private equity funds, as direct loans, and as direct land acquisitions, and they represent both market-rate and concessionary capital.

**Justina Lai**

Justina is an Associate Director with Sonen Capital, an investment management firm dedicated to investors seeking financial returns with lasting social and environmental impact. Sonen offers multi-manager, multi-themed investment solutions via pooled vehicles, portfolio strategies and customized mandates. They invest in funds focused on conservation finance through their pooled vehicles as well as customized mandates. Their private markets platform (consisting of multi-manager pooled investment vehicles) includes two strategies that incorporate conservation finance themes within their investment mandates – Global Sustainable Real Assets and Global Environmental Growth.

**Chris Larson**

Chris directs the Real Assets portfolio and supports the CEO/CIO in asset allocation and portfolio management activities at New Island Capital. The firm is an active investor in forestland, agricultural properties and ecosystem service markets (wetlands, species and carbon). They invest globally, and have focused these investments in rural communities where sustainable natural resource management can provide positive community development outcomes. They have engaged in conservation easement transactions on several properties held directly by NIC, and also have invested in several funds that incorporate conservation finance into broader timber/agriculture investment strategies. Beyond conservation finance, they invest in green commercial real estate and renewable energy infrastructure.

**Richard Lawrence**

Richard is the Founder and Director of Proyecto Mirador Foundation, a non-profit organization that has built over 65,000 fuel-efficient "Dos por Tres" cookstoves in rural Honduras. Established in 2004, Mirador is the 4th largest Gold Standard certified stove project in the world and the largest in Central America. Through the creation of sustainable microenterprises, Mirador provides a scalable, market-based model to address issues of respiratory health, global warming, forest degradation and slow economic development. Richard is also the Chairman and Executive Director of Overlook Investments Limited, an investment management firm investing in Asian equities for the past 22 years.

**Aileen Lee**

Aileen leads the Gordon and Betty Moore Foundation's wild salmon ecosystems team. She also manages the program's ongoing investigation of sustainable financial markets. The Foundation's interest in conservation finance stems from their Environmental Conservation Program. They have traditionally focused on habitat protection, and are now increasingly interested in promoting sustainable practices in the sourcing and production of agricultural and fisheries commodities. To support their conversation efforts, they have recently launched a "sustainable finance" effort focused on the goal of using the influence of mainstream financial markets to incentivize more sustainable practices and change business norms regarding natural resource use.

**James Levitt**

As director of the Program on Conservation Innovation at the Harvard Forest, and as a fellow in the Department of Planning and Urban Form at the Lincoln Institute, James has organized a series of workshops and publications (e.g., *From Walden to Wall Street: Frontiers of Conservation Finance* (2005), *Conservation Capital in the Americas: Exemplary Conservation Finance Initiatives* (2010), *Report of the Massachusetts Commission on Financing Forest Conservation (2011), Greater Quabbin Conservation Investment Zone Assessment (2013)*) over the past decade that have focused international attention on the field of conservation finance. James has also co-led a state commission in Massachusetts recommending ways to advance innovative conservation finance initiatives in the Commonwealth.

**Jessica Matthews**

Jessica leads and oversees at Cambridge Associates (CA) the activities of the Mission-Related Investing (MRI) Group, a team dedicated to meet the demand for support in this area from their clients. CA is a privately held, independent consulting firm that seeks to help global institutional investors and private clients meet or exceed their investment objectives by providing proactive, unbiased advice grounded in intensive and independent research. Jessica oversees a group of 24 professionals that support the MRI needs of their clients and consultants, including advising clients on MRI issues, evaluating MRI investment opportunities, expanding their MRI manager database, and publishing research reports on MRI topics.

**Michael Miller**

Michael is a Founder and Managing Director of Colonial Consulting (CC). CC is a New York-based firm which focuses on providing consulting services to not-for-profit institutions. The firm was founded in 1980 and is owned by its employees. At present, CC has over one-hundred client relationships representing approximately $ 31 billion in capital. Mike provides the firm's clients with advice on asset allocation, manager selection and performance evaluation/ attribution. He has twenty seven years of experience in the consulting business, all with Colonial Consulting.

**Ann Mills**

Ann was named USDA Deputy Under Secretary for Natural Resources and Environment on July 6, 2009. In this position, Ann has responsibility for the Natural Resources Conservation Service (NRCS), the federal agency with primary responsibility for working with private landowners in conserving, maintaining and improving their natural resources. Ann brings to USDA a diverse set of skills and experience from both the government and non-profit sectors. Most recently, as a senior executive at American Rivers, Ann directed day-to-day operations, led the expansion of regional offices and directed a team of senior policy staff. Ann also has experience working on Capitol Hill, having directed the Senate office of Senate Democratic Leader Tom Daschle and as a legislative assistant to then-Congressman Richard Durbin. She also served as Chief of Staff to California Lt. Governor Leo McCarthy.

**Jennifer Morris**

Jennifer is Executive Vice President at Conservation International (CI). CI has worked in the field of conservation finance since their inception in 1987, and has pioneered and/or implemented innovations such as commercial and sovereign debt-for-nature swaps, conservation concessions, long-term financing through endowments, using debt finance for biodiversity-focused SMEs and the development of successful REDD+ projects. Increasingly, through their Ecosystem Finance team, CI is scaling up existing models and exploring new approaches such Carbon Bonds, Social Impact/Development "Bonds", and project financing models applied to large payment for ecosystem service (PES) initiatives. CI has a small team of transactional lawyers and conservation finance professionals based in Arlington, VA.

**Melissa Moye**

As Director, Conservation Finance, Melissa leads WWF's work on conservation trust funds and manages a portfolio of conservation finance programs ranging from Mozambique to polar bears. WWF Conservation Finance is a 25-year old program that has leveraged more than $1 billion to date for conservation through carbon finance, impact investments, conservation trust funds, debt-for-nature swaps, and in-country fee, tax and compensation programs. Earlier in her career, she specialized in debt management and was a commercial banker at Manufacturers Hanover Trust.

**Daniel Nees**

Dan is a Senior Research Associate and former director of the Environmental Finance Center at the University of Maryland. His work focuses on implementing performance and market-based financing systems in support of water quality and watershed restoration efforts.

**Carl Palmer**

Carl is a Co-Founder and Principal at Beartooth Capital. Beartooth Capital was founded to bring more capital to conservation. They work in close collaboration with investors and funders as well as agency and non-profit partners to identify opportunities and to craft innovative ways to get them done. Working at the intersection of conservation, community and capital allows them to unlock projects with high community and conservation impact potential.

**Kyung-Ah Park**

Kyung-Ah is a Managing Director and the Head of the Environmental Markets Group at Goldman Sachs (GS). GS has had a long-standing commitment to environmental stewardship including across their businesses, where they have committed to leverage their people, capital and ideas to find effective market-based solutions to address critical environmental issues. In 2004, they partnered with WCS to create a 735,000 acre nature preserve in Tierra del Fuego, Chile. They have leveraged their carbon neutrality commitment across their operations to facilitate financing of environmentally beneficial opportunities incl. off-taking carbon credits from energy efficient cookstoves. They continue to leverage their expertise to identify opportunities for conservation finance including evaluating green infrastructure opportunities and looking at ways to leverage their work in Social Impact Bonds for environmental finance.

**Drummond Pike**

After founding the Youth Project upon graduation from college in 1970, Drummond founded the Tides Foundation and related organizations beginning in 1976 and served as CEO for 35 years. In 2011, he left to join Equilibrium Capital as a Principal while also consulting with a small number of families on philanthropy and financial matters. He occasionally guides on commercial rafting trips in the Grand Canyon and owns the Bock Vineyard in Sonoma's Alexander Valley. He and his wife, Liza, have two children, 26 and 29.

**Jennifer Pryce**

Jennifer brings nearly 20 years of finance and community development work to her role as the President and CEO of Calvert Foundation. The Foundation has a track record of success in both environmentally-focused lending and in launching issue-based portfolios, as demonstrated by the success of their Women Investing in Women Initiative (WIN-WIN). Even before they formally recognized the power of raising private capital in support of specific sectors that are motivating to the investor, they allowed their investors to target a portfolio of investments with a dual objective of poverty alleviation and environmental stewardship. This portfolio, known as "Green Strategies to Fight Poverty", has resulted in more than $10 million in new loans to innovative non-profit and for-profit organizations across a range of impact areas.

**Camilla Seth**

Camilla is Executive Director with the Sustainable Finance Advisory group at JPMorgan Chase. JPMC is working to identify, develop and market new and existing financial products/services to create meaningful conservation outcomes. JPMC seeks to advance thought leadership in the conservation finance space by working with business leaders and other organizations. JPMC has created innovative partnerships with environmental leaders from non-profits, foundations, and other organizations to explore developing, deploying and scaling innovative tools and financial services/products that create investment opportunities for investors, while helping to advance the conservation priorities of their clients and the communities in which they operate. In addition to these partnerships, the JPMC Foundation has provided grants to non-profit organizations to help advance their conservation focused work streams and programs.

**Susan Phinney Silver**

Susan is the PRI Program Manager at the David and Lucile Packard Foundation. The Foundation is a private family foundation created in 1964 and guided by some of the same innovative approaches that helped transform a small electronics shop in a garage into one of the world's leading technology companies. Since 1980, the Foundation has made a diverse array of program-related investments (PRIs) to extend its impact, encompassing all of the Foundation's program areas. The Foundation currently has a $180 million allocation for this purpose, which is available for investments that advance specific programmatic strategies of the Foundation, while maintaining preservation of its capital to serve future needs. The Foundation has made loans, guarantees, and equity investments.

**Evan Smith**

As Vice President of Conservation Ventures at The Conservation Fund, Evan adds an entrepreneurial twist to classic conservation. Evan oversees programs that invest in green business and working forests to generate both economic and environmental return. Since joining the Fund in 1995, Evan, a trained forester, has worked to demonstrate that non-profits can successfully acquire and sustainably manage large tracts of forestland, most recently through the New Forest Fund ($65M in assets). The Conservation Fund currently manages a $14M Community Development Financial Institution, a $120M Revolving Fund for conservation land transactions, and a $50M Land Conservation Loan Program.

**Peter Stein**

Peter is a Managing Director with The Lyme Timber Company. He joined Lyme in 1990 and leads the Company's conservation strategies. Prior to joining Lyme, Peter was Senior Vice President of the Trust for Public Land (TPL) where he directed TPL's conservation real estate acquisitions in the Northeast and Midwest. Peter lectures extensively at graduate schools and professional conferences on conservation investment schemes and strategies. He is a member of the Board of Advisors of the Appalachian Mountain Club and serves as a Board member of the National Alliance of Forestland Owners, Forest History Society and the Hubbard Brook Research Foundation. In addition, he is a former Board Chair of the Land Trust Alliance, served as a founding Commissioner of the Land Trust Accreditation Commission, and serves as a member of the Advisory Board of Rose Smart Growth Real Estate Fund No. 1.

**Eric Swanson**

Eric is Managing Director of Conservation Finance and Strategies for WWF-US and has primary oversight of WWF's Conservation Finance programs. WWF Conservation Finance is a 25-year old program that has raised more than $1 billion to date for conservation, largely through deals and financial mechanisms such as carbon finance (biogas and cookstove projects, and also forest carbon and REDD), impact investments (loans, microfinance), biodiversity offsets, conservation trust funds, debt-for-nature swaps, and in-country fee, tax and compensation programs. As part of the GEF Project Agency leadership team, Eric also oversees GEF project concept development, approval and tracking.

**John Tobin**

John is Managing Director and Global Head of Sustainability at Credit Suisse. He completed his Ph.D. in environmental biology under E.O. Wilson at Harvard University, and during that time obtained a law degree at Harvard Law School. After practicing law in New York for over a decade, where he focused on executing cross-border finance transactions, he assumed responsibility for managing sustainability matters at Credit Suisse, where he applies his background in conservation, law, and finance to both manage risk and provide product solutions for clients. Credit Suisse is a large, diversified global bank, headquartered in Zurich and with a leading presence in the US and in key emerging markets such as Brazil and Indonesia. CS is a global leader in developing sophisticated financial products and is able to deploy its structuring expertise in a wide variety of areas, including conservation finance.

**Tom Trinley**

Tom is Director-Finance & Administration at The Gaylord & Dorothy Donnelley Foundation. The Foundation provides grants and program-related investments (PRIs) to land conservation organizations in the Chicago region and the Lowcountry of South Carolina. PRIs made have included loans, guarantees, and credit enhancements for fee land and conservation easement purchases.

**Julie Turrini**

Julie is an attorney with the Resources Law Group. Their Resources Legacy Fund advances the conservation of natural resources through creative financing, policy, and other solutions customized to the philanthropic goals of donors. Their distinctive approach draws on deep expertise and experience, entrepreneurial strategies, strong relationships, and a commitment to collaboration. On behalf of their funders, they apply these strengths to transform philanthropy into permanent conservation legacies. Over the years, their conservation finance experience has focused on design and implementation of program-related investment and mission-related investment programs and projects, as well as the full array of other conservation financing tools including federal, state and local public funding sources, new market tax credits, mitigation funding, exactions, donations and bargain sales.

**Ray Victurine**

Ray, as part of his work with Wildlife Conservation Society, has been involved in a variety of conservation finance work. WCS were early developers of market-based REDD projects (e.g., Makira Carbon), launching that project in the mid-2000's and creating a system that included significant benefit sharing with communities to create incentives for conservation; and the development biodiversity offsets whereby companies finance conservation as part of their project implementation requirements (achieve no net loss); and the creation of opportunities related to ecosystem service payments. They have recently set up a Conservation Enterprise Development Fund to support conservation-based start-ups. Annually WCS produces a Conservation Investment Trust Survey that tracks the investment performance of conservation trust funds that operate in Latin America, Asia, and Africa.

**Ben Vitale**

Ben is Principal at Equilibrium Capital focused on launching a new wastewater and renewable energy infrastructure fund. Equilibrium Capital builds leading alpha producing, sustainability-driven investment products and strategies for institutional investors. Ben has 25 years of investment and executive management experience in the wastewater, bioenergy, agriculture, forestry, technology and transportation sectors. He has worked for 12 years to advance international policies related to climate change and renewable energy, and has developed and managed over $40 million in carbon assets, performed due diligence and led investment decisions in 14 countries. He is an active member of both the Bioenergy Association of California and American Biogas Council.

**Bettina von Hagen**

Bettina helped launch Ecotrust Forest Management, a forestland investment management company, in 2004 and currently serves as CEO. A former vice president of Ecotrust's Natural Capital Fund and commercial banker, Bettina has over 20 years of experience in impact investing, fund management, and conservation finance. She also has significant expertise in emerging markets in ecosystem services, particularly the forest carbon market, where she is involved in developing markets and protocols for high-quality forest carbon projects. Bettina led the development of Ecotrust's New Market Tax Credit program, securing and placing over $150M in tax credits in natural resource business to generate jobs and enhance conservation efforts.

**Leigh Whelpton**

Leigh is program manager of the Conservation Finance Network at Island Press. This network is designed to help practitioners accelerate the pace and scale of land and resource conservation through the use of innovative financial concepts, tools, and strategies. Prior to this experience, Leigh managed professional training programs and applied research and conservation initiatives for the Cheetah Conservation Fund in Namibia.

**Joe S. Whitworth**

Joe is the President of The Freshwater Trust. The Trust founded the nation's first water trust in 1993, purchasing excess irrigation water to put instream for the benefit of the stream; that model now exists around the American West. For the last decade, the Trust's strategic intent has been to accelerate the pace and scale of freshwater restoration. This focus has led them to develop software to accelerate projects, translate restoration actions into units of environmental uplift (i.e., temperature, nutrients, & species credits) to facilitate the purchase of quantified conservation outcomes for both regulated and voluntary markets. In the last 18 months, the Trust has executed deals with municipalities, ports, power providers, and both state and federal agencies for compliance-grade credits and is in the midst of working to standardize the legal, biological and transactional mechanics to scale this nationally.

**Heather Wright**

Heather manages a portfolio oriented toward mainstreaming ecosystem services in natural resource decision-making at the Gordon and Betty Moore Foundation. The Foundation has traditionally focused on habitat protection, and is now increasingly interested in promoting sustainable practices in the sourcing and production of agricultural and fisheries commodities. To support their conversation efforts, they have recently launched a "sustainable finance" effort focused on the goal of using the influence of mainstream financial markets to incentivize more sustainable practices and change business norms regarding natural resource use.

**Logan Yonavjak**

Logan is a Master of Forestry Candidate at the Yale School of Forestry and Environmental Studies. The School has a number of conservation finance initiatives. For example, the Yale Center for Business and the Environment (CBEY) sponsors the Yale Conservation Finance Boot camp every year. Also, Logan has been an independent consultant since 2012. She currently consults with Beartooth Capital, a private equity firm that performs ecological uplift for ranchland in the western U.S., and the Conservation Private Capital Group, a team of conservation finance experts working to launch a fixed income investment product for U.S. land conservation through CDFIs.

## III. PROJECT DESCRIPTIONS: AN IDEA TO SCALE UP CONSERVATION FINANCE

**Matt Arnold**

In 2014, JPMorgan Chase (JPMC) will be working with The Nature Conservancy (TNC) to establish the Center for Natural Capital Investing ('The Center'). The Center will provide a central forum for thought leadership around investment opportunities in the conservation space. The Center's aim is to help accelerate the development of a global market for investments that generate financial return for investors while also effectively preserving and restoring natural ecosystems. The Center will work to convene impact investors around emerging opportunities in the natural capital market, develop and test innovative financial structures, and develop an investment pipeline across multiple sectors. Leveraging a JPMC grant, The Center will seek to deploy capital for conservation projects to well-vetted investment vehicles that protect critical land and seascapes, which have the potential for scale. In addition, The Center will issue thought-leading research and white papers on conservation finance in conjunction with a variety of partners.

**Ricardo Bayon**

EKO Asset Management has been working with cities to design an innovative financial structure to help cities manage their stormwater problems. This can take a number of forms, and working together with partners (TNC and NRDC) we have analyzed options for stormwater finance for the city of Philadelphia. For more information, see http://ekoamp.com/media/pdf-eko-press-release-6mar2013.pdf.

**Patrick Coady**

*Innovation:* Using Private Capital to Stimulate Public Capital

*Structure:* Each of the below project examples uses a "fund" business model. The three projects below are based on the observation that land conservation is fundamentally based on real estate, which involves complicated transaction dynamics, high transaction costs and protracted time lines. A fund mechanism permits the formation of a strong investment team with staying power. The other aspect of the design is to craft a marriage of public and private financing in a coordinated manner. Given the underlying real estate value, a debt structure is the most scalable. Private funds can catalyze and encourage partnership approaches. A fund has the resources to develop projects and act in a timely manner.

*Some Barriers:* Creation of a fund requires up-front financial support for skilled professional staff that can compete with the private sector; and it requires financial support for pipeline development and fund raising efforts that can stretch over a year. This is a new asset class involving different layers of capital with appropriate returns for each layer. There will be concerns of competition by existing providers of conservation finance.

Project 1 – Land Conservation Project Development and Medium Term Loan Fund

The key innovation is to offer a centralized national sourcing of projects and a national source of deployable capital. Create a national financial intermediary to provide up-front project development services, financial advisory assistance and bridge loan facilities of up to ten years. The goal would be to be able to deploy, over time, $500 million with a start up fund of perhaps $50 million. The fund would leverage other sources of financing by partnering with governmental agencies, conservation organizations and many others. A unique feature of the fund would be to lend with a clear takeout plan, but not a firm takeout agreement. It could work with other private sources of ecosystem financing on a project basis. The sources of capital would target a mixture of pure investment return as well as investors seeking impact returns (multiple bottom lines). The investment return would be at "market" as appropriate for this "new asset class". Key attributes are a quality investment team, timely decision-making and longer maturity. Some of the larger conservation organizations have funds that operate effectively but without scalability and generally avoid risk-taking.

Project 2 – Virginia Water Quality Fund

Such a fund would provide project development services (identifying and analyzing opportunities) to local jurisdictions in meeting water quality requirements including TMDL demands. The unique feature of this fund is the catalytic role it would play in offering significant private funds, thus stimulating the State of Virginia and local jurisdictions to pursue natural watershed solutions to water quality problems, be it storm water management or nutrient/sediment run off problems. All studies indicate there is a willingness to pay. The problem to be addressed is who pays and how do they pay. This idea needs work on many details on structure and socializing the plan. It will be functioning in the midst of the political fray. There are regional and jurisdictional conflicts.

Project 3 – Northern Virginia Regional Green Infrastructure Fund

Virginia has a system of regional planning commissions. Each such region as adopted a green infrastructure plan. For the Northern Virginia Regional Commission the plan is named the "Conservation Corridors Planning". This proposed fund would seek to attract private capital and have a specialized independent investment team to identify projects supportive of the Corridors Plan, thus catalyzing other sources of funds both public and private depending on the project. Having a non-governmental organization that can "move on the merits" and "move in a timely manner" would be required to tee up projects. It also provides impetus to attract federal, state and local land preservation monies. There could be associated and special public bond issues, *Corridors Bonds*. The fund would provide a mechanism to create cooperation across borders and institutions in a landscape scale vision. Already the region is committed to Chesapeake Bay restoration goals as well as other water quality imperatives. Also the team would have the skills to assess ecosystem values. A strong benefit is that there are many institutional and cultural forces giving important players in the region, such as corporations, that understand "we are all in this together".

**Stuart Davidson**

I share with my colleague, Justina Lai, an interest in Social Impact Bonds. To date, SIBs have been largely deployed toward solving social problems such as recidivism, chronic homelessness, chronic disease management and unemployment/workforce deployment. However, there are many groups now exploring other applications of the SIB, adapting the model to address environmental problems including climate change and long-term management of productive ecosystem services. Several SIB models have been discussed – e.g., addressing municipal stormwater management through green infrastructure development, carbon assets, Great Barrier Reef and oceans/fishery conservation bonds.

**Adam Davis**

Two recent Ecosystem Investment Partners investments, in West Virginia and Minnesota, will create some of the largest private stream and wetland restoration projects in the United States. The West Virginia project will restore over 33 miles of streams, and the Minnesota project will restore over 7,000 acres of wetlands.

**Gene Duvernoy**

To increase the scale of its operations, Forterra is considering the following:

- An investment fund to acquire Development Right options. By blending a TDR program with a tax increment financing program, Forterra has pioneered a ground breaking program (excuse the pun) to conserve as much as 700,000 acres of working lands and at the same time make available tens of millions of dollars of financing for necessary city infrastructure. To ensure its long-term success we are considering the acquisition of options on about $250-$500 million. Roughly a $25-$50 million dollar cost. We are exploring how to bring equity to this effort.
- An investment fund for urban land banking. Forterra is working with a national organization and several local organizations to explore the possibility to create a revolving fund for community development land banking. The fund would be used to acquire urban properties, particularly in mainstreet and transit connected neighborhoods. The properties would be held until re-development as dense mixed income units is market supportable. The fund likely would be traunched with foundation public funding at a low return high risk, then equity and then finally community bank funding. Additional detail follows.

Purpose

- Secure sites near transit centers to preserve opportunities for equitable development so that a range of incomes have greater access to mobility (and therefore jobs, education, healthcare)
- Attract capital with better terms, larger amounts and more patience than existing capital resources
- In addition to mixed-income housing and workforce housing, the fund would be available for commercial and community facilities, supporting mixed-income and mixed-use developments.

<u>Necessary Types of Capital</u>

| For illustrative purposes, assuming a $20 million fund and a 3.5% maximum interest rate, this potential REDI Fund may be traunched as follows: | Amount | Interest Rate |
|---|---|---|
| 'Top Loss' (catalytic capital) | $4,000,000 | 0% |
| Mission Investment (subordinate to senior debt: foundations, public agencies, other mission investors) | $6,000,000 | 1.5% |
| Senior Debt (often CDFI $) | $10,000,000 | 6% |
| | $20,000,000 | = 3.45% (blended) |

Catalytic first-loss capital (CFLC) will be characterized by three features:

1. It identifies the party, i.e., the provider that will bear first losses
2. The amount of loss covered is typically set and agreed upon upfront
3. It is catalytic.

By improving the recipient's risk-return profile, CFLC catalyzes the participation of investors (the mission investment and Senior Debt) that otherwise would not have participated. Commonly used CFLC instruments include grants, equity, subordinated debt, and guarantees.

Senior Debt may likely be the Community Development Financial Institutions Fund (CDFI) – it tolerates very little risk and must be secured against property.

**Josh Donlan**

Advanced Conservation Strategies is currently designing and piloting a market-based incentive program that provides measurable coastal biodiversity benefits while simultaneously providing livelihood security to Chilean fishing cooperatives. We are doing so by co-designing a program with artisanal fishers that compensates them for the opportunity costs forgone by setting aside a portion of their established fishing grounds as a no-take zone, along with conducting anti-poaching activities. The outcome is a scalable program that provides a supplementary revenue stream to fishing cooperatives in exchange for management actions that produce verified biodiversity benefits and promote sustainable fisheries.

The program can be broken down into three broad components: supply, transactional infrastructure, and demand. We use a human-centered approach to understanding the perceptions and incentives of fishing cooperatives and their members. A participatory design-thinking approach allows program designers to understand stakeholders' needs and requirements during all phases of the design iteration – from initial stages to prototyping to implementation.

Our transactional infrastructure focuses on two important aspects of the program: quantifying the biodiversity benefits generated from participating fishing communities, and verifying conditions are met that are stimulated in the program contracts. We are partnering with the social business Shellcatch to develop the technology and protocols to verify contract conditions with participating fishing cooperatives.

We have developed a strategic work plan to assess and develop potential robust demand drivers for the marine conservation benefits that will be produced by participating fishing cooperatives in Chile. We have created a market model, where a Chilean non-profit organization serves as a broker – buying and selling the biodiversity credits generated. We are concurrently assessing and developing demand within the Chilean private sector in hope to sell the credits as offsets either in a voluntary or regulatory context.

Advanced Conservation Strategies has also contributed to the development of a number of conservation finance and incentive instruments, including the integration of environmental benefits into microfinance schemes (i.e., environmental mortgages) and the adoption of index-based insurance and performance bond approaches to biodiversity conservation. These instruments, however, have yet to be implemented.

### David Festa

David and his team are currently developing a new tool – habitat exchanges – that give land developers a transparent method for offsetting environmental impact by purchasing credits from a central exchange. For private landowners, a Habitat Exchange means a new revenue stream and continued flexibility to engage in a variety of agricultural practices. For industry, a Habitat Exchange provides a predictable process and standardized rules that let them develop responsibly. It also offers a clear return on investment in terms of acres of habitat restored.

### Todd Gartner

A few conservation finance transaction related resources:

1. Clear Water Carbon Fund: Voluntary carbon financing via tree planting to co-finance watershed restoration (riparian enhancement): http://www.clearwatercarbonfund.org/
2. Clean Water Futures: Online crowd sourcing marketplace for financing conservation in Upper Connecticut River Watershed: http://www.cleanwaterfuture.org/
3. The Freshwater Trust's turn key transaction model for water quality trading
4. Natural Infrastructure: Investing in forested landscapes for source water protection in the United States – Pg 77 Chapter 5: Natural Infrastructure Finance Mechanisms and Pg. 17 Chapter 1: Making the Business Case: http://www.wri.org/sites/default/files/natural_infrastructure.pdf.

### Kent Gilges

Conservation Forestry (CF) identified a property in Arkansas that included forestland adjacent to the Felsenthal National Wildlife Refuge. A portion of the property contained one of the largest, privately owned colonies of Red Cockaded Woodpecker (RCW) in the state. The RCW colonies were covered by a Habitat Conservation Plan (HCP) which required certain management regimes such as prescribed fire and species monitoring. The HCP was a 30-year agreement that had 17 years left. Working with The Nature Conservancy, their assessment was that at the conclusion of the HCP term, a landowner could terminate the pro-active habitat management without penalty. If that were the case, the RCW colonies would eventually disappear. It was our shared goal with TNC to ensure the permanent protection of the RCW colonies by adding the land to the National Wildlife Refuge.

CF worked with all of the parties to accomplish an outcome that met the parties' needs. The seller wanted to monetize a portion of its ownership and sell the property that was "encumbered" by an endangered species. The Nature Conservancy wanted to ensure the permanent protection of the woodpecker colonies and add critical land to the wildlife refuge. The US Fish and Wildlife Service wanted to enforce the terms of its existing HCP but also broaden the potential habitat for existing colonies on the refuge. CF implemented its strategy of managing timberland on behalf of clients while leveraging the goals of its conservation partners.

Negotiations lasted just under one year, primarily because of the complexity of the HCP and the requirements of USFWS to process a transfer of the land. The Nature Conservancy agreed to take interim ownership of the property, prior to an eventual transfer to USFWS. CF helped establish and fund an endowment that provided for the ongoing habitat management and species monitoring during TNC's ownership.

The project resulted in a 3,600 acre addition to the National Wildlife Refuge and the permanent protection of one of the largest RCW colonies on private land in the state.

### Patrick Holmes

In recent years, the USDA has launched several projects in cooperation with private sector partners to encourage greater conservation by providing land managers access to enhanced financial incentives. Under these partnerships, program participants receive USDA payments through existing government conservation programs and are eligible for additional payments from the private sector partners in exchange for the rights to carbon offsets or other ecosystem service benefits that develop as a result of the conservation activities. Program participants retain ownership of the land and may engage in compatible uses like grazing, sustainable timber harvest, and recreational use of the property. The partnerships provide land managers with new opportunities to earn income through conservation. The projects also generate significant environmental co-benefits by enhancing water retention, air quality, soil quality, and preserving wildlife habitat. While many of these programs were established as demonstration projects, they provide a bridge to functioning environmental markets and illustrate the potential for farmers, ranchers and forest landowners to participate in these markets.

**Fabian Huwyler**

One of the main challenges for conservation finance remains the ability to leverage public and philanthropic capital, for example in the form of venture funding, to activate and scale up financing through traditional capital markets. Further, we know that private and institutional investors have an appetite for conservation-related investment opportunities. With respect to the above, I have given some thought to the development of a commingling, patient capital fund focused on a particular ecosystem. The product would need to be structured in a way that is appealing to both philanthropic and commercial investors. Working on the assumption that some groups of investors (e.g., institutionals) would otherwise not invest, the fund would have different "layers" catering the diverse risk-return profiles of the targeted investor segments. Philanthropic investors could explore their distinctive role as investors, while commercial investors would be offered different investment options along the risk-return spectrum.

Literature suggests that commingling funds can be structured in three ways: 1. all parties invest on the same terms; 2. higher risk positions in the fund receive a greater proportion of any financial returns, or 3. concessionary investors take a subordinate position in the fund, accepting a higher level of risk for a smaller proportion of any financial returns. In order to attract substantial amounts of capital, I think it is worth exploring the third option where there is the highest likelihood that both wealth-preserving and return-oriented professional investors can be attracted.

**Michael Jenkins**

We have developed a Jurisdictional REDD+ Bond as a mechanism by which limited donor funds can effectively leverage new sources of capital and harness the larger financing flows associated with public or private investment in agriculture in order to bring about transformational change in reducing deforestation at a landscape level. Achieving environmental outcomes at the scale of whole landscapes and states might appear daunting and complex. However, it is precisely such a 'jurisdictional' approach that has the potential to guarantee reduced deforestation while providing economic and supply chain scale benefits, and thus reduce both the burden on the public purse and other barriers to sustainable development and improved livelihoods. A Jurisdictional REDD+ Bond structure would leverage private capital from institutional investors in order to help overcome the up-front investment costs and financing requirements of protecting forests and improving agriculture practices, and thereby create a framework for zero-deforestation agriculture commodities. It would create donor commitments to pay for meeting GHG emission reduction targets versus an agreed jurisdictional baseline. Such payments would in turn offset all the costs of the coupon/interest on a REDD+ Bond issued by the developing country. Proceeds from a Jurisdictional REDD+ Bond can support existing local level financing mechanisms, strengthen supply chains and then catalyze a further round of private sector investment from commodity buyers.

Costs for donors and developing countries would be reduced over the medium term because achieving jurisdictional GHG reduction targets would result in the creation of landscape-level sustainable timber and zero-deforestation agriculture commodity supply chains. The infrastructure of monitoring, reporting and verification (MRV) required to validate emission reductions versus the jurisdictional baseline, after a few years of successful performance, would provide agriculture and timber private sector actors with an *entire* regional supply chain certified as sustainable *ex ante*. This could preclude the expense of development and MRV for individual projects or programs and would underpin and hugely expand certification of sustainability beyond niche markets, into large-scale and more secure and resilient supply.

At a local level, capital raised from the bond would be hypothecated for investment in Low Emission Rural Development (LED-R) and forest protection, helping to support existing programs in developing countries as they seek to shift the multi-billion dollar financing flows in their agriculture sectors onto a more sustainable path.

**Richard Jeo**

In the mid-1990s, war in the woods raged in coastal British Columbia, focused on the pristine old growth forests found in a place known as the Great Bear Rainforest. Years of protests, market campaigns, First Nation rights and title assertions, scientific efforts and supreme court and B.C. legislative decisions culminated in a package of agreements in 2006, 2009 and 2013. These Agreements established over 5 million acres of new protected areas, a science-grounded Ecosystem-Based Management approach to forestry, precedent-setting government-to-government agreements empowering First Nations, and the $120 million public-private fund to support conservation management and economic development by First Nations.

**Taylor Jordan**

We are particularly interested in discussing:

- The need for flexible and committed capital working in the conservation space, and how we have seen that type of capital unlock impact in other segments. We can speak to specific examples in energy efficiency or education as illustrative and would be interested in hearing what applicability they may have to landscape conservation.
- The potential for using ranching practices to achieve conservation outcomes in the US, specifically rotational grazing as a means to increases ranching income generation, increase carbon stocks, and prevent the conversion of ranchland to cropland. How realistic are these hopes for rotational grazing? What are the primary barriers to further implementation of rotational grazing methods?

**Juerg Kaeppeli**

Our project concept consists in establishing a vehicle that allows institutional investors and UHNW/HNW to invest into a program to develop high quality forest estates in Central and Southern Europe.

Background of the concept is the observation that:

a) The best potential for expansion of forests – both in area and in "quality" in Europe – is located on private land. This is caused by the abandonment of marginal agricultural land in Southern and Central Europe in the second half of the 20th century, and the decline in need of firewood from largely privately owned "coppice" forests has created a large base of maturing "young" forest, which has a high potential to develop into older and more valuable forest with benefits for biodiversity, carbon storage, and economic returns. While this forest growth is often occurring naturally, it is at risk as the existing highly fragmented ownership structures do not incentivize owners to manage forests in long rotations, but to seek short-term returns with the lowest level of investment, and so coppice management is often continued even if marginally economic.

b) There is potentially appetite from investors for investable forest assets in Europe. Contrary to Northern America and Australia, large-scale investable forest estates are not or hardly available in Europe, and as such a "timberland" asset class is not established in Europe, and not available to investors interested to forest exposure in Euro. At the same time the flow of traditional "timberland" assets in North America and Oceania from strategic to financial investors has largely run its course, and financial investors seeking exposure to the asset class are now looking to new geographies.

The idea is to invest into:

- Acquisition and consolidation of coppice stands and/or abandoned agricultural land from private owners to form portfolios of estates of critical sizes of >1000 hectares (not necessarily contiguous). Investment costs / hectare is USD 5-10k.
- Sustainable and more profitable management of forest estates through selective cuts/harvest and replanting, thereby accelerating conversion of coppice forests and old fields into high forests with the highest possible value.

From an investment perspective, the investment into the forest is value-preserving as long as the standing volume of the forest is kept intact and growing, the forest investment stays reasonably liquid, and the value of the land is preserved (if not appreciative). Value creation is achieved by moving from coppice forests (which might provide private owners with short-term returns) to high forests. While biological growth in forests estates managed on longer rotation will potentially slow down, the value of the forest products extracted (sawlogs and other industrial roundwood) will increase substantially compared with the value of the firewood extracted under a coppice management model, increasing the overall return per hectare.

Prerequisite of this model is to establish larger-scale estates creating the economies of scale for the appropriate management actions, and for the investment into the supply chain (e.g., sawmills) that will allow harvesting and manufacturing of high-value add forest products. For this model to be successful it is critical to control the transaction costs in the estate aggregation phase, and the technical and professional costs of the due diligence on the acquisition targets, of the preparation and set-up of the estate management. There are multiple conservational effects associated with this project. High forests possess higher biodiversity, store more carbon and are beneficial for water quality and flow regulation in watersheds.

On the financial and structuring side of the project questions of potential tax arbitrage and the accounting treatment of forest growth would need to be considered.

**Charlotte Kaiser**

The Nature Conservancy developed the *Conservation Note* in an effort to establish a new source of capital for the organization, and to create an opportunity for retail investors to support conservation through an investment-grade debt product. Offered direct with no underwriter, Conservation Notes are a registered security available investors in almost all 50 states. Proceeds from the Note finance conservation activities by The Nature Conservancy, and provide flexible, patient capital to support our work. Examples of projects financed with Notes include:

- A working capital loan to Iisaak Forest Resources, a First Nations-owned timber company in Clayoquot Sound, British Colombia. The financial flexibility provided by this interim working capital investment afforded the company and the First Nations communities the time to pursue alternative strategies to preserve these pristine watersheds which are critical to the health of native wildlife and salmon fisheries and to the cultural, social and economic well-being of First Nations.

- Acquisition financing for 12,000 acres of longleaf pine wetlands to incorporate into the Louisiana Pine Wetlands Mitigation Bank, which provides a sustainable source of funding for the conservation and restoration of one of North America's most degraded – and diverse – terrestrial ecosystems.

The Notes were launched in April 2012 in an initial tranche of $25 million and were fully subscribed by the end of the year. Investors include foundations, including the David and Lucile M. Packard Foundation and the Blue Moon Fund; family offices; and individual investors. Notes are sold in one-, three- and five-year terms, with variable interest rates depending on term. Investors may also choose to donate their interest and/or principal.

**Howard Kaplan**

I am currently working on developing a program that enhances ecosystem services in an agricultural investment program.

**Peter Kelly**

We are particularly interested in discussing:

- The need for flexible and committed capital working in the conservation space, and how we have seen that type of capital unlock impact in other segments. We can speak to specific examples in energy efficiency or education as illustrative and would be interested in hearing what applicability they may have to landscape conservation.

- The potential for using ranching practices to achieve conservation outcomes in the US, specifically rotational grazing as a means to increases ranching income generation, increase carbon stocks, and prevent the conversion of ranchland to cropland. How realistic are these hopes for rotational grazing? What are the primary barriers to further implementation of rotational grazing methods?

**Justina Lai**

During my time at the Rockefeller Foundation, I spent some time both investing in as well as supporting, through grants, the development of social impact bonds (SIBs)/pay for success financings. Social impact bonds were first piloted in 2010 in the UK with support – both grant and investment – from the Rockefeller Foundation and are now being tested by over 17 state and local governments in the US.

Social impact bonds are a contract between a group of private investors who fund organizations to provide prevention-oriented social services and a government agency that agrees to repay the investors, with a return, if these services achieve the desired social outcome. SIBs organize capital and human resources from government and the private sector in new ways that result in outcomes-based funding for social programs. As a platform, the SIB acts as a means of stimulating new collaborations and creates more opportunity for innovation among the three main sets of actors: local government, impact investors and non-profit service providers.

To date, SIBs have been largely deployed toward solving social problems such as recidivism, chronic homelessness, chronic disease management and unemployment/workforce deployment. However, there are many groups now exploring other applications of the SIB, adapting the model to address environmental problems including climate change and long-term management of productive ecosystem services. Several SIB models have been discussed – e.g., addressing municipal stormwater management through green infrastructure development, carbon assets, Great Barrier Reef and oceans/fishery conservation bonds.

**Chris Larson**

Parcel Aggregation Strategy

Within one of our timberland investments, we have taken an approach of aggregating small ("retail") parcels into meaningful management units. Typically, timberland investors acquire large tracts, and potentially generate returns through fragmentation of these tracts into small parcels, taking advantage of the per-acre value differential between large and small tracts.

Since this usually has a negative environmental impact, we have sought tools where we can effectively do the opposite – buy smaller tracts, and aggregate these into landscape-scale units. Conservation easements have allowed us to do this.

In this particular investment, we have acquired timberland through thirteen transactions, and are about to consolidate approximately 60 legal parcels into four management units that will be managed under fairly restrictive easement terms.

Absent this easement, these parcels could not be economically managed as timberland. Further, if we had not used private capital to aggregate the properties, the individual parcels might not have been prioritized by conservation funders; however, in the aggregate, they provide outstanding connectivity between five existing protected areas totaling several hundred thousand acres.

**Richard Lawrence**

Proyecto Mirador (www.proyectomirador.org) started about 7 years ago to register the fuel-efficient stove project with the Gold Standard Foundation. The vision then, and today, is to utilize the proceeds from the sale of extremely high quality carbon credits to permit Proyecto Mirador to be a self-funding and sustainable development organization. However, securing carbon credit issuance from the Gold Standard is a demanding process, and we found we needed to alter the incentive and accountability structures within Mirador in very powerful ways in order to be successful with carbon finance. For example, we learned abandoned stoves are lost capital, so we adjusted the incentive compensation schemes for our 135 employees to maximize the education of the beneficiaries and the long term functioning of the stove.

We were also the first entity in Central America to install the Salesforce.com IT system, which provides us a level of transparency that is critical to accessing carbon finance in an impactful way. The value of the impacts to the beneficiaries and Honduran society of the *Dos por Tres* stove has been verified to be between 6.5 and 7.5 times the cost of the stove. The success of these and other components of Proyecto Mirador is best reflected in our two-year backlog of demand from rural Hondurans for our stove and the fact that we have not spend a dollar on promotion since inception.

**Aileen Lee**

This is a new arena for us, so we don't yet have a regular deal flow. Some of the transactions which I have been involved with in the past include: conservation financing for the "Great Bear Rainforest" agreement, rationalizing tax districts to finance watershed conservation, stewardship contracting on US National Forest land, lending for the commercial development of recirculating aquaculture systems technology, and catalyzing the creation of a public-private salmon aquaculture innovation fund.

**James Levitt**

Beginning in 2007, I worked with colleagues at the Harvard Forest and the Mount Grace Land Conservation Trust to organize a series of efforts that led to the establishment of a state Commission, appointed by Massachusetts Governor Deval Patrick, on advancing conservation finance initiatives. The Commission's report was presented to Richard Sullivan, Massachusetts Secretary of the Executive Office of Energy and Environmental Affairs in a 2012 ceremony in the state house. Several of the recommendations of the Commission, including the establishment of a fund to support the realization of large landscape initiatives in the state, have subsequently been realized. In addition, following the issuance of the report, a task force was established to focus on the implementation of the Commission recommendations in the Greater Quabbin area of north-central Massachusetts. The resulting *Conservation Investment Zone Assessment*, or CIZA, focused on the topics of: aggregation for conservation; mitigation for conservation; compact development; and sustainable economic development. The task force is presently organizing a regional conference, scheduled for the spring of 2014, to bring attention to several ongoing efforts that have succeeded, or hold significant promise of establishing important precedents, in each of these topic

areas. For more information, please see the report of the CIZA group:
http://highstead.net/pdfs/Conservation%20Investment%20Zone%20Assessment.pdf.

Two other project ideas are:

Colorado River System Trust

Over the past thirteen years, the Colorado River has been experiencing a dramatic multi-year drought that has caused system storage to decline to its lowest level since the construction of Glen Canyon Dam. Recent Colorado River System modeling projections now show a serious near-term risk that water elevations in both Lakes Mead and Powell will decline to levels that would trigger shortages in the Lower Basin and Mexico, jeopardize hydropower production at the Hoover and Glen Canyon dams, damage fish, wildlife, and recreational interests, and threaten water supplies for Las Vegas. Long-term modeling also demonstrates that without substantially increased levels of agricultural and municipal conservation, the long term projected imbalance in future supply and demand in the Basin will soon exceed 20 percent, and that regardless of what actions are taken to address these imbalances, Colorado River water users will inevitably face growing levels of uncertainty and vulnerability with regard to the availability of water to meet municipal, agricultural, environmental, and hydropower needs.

Over the past decade, Colorado River Basin stakeholders have worked together to shape a number of important policy measures, including the adoption of the new domestic river management guidelines, a new international agreement with Mexico, and the completion of a comprehensive modeling and resource study on the Colorado River. These efforts have consistently emphasized the importance of identifying solutions to the challenges that are facing the Basin based on principles of self-determination, enhanced federal-state cooperation, and collaboration among the Basin's stakeholders. In light of the now imminent risks to reservoir elevations, it is critical to identify and implement proactive, cooperative measures that can be deployed to manage system vulnerability and avoid an emergent crisis that could lead to litigation, require federal intervention, or otherwise undermine past cooperative gains.

As part of this larger effort, several municipal, agricultural, and conservation interests are currently investigating the potential for a "Colorado River System Trust." This trust would pay for voluntary, compensated reductions in the consumptive use of Colorado River water at various upstream locations (including, but not necessarily limited to the implementation of temporary fallowing or deficit irrigation programs on irrigated agricultural lands, investments in enhanced municipal conservation, and reductions in industrial use).

Conserved water resulting from the program would be retained in the Colorado River as "system water," which would be used to protect critical reservoir elevations while creating ancillary benefits to hydropower, environmental and recreational uses, and other flow-related values. At least a significant portion of these conservation investments would be directed to generate conservation savings in a variety of pre-identified locations that would create environmental or recreational benefits from enhanced flows in upstream areas (as those flows travel downstream to enhance storage at Lake Powell). Trust resources would be accounted for and protected from improper diversion under a seven-state agreement with the Bureau of Reclamation adopted as part of other Basin-wide risk mitigation programs that are presently under development.

The trust would be financed through a combination of public and private investments; private investments would be compensated. To ensure that the resources dedicated to this program are used for the intended purposes, the program funds would be placed under the control of an independent, third-party fiduciary that would hold the funds and interests in water generated through their use in trust for the benefit of the Colorado River System and the public, implement the planned conservation programs, account for conservation savings, generate revenues needed to repay investments, and monitor the results.

Colorado River Delta Water Trust

On November 20, 2012, the Commissioners of the U.S. and Mexican sections of the International Boundary and Water Commission ("Commission") executed Minute No. 319 ("Minute 319") to the February 3, 1944 United States-Mexico Treaty. Minute 319 embraces a series of agreements, operational measures, and cooperative projects that will be undertaken by the United States and Mexico with regard to the Colorado River and Delta during a 5-year pilot period. The agreement will be expanded and extended in a long-term agreement that will replace Minute 319. These agreements, operational measures, and projects include the sharing of water surpluses and shortages between U.S. and Mexican users; the multi-year conservation, storage and delivery of Mexican water in Lake Mead; provisions related to the management of salinity; joint projects for the development of conservation infrastructure in the Mexicali Valley and international water exchanges; and the delivery of water to the water-starved, continentally-significant Colorado River Delta ecosystem. The agreement has been acknowledged as the most important water agreement between the United States and Mexico in 70 years.

As a result of upstream dam development and diversions, the Colorado River has not flowed to its historic Delta and the Gulf of California since the 1960s, causing massive damage to Delta wetlands, which have shrunk from some 2 million acres circa 1900 to less than 40,000 acres of widely scattered habitat today. The Minute includes the introduction of a program of base flows and pulse flows to restore water to critical portions of the Delta ecosystem, including a series of bi-national restoration sites, as well as to experiment with environmental restoration via artificial flooding that mimic historic conditions in the Delta. As part of the agreement, there will also be joint U.S.-Mexico monitoring and reporting of the ecological and hydrological results, together with extensive federal funding to support ongoing on-the-ground environmental restoration activities.

The commitments undertaken by the U.S. and Mexico in the Minute include the express involvement of various non-federal partners, including the participation of non-governmental conservation organizations in delivering water to the Colorado River Delta ecosystem through the operation of the Colorado River Delta Water Trust. The Delta Water Trust is an existing mechanism for the acquisition and delivery of water within Mexico's Mexicali Valley. Founded pursuant to Mexican law in 2008, the Trust has acquired thousands of acre-feet of water rights that are dedicated for use in various existing environmental restoration sites, and has established successful mechanisms for the acquisition of permanent water rights, temporary water leasing, the transfer of rights within the Mexicali Valley and for environmental use, and for the wheeling of water rights to the Delta ecosystem for restoration purposes and instream flows.

As part of the Minute 319 agreement, the Delta Water Trust is being significantly scaled up in order to meet its existing and future obligations. A capital campaign has been undertaken by the Nature Conservancy, Sonoran Institute, Pronatura Noroeste, Environmental Defense Fund, and the Redford Center. However, initial financing was obtained from the David & Lucile Packard Foundation via a program-related investment. The PRI was used to rapidly scale up water acquisitions prior to the availability of revenues from ongoing fundraising efforts, and was also used by NGO negotiators (by putting significant funding on the table to support scaled-up Trust operations) to leverage substantial federal funding contributions and environmental commitments to the Delta during the latter stages of the international negotiations that led to the Minute.

After the acquisition of water supplies necessary to meet near-term obligations under the Minute is complete, the future use of investment funds is also being contemplated by the Colorado River Delta Water Trust. Invested funds would be utilized to support the acquisition of additional permanent water rights; these rights would be deployed in farm leasing to generate revenues to repay investments, with permanent water rights dedicated long-term to environmental use in the Colorado River Delta. A portion of these rights would also likely be used to support related sustainable agriculture programs that are being promoted by the Trust and its partners to support the long-term viability of small-scale agricultural enterprises in the Mexicali Valley farming community.

**Jessica Matthews**

The Overseas Private Investment Corporation (OPIC) engaged Cambridge Associates as an advisor for their Global Renewable Resources Fund Call for Proposals.

In launching the Global Renewable Resources Call, OPIC sought to address an important policy objective of the U.S. government to promote the global renewable energy and energy efficiency sectors, as well as to promote sustainable utilization of natural resources such as water, land, and forests in emerging markets.

Cambridge Associates was selected to assist in the selection of one or more emerging market managers to receive OPIC financing for funds focused primarily on achieving long-term capital appreciation through investments in renewable energy, resource efficiency and preservation of scarce natural resources.

Steps to achieve objectives:

- Market analysis and identification of qualified emerging market private equity managers in the renewable resources sector.
- Pre-marketing of the Call including targeted outreach to qualified fund managers and recruitment of proposals.
- Development of a comprehensive candidate questionnaire and request for proposal.
- Establishment of the key criteria to be used for fund manager evaluation.
- Analysis of all submissions and a written summary of each submission with a recommendation on finalist candidates.

- Comprehensive due diligence on the finalist candidates and preparation of a written recommendation to OPIC on each finalist candidate.

Outcome:

- 56 managers submitted substantive proposals to the Call.
- After multiple selection rounds and comprehensive due diligence, OPIC approved five renewables resources funds to receive OPIC financing totaling $500 million

**Ann Mills**

In recent years, the USDA has launched several projects in cooperation with private sector partners to encourage greater conservation by providing land managers access to enhanced financial incentives. Under these partnerships, program participants receive USDA payments through existing government conservation programs and are eligible for additional payments from the private sector partners in exchange for the rights to carbon offsets or other ecosystem service benefits that develop as a result of the conservation activities. Program participants retain ownership of the land and may engage in compatible uses like grazing, sustainable timber harvest, and recreational use of the property. The partnerships provide land managers with new opportunities to earn income through conservation. The projects also generate significant environmental co-benefits by enhancing water retention, air quality, soil quality, and preserving wildlife habitat. While many of these programs were established as demonstration projects, they provide a bridge to functioning environmental markets and illustrate the potential for farmers, ranchers and forest landowners to participate in these markets.

**Jennifer Morris**

This year, CI hopes to successfully launch a project financing or Social Impact Bond(SIB)/Development Impact Bond (DIB) approach to depleted fisheries in the Eastern Tropical Pacific Seascape.

The Eastern Tropical Pacific Seascape (ETPS) sits in a marine current crossroads that spans the national waters, coasts and islands of Costa Rica, Panama, Colombia and Ecuador and covers an area nearly five times the size of California (2,000,000 km$^2$). The ETPS includes (Galapagos, Malpelo, Cocos Island, Coiba Island) and contains highly valuable fisheries that make substantial contributions to national economies and that underpin food security and livelihoods of millions of coastal people.

<u>The problem</u>

Despite the high productivity of the ETPS' waters, decades of intensive fishing by more people with larger, more autonomous boats and increasingly highly effective, but non-selective, gear have driven most coastal fisheries to overexploitation. In fisheries terms, Maximum Sustainable Yield (MSY) has been long passed, making it more expensive to catch fewer fish. As a result, profits drop, and poverty follows. Gear modifications, such as smaller mesh gillnets, and location of the last holdouts of healthy fish populations have provided short term relief, in some cases, but ultimately make the problem worse and retard fish stock recovery back to healthy levels.

<u>Financing fishery recovery</u>

Fortunately, a growing number of fisheries are under recovery under what are termed Fisheries Improvement Projects (FIPs): a specific plan that provides a roadmap for fixing a given fishery. Solutions to the key problems of managing fishing capacity and effort through the establishment of quotas, area closures and fishing seasons, and the development of gear modifications to eliminate wasteful, non-selective fishing methods have demonstrated that recovery via a FIP can be relatively quick and return fisheries to profitability. Although the steps required are now widely known, securing the up-front financing that is required to pay for implementing the FIP to transition overexploited fisheries back to MSY is a major barrier.

Traditionally, funding for FIPs, especially in small-scale fisheries comes from national or local governments, multi- or bi-lateral agencies or private foundations or philanthropists. While these will remain important sources of funding for FIPs, given that healthy fisheries - even at the small-scale (less than $1 million) - can generate a profit and substantial societal benefits, we believe the potential exists to tap into non-philanthropic sources of financing for FIPs. Under this mechanism, social impact investors (or indeed any sort of investor) would be repaid for their investment in the FIP once the target fishery recovers and begins generating a profit.

In the ETPS, most small-scale coastal fisheries are part of local commercial economies, rather than for subsistence. As such, these fisheries are candidates for innovative financing, such as social entrepreneurship initiatives from private sector sources that could underwrite recovery costs based on an investment model, rather than relying entirely on public (taxpayer) bailouts or traditional philanthropy.

Our preferred model would be a single revolving fund that would ultimately finance the recovery of 10-12 fisheries across the ETPS. Under this model, funds allocated to specific FIPs would be replenished once the target fishery recovers, so that funds can then be applied to another FIP. A single large fund, rather than many smaller fishery specific funds, would have the advantage of pooling risk and taking advantage of economies of scale.

Types of repayment models being explored include: long-term loans, social impact bonds and development impact bonds.

**Melissa Moye**

Credit Facility to Reduce Environmental Impacts

WWF Conservation Finance and its partners designed a $40 million subsidized credit facility to reduce biodiversity impacts of hotels operating on the Thai coastline. This long-term credit facility launched by Kasikorn Bank, the 2nd largest bank in Thailand, offers discounted interest rates up to -1.5% of MLR (minimum lending rate) for hotels committed to reducing their impacts on marine biodiversity and improving their environmental management.

The facility offers loans to finance investments mainly in waste water treatment, solid waste management, water consumption management. Participating hotels adopt an Environmental Management System and green certification. The loan application follows a two-stage procedure including an initial pre-screening conducted by the partner bank, incorporating the bank's financial screening against a small set of criteria covering environmental, social and biodiversity factors, and a technical screening of investment and commitments to implement a series of low/no costs changes to operational practices.

Key enabling conditions for this type of facility include: demand for green investments, assessment of potential market size, high capacity of potential investors and beneficiaries and knowledge of business practices that can be transformed. If successful, this pilot program will reduce the negative impacts of coastal development on marine biodiversity on a large scale and will also serve as a model for the use of capital to promote best practices in the private sector. WWF Conservation Finance is currently assessing the possible replication of this financing approach relative to other market sectors, geographies and partners.

For more information on the credit facility, see:
http://m.kasikornbank.com/mobile/en/Pages/ProductBusDetail.aspx?iurl=/EN/Corporate/Credit/TermLoan/Pages/K-Green%20Hotel%20Loan.aspx

**Daniel Nees**

There are two areas that I am working on and have an interest in advancing: 1. pooled capital in support of water-based restoration and 2. the use of public/private partnerships to reduce transaction costs and improve project efficiencies.

**Carl Palmer**

We would like to structure deals that bifurcate the agricultural and recreational values embedded in properties, with protections and management programs in place to ensure that each owner's interests are aligned towards optimizing management for the full range of values (agricultural, community, wildlife/ecological, recreation, water, ecosystem services). Figuring this out can allow farmers to acquire agricultural assets at agricultural values and can simplify and decrease the cost of acquiring and owning a recreational property for the recreational buyer.

We are working to innovate in the area of matching investors with assets to align long-term owners with long-term hold portfolio properties.

**Kyung-Ah Park**

Goldman Sachs implemented two "social impact bonds" in the U.S. The first, which was done in partnership with Bloomberg Philanthropies and MDRC, is to fund a program called Adolescent Behavioral Learning Experience in New York City, which will focus on reducing recidivism rate for adolescent offenders in Rikers Island. The second commitment invests in early childhood education and was done in partnership with United Way of Salt Lake and J.B, Pritzker. We are continuing to evaluate opportunities to expand the financing mechanism for other areas including the environment.

**Drummond Pike**

In the 1990's, Tides Foundation entered a 55-year ground lease with the National Park Service for 12 historic buildings in SF's Presidio National Park. Forming a for-profit subsidiary called Highwater, the development was undertaken utilizing the discounted sale of historic preservation tax credits, equity from the Foundation's reserves, and a significant loan from First Republic Bank - the first of its kind to a non-profit owner of a ground-lease in a National Park. Following the expiration of the tax credits, the 175,000 square foot renovation, the materials research for which was contributed to what became the LEED standards, was re-financed with non-profit revenue bonds sponsored by the City of San Francisco. This was followed in the early 2000's by a second project in New York City, similarly structured, but involving the purchase and LEED-certified development of 3 floors of a financial district highrise that is also dedicated to non-profit tenants.

**Jennifer Pryce**

Over the past several years we have built new partnerships that have allowed us to create a more inclusive approach to impact investing. Our partnership with Incapital established in 2005 has enabled us to offer our Community Investment Notes (CIN) through traditional brokerage platforms (over 600 brokerage firms), bringing impact investing to thousands of new investors and resulting in more than $175 million of new investment capital. Through our collaboration with an online broker-dealer, we lowered our minimum investment to just $20 online, making impact investing a possibility for investors who never could have considered it before. Throughout, we have raised nearly $1 billion from over 13 thousand investors and maintained a 100% repayment rate. We have proven our ability to be responsible stewards of capital across a range of geographies and impact areas, and have been innovative in the way we use this capital to grow our loan portfolio across different impact themes.

In the next several years we envision launching additional issue-based thematic investment initiatives. Building on the demonstration effect of "Green Strategies to Fight Poverty", we have done some initial research to understand how our financing, and our ability to raise private capital, could be deployed to benefit the environment. Subsequent to the launch of several initiatives that are currently in development, we envision creating a pilot portfolio that would finance environmentally and socially responsible land use, biodiversity protection, sustainable agriculture and ecosystems services in both the U.S. and abroad.

**Camilla Seth**

In 2014, JPMorgan Chase (JPMC) will be working with The Nature Conservancy (TNC) to establish the Center for Natural Capital Investing ('The Center'). The Center will provide a central forum for thought leadership around investment opportunities in the conservation space. The Center's aim is to help accelerate the development of a global market for investments that generate financial return for investors while also effectively preserving and restoring natural ecosystems. The Center will work to convene impact investors around emerging opportunities in the natural capital market, develop and test innovative financial structures, and develop an investment pipeline across multiple sectors. Leveraging a JPMC grant, The Center will seek to deploy capital for conservation projects to well-vetted investment vehicles that protect critical land and seascapes, which have the potential for scale. In addition, The Center will issue thought-leading research and white papers on conservation finance in conjunction with a variety of partners.

**Susan Phinney Silver**

A sample of 4 innovative investments that the Packard Foundation has made in the last couple of years:

1. <u>Ecotrust Forests Fund II</u>
   The Foundation made a $10 million PRI loan to Ecotrust Forests Fund II, an investment vehicle that uses a hybrid debt and equity structure to attract larger scale private equity investors. The sustainable forestry model of Ecotrust Forests provides positive impact in three key ways: 1) building long-term value by creating higher-quality forestry products than more industrialized approaches, 2) enhancing forest health, thus improving species and structural diversity, and 3) improving social returns in the form of jobs and opportunities for rural communities.
2. <u>The Freshwater Trust</u>
   The Foundation made a $2 million PRI loan to The Freshwater Trust (TFT) to enable the organization to grow its water quality trading program in the Pacific Northwest. TFT has launched an environmental regulator-approved water quality trading program in Oregon, offering offset credits to regulated entities such as utilities so they can meet regulatory compliance or mitigate their negative effects of high temperatures on water quality. This investment enables TFT to conserve and restore freshwater water systems at a significant scale through stream restoration throughout the West, helping to address ecosystem changes brought on by the negative impacts of water run-off climate change. The PRI loan was made jointly with the Gordon and Betty Moore Foundation and the Kresge Foundation, resulting in a total $5 million investment.

3. <u>The Nature Conservancy (Colorado River Delta)</u>
   The Packard Foundation made a $1,328,000 PRI loan to The Nature Conservancy to finance an innovative purchase of permanent Mexican water rights through a bi-national U.S.-Mexico treaty. A coalition of conservation partners including The Nature Conservancy, ProNatura Noroeste, the Sonoran Institute, and the Environmental Defense Fund, the resulting negotiated agreement includes new provisions to provide water to the Colorado River Delta ecosystem. The purchase aims to use that water to restore the Delta ecosystem, with the ultimate goal of restoring the full flow of the Colorado River from its origins in the Rocky Mountains all the way to the Gulf of California.

4. <u>The Roundtable on Sustainable Biomaterials</u>
   The Foundation provided a $2,500,000 million PRI loan to launch the Roundtable on Sustainable Biomaterials (RSB) as a global certification system to influence the developing biofuels market towards more sustainable practices. The RSB certifies biofuel producers around the world using a comprehensive set of standards that were developed over a five-year period through a diverse multi-stakeholder process. The ultimate goals of RSB certifications are to help ensure that future production of biofuels is sustainable, has minimal impact on our environment, and delivers on climate change mitigation goals.

**Evan Smith**

We will be covering the Waussau, WI, conservation easement transaction with Lyme Timber in the first session. I think that is representative of how we typically approach forest conservation finance.

**Peter Stein**

I will be presenting one of The Lyme Timber Company's recent working forest investments in partnership with Evan Smith of The Conservation Fund as part of Session 1 on January 21st. Below are two problems or challenges which I hope we will address during the course of this workshop or as part of the follow-on activities:

<u>Number 1</u>

How can private investment managers in the natural resource fields (ecosystem services, forestland, ranchland and water resources) quickly and efficiently engage with foundations who can provide interim financing assistance in the form of program-related investments? Are there advisory firms that can develop strong due diligence and transaction underwriting expertise to intermediate this problem? Is there a catalog of experiences or best practices that might serve as a guide for both the foundation lenders and for the private investment managers?

<u>Number 2</u>

What barriers exist for non-US based family offices and institutions to provide investment capital to US-based impact oriented natural resource investment managers?

**Eric Swanson**

A fisheries security or investment scheme whereby future cash flows from a well-managed fishery can be securitized as an investment, through which funds can be raised from private investors that can help to fund and offset current-day expenses of transitioning the fishery from poor management (or no management) to good.

**John Tobin**

While there are various ideas for structured conservation finance transactions I believe are worth pursuing, for purposes of this exercise I want to propose quite a simple idea that I would like to develop further, and which addresses something we have often heard from investors, namely that they do not want to donate their capital to a conservation cause but they would be happy to see that capital put to work for that cause. In other words, certain investors would like in some way to 'lend' capital to a worthy conservation project or organization or otherwise get a part of their capital to generate environmental benefits, even though they do not want to donate that capital (or risk losing a material part of it).

One way to achieve principal protection and at the same time ensure that the gains from the capital support environmental causes could be to invest the capital in some low-risk project in, e.g., sustainable agriculture. Such projects are relatively few and far between, are often complex, and investments are likely to be illiquid. However, I would like to propose that, in some cases, in order to address investor requirements to ensure both principal protection and positive environmental impacts it may make sense to decouple where the capital is invested from how the returns from that capital are used.

In its simplest form, this decoupling of investment from returns could mean that the capital of a conservation-minded investor is put into treasury bills, which are both liquid and safe, and the returns from this investment are directed to a conservation project or organization of interest to the investor. A slightly more complex (and riskier) version of this idea could involve putting the investor's capital into liquid equities, debt securities, and/or alternative investments where capital is reasonably safe and yields are more attractive, and the returns are directed to a conservation cause in full or shared between the conservation cause and the investor in predetermined proportions. A variation of this could involve investing in mainstream instruments but screening them to ensure that particular companies or industries that have strong negative environmental impacts are excluded.

The advantage of a partial or total decoupling of investment from returns is that it may allow tapping into investor interest in supporting conservation while at the same time addressing investor concerns about lack of liquidity, unacceptable risk profiles, or complexity. It allows investors to put capital to work for environmental projects or organizations while using instruments and investment modalities that are similar or equivalent to other mainstream investments with which these investors are already familiar.

**Tom Trinley**

Conservation organizations seeking bridge financing for projects face two challenges: a) No conservation finance clearinghouse exists where borrowers can be matched with lenders, and b) beyond a clearinghouse, no single organization lends nationally or offers standardized terms. Rather, various foundations and non-profit conservation funders offer bridge financing within certain services areas and with various terms and lending limits.

I would like to explore the creation of either a) a web-based national conservation finance clearinghouse, or b) a national conservation finance bank.

**Julie Turrini**

The multi-year, multi-phase Tejon Ranch conservation and land use agreement involves an innovative negotiated agreement reached by five non-profit conservation organizations and Tejon Ranch Company in 2008 to protect 90%, or 240,000 acres, of the 270,000 acre Tejon Ranch. Located at the convergence of four important California bioregions halfway between Bakersfield and downtown Los Angeles, the property had been a target for conservation and development for years. In short, the Conservation and Land Use Agreement reached by the parties included the following elements:

- The agreement by Tejon Ranch Company to limit future development within three negotiated footprints along Interstate 5 that comprise only 10% of the Ranch and do not include the most sensitive natural resources.
- The agreement by the non-profits not to challenge development within these negotiated boundaries.
- The creation of a new non-profit, Tejon Ranch Conservancy, to hold conservation easements, provide public access, and implement a comprehensive management plan on the property.
- The agreement by Tejon Ranch Company to sell conservation easements to the Conservancy covering 66,000 acres for fair market value.
- The agreement by Tejon Ranch Company to dedicate conservation easements in multiple phases as development approvals are secured, to cover additiona 174,000 acres.
- The creation of a transfer fee on the permitted development to fund the Conservancy's stewardship, management, and public access activities, together with a mechanism for the Company to provide funding to the Conservancy in advance of transfer fee generation.

To date, conservation easements covering 100,000 acres have been recorded, the Conservancy has completed its initial comprehensive management plan, and the Conservancy and the Company continue to work together to implement remaining components of the agreement.

**Ray Victurine**

I have provided a brief description of two projects on which I worked directly in 2013.

Last year I completed an analysis for a mining company in Madagascar to determine the annual amount of funding required to implement its biodiversity offset program. The analysis was based on an assessment of historical costs for protected area management by the national authorities, a regression analysis based on global protected area costs, along with data from financial planning undertaken as part of a REDD+ design in the same country (Makira project). The offset was undertaken as part of lender requirements but is not a regulatory requirement within Madagascar and is based on the company's desire to obtain a high standard of environmental performance. The analysis was based on ensuring implementation of a variety of different offsets at different sites and under a series of management regimes to take into account the different types of impacts that will occur as a result of the project. The assessment included the annual cost of offsets as well as supplemental payments that could occur starting sometime around year 5 of production and continue on through year 20. The funds could be held in escrow, and invested, to create a permanent fund. Financing will be channeled through a national-level conservation trust fund, the Madagascar Biodiversity Fund. The financial design was completed during the second half of 2013 and with a plan to begin implementation in 2014 once corporate approval is obtained. The program will contribute to the conservation of areas that are either currently not protected, including expansion of important habitat corridors that will contribute to the conservation of threatened lemur species.

Another project involved establishment of a revolving fund to pay farmers to implement agroforestry plans in Uganda. By securing a grant of approximately $50,000, the conservation fund, Ecotrust Uganda, paid farmers who implemented agroforestry plans based on the carbon that would be sequestered over the life of the agroforestry plan. Ecotrust provides up-front funding to farmers to allow farmers to acquire and plant trees based on the value of the carbon, based on a $5.00 per ton price. Generally Ecotrust Uganda finds buyers ahead of time and then engages farmers limiting the number of farmers who can participate. With the revolving fund, Ecotrust can scale-up and engage the farmers early and make initial payments and then market the carbon over time and using the proceeds to expand the program. Normally payments take place over a five to seven year period based on realization of certain performance benchmarks. Ecotrust has identified a group of buyers who are interested in voluntary carbon offsetting and investment in supporting economic development in rural Africa. The carbon payments have led to increased investment in the communities as participants have begun to open bank accounts, save money, and then invest in small businesses. Given the lack of a carbon market, these carbon sales are dependent on the willingness of companies to undertake voluntary offsets. Ecotrust has been financing rural development through carbon sales since 2003.

**Ben Vitale**

Decentralized and private wastewater infrastructure represents an attractive investment opportunity based on the value of renewable energy and nutrient value alone. However, investment returns can be enhanced by further development of the water and wastewater markets. This can be achieved by capturing the additional value inherent in the actual water processed by wastewater facilities, which can be re-used, stored, recovered or utilized for conservation purposes.

The proposed project would work to improve state- and local-level policies in order to enable consistent and sufficient monetization of the water processed for these purposes by decentralized and private wastewater facilities. Through these improved policies, the market can become more efficient and attract additional institutional investment by realizing the incremental economic value related to recharging aquifers, reducing water transport costs, improving water quality and increasing water security. Here are a couple of example opportunities: http://mavensnotebook.com/2013/09/03/mavens-minutes-water-storage-part-2-how-groundwater-banking-is-done-a-look-at-three-successful-operations/

**Bettina von Hagen**

Given the unique qualities of the Moss Creek watershed, located in the lush temperate rainforest on Oregon's North Coast, Ecotrust Forest Management is working with the nearby City of Garibaldi, which draws its water from Moss Creek, to develop a permanent conservation financing strategy which will allow fee acquisition by the City of Garibaldi.

The partners intent to dedicate the 1,200 acres of holdings in the Moss Creek watershed – about 25% of the total Garibaldi forest investment property held by Ecotrust Forests I – to water quality, habitat, carbon storage, limited timber production and recreation.

The City of Garibaldi proposes to serve as the long-term fee owner and to manage the property in perpetuity for its benefits to the residents of Garibaldi and the public.

The City of Garibaldi is a small coastal community of 800 residents, dependent on fishing, timber, and tourism, that is economically distressed with high unemployment and a small revenue base to fund critical public services.

Together we are seeking funding for a conservation easement, carbon financing, and other conservation financing that will extinguish the development and timber rights on about 360 acres in the core of the watershed and focus those acres exclusively on enhancing water quality for the City's residents.

**Leigh Whelpton**

Conservation Accelerator Financial Support: An Investment in Good Ideas

Viable conservation finance idea "startups" (i.e., enterprises, funds, projects, technological innovations, new financial instruments, etc.) have few support options to help transition ideas into action, particularly for young professionals seeking a career in the field. An accelerator could help connect new ideas with the resources they need to launch. It could help to capture new creativity and passion by removing barriers, bringing in new practitioners, and gathering ideas more broadly. Borrowing from the traditional accelerator model, professionals with the winning idea submissions from an annual competition could be accepted into a short (4-6 month) program where they would receive funding, office space, development and design support, and expert mentoring. In this manner, an accelerator could play a catalytic role in getting the best new ideas off the ground. Funding could come from foundations and high net worth individuals. Host sites could be anywhere in the United States, including Yale, Stanford, Duke, Texas A&M, conservation organizations (both large and small), or investment banks and private equity firms.

**Joe S. Whitworth**

The Freshwater Trust has operationalized water quality trading in its home state of Oregon and is working on exporting it nationally. Under this water quality trading framework a regulated entity (wastewater treatment facility, power provider, or port) signs a contract with a qualified organization with restoration expertise to generate a certain number of temperature credits – built to rigorous quality specs – which the entity will use to offset the impact of the warm liquid effluent it discharges into streams and rivers and comply with the Clean Water Act. The offset projects entail planting native trees on the streambank within the affected watershed of the effluent discharge site to shade and cool the watershed - a cheaper approach than building large cooling towers to treat the effluent. Other actions, such as instream flow and streambed restructuring can also render quantified benefit. Two units of benefit are required to offset each unit of impact to ensure an overall ecological benefit. Sites are chosen for greatest uplift potential and the landowner who allowed trees to be planted on their property is paid an annual rental fee for the use of the land. Projects are third-party certified, registered and maintained and monitored annually for a minimum of 20 years. The same mechanics are being used in Oregon to trade nitrogen and phosphorus offsets, with accounting protocols for endangered salmon credits currently being developed. In addition to the regulated buyers, The Freshwater Trust has secured agreements with U.S. Forest Service and Oregon Watershed Enhancement Board to purchase temperature credits that will be retired for conservation purposes.

**Heather Wright**

We don't directly make finance deals and my portfolio of grantmaking has focused primarily on ecosystem services in the past and is now shifting toward finance that could support sustainable food production. Previous conservation finance transactions that I have been involved in include conservation financing related to protected area endowments (Forever Costa Rica), payment for ecosystem service mechanisms on the Osa Peninsula in Costa Rica, REDD+ innovative finance mechanisms in various countries at the national and subnational level and various biodiversity conservation funds, debt for nature swaps and payments for ecosystem services mechanisms under the Conservation International's Global Conservation Fund (GCF).

**Logan Yonavjak**

The Conservation Investment Note is a non-profit, charitable facility with a structure similar to a bank certificate of deposit, that offers the general public an opportunity to *invest* in, rather than simply donate to, land conservation. The CIN is designed to help capitalize the conservation sector, meet investor demand and attract other investors to the sector by offering a small financial return for supporting conservation.

Conservation organizations are struggling to find dwindling public funds to conserve, restore and steward the most critically threatened lands in the United States. The Conservation Investment Note project will help these organizations meet increasingly extended repayment schedules with longer term financing, utilize new security structures that better meet their needs in this current economic environment, and access national financing that, in many parts of the country, is not available for conservation. In sum, it will broaden financial opportunities for this important sector.

Conservation organizations have been borrowing money for years and repaying those loans in the same manner they have paid upfront for acquisition and restoration projects – using a combination of public and private funding sources. These organizations are, by nature, highly risk-averse. In recent years, they have been able to diversify their funding sources but have been limited in their ability to conserve land because of the lack of immediately available financing options to bridge repayment using longer payouts and revenue streams. Limited financing options have particularly impeded major landscape-scale projects with multiple revenue sources and multiple closing dates, even with strong borrowers such as national conservation organizations. In areas such as the Gulf states, to which large amounts of conservation mitigation funding is flowing in response to the oil spill, financing mechanisms are simply not in place.

These same limitations have impeded smaller organizations, whether acquiring land or conservation easements or restoring or stewarding public and private land. For restoration projects, the problem can simply be a payment structure that withholds all payments until the end of the restoration work. Without a vehicle, even local donors have been unable to participate in a scaled way in bridging these timing challenges. Organizations have had to front their own, limited funds or not do the work at all. New national conservation financing could enable and facilitate these essential programs.

*Integration of Conservation and Community*

The Conservation Investment Note program creates a new opportunity for working lands conservation. Partnership with community development financial institutions would greatly advance the substantial community development financial capacity and interests into land conservation, thus starting a dialogue between these two often-siloed sectors, sharing limited resources between sectors and bringing a wealth of expertise and social investors to conservation.

This new dialogue begins to redefine conservation as a central community concern, positioning it in a way that will contribute to the future sustainability – founded on broader community support – of conservation programs. Together, the project's conservation and community development benefits and subsequent real financial benefits to both sectors may be its greatest value.

I have been working on an initiative with an existing CDFI for some time; however, our team is now exploring opportunities to get more CDFIs interested in this type of lending. We have begun conversations with 5-6 that are already engaged with food financing.

<u>Second project idea on wetland mitigation banking</u>

All wetland mitigation bank projects are required to have an endowment fund that can pay for maintenance costs in perpetuity. Typically, these funds are created project by project via the project developer. The amount required, and often the structure of the fund (i.e., how it's invested), is subject to the vagaries of public officials. Essentially, there are no clear standards for what these accounts should look like or how much money should be in them.

What if there was a national-level revolving loan fund developed for the purposes of dolling out funds to mitigation banks for ongoing perpetuity costs that was invested in socially responsible and/or impact investments? Mitigation banks would apply for "funding in perpetuity" from the revolving loan fund as they were being developed, instead of having to start their own individual fund each time. Individual project developers would put in the money up-front into the revolving loan fund. The same idea could be applied to habitat banks.

Lastly, a similar model could also be applied to conservation easements. There are always issues regarding how much funding to put into an endowment for ongoing maintenance costs, and land trusts often do not know to effectively manage the funds (i.e., are not capitalizing on investment opportunities with the fund that make more money for the ongoing conservation easement maintenance costs). In the case of conservation easements, the easement owner would put in money upfront when the easement is donated/sold into the revolving loan fund.

## IV. PROJECT DESCRIPTION MATRIX

| Supply (of ecosystem services) | Infrastructure | Demand (capital side) | Demand (capital side) continued |
|---|---|---|---|
| Parcel aggregation strategy (Juerg Kaeppeli/McKinsey & Company; Chris Larson/New Island Capital) | Center for Natural Capital Investing (Matt Arnold & Camilla Seth/JPMorgan Chase) | CDFIs/bridge financing for conservation (Pat Coady/Coady Diemar Partners; Logan Yonavjak/Yale FES) | Rationalizing tax districts to finance watershed conservation (Aileen Lee/Moore Foundation) |
| Green infrastructure for stormwater (Ricardo Bayon/EKO Asset Management; Todd Gartner/World Resources Institute) | Integration of environmental benefits into microfinance schemes (i.e. environmental mortgages) - (Josh Donlan/Advanced Conservation Strategies) | Virginia Water Quality Fund and Northern Virginia Green Infrastructure Fund (Pat Coady/Coady Diemar Partners) | OPIC financing (Jessica Matthews/Cambridge Associates) |
| Coastal biodiversity benefits alongside livelihood security to Chilean fishing cooperatives (Josh Donlan/Advanced Conservation Strategies) | Clean Water Futures (online crowdfunding marketplace) (Todd Gartner/World Resources Institute) | Adoption of index-based insurance and performance bond approaches to biodiversity conservation (Josh Donlan/Advanced Conservation Strategies) | Pooled capital in support of water-based restoration (Daniel Nees/Environmental Finance Center, University of Maryland) |
| Water quality trading - temperature credits (Todd Gartner/World Resources Institute; Joe Whitworth/The Freshwater Trust; Susan Phinney Silver/Packard Foundation) | Public Private Partnerships for ecosystem service benefits (Patrick Holmes & Ann Mills/USDA) | Investment fund to acquired development rights (Gene Duvernoy/Forterra) | PRI loan to launch Roundtable on Sustainable Biomaterials (Susan Phinney Silver/Packard Foundation) |
| RCW habitat deal (Kent Gilges/Conservation Forestry) | Massachusetts State Commission, large landscape initiative fund & task force (James Levitt/Harvard Forest; Lincoln Institute) | Revolving investment fund for urban land banking (Gene Duvernoy/Forterra) | PRI to EcoTrust Forests Fund II (Susan Phinney Silver/Packard Foundation) |
| Great Bear Rainforest (Richard Jeo/TNC Montana; Aileen Lee/Gordon and Betty Moore Foundation) | Credit facility to reduce environmental impacts (Melissa Moye/WWF) | Habitat exchanges (David Festa/EDF) | PRI to TNC for permanent water rights purchase from Mexico (Susan Phinney Silver/Packard Foundation) |
| Rotational grazing to increase ranching income (Taylor Jordan & Peter Kelly/Imprint Capital Advisors) | Use of public/private partnerships to reduce transaction costs and improve project efficiencies (Daniel Nees/Environmental Finance Center, University of Maryland) | Clean Water Carbon Fund (Todd Gartner/World Resources Institute) | Presidio National Park non-profit revenue bonds (Drummond Pike/Equilibrium Capital) |
| Enhancing ecosystem services through an ag investment program (Howard Kaplan/Farmvest Inc.) | Online broker-dealer that lowered minimum investments (Jennifer Pryce/Calvert Foundation) | Commingling patient capital fund (Fabian Huwyler/Credit Suisse) | Issue-based thematic investment initaitives (Jennifer Pryce/Calvert Foundation) |

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|---|---|---|---|
| Utilize proceeds from high quality carbon credits to finance a sustainable development organization (Richard Lawrence/Proyector Mirador Foundation) | Community investment note through traditional brokerage platform (Jennifer Pryce/Calvert Foundation) | Jurisdictional REDD+ fund (Michael Jenkins/Ecosystem Marketplace) | |
| | Assessing barriers to PRI capital deployment (Susan Phinney Silver/Packard Foundation; Peter Stein/Lyme Timber) | | Fisheries security (Eric Swanson/WWF-US) |
| Stewardship contracting on US National Forest Land (Aileen Lee/Gordon and Betty Moore Foundation) | Web-based national conservation finance clearing house (Tom Trinley/Donnelley Foundation) | Conservation Note (Charlotte Kaiser/TNC) | Decoupling conservation investments from returns (John Tobin/Credit Suisse) |
| Bifurcation of agricultural and recreational values in ranchland properties (Carl Palmer/Beartooth Capital) | Tejon Ranch conservation and land use agreement (Julie Turrini/Resources Law Group) | Social Impact Bond/Development Impact Bond (Justina Lai/Sonen Capital; Jennifer Morris/Conservation International; Kyung-Ah Park/Goldman Sachs; Stuart Davidson/Sonen Capital) | Biodiversity offset program for mining company (non-regulatory) (Ray Victurine/Wildlife Conservation Society) |
| Waussau, WI conservation easement transaction (Evan Smith/Conservation Fund) | Development of water and wastewater markets through improved state and local level policies (Ben Vitale/Equilibrium Capital) | Creation of a public-private salmon aquaculture innovation fund (Aileen Lee/Gordon and Betty Moore Foundation) | Grantmaking in supporting sustainable food production (Heather Wright/Gordon and Betty Moore Foundation) |
| PES for agroforestry in Uganda (Ray Victurine/Wildlife Conservation Society) | Conservation Accelerator program (Leigh Whelpton/Conservation Finance Network) | Lending for commercial development of recirculating aquaculture systems technology (Aileen Lee/Moore Foundation) | Regional or National revolving loan fund for wetland, habitat, stream mitigation (Logan Yonavjak/Yale FES) - could apply to Adam Davis' submission |
| Moss Creek watershed (Bettina von Hagen/Ecotrust Forest Management) | | | |

## Impressum

The Steering Committee and hosts of the workshop:


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