



AMERICAN MUSEUM OF NATURAL HISTORY  
CENTER FOR BIODIVERSITY AND CONSERVATION

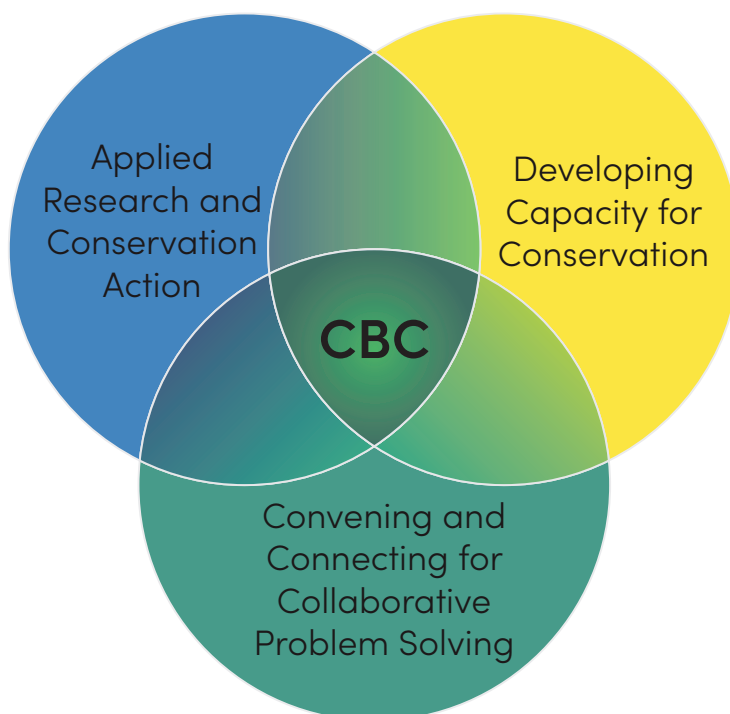
# Progress Report

Fall 2019



## What we do

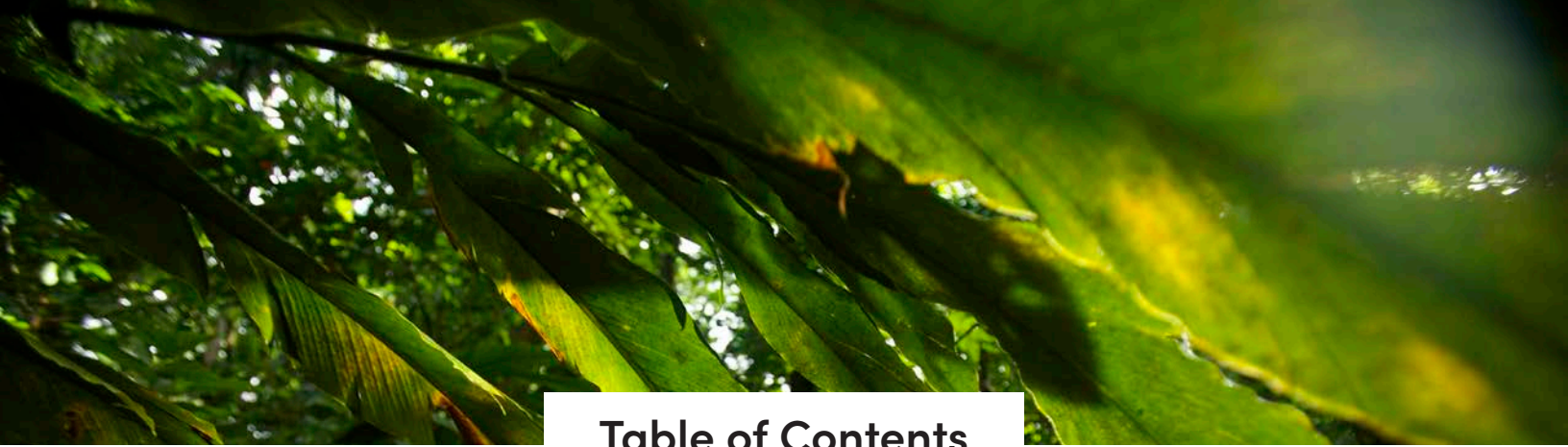
The Center for Biodiversity and Conservation (CBC) transforms knowledge—from diverse sources and perspectives—into conservation action.



We believe that understanding life on Earth and how to sustain it is the fundamental challenge of our time. The American Museum of Natural History is devoted to understanding our universe, our planet, and our role. Through the CBC, the Museum acts on that understanding and contributes to our collective endeavor of learning how to live with nature in equitable ways.

The challenge is both scientific and social, so we work to connect different strands of knowledge, connect people to knowledge, and connect people to each other, to find innovative and sustainable solutions. This report presents highlights of our most recent accomplishments.





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全球变化背景下亚洲生物多样性跨界保护与合作国际学术研讨会  
Cross-boundary Cooperation for Biodiversity Conservation in Asia Under  
Global Change International Symposium

29th July 2019  
Kaifeng • China



Research & Conservation

Conservation planning and monitoring

The CBC's biodiversity informatics experts develop new methods, software programs, and training resources to help manage, analyze, and interpret biological and environmental data from expeditions, natural history collections, databases, and remote sensing instruments. We are advancing and promoting the use of **machine learning**—a type of artificial intelligence that allows computer systems to learn and improve from experience—to better understand and conserve biodiversity.

In July, CBC Director of Biodiversity Informatics Research Dr. Mary Blair and collaborators co-organized a Symposium in Kaifeng City, China to exchange research, ideas, and best practices for cross-boundary cooperation for biodiversity conservation in Asia. The symposium was part of an innovative project that is advancing the conservation of key endangered species in the Mekong region—encompassing Southern China, Vietnam, and Laos—by increasing our understanding of how to manage transboundary species under a changing climate. The project contributes to capacity development through exchange, training, and new software, and is designed to directly inform management and policy in the region.

The symposium convened 92 attendees from 14 countries representing a range of institutions including research universities, government ministries and institutes, and national and international conservation NGOs.

Participant feedback was overwhelmingly positive. Approximately 22 percent of participants noted that they do not currently incorporate cross-boundary issues into their work, but 100 percent agreed that they “gained information or collaborations from this symposium that will increase [their] ability to incorporate cross-boundary issues into [their] work” and that “the symposium was a good opportunity to form new collaborations with people from different sectors of biodiversity and conservation work in Asia.” Participants are eager to follow-up on these identified opportunities, with immediate plans to form a new social network to exchange ideas, updates, funding opportunities, and data via easily accessible platform(s) that will foster stronger communication, collaboration, and support amongst participants in the long term.

This work was possible thanks to your support as well as a grant from the Prince Albert II of Monaco Foundation; the College of Environment and Planning at Henan University; Rutgers University; and Hanoi University of Science at Vietnam National University.



Dr. Blair and collaborators from the United States and Colombia are also leading a NASA-funded project to develop new software, Wallace, that improves estimates of species' distributions using machine-learning approaches. In June, the project team held a user consultation workshop in Bogotá, Colombia to capture users' feedback on their functioning prototype. Participants noted that the new "functionality is exciting" and 89 percent of participants agreed that the proposed new software will help to improve the quality of planning decisions and biodiversity reporting.

The team also held two bilingual Wallace training workshops over the summer: one in Hanoi, Vietnam in July, and another in Quito, Ecuador, in August. Each convened approximately 30 participants from diverse organizations. *There is high demand among conservation researchers and practitioners for more training workshops, and we are seeking funding for expanding our training offerings, including in collaboration with Museum curators and their field sites.*

Our signature species distribution modeling software, Maxent, continues to be used in conservation studies around the world—and has now been cited by more than 10,000 publications. Recently, external researchers have used Maxent to produce forecasts of coral reef responses to climate change and inform fire probability predictions in the Brazilian Amazon.

Using this tool, Dr. Blair collaborated with Dr. George Barrowclough (Associate Curator, Department of Ornithology) on a study proposing three new species within what is currently recognized as one species, *Buteo lineatus*—the North American red-shouldered hawk. With DNA sequences, they show that this group comprises three species, separated geographically into a western species, an eastern species north of Florida, and an eastern species in the Florida peninsula. In northern Florida, the two eastern species hybridize, which has made it difficult for researchers to distinguish them until now. Dr. Blair's species distribution modeling analysis, made possible with Maxent, showed that these three populations became geographically isolated from one another thousands of years ago, and that the current hybrid zone in Florida is a recent occurrence. Although the red-shouldered hawk is not currently considered endangered, understanding its distribution is the first step to achieving a more accurate assessment of their conservation status.





Photo: Jacob Macmillan

## Research & Conservation

# Primate conservation and wildlife trade in Southeast Asia

While Dr. Blair delved into birds for the red-shouldered hawk project, she also continues to conduct an active research program in primatology. We are delighted to report that with collaborators at the University of Texas at San Antonio, Dr. Blair has received a new grant from the National Science Foundation (NSF) to investigate the evolutionary history of galagos and lorises, which are elusive nocturnal primate species that have been understudied relative to other primate groups. The project is designed to use genomics to unlock the wealth of information stored in museum collections; Dr. Blair will generate genomic data from a large number of primate specimens to address fundamental questions about evolutionary relatedness, adaptations, and biogeography in these primate groups. The project has a high potential to identify cryptic species diversity and will also build a stronger scientific basis to inform the conservation of these neglected and endangered nocturnal primates.

Our long-term work in Southeast Asia, initiated in the 1990s by Jaffe Chief Conservation Scientist Dr. Eleanor Sterling, continues to bear fruit and steer conservation action. Dr. Minh Le from Vietnam's Hanoi University of Science, previously a CBC international graduate student fellow recently received a significant grant from the Vietnamese government to expand on our wildlife DNA forensic database to facilitate implementation of the new law. In addition, Dr. Blair's previous research on slow lorises has directly informed the development of new, formalized slow loris rehabilitation and release protocols at Vietnam's Endangered Primate Rescue Center. Finally, the United States Agency for International Development is using CBC research to plan a new round of project funding that will target wildlife trafficking in Vietnam.





## Research & Conservation

# Resilient biocultural landscapes: supporting effective management locally and globally

The CBC continues to illuminate the fundamental connections between people, their culture, and their environment in the Pacific, fostering more robust natural resource management in areas of high cultural and biological diversity. Jaffe Chief Conservation Scientist Dr. Eleanor Sterling and collaborators, including Biodiversity Scientist and Biocultural Specialist Pua'ala Pascua, other CBC specialists, and partners around the globe have produced valuable new data on the importance of biodiversity to food security and climate change adaptation, and developed new indicators for communities to track progress in these areas.

Our work on the ground in the Solomon Islands has entered its final phase, with CBC Research Scientist Dr. Joe McCarter completing his last visit to the communities in September. We will now focus on analyzing and publishing results from this project, while continuing to support our local partners, the Wildlife Conservation Society (WCS) and the Solomon Islands Community Conservation Partnership (SICCP). At one Solomon Islands site, Zaira, we continue to work with Zaira residents and our partners on an application to register the managed area as a protected area with the Solomon Islands Government. This community is currently experiencing many negative impacts due to nearby logging operations in the headwater area of key community rivers, including river sedimentation and flash flooding. Across the Solomon Islands, our work has served as a critical catalyst for planning and has given local conservation efforts momentum that will extend beyond the scope of this project.

Finally, the biocultural research team has been preparing further manuscripts on our work to date, to be submitted in the coming months. This project is funded by two grants from the National Science Foundation (NSF), as well as The Tiffany & Co. Foundation, Lynnette and Richard Jaffe, the Jaffe Family Foundation, and SNAPP: Science for Nature and People Partnership.

As the CBC's Solomon Islands project matures, and certain funding sources conclude their cycles, we are exploring new opportunities to collaborate and broaden the application of biocultural approaches to conservation in new contexts. CBC postdoctoral fellow Dr. Alex Moore has been awarded a prestigious NSF Postdoctoral Fellowship to pursue research on coastal wetland restoration in the Pacific Islands, namely Hawai'i and American Samoa, that will also continue to advance our biocultural research. Island systems are particularly vulnerable to climate change impacts and are often protected by coastal wetland ecosystems; Dr. Moore's research will combine scientific and cultural understandings of these habitats to inform conservation and restoration into the future. Dr. Moore's award will also advance the CBC's Inclusive Conservation Communities Initiative (ICON) by mentoring and teaching students in the Museum's high school education programs, broadening participation in conservation science. Notably, this award also makes it possible for Dr. Moore to extend her tenure at the CBC and the Museum for two additional years.





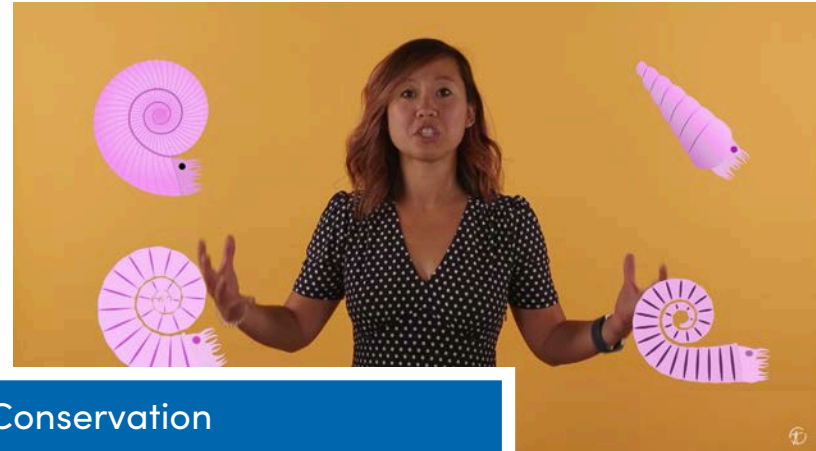
Research & Conservation  
**Flamingos in the Americas**

CBC Associate Director Dr. Felicity Arengo was among a select group of experts invited by the Interamerican Development Bank to evaluate plans to build a geothermal energy plant in a national reserve in Bolivia. The proposal would involve building a transmission line from the energy plant in the Reserva Nacional de Fauna Andina Eduardo Avaroa (REA) to a distribution substation 172 kilometers away in the town of San Cristobal. The REA encompasses several wetlands that are critical for three species of flamingos and represent the most important breeding site in the world for the Puna Flamingo (*Phoenicoparrus jamesi*). The review included two days of presentations and discussion and a two-day field trip to the energy plant and substation, during which Dr. Arengo and local biologists contributed their expertise on flamingo ecology and flamingo interactions with power lines. They contributed evidence on flamingo mortality rates following collisions with power lines and described common flight paths for flamingos dispersing to different wetlands, informing discussions of potential mitigation measures.

With her long-term partner in Argentina, Fundación Yuchan, Dr. Arengo also contributed comments on an environmental impact assessment for the expansion of lithium extraction in the Livent lithium mine in Salar de Hombre Muerto, at the request of the provincial natural resources agency (Secretaria de Ambiente) of Catamarca Province, Argentina. We will be monitoring the outcome of both consultations in coming months.

In the meantime, Dr. Arengo and her collaborators will continue to monitor flamingo populations and advance our understanding of the hydrology in this network of wetlands, and are seeking support for, and planning the sixth international simultaneous flamingo census in February 2020. This regional effort involves coordinating over 80 volunteers organized into 15 teams who cover more than 250 wetlands throughout the range of the Puna and Andean flamingos. These comprehensive censuses, which occur every five years, are critical for monitoring population trends and wetland conservation status.





Research & Conservation  
**Understanding critical marine species**

Biodiversity Scientist Dr. Samantha Cheng, who joined the CBC this spring, is leading a collaborative research project with the California Department of Fish and Wildlife and the University of California, Los Angeles to examine the population genetics of California market squid. Dr. Cheng’s work, derived from genetic analysis, suggests contrary to current assumption that there are two main spawning times, they actually spawn throughout the year, and this can be used to better inform when and where squid can be caught. These findings were considered in the recent revision of fishery management guidelines for fishery in the State of California, and she has also submitted a manuscript to *Conservation Genetics* for review. In addition, Dr. Cheng has conducted an in-depth review of the natural history of the squid genus *Sepioteuthis*—a commercially important species throughout the Pacific Ocean, the Indian Ocean, and the Red Sea—that has a number of cryptic and undescribed species. This work generates essential evidence on species differences that is needed to effectively manage these important marine resources.

Dr. Cheng was also featured in an engaging new video produced by the Museum for Cephalopod Week: [“The ABCs of Cephalopods.”](#)



## Research & Conservation

### Evidence for conservation decision-making

We are pleased to report that Colandr, a machine-learning application designed by Dr. Cheng and collaborators to facilitate the review of studies to identify valuable evidence for practice, is now hosted by the CBC and has been funded for another year. It now has over 1,000 users across the world. Evidence synthesis projects led by Dr. Cheng and her collaborators have recently begun, focused on social equity, community engagement, and the integration of human wellbeing into conservation planning. Dr. Cheng spoke at a number of events on the potential of technological advances, such as Colandr, to improve evidence synthesis, including an invited public keynote talk at the Dallas Festival of Books and Ideas.

Dr. Cheng has also been invited to advise several conservation, environmental management, and development practice and policy organizations that are seeking guidance on how evidence syntheses can help guide program prioritization and inform decision-making. Dr. Cheng is advising the World Wildlife Fund, the Gordon and Betty Moore Foundation, and Chemonics, among others.

- A collaborative team that includes Dr. Cheng recently published an in-depth evidence assessment of how forests, tenure, and poverty are interrelated—which has served as guidance for the World Bank’s Program on Forests.
- In another influential article, published in the *Annual Review of Environment and Resources*, Dr. Cheng and her collaborators explored the social impacts of four marine conservation interventions to understand the synergies, trade-offs, and equity of these impacts across domains of human wellbeing; they concluded that significant research gaps remain, including a lack of understanding of the impacts of marine conservation over time. In this publication, Dr. Cheng and her collaborators provide a number of recommendations to guide conservation practitioners.
- Leading a team of more than 20 multidisciplinary researchers, practitioners, and donors from the conservation and development space, Dr. Cheng wrote an editorial in *MongaBay* on the need to fundamentally revolutionize the role that communities play in conservation to one that is more equitable, inclusive, and empowered.





## Capacity Development

# The Network of Conservation Educators and Practitioners

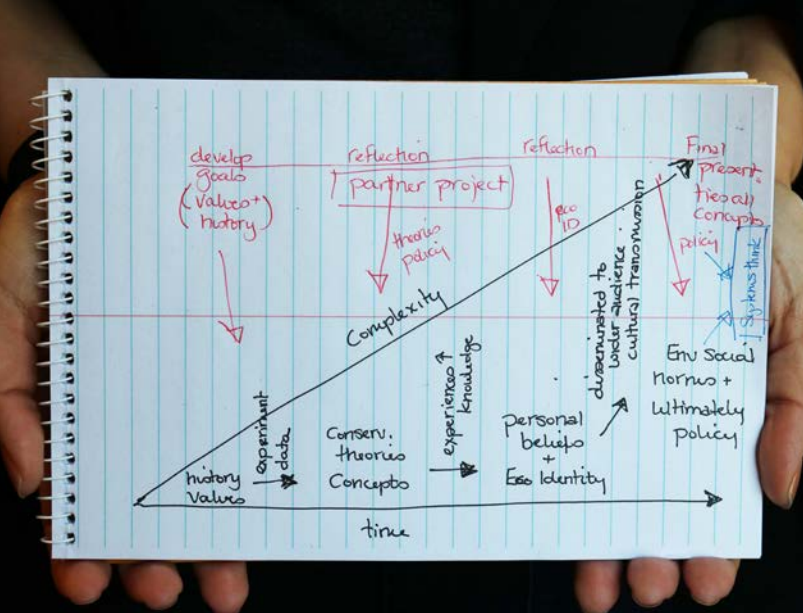
Our signature program dedicated to developing capacity for conservation, the Network of Conservation Educators and Practitioners (NCEP) continues to support teaching and lead training to improve conservation.

In June 2019, NCEP held its annual Conservation Teaching and Learning Studio, which convened 19 university-level conservation educators from across the United States, as well as Canada and the Philippines, as both educators and learners. The theme was “effective teaching by design.” Using the framework of course design, NCEP Manager Dr. Suzanne Macey and the entire NCEP team worked with participants to introduce and integrate scientific and active teaching techniques into their own teaching practices, as well as practice a variety of these methods. Time was also allocated toward presentations led by the participants themselves. We provided resources, feedback, and time for participants to work on small changes in teaching and course design that can have outsize results in student learning.

The Studio was another resounding success, receiving glowing reviews and an average rating of 4.7 out of five on questions evaluating content, organization, and design. One participant returned for her third NCEP Studio experience!

*“Amazing studio, I can only be so grateful for being part of it. I learned a lot but most of all I appreciated everyone’s input, their inspiration and actions. It has for sure filled me with hope and drive, ready to give my best. I hope this is only the start of many other projects with the Museum.”*

*Demand for these Studios continues to be high, reinforcing the importance of—and need for—teacher training and idea exchange in the conservation field. NCEP’s next Studio is scheduled for June 2020 and, given the difficulties for colleagues from certain regions to travel to the United States, we are also seeking new sources of support for offering Studios abroad. We received over 45 applications this year, and 76 percent percent of those offered a place accepted, though one of these professors (from Ekiti State University, Nigeria) was unable to secure a visa to travel to the United States. Most Studio participants covered their own travel and accommodation costs, but NCEP waived registration fees for two participants and provided seven participants with small but crucial grants for travel assistance.*



In July 2019, the NCEP team traveled to London to attend a gathering of experts from across the world, "[Capacity Building for Conservation](#)," hosted by the Zoological Society of London.

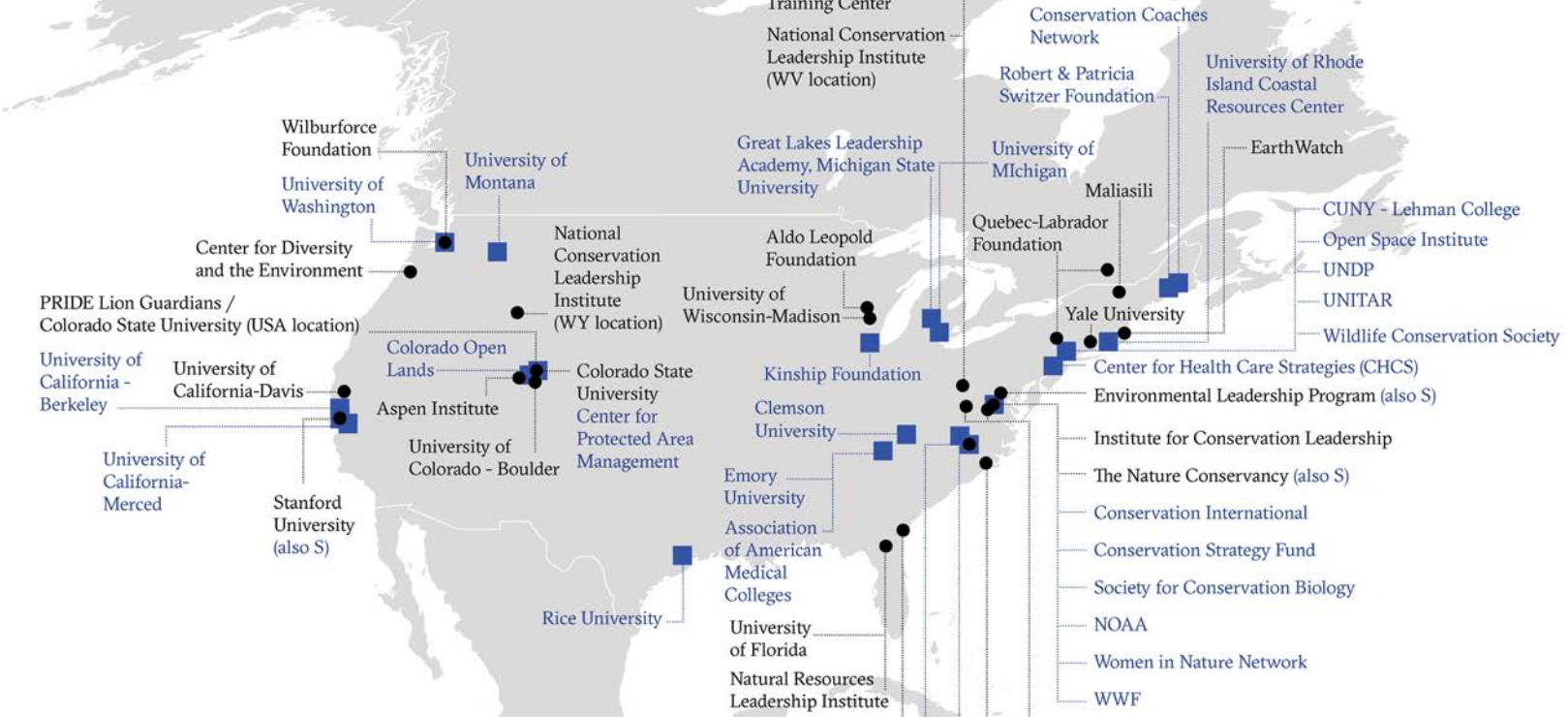
CBC Director Dr. Ana Porzecanski helped kick-off this global meeting by presenting a regional perspective of capacity building in South America and later co-hosted a "Word Café" event centered on networks and partnerships with CBC Capacity Development Specialist Kimberley Landrigan and Kiragu Mwangi from BirdLife International. At the meeting, we presented three posters on NCEP's results and impacts: "Building Conservation Capacity through Training and Collaboration," "Open Teaching and Training Materials for Conservation in the 21st Century," and "Opportunities for Training and Exchange for Conservation Educators: a 'Studio' Approach."

Dr. Sterling was on the conference's organizing committee as part of her leadership role in a World Commission on Protected Areas (WCPA) Working Group focused on global capacity-building. Together with CBC Biodiversity Specialist Amanda Sigouin, they presented a well-received invited talk on how to evaluate capacity development, and led two interactive "World Café" sessions on the same theme. Dr. Sterling was also invited to moderate a panel with donor representatives on defining and measuring the success of efforts in capacity development in conservation. As a next step we are completing a review of the available case studies of such efforts—numbering over a thousand studies—to distill those that provide the most valuable evidence, and building a directory of tools to guide practitioners and organizations wanting to do more robust evaluation.

This important conference was a valuable forum to share lessons from our work, and we continue to follow up on the ideas and potential collaborators we encountered.

Finally, November 2019 will mark the third anniversary of launching the new platform for NCEP's online teaching and learning module collection: <https://ncep.amnh.org>. Over those three years, the site has received more than 7,000 unique visitors from 163 countries, and over 38,000 page views. Within the first two years, NCEP module components were downloaded more than 11,500 times—but last year alone, the number of downloads nearly doubled, reaching almost 22,000. NCEP Production Coordinator Kristin Douglas and CBC Outreach Coordinator Hellin Brink have been working closely with the Museum's Department of Education and IT Department to further highlight NCEP educator resources and expand their reach as part of our strategic plan.





## Capacity Development

# Advancing capacity for conservation leadership

Drs. Porzecanski and Sterling led an influential study this summer on how to improve training and capacity development for conservation leadership, along with collaborators from Colorado State University and the Amazon Center for Environmental Education and Research. The study was commissioned and funded by the National Geographic Society, the Global Wildlife Conservation, and the Smithsonian Institution, and was designed to understand what sort of leadership capacity development is currently available for early and mid-career conservation professionals, identify needs and gaps, and inform the development of potential future initiatives. The study involved compiling information from more than 100 programs focusing primarily on training conducted in English through online and literature sources to produce a “Landscape Map” of relevant programs and initiatives. We conducted surveys targeting over 170 relevant actors including program staff, alumni, and partners, and led almost 60 interviews with individuals from specific programs.

Our analysis revealed a need to foster leaders with a diverse breadth of knowledge and skills, as well as significant depth in skill development. Given the complexities of conservation, the uncertainties typically found around conservation issues, and the rapid pace of change, the sector needs leaders who are self-aware, systems thinkers, adaptive learners, conveners, network builders, collaboration brokers, effective communicators, and innovators. We found a number of unmet or insufficiently met needs, including a need for long-term support of conservation leaders, especially at mid-levels of experience. In addition, we found a need for more robust evaluation of program outcomes, more cross-sectoral collaboration, and a deeper consideration of diversity, equity, inclusion, and justice in both the content and design of training programs. Finally, we identified several existing programs that stand out as implementing many of these best practices. We concluded that there is space for fruitful collaboration among existing programs as well as for new programs, and provided specific recommendations on possible areas of investment. The work was presented at two conferences in the United Kingdom this summer and is now being prepared for publication.



## Capacity Development

### Strengthening the future of conservation science

To encourage excellence, diversity, and inclusion in conservation, the CBC is devoted to promoting the recruitment, achievement, and success of students and early-career professionals from groups historically underrepresented in the field. We lead a number of activities to advance these goals, under our Inclusive Conservation Community Initiative (ICON). Since our last report we have trained or mentored 14 youth and early-career conservationists through our activities! We host interns from a diversity of programs, including the Museum's Science Research and Mentoring Program, the Research Experiences for Undergraduates, as well as external programs. In recent months these interns have worked on a variety of projects including investigating new methods for monitoring rare turtle species at Black Rock Forest, using machine learning for coyote habitat assessments in New York City, and on communication tools for conveying the threats to sea turtles, among others. Additionally, community ecologist and conservation biologist Dr. Manette Sandor has joined the CBC biodiversity informatics research team as a part of her Science Frontiers Fellowship at Columbia University. She will be pursuing research with us pairing species distribution and demographic models of communities to understand how climate change affects seed dispersal.

*"Working with you these past few months has been incredibly memorable, and I truly feel I have grown both personally and professionally under your guidance"*

- summer volunteer intern Emma Benson-Xu

Our mentoring efforts also continue to inspire success in former mentees. For example, NCEP intern Stefanie Siller has been appointed Columbia University Ecology, Evolution, and Environmental Biology Teaching Fellow for Columbia's Center for Teaching and Learning (CBC mentors: Kristin Douglas and Suzanne Macey), and Jason Hagani received the Walter Pitman Award through Columbia University Department of Earth and Environmental Studies, and was accepted into Columbia's Masters program in conservation biology (CBC mentor: Suzanne Macey).



The staff of the CBC continue to be seen as leaders in advancing equity, inclusion, and diversity in the field of conservation, and to participate in and catalyze important conversations. Dr. Moore was an invited panelist at “An Evening with 500 Queer Scientists, Elsevier and Cell,” where six scientists talked about navigating the daunting terrain of being different and how they found their calling despite—or because of—the challenges.

Dr. Sterling was an invited keynote speaker at the Cold Spring Harbor Laboratory Women in Science and Engineering Retreat; the organizers reported overwhelmingly positive feedback from participants about her talk on gender-based leadership for managing complexity.

Finally, Dr. Blair and Ned Horning (CBC Director for Applied Biological Informatics) were consulted by NASA Staff on the design of a potential funding solicitation from the agency on indigenous knowledge and remote sensing.





## Convening & Connecting SCCS-NY

The CBC hosted its 10th Student Conference on Conservation Science–New York (SCCS–NY) in early October, and it was another resounding success. It welcomed more than 280 participants over the course of three days, and featured 44 talks and 38 posters along with plenaries by two dynamic and inspiring conservation practitioners:

**Dekila Chungyalpa**, Director of the Loka Initiative at University of Wisconsin–Madison, spoke about the emergence and impact of faith–led environmental and climate movements around the world. This is a profoundly important strategy in addressing the root causes of biodiversity loss and climate change given that over 80 percent of the world’s human population subscribes to a faith, and the potential for the intersection of faith and ecology lead to large scale attitude and behavior change. Chungyalpa illustrated how the integration of spirituality with science allows these movements to apply the framework of resilience—ecological, sociological and psychological—to protect nature, to prepare their communities for climate impacts, and to heal and to bounce back despite the many challenges they face.

On the second day, Dr. **Martín Mendez**, Director for Southern Cone–Patagonia at the Wildlife Conservation Society spoke about collaboration and capacity building for conservation impact, presenting lessons from Southern South America. Through a discussion of his professional journey starting as a student of ecology and conservation carrying out original applied research, to helping design strategies for collaborative, regional conservation and for supporting the next generation of conservation practitioners, Dr. Mendez illustrated how building on knowledge, evidence, and collaboration can help us to respond to a rapidly changing environmental landscape.

On the evening of October 2, they were joined by **Dr. Madhur Anand** (Poet and Professor, Global Ecological Change and Sustainability Laboratory, School of Environmental Sciences, University of Guelph) for the 2019 Mack Lipkin Man and Nature Series Panel Discussion, “In the Spirit of Collaboration: voices from ecology, the arts, and faith–led approaches to nature conservation.” Dr. Porzecanski moderated this inspirational public panel discussion on how collaborations across ecology, the arts, and faith–led approaches can fuel nature conservation.





Convening & Connecting  
**Exploring the links between language, culture,  
and conservation**

In early June, CBC Biodiversity Scientist and Biocultural Specialist Pua’ala Pascua co-organized the first panel conducted entirely in the Hawaiian language in the history of the Hawai’i Conservation Conference. The panel, a registered event of the 2019 United Nations International Year of Indigenous Languages, celebrated the central role of the Hawaiian language and culture in solutions-based natural resource management. In a Hawai’i Public Radio news article, later picked up by the Associated Press, Ulalia Woodside, the executive director of the Nature Conservancy of Hawai’i, said the panel represents growth in the field.

“They are conservation professionals for whom the Hawaiian language, and the culture, and the worldview, is the way by which they approach their daily life and it’s changing conservation for the better,” Woodside said.

The session drew nearly 175 participants and attracted local media attention from television, radio, and social media news outlets, later sparking a highlight in USA Today’s round-up of “News from around our 50 states.” It received exceedingly positive feedback and has inspired further action by the Hawai’i Conservation Alliance, a consortium of all organizations and agencies working in natural resource management in the state of Hawai’i, and the lead organizers of the annual conference. Based on the success of the session, Pascua was also invited to participate in the Hawai’i Conservation Alliance Cultural Subcommittee.

The panel was recorded in full by a local Indigenous media outlet and was later made available online with English language closed captioning. A highlight segment is available at <https://oiwi.tv/2019-hcc/ka-olelo-o-ka-aina/>



Ms. Pascua and Dr. Sterling also led the planning and execution of an in-depth Indicator Workshop, held in Honolulu in September. The workshop was organized as a deep-dive exploration among a small group of seven practitioners who work on indicators in, with, by, and for Indigenous Peoples and local communities in Hawai'i and Canada. The workshop builds upon previous convenings led by the CBC on Indicators of Wellbeing in 2018 (<http://amnh.org/actiongroup>) and 2019 (<http://amnh.org/indicatorgathering>). Workshop discussions and activities supported participants in sharing, comparing, and contrasting place-based indicators across community organizations and decision-making scales.

This October, the CBC biocultural team held its inaugural webinar in what will be a biannual webinar series on Indicators of Wellbeing organized with, by, and for Indigenous Peoples and local communities. Over 50 participants from all over the world joined the interactive, exchange-focused session, which was intended as a virtual space for learning and exchange among practitioners who are actively using, or are interested in using, place-based monitoring and reporting indicators on wellbeing or related social-ecological metrics. A full recording of the webinar will be posted on the CBC's website. The webinar series was organized with support from The Christensen Fund and in collaboration with the World Commission on Protected Areas of the International Union for the Conservation of Nature (WCPA, IUCN).





## Convening & Connecting

# Guiding policy from local to global scales

As we work to advance conservation action and bridge local and global scales in conservation, we continue to connect with the international arena and share lessons from our work with global initiatives.

The CBC's biocultural team, led by Dr. Sterling, remains involved in ongoing global policy efforts, especially those related to the United Nations Convention on Biological Diversity (CBD), which is charting its agenda beyond 2020.

This work has important implications at the global scale because the indicators and benchmarks that global initiatives like the Conventional on Biological Diversity and the Sustainable Development Goals currently use to measure and incentivize progress towards sustainability can miss important connections between people and place—and even put them at risk. Therefore, in addition to supporting ongoing work on the ground, the project has begun working on two key strategic tasks. First, we are working with local partners to share our findings regionally, such as with the Palau National Marine Sanctuary and the Solomon Islands Environment and Conservation Division of the Ministry of Environment, Conservation, and Disaster Management, to inform their planning and reporting efforts. Second, we are providing guidance to national governments and regional funding bodies on how to set effective benchmarks. The CBC is part of a multi-partner group that is piloting and advancing a series of guidance documents on implementing locally and culturally attuned indicators in decision-making. The final product is anticipated this fall. Many global actors are interested in these guidance materials, including the Pacific Islands Forum Secretariat, Pacific Resilience Taskforce, and the United Nations Small Island Developing States (SIDS) Unit, all of whom are engaged in crafting conservation frameworks and guidance for the next decade.

This past spring, Pascua and Dr. Sterling provided remarks at a 2019 United Nations Permanent Forum on Indigenous Issues event entitled “Practical experiences linking indicators of cultural, biological, and linguistic diversity.” The presentation highlighted findings and ongoing work from the CBC’s biocultural team and its collaborators. Pascua and Dr. Sterling also co-organized an interactive session on biocultural indicators at the North American Dialogue (May 5–8, Montreal, Canada). Key takeaways and lessons learned from the interactive discussion fed into the Convention of Biological Diversity’s “North American Regional Declaration on Biocultural Diversity.” The Declaration provides a vision and a concrete set of actions to raise awareness of the importance of ensuring that a biological and cultural approach to indicators inform and contribute to the future work of the Convention in North America. The CBC has also been invited to contribute to discussions on IUCN’s strategic organizational engagement on projects and programmatic initiatives at the intersection of nature and culture.

We have also taken an important role as reviewers of and contributors to global assessments being produced by the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), an international body of experts that assesses the knowledge we have about the state of the planet’s biodiversity to guide decision-making. These assessment reports synthesize western scientific knowledge and Indigenous and local community knowledge, and Dr. Sterling is working with other specialists to ensure just and equitable representation and treatment of Indigenous and local knowledge. The CBC was invited to review several sections in the global assessment and, based on the work of the CBC and its partners, provided feedback focused on Indigenous Peoples and local communities. The CBC review included recommendations for the inclusion of several CBC and partner publications in the final synthesis. Multi-partner work and publications involving the CBC will also be highlighted in an additional assessment by IPBES on the Sustainable Use of Wild Species.

As a co-organizer of the Los Angeles Seafood Monitoring Project, a multi-stakeholder initiative to address seafood traceability challenges within a city-scape, Dr. Cheng and colleagues from UCLA and Loyola Marymount convened a workshop with city health officials, federal regulators, seafood wholesalers, restauranteurs, and scientists to discuss progress made in addressing seafood traceability challenges in Los Angeles. Insight from this group led to recommended changes for Food and Drug Administration (FDA) labeling rules for yellowtail (*Seriola* sp.) that more accurately reflect cultural and culinary realities in naming conventions to reduce mislabeling and improve the FDA’s ability to identify cases of egregious fraud and substitution.



Photo: Brian Gratwicke





## Convening & Connecting Events, exhibitions, and outreach

The CBC has supported several recent public programs at the Museum. Dr. Sterling discussed the importance of conservation work during a panel with award-winning Broadway director Rachel Chavkin, following the performance of excerpts of Ms. Chavkin’s “Moby Dick: in concert,” in the Museum’s iconic Milstein Hall of Ocean Life. Dr. Porzecanski and Dr. Sterling were part of a Museum team that conceived and hosted valuable public programs during 2019’s Climate Week, including “Beyond the Headlines: Understanding This Year’s Climate Report” featuring atmospheric scientist Dr. Katharine Hayhoe and Cynthia Scharf, senior strategy director at the Carnegie Climate Governance Initiative. The presentation was followed by a Q&A session moderated by Dr. Sterling. A second event, “How to Talk About Climate Change to Your Friends and Family,” featured Jennifer Marlon and Anthony Leiserowitz from the Yale Program for Climate Change Communication and focused on perceptions of climate change across the nation and how to become better climate change communicators. Drs. Porzecanski and Arengo have also supported the Museum’s new initiative to provide public programming in Spanish, and again participated in the design of the Museum’s Día de Muertos festival.

Dr. Porzecanski was an invited speaker at The Land Institute’s annual Prairie Festival in Salina, Kansas, where she spoke about the importance of connection in the CBC’s work, and provided examples of how we connect different strands of knowledge for conservation action. Other speakers featured in this year’s festival included renowned physicist Dr. Amory Lovins and climate activist and writer Bill McKibben.

As they travel around the United States, special exhibitions curated by CBC experts continue to reach new audiences. *Our Global Kitchen: Food, Nature, Culture* is currently on display at The Health Museum in Houston, Texas. A panel installation opened in July at the Mennonite Heritage Center in Lancaster, Pennsylvania and is open until January 2020. *¡Cuba!* will open at the Discovery Place in Charlotte, North Carolina in early November.