



2016 Natural Capital Symposium

DETAILED AGENDA

This document is organized by track. Please use the daily schedule to view sessions from each track that are running concurrently. An index of all contributors is provided at the end of this document.

FEATURED SPEAKERS AND PLENARY SESSIONS

Monday, March 21st (Day One)

8:30am-9:00am: Welcome & Introductions

SESSION LEAD: Mary Ruckelshaus, Managing Director, NatCap

9:00am-9:15am: What's in store: A preview of the Symposium

SESSION LEAD: Henry Borrebach, Program Manager for Outreach and Training, NatCap

9:15am-9:45am: Opening Conversation w/ NatCap Founders

MODERATOR: Mary Ruckelshaus

SPEAKERS: Steve Polasky, Professor of Ecological/Environmental Economics, University of Minnesota and Gretchen Daily, Professor of Biology and Senior fellow at the Woods Institute for the Environment, Stanford University

9:45am-10:00am: The science and practice of natural capital approaches: What are we learning?

SPEAKERS: Mary Ruckelshaus and Anne Guerry, Chief Strategy Officer and Lead Scientist, NatCap

10:00am-10:15am: Fast data, informed planning, and integrated collaboration in the NatCap platform

SPEAKER: Richard Sharp, Software Architect, NatCap

10:15am-10:35am: Keynote: "The perils of success: Is the conservation community ready for the era of sustainable development goals?"

SPEAKER: Heather Tallis, Acting Chief Scientist, The Nature Conservancy

10:35am-11:00am: Keynote Discussion

MODERATOR: Mary Ruckelshaus

PANEL: Heather Tallis, Gretchen Daily, Steve Polasky

11:30am-11:50am: Keynote: “Natural capital and climate change adaptation”

SPEAKER: Jessica Hellmann, Director, University of Minnesota’s Institute on the Environment

11:50am-12:10pm: Keynote: “Rubber, roads and rice: Helping countries plan sustainable land-use at scale”

SPEAKER: Kate Newman, Vice President for Forests and Freshwater Public Sector Initiatives, WWF

12:10pm-12:30pm: Keynote Discussion

MODERATOR: Emily McKenzie, Lead, Natural Capital, WWF

PANEL: Jessica Hellmann, Kate Newman

5:00pm-5:30pm: Plenary Talk: “Adventures in science communication: sharing the importance of nature with global audiences”

SPEAKER: Jon Foley, Executive Director, California Academy of Sciences

Tuesday, March 22nd (Day Two)
(Featured Speakers & Plenaries)

8:30am-9:00am: “Coffeehouse” Chat: “The importance of the private sector in catalyzing global sustainability”

As we get warmed up and ready for the day’s sessions, special guests will take the stage for informal conversations about their work and visions for the future. As you arrive at the venue, pour yourself a cup of coffee or tea and start the day with some (caffeine and) inspiration!

SPEAKER: Patrick Beary, Senior Corporate Engagement Advisor, The Nature Conservancy

LOCATION: Paul Brest East

4:00pm-5:00pm: Keynote: “Investing in nature: Taking it to scale”

SPEAKER: Mark Tercek, CEO and President, The Nature Conservancy

Wednesday, March 23rd (Day Three)

(Featured Speakers & Plenaries)

8:30am-9:00am: “Coffeehouse” Chat: “Personal reflections about the challenges of good decision making and a vision of Mozambique’s natural capital for future generations”

As we get warmed up and ready for the day’s sessions, special guests will take the stage for informal conversations about their work and visions for the future. As you arrive at the venue, pour yourself a cup of coffee or tea and start the day with some (caffeine and) inspiration!

SPEAKERS: Marcos Sapateiro, Jose Rafael, Sonia da Silveria, Alberto Macia, Sergio Malo, and Teresa Magalhaes, all from Mozambique, in conversation with Eoin Sinnot, WWF-Mozambique

LOCATION: Paul Brest East

1:30pm-2:00pm: Plenary Talk: “Forget your H-index, what is your box office?”

SPEAKER: Peter Kareiva, Director, Institute of the Environment and Sustainability, UCLA

4:00pm-5:30pm: Plenary Panel: Mental Health, Ecosystems, and Urban Planning

The Mental Health session will focus on the many ways in which nature experience influences psychological well-being, in both cognitive and emotional dimensions. Our esteemed speakers will present results from a variety of experimental approaches that, taken together, form an exciting, emerging knowledge foundation for psychological ecosystem services.

PRESENTERS:

- Marc Berman, Assistant Professor, Department of Psychology, University of Chicago
 - “Deconstructing nature and its benefits”
- Ben Wheeler, Senior Research Fellow, University of Exeter, Medical School
 - “Natural environments for population health and wellbeing: Longitudinal and spatial approaches”
- Ming Kuo, Associate Professor, Department of Natural Resources and Environmental Sciences, University of Illinois
 - “Greening as a public health measure: Dosage, active ingredients, and return on investment”
- Greg Bratman, Post-doctoral Scholar, School of Earth, Energy, and Environmental Sciences, Stanford University
 - “Environmental impacts on mood and cognitive function: The pathway of emotion regulation”

5:30pm-6:00pm: Closing Reflections

SPEAKERS: Mary Ruckleshaus and Gretchen Daily

TRAINING TRACK

Monday, March 21st (Day One)

1:30pm-3:00pm: T1) Getting Started with a Natural Capital Approach

LOCATION: CERAS 300

SESSION LEAD: Henry Borrebach

3:30pm-5:00pm: T2) Getting Started with InVEST

LOCATION: CERAS 300

SESSION LEAD: Stacie Wolny

Tuesday, March 22nd (Day Two)

9:00am-10:30am: T3) InVEST In-Depth

T3a) Overview of InVEST for Freshwater/Terrestrial (FWAT) Contexts

LOCATION: CERAS 300

SESSION LEAD: Perrine Hamel

T3b) Marine InVEST Overview and Model Deep-Dive

LOCATION: Jacobson-Sorensen Hall 123

SESSION LEAD: Gregg Verutes

11:00am-12:30pm: T4) InVEST In-Depth, Part II

T4a) Water Yield + Habitat Quality

LOCATION: CERAS 300

SESSION LEAD: Perrine Hamel

T4b) Habitat Risk Assessment

LOCATION: Jacobson-Sorensen Hall 123

SESSION LEAD: Katie Arkema

2:00pm-3:30pm: T5) InVEST In-Depth, Part III

T5a) Sediment + Nutrient Retention

LOCATION: CERAS 300

SESSION LEAD: Perrine Hamel

T5b) Recreation

LOCATION: Jacobson-Sorensen Hall 123

SESSION LEAD: Dave Fisher

Wednesday, March 23rd (Day Three)
(Training Track)

9:00am-10:30am: T6) Hands-On InVEST!

T6a) Hands-On: Freshwater and Terrestrial (FWAT) InVEST

LOCATION: CERAS 300

SESSION LEAD: Stacie Wolny

T6b) Hands-On: Coastal Vulnerability Assessment

LOCATION: Jacobson-Sorensen Hall 123

SESSION LEAD: Gregg Verutes

T6c) Hands-On: Developing Scenarios

LOCATION: Paul Brest Hall 382 (upstairs)

SESSION LEAD: Emily McKenzie

11:00am-12:30pm: T7) Hands-On: InVEST! Part II

T7a) Hands-on: FWAT InVEST (continued)

LOCATION: CERAS 300

SESSION LEAD: Stacie Wolny

T7b) Hands-on/Sandbox: Marine InVEST

LOCATION: Jacobson-Sorensen Hall 123

SESSION LEAD: Gregg Verutes

T7c) Hands-on: Scenarios (continued)

LOCATION: Paul Brest Hall 382 (upstairs)

SESSION LEAD: Nasser Olwero

2:00pm-3:30pm: T8) Bringing It All Together: Communicating Natural Capital Information

LOCATION: CERAS 300

SESSION LEAD: Stacey Solie

PATHWAYS TO IMPACT

Monday, March 21st (Day One)

P1) Managing agricultural landscapes to improve water quality and other ecosystem services.

TIME: 1:30pm-3:00pm

LOCATION: Paul Brest East

SESSION LEADS: Kris Johnson, Bonnie Keeler

Agriculture in the 21st century faces a stark challenge: society needs to meet the world's increasing demands for food, fuel, and fiber while also reducing impacts on natural ecosystems and the multiple valuable ecosystem services they provide. In the US, there is broad consensus that we need to reduce nutrient losses from agricultural systems, yet despite years of research and millions of dollars of investment in implementing improved practices, non-point source water quality problems persist around the country. Public and private institutions continually grapple with this problem, highlighting the need for rigorous information about how to balance tradeoffs between agricultural production, local and regional water quality, wildlife habitat, flood mitigation, and other valuable ecosystem services. This session will identify the key information gaps that could be filled by new ecosystem services science and highlight the pathways to implementation through which such new science could best inform decision-making in agricultural landscapes.

MODERATOR: Bonnie Keeler, Lead Scientist, NatCap

PRESENTERS:

- Lisa Schulte-Moore, Associate Professor, Natural Resource Ecology and Management, Iowa State University
 - “Who said prairie and corn don't mix? Strategic integration of native plants to improve ecosystem services from agriculture”
- Kris Johnson, Senior Scientist, The Nature Conservancy - North America Water
 - “Paying farmers to grow clean water: an analysis of the benefits of CRP lands in Indian Creek”
- Larry Clemens, Director, North American Agriculture Program, The Nature Conservancy
 - “Science, Sustainability, Supply Chains, OH MY!”
- Moira McDonald, Senior Program Officer, Walton Family Foundation
 - “Improving water quality in the Mississippi: how to move from demonstration to basin scale?”

P2) Methodological advances in economics for natural capital

TIME: 3:30pm-5:00pm

LOCATION: Paul Brest Hall

SESSION LEAD: Robert Griffin, Economist, NatCap

Speakers in this session will cover recent advances in economics and policy that work to integrate ecosystem services and natural capital into decision making at multiple scales.

PRESENTERS (P2):

- Jim Salzman, Donald Bren Distinguished Professor of Environmental Law, UC Santa Barbara
 - “Payments for ecosystem services: Past, present and future”
- Ken Bagstad, Research Economist, US Geological Survey
 - “Natural capital accounting: Bringing nature’s value into the national economic accounts”
- Eli Fenichel, Assistant Professor, Yale School of Forestry & Environmental Studies
 - “Measuring the value of natural capital for wealth accounting: From rhetoric to reality”
- Steve Polasky, Professor of Ecological/Environmental Economics, University of Minnesota
 - “Challenges to valuing natural capital”

Tuesday, March 22nd (Day Two) *(Pathways to Impact)*

P3) People matter! Social-ecological systems, resilience, and stakeholder engagement

TIME: 9:00am-10:30am

LOCATION: Paul Brest East

SESSION LEADS: Leah Bremer, Conservation Scientist, NatCap & Amy Rosenthal

Much of the work on ecosystem services and resilience focuses on the links between social and ecological systems, including how natural resource management decisions affect human well-being and vice versa. Incorporating ecosystem services and resilience considerations into decision making means incorporating knowledge on the links between social and ecological systems into a broader process of engagement. Working towards sustainable, resilient societies requires integrative approaches that bring together diverse stakeholders and incorporate different types of knowledge into decision making. This session will feature work that focuses on the process by which ecosystem services knowledge is brought into decisions, and how such processes can foster learning and adaptive capacity.

PRESENTERS:

- Amy Rosenthal, Program Officer, Tropical Andes, MacArthur Foundation
 - “Stakeholder engagement: Characteristics that determine success from the literature and ecosystem services case studies”
- Jan Cassin, Director, Water Initiative, Forest Trends
 - “Stakeholder engagement across three continents”
- Maria Theresa Vargas, Executive Director, Fundación Natura Bolivia
 - “Reciprocal watershed agreements: Building a stakeholder constituency for water conservation in the Andes”
- Adelle Thomas, Assistant Professor, School of Chemistry, Environmental & Life Sciences, The College of The Bahamas
 - “Stakeholder engagement in Andros, Bahamas, to inform long-term development planning”
- Nirmal Bhagabati, Lead Natural Capital Scientist, WWF and The Natural Capital Project
 - “Informing spatial planning and other decision contexts in Cambodia, Myanmar, Indonesia and beyond”

P4) Maximizing and measuring the impact of ecosystem services in decision making

TIME: 11:00am-12:30pm

LOCATION: Paul Brest East

SESSION LEAD: Adrian Vogl, Senior Scientist, NatCap

We believe that by engaging in an iterative science-policy process, decision makers will be more likely to consider ecosystem services in policy, and that this will ultimately result in better outcomes for nature and human well-being. There is a growing body of work highlighting how ecosystem service analyses can best inform policy, identify policy windows, and tailor engagements for maximal effectiveness. At the same time, practitioners in the field are implementing monitoring programs to identify impacts of policy decisions on ecosystem services and human well-being. In this session, we will discuss lessons learned from policy engagement, monitoring of outcomes, and how to build capacity for ecosystem service practitioners.

MODERATOR: Fernando Veiga, Latin America Water Security Manager, The Nature Conservancy and The Latin American Water Funds Partnership

PRESENTERS:

- Tomas Declercq, TEEB Country Studies, UNEP-TEEB
 - “Lessons learned from implementation of the TEEB framework in multiple countries”
- Luis Alberto Gonzales, former President of AQUAFONDO and The Nature Conservancy’s Peru country representative
 - “Achievements and challenges in incorporating ecosystem services into policy decisions: The case of water and AQUAFONDO in Lima, Peru”
- Stephen Posner, Policy Engagement Associate, COMPASS
 - “Measuring and maximizing the impact of boundary organizations”
- Laurent Mermet, Professor of Environmental Management, AgroParisTech
 - “The challenges of obtaining evidence on impacts to improve action: Teachings from the field of Policy Evaluation”

P5) Business perspectives on the natural capital agenda

TIME: 2:00pm-3:30pm

LOCATION: Paul Brest East

SESSION LEADS: Emily McKenzie, Lead – Natural Capital, WWF & Becky Chaplin-Kramer, Lead Scientist, NatCap

The private sector accounts for most of the production and consumption in almost every country, and the world’s major private sector organizations exceed all but the largest governments in financial resources and influence. Business decisions on investment, operations, and across supply chains have enormous impacts on natural capital. Ecosystem service science, tools, and approaches must therefore address priority questions facing businesses and support their decision-making to better manage impacts and dependencies on natural capital. This session will focus on the natural capital agenda from a private sector perspective. It will highlight gaps and recent advances in science, tools, and frameworks, as well as lessons from case studies where spatially explicit ecosystem service information is being used to improve decisions at multiple scales.

MODERATOR: Teresa Beck, Past President of American Stores Co.

PRESENTERS (P5):

- Jonathan Green, Post-doctoral Research Associate, Cambridge University and Cambridge Institute for Sustainability Leadership
 - "Managing the impacts and dependencies of business upon food, energy, water and the environment: What are the research priorities?"
- Joshua Bishop, National Manager – Markets, Sustainability and Business, WWF-Australia
 - "The Natural Capital Protocol: A standardized framework for business natural capital assessments to support better decision making"
- Carina Mueller, Sustainability Scientist, Unilever
 - "Assessment of natural capital to inform business decisions: A Unilever bioplastics use case"
- Derric Pennington, Lead Scientist, WWF-US
 - "Assessing the Role of Sustainability Standards to Mitigate Supply-Chain Risk: a case for sugarcane and natural capital"

Wednesday, March 23rd (Day Three) *(Pathways to Impact)*

P6) Sustainable development planning: Connecting natural capital to national development goals

TIME: 9:00am-10:30am

LOCATION: Paul Brest West

SESSION LEADS: Lisa Mandle, Senior Scientist, NatCap, and Nirmal Bhagabati

With the recent adoption of the Sustainable Development Goals and a growing interest in green economy approaches, an increasing number of countries are explicitly integrating natural capital into their development planning decisions. This demand for natural capital information has spurred advances in ecosystem service science and analytical approaches. This session brings together researchers, practitioners, policy experts, and government representatives from countries applying natural capital-based approaches to development planning in order to showcase examples where ecosystem services science is informing development policy and practice.

PRESENTERS:

- Sai Nay Mon Wyint, Green Economy Assistant, WWF-Myanmar
 - "Mapping Myanmar's natural capital to support sustainable development"
- Jose Rafael, Professor, Faculty of Geography, University Eduardo Mondlane, with Marcos Eugenio Sapateiro, Head of Department of Cooperation, Ministry of Land, Environment, and Rural Development, Mozambique
 - "Long road, small steps, big horizons"
- Brett Lashley, Program Manager at Office of the Prime Minister of the Commonwealth of the Bahamas
 - "A new approach to development planning in The Bahamas"
- Steve Schill, Senior Scientist, The Nature Conservancy's Caribbean Program
 - "Prioritization of hydrological ecosystem services for Gabon's national development plan"
- Hua Zheng, Professor, State Key Lab of Urban and Regional Ecology, Research Center for Eco-Environmental Sciences, Chinese Academy of Science
 - "Policy innovation of harmonizing ecosystem service conservation and human development in China"
- Ben Milligan, Senior Research Associate, Centre for Law and Environment, University College London
 - "Natural Capital and the 2030 Agenda for Sustainable Development"

P7) Bringing ecosystem services to the table: Case studies in regional planning, ecosystem service assessment, and policy engagement

TIME: 11:00am-12:30pm

LOCATION: Paul Brest West

SESSION LEADS: Spencer Wood, Senior Scientist, NatCap & Dave Fisher, Ecosystem Services Analyst, NatCap

This session features case studies in which information about ecosystem services has been used in a policy or planning process at a regional or local scale. These cases cover a multitude of services, geographies, and policy types.

PRESENTERS:

- Anthony Lehmann, Associate Professor, Institute for Environmental Sciences, University of Geneva
 - “Assessing ecosystem services with SWAT and InVEST in the Black Sea Catchment”
- Siyuan He, Fellow, Luc Hoffmann Institute and WWF
 - “Linking ecosystems to human well-being: China National Parks for People”
- John Quinn, Assistant Professor of Biology, Furman University
 - “Stakeholder-defined scenarios for future land use development in South Carolina”
- Barano Siswa Sulistyawan, Deputy Director of Conservation Science, WWF Indonesia
 - “InVEST from vision to actions: Cases in the RIMBA corridor landscape”
- Danielle Pieranunzi, Senior Program Coordinator, Lady Bird Johnson Wildflower Center
 - “The SITES® rating system: An incentive to protect and restore natural capital on land development projects”

P8) The Natural Capital Project-LEEP Partnership: Pathways to impact in the United Kingdom

TIME: 2:00pm-3:30pm

LOCATION: Paul Brest Hall

SESSION LEAD: Ian Bateman

This session, led by Ian Bateman from the University of Exeter’s new Land, Environment, Economics and Policy Institute (LEEP), will look at several recent successes in integrated and dynamic modeling, and their impacts on public policy.

PRESENTERS:

- Ian Bateman, Professor of Environmental Economics and Director of the Land, Environment, Economics and Policy Institute (LEEP), Exeter University
 - “LEEP: Restoring Natural Capital and Making Smarter Decisions”
- Karen Ellis, Chief Advisor on Economics and Development, WWF UK
 - “Natural capital in the UK Government’s new 25-year plan for nature – and learning from policy applications elsewhere”
- Amy Binner, Senior Lecturer, College of Social Sciences and International Studies, Exeter University
 - “Integrating natural science and economics: Designing optimal natural capital configurations”
- Brett Day, Professor of Environmental Economics and Director of the Land, Environment, Economics and Policy Institute (LEEP), Exeter University
 - “From natural capital research to policy tools”

LEARNING EXCHANGE

Monday, March 21st (Day One)

L1) Lightning Talks

TIME: 1:30pm-3:00pm

LOCATION: Paul Brest West

SESSION LEAD: Doug Denu

This session provides a venue for researchers and practitioners to share their diverse experiences and work with natural capital approaches. The session will consist of nine short presentations followed by small group breakout discussions on topics introduced during the lightning talks. A separate list of talk topics and abstracts will be available in person and online.

PRESENTERS:

- Ashley Pilipiszyn, Graduate Student, Graduate Institute of International and Development Studies, University of Geneva
- Yangfan Li, Associate Professor, College of the Environment and Ecology, Xiamen University
- Shang Chen, Senior Scientist, First Institute of Oceanography, State Oceanic Administration, China
- Seong Do Yun, Postdoctoral Research Associate, Yale School of Forestry & Environmental Studies
- Kirsten Oleson, Assistant Professor of Ecological Economics, Department of Natural Resources and Environmental Management, University of Hawaii-Manoa
- Mariana Ferreira, Head of Science Program, WWF-Brasil
- Chris Crawford, Project Manager, Sustainable Conservation
- Sarah Bergmann, Director, The Pollinator Pathway
- Benis Egoh, Researcher, Council for Scientific and Industrial Research, South Africa

L2) Implementing InVEST in New Contexts

Time: 3:30pm-5:00pm

Location: Jacobson-Sorensen Hall 123

Session Leads: Gregg Verutes and Nirmal Bhagabati

As InVEST continues to be deployed in new applications worldwide, it is being used to inform an ever-expanding range of decision contexts, including infrastructure, national development, and climate-smart planning. This session provides a venue for researchers and practitioners to present their experiences using InVEST within these and other contexts. *Note: there will be limited seating for this session

MODERATORS: Gregg Verutes, Geographer, NatCap and Nirmal Bhagabati, Lead Natural Capital Scientist, WWF-US

PRESENTERS (L2):

- James Snider, Vice President, Science, Research & Innovation, WWF Canada
 - “Identifying areas of future water risk in Canada using InVEST”
- Kristen Podalak, Ecologist, The Nature Conservancy
 - “Truckee River Water Fund: Additions to RIOS and new comparisons using InVEST”
- Miguel Pascual, Director, Centro Nacional Patagonico
 - “Evaluating biodiversity and ecosystem service goals for working landscapes in Argentina”

Tuesday, March 22nd (Day Two) *(Learning Exchange)*

L3) Biodiversity & Ecosystem Services

Time: 9:00am-10:30am

Location: Paul Brest West

Session Lead: Chase Mendenhall

In this session, we will discuss the design of spatial planning tools and supply chain management strategies that balance tradeoffs among extinction risk, agricultural production, carbon sequestration, water supply, and human well-being. We will highlight regional case studies where people, nature, and agriculture coexist in harmony. We will have a facilitated discussion between academic researchers, field practitioners, and other attendees on the coming advances in strategies and tools for improving the connections between biodiversity conservation and ecosystem services. Short presentations from featured presenters will seed various topics of conversation.

PRESENTERS:

- Tim Newbold, Post-doctoral scientist, Centre for Biodiversity and Environment Research, University College London
- Peter Hawthorne, Ecologist, University of Minnesota, Natural Capital Project
- Miguel Bugalho, Researcher, Centre for Applied Ecology, School of Agriculture, University of Lisbon and WWF
- Eddy Silva Naranjo, Coordinador Nacional del Programa Océanos y Costas, WWF-Ecuador

L4) Lessons Learned: Training, Teaching, and Capacity Building

Time: 11:00am-12:30pm

Location: Paul Brest West

Session Lead: Gregg Verutes

Building and strengthening capacity to apply ecosystem service approaches and tools is a key focal area for NatCap. In this session we will hear lessons learned from our community of practice as they talk about their efforts to educate people about nature’s value to people and to build the community’s capacity to measure, map, and value ecosystem services .

MODERATOR: Gregg Verutes, Science Education Lead, NatCap

CONFIRMED PRESENTERS (L4):

- Lisa Ingwall-King, Programme Officer, Ecosystem Assessment, United Nations Environment Programme World Conservation Monitoring Centre
 - “Using training to build capacity in site-scale ecosystem services assessments: Experiences from TESSA”
- Grégory Giuliani, Lecturer, Institute for Environmental Sciences, Faculty of Sciences, University of Geneva
 - “Discovering and accessing environmental data for The Natural Capital Project”
- Ellen Hines, Associate Director & Professor of Geography, Romberg Tiburon Center and Department of Geography and Environment, San Francisco State University
 - “Advising graduate students in applications of InVEST and other tools for marine habitat and mammal conservation”

L5) Experimental Tools and Research & Development

Time: 2:00pm-3:30pm

Location: Paul Brest West

Session Lead: James Douglass

Since its first release eight years ago, InVEST has evolved into a platform on which the next generation of ecosystem service analyses are being built. This session will demonstrate how NatCap software can lay the groundwork for building new and more complex analyses for real-world use cases, and showcase two experimental applications that take the successes of InVEST and apply them in novel ways for specific decision contexts.

PRESENTERS:

- James Douglass, Software Lead, Natural Capital Project
 - “NatCap software as infrastructure: Updates to InVEST, PyGeoprocessing, and enabling the next generation of ecosystem service analyses”
- Peter Hawthorne, Ecologist, University of Minnesota/Natural Capital Project
 - “ROOT: A new tool to quantify tradeoffs with ecosystem service optimization”
- Justin Johnson, Economist, University of Minnesota/Natural Capital Project
 - “MESH: A new tool that combines data creation, scenario generation, multiple InVEST models and reporting”

Wednesday, March 23rd (Day Three)
(Learning Exchange)

L6) What is the value of nature in the city?

Time: 9:00am-10:30am

Location: Paul Brest East

Session Lead: Bonnie Keeler

(L6) What is the role of natural capital in promoting sustainable, livable cities? This session will explore the evidence for green infrastructure, parks, and other vegetated spaces in providing valuable services to urban residents. Talks will be followed by a panel discussion highlighting frontiers in urban systems research and lessons learned from implementing nature-based solutions in cities around the world.

MODERATORS: Bonnie Keeler, Lead Scientist, Natural Capital Project, University of Minnesota & Peter Kareiva, Director, Institute for Environment and Sustainability, UCLA

PRESENTERS:

- Horacio Terraza, Lead Water and Sanitation Specialist, Inter-American Development Bank
 - “Sustainable cities and nature – Going beyond green infrastructure”
- Stephanie Pincetl, Director and Professor-in-Residence, California Center for Sustainable Communities at UCLA
 - “Beyond ecosystem services: Cities in the post-carbon age”
- Lacy Shelby, Principal Urban Designer, City of Minneapolis
 - “Nature as guide: using placemaking to connect people to urban nature”

L7) Natural Capital, Human Health, and the Environment

TIME: 11:00am-12:30pm

LOCATION: Paul Brest East

SESSION LEAD: Matt Bonds

A multidisciplinary panel of natural and social scientist will discuss the interface of human health through the lens of natural capital. We will explore role of the natural environment on interrelationships between economic productivity, nutrition and disease, across difference scales and population gradients. The panel will present some practical solutions that can leverage knowledge of the environment to benefit human health and economic productivity of the poor.

PRESENTERS:

- Kenneth Arrow, Professor of Economics and Operations Research, Emeritus and Health Policy Fellow, Stanford University
 - “Local Pollution: Air and Water, Benefits and Costs”
- Matt Bonds, Visiting Assistant Professor - Earth System Science, Stanford University
 - “Ecology of Poverty and Disease: From Theory to Practice”
- Grant Miller, Associate Professor of Medicine and Senior Fellow, Stanford Institute for Economic Policy Research, Stanford University
 - “Global Health, the Environment, and Behavior Change”
- Giulio De Leo, Senior Fellow, Stanford Woods Institute for the Environment, Stanford University
 - “The Enemy of My Enemy is My Friend: Discovering Novel Ecological Solutions to Fight Infectious Diseases of Poverty”
- Desiree LaBeaud, Associate Professor of Pediatrics, Lucile Salter Packard Children’s Hospital, Stanford University
 - “Vector-Borne Disease Risk: Environmental Influences on Health”

L8) Sustainable Development Planning: Connecting Natural Capital to National Development Goals

TIME: 2:00pm-3:30pm

LOCATION: Jacobson-Sorensen Hall 123

SESSION LEAD: Lisa Mandle, Nirmal Bhagabati

This session is an extension of the Pathways to Impact session on sustainable development planning (P2). In this Learning Exchange Session, case study representatives will provide insights into the technical dimensions of their work, which are enabling integration of natural capital information into sustainable development planning processes from The Bahamas, China, Myanmar, and beyond. Through presentations and discussion, panelists and session attendees together will explore cutting-edge approaches to natural capital assessments, identify priority areas for advancement and share lessons learned in communicating results to decision makers. *Note: there will be limited seating for this session

PRESENTERS:

- Matthew Ling, Ecosystem Assessments Programme Officer, United Nations Environment Programme World Conservation Monitoring Centre
 - “Operationalising the green economy concept”
- Stacie Wolny, GIS Analyst, Natural Capital Project
 - “Methods for mapping natural capital in Myanmar and Mozambique”
- Cong Li, Associate Professor, School of Economics and Finance, Xi’an Jiaotong University
 - “Multiple scale delivery of ecosystem services and management in China”
- Shenique Albury-Smith, Senior Policy Advisor, The Nature Conservancy, Caribbean Program
 - Mainstreaming Natural Capital in Development Strategies for Andros Island, Bahamas

Alphabetical Index of Presenters

First Name	Last Name	Session	Time	Location
Shenique	Albury-Smith	L8	3/23, 2:00pm	Jacobson-Sorensen Hall 123
Katie	Arkema	T4b	3/22, 11:00am	Jacobson-Sorensen Hall 123
Ken	Arrow	L7	3/23, 11:00am	Paul Brest Hall East
Ken	Bagstad	P2	3/21, 3:30pm	Paul Brest Hall East
Ian	Bateman	P8	3/23, 2:00pm	Paul Brest Hall
Patrick	Beary	Tuesday Coffeehouse	3/22, 8:30am	Paul Brest Hall East
Teresa	Beck	P5	3/22, 2:00pm	Paul Brest Hall East
Sarah	Bergmann	L1	3/21, 1:30pm	Paul Brest Hall West
Marc	Berman	Plenary Panel	3/23, 4:00pm	Paul Brest Hall
Nirmal	Bhagabati	P3	3/22, 9:00am	Paul Brest Hall East
Miguel	Bhugalho	L3	3/22, 9:00am	Paul Brest Hall East
Amy	Binner	P8	3/23, 2:00pm	Paul Brest Hall
Joshua	Bishop	P5	3/22, 2:00pm	Paul Brest Hall East
Matt	Bonds	L7	3/23, 11:00am	Paul Brest Hall East
Henry	Borrebach	Opening Plenary, T1	multiple	multiple
Greg	Bratman	Plenary Panel	3/23, 4:00pm	Paul Brest Hall
Jan	Cassin	P3	3/22, 9:00am	Paul Brest Hall East
Shang	Chen	L1	3/21, 1:30pm	Paul Brest Hall West
Larry	Clemens	P1	3/21, 1:30pm	Paul Brest Hall East
Chris	Crawford	L1	3/21, 1:30pm	Paul Brest Hall West
Sonia	da Silveria	Weds Coffeehouse	3/23, 8:30am	Paul Brest Hall East
Gretchen	Daily	Opening Plenary, Closing Reflections	multiple	Paul Brest Hall
Brett	Day	P8	3/23, 2:00pm	Paul Brest Hall
Giulio	De Leo	L7	3/23, 11:00am	Paul Brest Hall East
Tomas	Declerq	P4	3/22, 11:00am	Paul Brest Hall East
James	Douglass	L5	3/22, 2:00pm	Paul Brest Hall West
Benis	Egoh	L1	3/21, 1:30pm	Paul Brest Hall West
Karen	Ellis	P8	3/23, 2:00pm	Paul Brest Hall
Eli	Fenichel	P2	3/21, 3:30pm	Paul Brest Hall East
Mariana	Ferreira	L1	3/21, 1:30pm	Paul Brest Hall West
Dave	Fisher	T5b	3/22, 2:00pm	Jacobson-Sorensen Hall 123
Jon	Foley	Plenary Talk	3/21, 5:00pm	Paul Brest Hall
Luis Alberto	Gonzales	P4	3/22, 11:00am	Paul Brest Hall East
Jon	Green	P5	3/22, 2:00pm	Paul Brest Hall East
Giuliani	Gregory	L4	3/22, 11:00am	Paul Brest Hall West
Anne	Guerry	Opening Plenary	3/21, 8:30am	Paul Brest Hall
Perrine	Hamel	T3a-5a	3/22, 9am-3:30pm	CERAS 300
Peter	Hawthorne	L3, L5, T6c	multiple	multiple
Siyuan	He	P7	3/23, 11:00am	Paul Brest Hall West
Jessica	Hellmann	Keynote	3/21, 11:30am	Paul Brest Hall
Ellen	Hines	L4	3/22, 11:00am	Paul Brest Hall West
Lisa	Ingwall-King	L4	3/22, 11:00am	Paul Brest Hall West
Justin	Johnson	L5	3/22, 2:00pm	Paul Brest Hall West

First Name	Last Name	Session	Time	Location
Kris	Johnson	P1	3/21, 1:30pm	Paul Brest Hall East
Peter	Kareiva	Weds Plenary Talk, L6	multiple	multiple
Bonnie	Keeler	L6, P1	multiple	multiple
Ming	Kuo	Plenary Panel	3/23, 4:00pm	Paul Brest Hall
Desiree	LaBeaud	L7	3/23, 11:00am	Paul Brest Hall East
Brett	Lashley	P6	3/23, 9:00am	Paul Brest Hall West
Anthony	Lehmann	P7	3/23, 11:00am	Paul Brest Hall West
Yangfan	Li	L1	3/21, 1:30pm	Paul Brest Hall West
Cong	Li	L8	3/23, 2:00pm	Jacobson-Sorensen Hall 123
Matthew	Ling	L8	3/23, 2:00pm	Jacobson-Sorensen Hall 123
Alberto	Macia	Weds Coffeehouse	3/23, 8:30am	Paul Brest Hall East
Teresa	Magalhaes	Weds Coffeehouse	3/23, 8:30am	Paul Brest Hall East
Sergio	Malo	Weds Coffeehouse	3/23, 8:30am	Paul Brest Hall East
Moira	McDonald	P1	3/21, 1:30pm	Paul Brest Hall East
Emily	McKenzie	T6c	3/23, 9:00am	Paul Brest Conference Suite 382
Chase	Mendenhall	L3	3/22, 9:00am	Paul Brest Hall East
Laurent	Mermet	P4	3/22, 11:00am	Paul Brest Hall East
Grant	Miller	L7	3/23, 11:00am	Paul Brest Hall East
Ben	Milligan	P6	3/23, 9:00am	Paul Brest Hall West
Carina	Mueller	P5	3/22, 2:00pm	Paul Brest Hall East
Tim	Newbold	L3	3/22, 9:00am	Paul Brest Hall East
Kate	Newman	Keynote	3/21, 11:50am	Paul Brest Hall
Kirsten	Oleson	L1	3/21, 1:30pm	Paul Brest Hall West
Nasser	Olwero	T7c	3/23, 11:00am	Paul Brest Conference Suite 382
Miguel	Pascual	L2	3/21, 3:30pm	Jacobson-Sorensen Hall 123
Derric	Pennington	P5	3/22, 2:00pm	Paul Brest Hall East
Daniell	Pieranunzi	P7	3/23, 11:00am	Paul Brest Hall West
Ashley	Pilipiszyn	L1	3/21, 1:30pm	Paul Brest Hall West
Stephanie	Pincetl	L6	3/23, 9:00am	Paul Brest Hall East
Kristen	Podalak	L2	3/21, 3:30pm	Jacobson-Sorensen Hall 123
Steve	Polasky	Opening Plenary, P2	multiple	multiple
Steve	Posner	P4	3/22, 11:00am	Paul Brest Hall East
John	Quinn	P7	3/23, 11:00am	Paul Brest Hall West
Jose	Rafael	P6, Weds coffeehouse	multiple	multiple
Amy	Rosenthal	P3	3/22, 9:00am	Paul Brest Hall East
Mary	Ruckelshaus	Opening Plenary, Closing Reflections	multiple	Paul Brest Hall
Jim	Salzman	P2	3/21, 3:30pm	Paul Brest Hall East
Marcos Eugenio	Sapateiro	P6, Weds coffeehouse	multiple	multiple
Steve	Schill	P6	3/23, 9:00am	Paul Brest Hall West
Lisa	Schulte-Moore	P1	3/21, 1:30pm	Paul Brest Hall East
Lacy	Shelby	L6	3/23, 9:00am	Paul Brest Hall East
Eddy	Silva	L3	3/22, 9:00am	Paul Brest Hall East
Eoin	Sinnott	P6, Weds coffeehouse	multiple	multiple
James	Snider	L2	3/21, 3:30pm	Jacobson-Sorensen Hall 123
Stacey	Solie	T8	3/23, 2:00pm	CERAS 300
Barano Siswa	Sulistyawan	P7	3/23, 11:00am	Paul Brest Hall West

First Name	Last Name	Session	Time	Location
Heather	Tallis	Keynote	3/21, 10:15am	Paul Brest Hall
Mark	Tercek	Keynote	3/22, 4:00pm	Paul Brest Hall
Horacio	Terraza	L6	3/23, 9:00am	Paul Brest Hall East
Adelle	Thomas	P3	3/22, 9:00am	Paul Brest Hall East
Maria Theresa	Vargas	P3	3/22, 9:00am	Paul Brest Hall East
Fernando	Veiga	P4	3/22, 11:00am	Paul Brest Hall East
Gregg	Verutes	L2, L4, T3b, T6b-7b, T8	multiple	multiple
Ben	Wheeler	Plenary Panel	3/23, 4:00pm	Paul Brest Hall
Stacie	Wolny	T2, T6-7, L8	multiple	multiple
Sai Nay Mon	Wyint	P6	3/23, 9:00am	Paul Brest Hall West
Seong Do	Yun	L1	3/21, 1:30pm	Paul Brest Hall West
Hua	Zheng	P6	3/23, 9:00am	Paul Brest Hall West