

Center for Biodiversity Outcomes Annual Report | 2017





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OUR MISSION AND VISION

Our mission is to enable the discoveries and

solutions needed to sustain Earth's biodiversity

in a time of rapid biophysical, institutional and cultural change.

We envision a world where the diversity of life on Earth

is valued and sustained for the benefit of all.

Letter from the directors

Earth is experiencing increasingly rapid environmental change with profound ecological and societal consequences. As unprecedented shifts in climates and ecosystems occur, anthropogenic stressors will continue to interact with ecological processes in ways that are poorly understood. Moreover, we face a persistent gap between the science of conservation and the application of this knowledge to policy and decision-making. Arguably, conservation science is not keeping pace with the increasing threats to, and loss of, biodiversity.

Preparing for these environmental changes requires new institutional models that not only cultivate novel insights and discoveries, but do so in the context of achieving conservation outcomes. Historically, academics have remained in ivory towers, NGOs have responded to crises and there has been little cross-fertilization of respective capacities. Though scientists, governments, businesses and communities are working to protect biodiversity and there are conservation successes, conservation is not making headway fast enough, or broadly enough, to stem the overall trend of biodiversity loss. This is not because we lack answers, but because we are not working together in ways that can effectively address biodiversity loss in a rapidly changing world.

Arizona State University's Center for Biodiversity Outcomes seeks to overcome the pervasive research-action gap in conservation science. By establishing and testing new models for academic engagement, we are hopeful that our efforts will produce evidence-based outcomes that may be more broadly applied. Thus, while we focus primarily on achieving outcomes to the most pressing environmental challenges of our time, we are also pioneering new models of engagement based on our experimental learning. We hope our foray into the unknown will yield insights for other scientists and decision-makers to think outside the conventional envelopes of historical states and resource-management practices.



A handwritten signature in black ink, appearing to read 'Leah Gerber'.

Leah Gerber
Founding Director



A handwritten signature in black ink, appearing to read 'Beth Polidoro'.

Beth Polidoro
Deputy Director



A handwritten signature in black ink, appearing to read 'Abigail York'.

Abigail York
Associate Director
of Social Science



A handwritten signature in black ink, appearing to read 'Samantha Cheng'.

Samantha Cheng
Associate Director
of Conservation
Evidence

Meet the team



Leadership



Leah Gerber
Founding Director



Beth Polidoro
Deputy Director



Abigail York
Associate
Director of Social
Science



Samantha Cheng
Associate Director
of Conservation
Evidence



Administrative Staff



Anahi Astudillo
Business
Operations
Specialist



Linda David
Administrative
Assistant



Amy Scoville-Weaver
Project Manager



ASU-Conservation International Professors of Practice



Jorge Ahumada



Dave Hole



Miroslav Honzak



Jack Kittinger



Rosimeiry Portela



M. Sanjayan



Percy Summers



Postdoctoral Research Associates



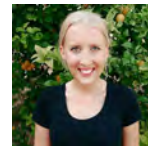
Elena Finkbeiner
ASU-Conservation
International
Fellow



Hongkai Gao
ASU-Earth
Genome Fellow



Kelly Gravuer
ASU-The Nature
Conservancy
Fellow



Krista Kempainen
ASU-Conservation
International Fellow



Penny Langhammer
Science for
Nature and People
Partnership



Graduate Student Workers



**Miranda
Bernard**



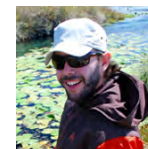
**Anita Hagy
Ferguson**



Micah Harp



**Maria del
Mar Mancha
Cisneros**



Jorge Ramos



**Leigh-Ann
Tower**

Our approach

The center has three dynamically integrated areas of operation: **education**, **research** and **decision-making**. Our research and programs fall in at the intersections of these spheres. We call this approach of bridging science producers with decision-makers our **actionable science model**. This model differentiates us and is at the heart of our operations.

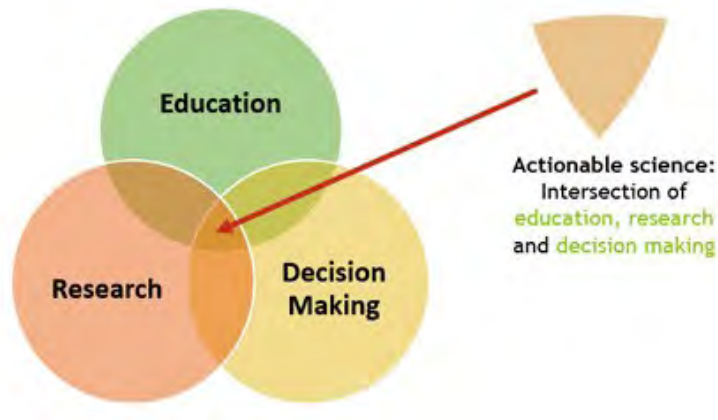


Figure 1. Areas of operation.

Faculty and graduate students work in collaboration with other academic institutions to frame problems into workable scientific research questions, to build teams of researchers and to apply existing scientific knowledge to the problems identified by practitioners. The research team works closely with practitioners at partner organizations to identify local stakeholders and to expand the collaborative teams which co-produce knowledge to address biodiversity problems. The center works with partners to train graduate students.

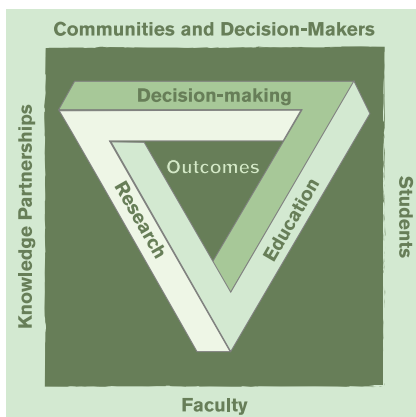
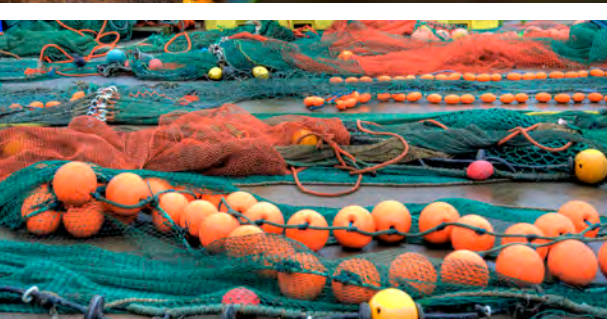
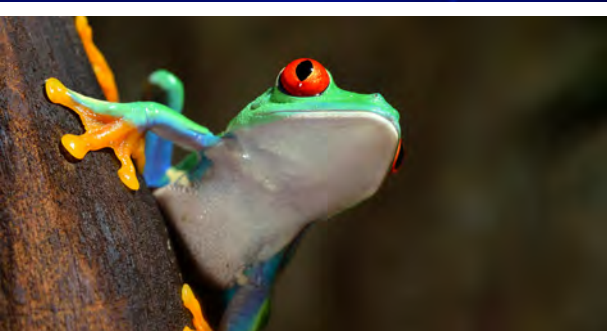
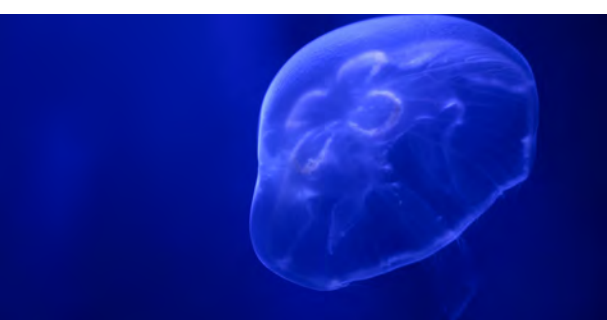


Figure 2. Actionable Science Model

We embrace the plurality of values that different communities can ascribe to biodiversity, ranging from the economic to the cultural, as well as the intrinsic value of biodiversity. This approach requires a multi-stakeholder and interdisciplinary approach to advance the biodiversity outcomes we seek to achieve.



Our strategic goals



Goal 1 - Intersection of education and research

Develop new educational strategies to increase citizen, student and institutional engagement in biodiversity conservation science research.



Goal 2 - Intersection of education and decision-making

Train future biodiversity conservation leaders and promote diverse scientific engagement in current decision-making.



Goal 3 - Intersection of research and decision-making

Provide decision-makers with applicable research and tools to better inform policies and transform conservation action, including the development of a shared language of understanding for progressive evidence-informed practice.



Goal 4 - Innovation in education, research and decision-making

Achieve an increase in the breadth of and applicability of biodiversity conservation science to advance conservation outcomes at local to global scales.

Our values

The center's values are aligned with those of ASU as a **New American University**, ASU's reconceptualization of 21st century higher education. This new concept focuses on the inclusion and success of all its students, as well as social responsibility to the communities ASU serves.



Access

- engagement of stakeholders and decision-makers
- inclusivity and diversity

Biodiversity conservation solutions require diversity of knowledge. To elevate biodiversity knowledge and its applicability, we champion educational inclusion and diversity at ASU. We collaborate with stakeholders and decision-makers from multiple knowledge bases including business, government, management, academia, community and non-profit sectors.



Impact

- focus on human and ecosystem wellbeing
- solution-oriented

We conduct solution-oriented research that can be applied in the real world for measurable and positive biodiversity outcomes. We work towards both localized change and global transformation in biodiversity thought and action.



Excellence

- innovation
- transdisciplinary

Successful biodiversity outcomes require change in the solutions we apply and in the way we collectively approach conservation. The center's novel approach to collaborative conservation inspires creative biodiversity solutions and collaborative processes. It has the potential to transform the way different sectors work together to drive biodiversity outcomes. Our reflective processes ensure that we continue to improve the way that we do conservation to achieve a broader impact.

For the **second year in a row**, the annual rankings by *U.S. News & World Report* name Arizona State the most innovative university in the nation.

#1 in the U.S. for innovation

#1 ASU #2 Stanford #3 MIT
— U.S. News & World Report, 2016 and 2017



Accomplishments at-a-glance



Partnerships

In September 2016, we entered into official memorandums of understanding with the following three organizations during the International Union for the Conservation of Nature (IUCN) World Conservation Congress: Planet at the Crossroads hosted in Honolulu, Hawai'i:

- IUCN Red List of Threatened Species
- World Business Council for Sustainable Development
- Conservation International



Events

- Organized and hosted three graduate workshops, three Hugh Hanson Seminars, four keynote presentations, attended at least six conferences and symposiums, supported two ASU-wide events, helped promote five external partner events and hosted three meet-and-greet sessions with guest speakers.



Funding

- Increased funding submissions by 40 percent from FY16.
- Secured National Science Foundation grant to research public value outcomes and actionable science in conservation biology research in partnership with the ASU Center for Organization Research and Design.
- Named by MacArthur Foundation among Top 200 problem solvers as the result of submitting a 100&Change grant proposal on a market-based approach to sustaining natural capital.



Media

- Triplicated the number of Twitter followers and almost doubled the number of website visitors.
- Hired a strategic communication consultant to revamp our messaging to more clearly communicate our value and differentiation.



HR and operations

- Welcomed Project Manager Amy Scoville-Weaver, Postdoctoral Research Associate Kelly Gravuer, Graduate Research Associate Anita Hagy Ferguson, Graduate Research Assistant Jorge Ramos, Graduate Service Assistants Micah Harp, Maria del Mar Mancha Cisneros and Miranda Bernard, as well as six ASU-CI professors of practice.
- Prepared to hire Associate Director of Conservation Evidence Samantha Cheng, as well as Postdoctoral Research Associates Elena Finkbeiner and Krista Kempainen.
- Secured permanent office space for all staff in Life Sciences, Wing A.

Partnerships



Conservation International works in more than 30 countries across six continents to create solutions that protect the nature people rely on for food, fresh water and livelihoods, through an innovative blend of science, policy and partnerships.



The ASU-CI knowledge partnership is designed to deliver transformative and measurable outcomes across three goals:

- protecting 1 million hectares of natural capital
- transitioning 100 million food producers to sustainable methods
- training the next generation of conservation leaders

As a key component of the partnership, ASU welcomed seven professors of practice from CI in March 2017 and named CI's new CEO M. Sanjayan Distinguished Professor of Practice. These scientists will devote time to teaching, mentoring and service initiatives at the university, all aligned toward advancing the three goals.

The professors of practice will collaborate with ASU faculty in spring 2018 to teach a cross-listed undergraduate and graduate course titled "Conservation in Practice." The goal of this course is to expose over 30 students from across disciplines to real-life CI scientists to better integrate academic theory of conservation with practical application. This unique course offering is the inaugural course for this partnership – one that offers students invaluable exposure to one of the leading conservation organizations in the world. The course was developed utilizing existing ASU core sustainability competencies. Each student will have a choice between six group assignment projects that will be evaluated at the end of the course.

To promote the partnership, a joint marketing strategy is being developed. A promotional video featuring M. Sanjayan was recorded during his visit in May 2017. The video was released in the summer. A joint-partnership website will be unveiled in fall 2017 to broadcast this unique partnership.

To achieve the goals of the partnership, a fundraising strategy was developed with the ASU Foundation. The professors of practice will submit additional collaborative proposals of at least \$1 million each year.



The Earth Genome is an organization that exists to facilitate the understanding and exchange of large and complex scientific data in support of decision-making that preserves the environment, while averting economic and social disruptions caused by mismanagement of natural resources.



The center has partnered with EG, the World Business Council for Sustainable Development and other corporate partners to create the first tool focused on revealing options for corporate decision-making on water use. This tool, called the Green Infrastructure Support Tool, known as GIST, was piloted in the Brazos River Basin in Texas. This tool has received overwhelmingly positive feedback and is expected to soon cover the United States, Mexico and Canada as it is rolled out globally. At present, we are expanding the tool to more broadly incorporate biodiversity and ecosystem services.

Hongkai Gao, one of the center's postdoctoral research associates, has been instrumental in the implementation of this project. The center is currently in early stages of incorporating biodiversity in GIST.



The International Union for the Conservation of Nature Red List of Threatened Species is a key globally recognized conservation tool providing information on the threats to species, their ecological requirements, geographic distribution and information on how to reduce or prevent extinctions.



The IUCN Red List of Threatened Species Partnership is a selective group of eleven partners around the globe. ASU is one of only three universities in the world to join forces with them to help guide the scope and application of scientific data. Through this partnership, we will devise strategies for species conservation and biodiversity decision-making.

As part of our partnership with IUCN Red List, the center engaged in a number of activities in FY17 designed to advance our collaboration. These included:

- Publishing center-supported results on the Status of Marine Biodiversity in the Eastern Central Atlantic, which was also accompanied by an international press release in January 2017 at the World Economic Forum in Davos, Switzerland.

- Formalizing collaboration with the IUCN Species Survival Commission Cetacean Specialist Group to update Red List assessments for whales.
- Receiving a PluS Alliance award to support a workshop on the development of marine, freshwater and terrestrial typologies for the new Red List of Ecosystems.
- Submitting a proposal to the Mitsubishi Corporation Foundation to support a Red List of Sonoran Desert Plants.
- Conducting a three-day IUCN National Red List training course for the government of Colombia in Santa Marta.

Beth Polidoro led a working group at the World Conservation Congress titled “Added Value and Collaborative Opportunities,” which explored how to foster engagement between IUCN and academic institutions.



The Natural Capital Coalition is a unique global multi-stakeholder collaboration that brings together leading initiatives and organizations to harmonize approaches to natural capital.



In June 2017, the center joined the other 250 NCC member organizations dedicated to protecting natural capital and ensuring sustainability.

As a member, the center will work with NCC to develop biodiversity and marine supplements to the Natural Capital Protocol. This partnership complements existing partnerships with the World Business Council for Sustainable Development and CI, informing a standardized approach to measuring natural capital. In FY18, a center-supported student will provide critical research work for the NCC by reviewing existing biodiversity assessment tools and identifying gaps and strengths.



The World Business Council on Sustainable Development is a global, CEO-led organization of more than 200 leading businesses and partners working together to accelerate the transition to a more sustainable world.



An internal governance plan was established and a mission and vision for the partnership was agreed on, in collaboration with ASU LightWorks and The Walton Sustainability Solutions Initiatives. The crux of the partnership will focus

on engaging ASU faculty with key WBCSD sustainability projects supported by member companies.

In collaboration with The Nature Conservancy, Monsanto, as well as Ernst and Young, the center led a panel discussion titled “Why companies should care about natural capital” at the WBCSD Green Biz event in February 2017 on Redefining Corporate Value. The panel was attended by approximately 75 participants, including 10 ASU student volunteers.

The center’s Project Manager Amy Scoville-Weaver represented ASU at the WBCSD Member Liaison Conference in Montreux, Switzerland. This attendance was meant to advance the partnership and prepare for the next WBCSD Council Member Meeting in October 2017 to take place in Mexico City. The center will continue to work with WBCSD to advance solutions in food sustainability, cities, clean energy and natural capital valuation.

Finally, the center provided expert insight and review for the WBCSD publication Roadmap for Reducing Ocean Waste. This publication was released in June 2017.

Work is on-going with WBCSD. This includes scoping out mutual areas for future engagement, notably within the Food and Land Use and Sustainable Cities workstreams. The center looks forward to representing ASU at the Council Member Meeting in Mexico City.



The White Tank Mountains Conservancy is a diverse coalition of partners working to inspire the public to conserve and enjoy the natural and cultural resources of the White Tank Mountains in Phoenix, Arizona.



In December 2016, the center helped establish a White Tank Mountains working group to explore the sustainable development innovations. Over the past year and a half, we have actively engaged with partners and stakeholders such as the Central Arizona Conservation Alliance to advance the goals of this partnership — including hosting and attending internal workshops and contributing administrative and logistical support to advancing strategic goals. We look forward to continuing our support for this important work in FY18.

Research, publications and reports

In November 2016, we hosted the **Third Annual Biodiversity Research Engagement Symposium** to develop and promote opportunities for research and collaborations with faculty. The event was attended by over 25 faculty and graduate students and continues to drive the center's research strategy.

Our five graduate research students conducted critical research to advance center affiliated research projects. Some of these research areas included:

- Reviewing existing challenges businesses face in measuring biodiversity impacts and dependences.
- Collaborating with The Sustainability Consortium and CI to explore and develop social capital indicators in fisheries supply chains.
- Working alongside center leadership to develop the highly-rated MacArthur 100&Change proposal.
- Exploring how urban development can foster ecological health through wildlife corridors in Arizona.



Representative publications

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Enquist, C., F. Davis, G. Garfin, **L.R Gerber**, S. Jackson, J. Littell, J. Tank, A. Terando, T. Wall. 2017. **Foundations of Translational Ecology.** *Frontiers in Ecology and the Environment*. 10: 541-550.

Grafeld, S., K. L. L. Oleson, L. Teneva, and **J. N. Kittinger**. 2017. **Follow that fish: Uncovering the hidden blue economy in coral reef fisheries.** *PLOS ONE*. 12.

Hallett, L., Morelli, TL, **LR. Gerber**, M. Moritz, M. Schwartz, N. Stephenson, J. Tank, M. Williamson, and C. Woodhouse. 2017. **Navigating translational ecology: Creating opportunities for scientist participation.** *Frontiers in Ecology and the Environment*. 10: 578-586.

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Kittinger, J. N., L. C. L.Teh, E. H. Allison, N. J. Bennett, L. B. Crowder, E. M. Finkbeiner, C. Hicks, C. G. Scarton, K. Nakamura, Y. Ota, J. Young, A. Alifano, A. Apel, A. Arbib, L. Bishop, M. Boyle, A. M. Cisneros-Montemayor, P. Hunter, E. Le Cornu, M. Levine, R. S. Jones, J. Z. Koehn, M. M. Redwood, J. G. Mason, F. Micheli, L. McClenachan, C. Opal, J. Peacey, S. H. Peckham, E. Schemmel, V. Solis-Rivera, W. Swartz and T. A. Wilhelm. 2017. **Committing to Socially Responsible Seafood**. *Science*. 356: 912-913.

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Onofri, L., Lange, G-M, **Portela, R.** and P.A.L.D. Nunes. 2016. **Valuing ecosystem services for improved national accounting: A pilot study from Madagascar**. *Ecosystem Services* 23: 116–126.

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Schoon M, **York AM**, Sullivan A, Baggio J. 2016. **The emergence of an environmental governance network: the case of the Arizona borderlands**. *Regional Environmental Change*. 17(3): 677-689.

Steenweg, R., M. Hebblewhite, R. Kays, **J. Ahumada**, J. T. Fisher, C. Burton, S. E. Townsend, C. Carbone, J. M. Rowcliffe, J. Whittington, J. Brodie, J. A. Royle, A. Switalski, A. P. Clevenger, N. Heim, and L. N. Rich. 2017. **Scaling-up camera traps: monitoring the planet's biodiversity with networks of remote sensors**. *Frontiers in Ecology and the Environment*. 15(1): 26-34.

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Sullivan A, **York AM**, White D, Hall S, Yabiku S. **De jure versus de facto institutions: Trust, information, and collective efforts to manage the invasive mile-a-minute weed (Mikania micrantha)**. *International Journal of the Commons*. 11(1).

Theile, T. and **L.R. Gerber**. 2017. **Closing Gaps through Innovative Financing: Creating Opportunities for the High Seas**. *Aquatic Conservation*. 27: 89-99.

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Representative reports

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Kittinger, J. N., et al. Nippon Foundation-Nereus Program. 2017. **Oceans and Sustainable Development Goals: Co-benefit, Climate Change and Social Equity**. Vancouver, p.28, www.nereusprogram.org.

Education and diversity

Fostering diversity within the conservation space is a core value of the center. We are pleased to continue collaborations with internal and external partners in engaging new minds and talent to arrive at innovative solutions for the future.



Graduate Certificate in Environmental Communication and Leadership

Students may now apply directly for consideration for the ECL Graduate Certificate launched in fall 2017. This certificate is designed to train graduate students in science-based fields to communicate their findings to public audiences and decision makers. The center is currently marketing this certificate across all campuses.



The Nature Conservancy NatureNet Fellowship

Our first NatureNet Fellow, Kelly Gravuer, joined the team in September 2016. During her two-year fellowship, Gravuer investigated how food production areas can assist in climate mitigation. Gravuer is mentored by Associate Professors Heather Throop and Hallie Eakin. In addition to her ambitious research plans, Gravuer is also leading cross-university short courses on science-policy and communication. Gravuer has made excellent progress establishing outcome-oriented research projects. Gravuer presented a seminar on microbial responses to climate change, a graduate workshop on science in policy and programs, engaged in activities on healthy soil ecosystems during Night of the Open Door and presented at the Third Annual Biodiversity Research Engagement Symposium. She also presented to government decision-makers during the California Department of Food and Agriculture Healthy Soils Summit.



Central Arizona Conservation Alliance Fellowship

The center continued to advance its partnership with CAZCA to establish an educational fellowship designed to provide financial support to graduate students and expose them to new networks and resources external to ASU. The award is eligible to one student in the amount of \$12,000. This year's fellow will conduct a social science survey to identify the key narratives stakeholders use when describing the Sonoran Desert. The results of this research will directly inform the Regional Open Space Plan. The student will be hired in spring 2018.



Broadening Diversity in Biodiversity Science

In partnership with the ASU Center for Gender Equity in Science and Technology, led by Associate Professor Kim Scott, we hosted the second annual workshop on equity and diversity in STEAM+H (science, technology, engineering, math, arts and health) careers. The workshop was attended by approximately 35 faculty from across the university. Some specific challenges

and opportunities faced by our faculty and students were addressed. A significant portion of the workshop was dedicated to discussing upcoming requests for grant proposals and potential collaborators. Monica H. Green, Professor of History at the School of Historical, Philosophical and Religious Studies, shared her reactions to the workshop:

I am personally grateful for the session yesterday and for your larger efforts at supporting diversity and inclusion in STEAM+H here at ASU. It's not only the students who need affirmation that we belong here!



ASU community events

The center had the opportunity to engage with community members of all ages during these two annually featured university-wide events:

Homecoming (October 22, 2016). Staff and volunteers interacted with over 100 visitors via fun and interactive games while sharing a few facts on sustainable palm oil production and our dependency on rain-forests for food, medicine and shelter. Visitors learned easy tips to become responsible consumers by positively impacting food production and species habitats. Future undergraduate and graduate students also learned about sustainability and life sciences programs available to them at ASU, as well as opportunities to collaborate with our center and partner organizations.

Nigh of the Open Door (February 25, 2017). The center got “in the dirt” while engaging children in two interactive activities about soil and ecosystems. The first activity gave kids the opportunity to pull plastic bugs out of a large bin of soil and win prizes for how many they caught. This activity was designed to teach children about the living things in soil and their very important role in supporting healthy ecosystems. The second activity was called Living Landscapes and asked children to match animals to their corresponding habitat, a marine ecosystem in the Galapagos Islands and Yellowstone National Park. Prizes awarded included (fake) insects and snakes, as well as erasers and reptile-themed stickers. Project Manager Amy Scoville-Weaver shared her reactions:

It is so wonderful seeing children learn about the wonders of the world, not only surrounding them but also the world beneath their feet. We had over 500 prizes and we gave out just about all of them! [The kids] loved it.

→ Faculty engagement

Because innovative solutions require diverse perspectives, the center partners with a variety of faculty from across the university to conduct research that sheds light on biodiversity conservation issues. In FY16, we focused on increasing the number of faculty affiliates—which we successfully did by 34 percent (over 105 faculty affiliates).

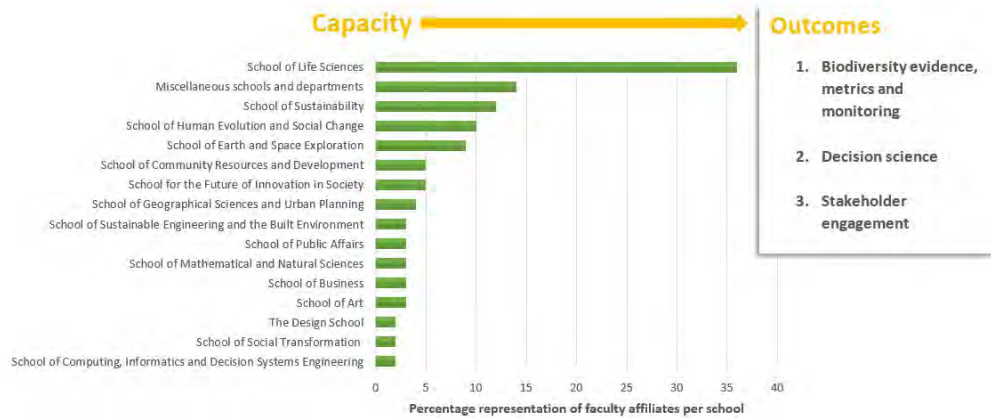


Figure 3. Faculty affiliates representation and key engagement areas.

In FY17, our focus was on cultivating the quality of existing relationships with affiliated faculty to enhance our research portfolio and connect them to our external partners. For example, in March 2017, the ASU-Conservation International professors of practice had over 70 faculty meetings during the March 2017 workshop and guest lectured in seven different classes in FY17 for a mix of center affiliated and non-affiliated faculty.

Additionally, the center held a networking coffee for Hugh Possingham, Chief Scientist for The Nature Conservancy, attended by approximately 25 center faculty affiliates.

To collect important feedback from our faculty affiliates on how best to collaborate in advancing our research, programmatic and education agendas, a survey was developed to solicit feedback and collate future suggestions. The survey will be launched in 2018 and will inform our strategy moving forward.

→ Student engagement

Since the center was founded in 2015, we have completed 24 student hires to work in research, administrative and programmatic initiatives, providing hands-on experience and the opportunity to hone transferable skills, network with professionals in their fields and gain a competitive advantage for employment.



Figure 4. Student workers representation by school, FY15-FY17.

In FY17, one of our PhD student workers, Jorge Ramos, secured a position as the new Manager for the Oceans and Climate team inside Conservation International in Washington, D.C. Before leaving ASU, he shared an open letter with our center staff:

Dear CBO team:

You really never know what a new door that opens up in your life might lead to. Literally, that was the case with me and School of Life Sciences professor, Dr. Leah Gerber. Our office shared a hallway in LSA and we would always say hi to each other, sometimes even in Spanish. When the new Center for Biodiversity Outcomes started, their door opened I literally next to my door. Within a year, I was walking through that same door as a CBO team member as a research assistant to help the center with outreach and education activities, and preparing scientific background for proposals.

The short amount of time I worked with CBO was for sure an eye opening and incredible experience! Compared to the traditional (or I guess expected?) track of a PhD student, I had to be present in staff meetings that had to do with the strategy of the Center (e.g. developing mission and vision statements), setting up work plans, contributing to many proposals of up to \$100 million, acquiring knowledge on current topics such as Sustainable Development Goals, Natural Capital, etc. I got to work with partners such as International Union for the Conservation of Nature and the United Nations. Even the use of my social media skills turned out to be a key component of promoting and communicating CBO's many accomplishments.

In addition to my scientific background in wetland ecosystem ecology, greenhouse gas emissions and the outreach experience I acquired

during my PhD years, my time with CBO enhanced my job prospects in many ways. To my new employer, my time with CBO probably showed that I was not only able to work individually and independently, but also as part of a team. It showed that I would not have to create and design every idea or project, but that I could contribute to others' ideas and projects with my own strength and skills. It also showed that I am able to respect and work with colleagues from diverse scientific and cultural backgrounds, personalities, and time availability—just like in the real world. Lastly, it was through this job that I had to interact with many people from many different places. One of those people happened to be one of the first contacts that encouraged me to apply to my current job at Conservation International.



PhD student Jorge Ramos walks the graduation stage. Photo credits: Sandra Leander, Manager, Media Relations and Marketing, School of Life Sciences.

Now, I serve as the new manager of the Oceans and Climate team inside the Center for Oceans at Conservation International in Washington, D.C. I am in charge of managing the Blue Carbon Initiative, leading the International Blue Carbon Scientific Working Group, and globally supporting both coastal adaptation and mitigation projects in the Americas division. This job combines both my technical and scientific expertise with my passion to communicate science, especially in Latin America!

So, next time a door opens in your life, literally or figuratively, walk through it and at least say hi to the person on the other side. The door won't shut behind you, feel free to walk out if you don't feel comfortable. Just remember, you never know, it might lead you in the next awesome chapter of your life.

Thanks Linda, Anahi, Amy, Anita, Beth, Abby, and Leah for the valuable experience at CBO and wish you much success!

Listo!
Jorge

Decision-making

As a science-driven center, our work is guided by academic inquiry and innovation across disciplines. We use our expertise in biodiversity to craft and inform a host of tools designed to guide decision makers working in the public, private and nonprofit sectors.



SESYNC science team leads efforts to increase transparency in endangered species recovery

With support from the National Socio-Environmental Synthesis Center, or SESYNC, the center developed a decision tool for the United States Fish and Wildlife Service to allocate recovery funds for recovering endangered species. As funding priorities shift away from endangered species conservation, this tool is meant to assist decision-makers in planning for future conservation efforts and create revised guidelines for species recovery. The tool was presented for initial feedback to senior administrators from USFWS in November 2016 and will be finalized with a press briefing and policy forum in late 2017.



SNAPP ecosystem services in Key Biodiversity Areas

Leading a stakeholder workshop on human wellbeing and ecosystem services in Key Biodiversity Areas in Myanmar as part of a Science for Nature and People Partnership working group, Founding Director Leah Gerber traveled to Myanmar in April with consultant Penny Langhammer to develop a framework for documenting, measuring and valuing ecosystem services. Gerber described the potential of this national conservation strategy for Myanmar in the following words:



We have a **unique window** to achieve sustainable development in Myanmar and are hopeful this work will **ensure effective management and conservation of Myanmar's diverse ecosystems and associated natural capital.**



Tackling wildlife poaching in South Africa

A team of scholars from ASU traveled to South Africa to establish a joint project with the University of Johannesburg. Founding Director Leah Gerber and Assistant Professor from the School of Sustainability, Michael Schoon, spearheaded the project in collaboration with ASU Decision Theater. This project will employ visualization and data technology to prevent poaching in game reserves.

Marketing and communication



Media coverage (biodiversity.asu.edu/news)

External media

Accolades

- 100&Change: A clarion call for Arizona State University's researchers (MacArthur Foundation)
- Dr. Gerber named Fellow of Ecological Society of America (Ecological Society of America)
- CBO Distinguished Professor of Practice named new CEO of Conservation International (CI press release)

Center initiatives and partnerships

- ASU conservation partnership adds new professors to team (The State Press)
- How a math formula could decide fate of endangered U.S. species (Reuters)

Commentary

- Commentary: Is the Endangered Species Act facing extinction? (The Christian Science Monitor)
- Early career ecologists: Why engage the business sector (Ecological Society of America)
- It's time to let certain animals go extinct (Outside)

ASU Now

Affiliated projects

- A partnership in plan biology and conservation
- Conserving a wealth of diversity: The dry tropical forests of Latin America

Center initiatives and partnerships

- ASU at the forefront of global biodiversity policy
- ASU, Conservation International team up to protect biodiversity
- ASU graduate launches career with dream job in conservation
- ASU partnerships strengthen global biodiversity conservation efforts
- Conservation, public management scholars collaborate to enhance science outcomes
- Q&A: Giraffe numbers decline, but should we stick our necks out?
- Sustainability Solutions Festival to gather business, education and NGO leaders

Selected center website news

Affiliated projects

- Improving the health of the Ravi River, Pakistan
- Help save the clown frog

Center initiatives and partnerships

- ASU scientists lead cost-effective water conservation efforts
- A tool to save species
- Ecuador: A guide for multi-stakeholder biodiversity conservation
- Enhanced categorization of species aiding conservation efforts
- Joining forces with the Natural Capital Coalition
- Myanmar at a turning point for natural capital and human wellbeing (Thought Leader Series)
- Supporting sustainable development in Myanmar
- Tackling wildlife poaching in South Africa

Commentary

- On the topic of strategic prioritization, or 'species triage'



Social Media (@BiodiversityASU)

By close of FY16, the center had 168 Twitter followers. In FY17, we more than tripled that number. The number of impressions, that is the number of times users saw our Tweets, increased to 230,730. That is a 92.4 percent increase from FY16 (119,902). 290 Tweets were published in FY17, an average



of 24 Tweets per month. The center's Twitter profile account received 11,585 visits and was mentioned 232 times.

The center's average engagement, Tweets that actually generate interaction or replies from other users, was 1.3 percent. This rate is considered highly effective based on various social media reports, such as the Rival IQ's 2017 Social Media Benchmark Report which lists engagement rates across all industries as 0.05 percent (0.051 percent for nonprofits and 0.052 percent for higher education).



Website (biodiversity.asu.edu)

As illustrated in the table below, the website traffic grew considerably this fiscal year. The number of visitors increased 92 percent from FY16. Naturally, the number of sessions, that is the number of times the site was visited, grew by 83 percent from FY16.



Figure 5. Website traffic comparison between FY16 and FY17.

The number of pages seen per session decreased from 3.51 to 2.36 in FY17. The average session duration also decreased from 00:03:45 to 00:02:16 minutes. This means less pages were visited and visitors spent less time looking at the site. However, this is not necessarily bad news as it could reflect improved content that is delivered in a more concise manner.

The table below provides a snapshot of the most common channels or traffic sources that lead visitors to our website:

Channels	% of sessions	# of sessions	Bounce rate
			Visitors who leave site after viewing only one page
Organic search Accessed via search engine results due to relevance of search terms (not ad campaigns)	55.9 %	4,595	64%
Direct Direct access to site	31%	2,554	51.45%
Social Access via social media	8.9%	730	47.67%
Referral Access via hyperlink on a different site	4.2%	347	38.90%
Email Access via hyperlink contained in an email	0.01%	1	0.00%

Table 1. Most common channels leading visitors to the center's website.

Other quick website stats for FY17:

70.7 percent new visitors

19,437 pages viewed

62.98 visitors access site using a computer

585 average monthly visitors

Mon- Thur, 6-11 a.m. most popular days and times

October most popular month

Tempe, Phoenix, Mumbai most popular visitors cities

USA, India, Philippines most popular visitors countries



Communication strategy

The center hired Robert Lalasz, independent communication strategist consultant, in late FY17. Lalasz is working with the team to revamp the center's messaging so it more clearly communicates its value and differentiation to potential funders, corporate, academic and NGO partners, researchers and the general public. These efforts promise to enhance the center's positioning as a global leader in biodiversity conservation science.

Lalasz is the founder and principal consultant of Science + History Communications, a firm specialized in helping research-driven organizations translate and disseminate their research and initiatives while providing communications training to professionals in this field. Prior to managing his own firm, Lalasz served as the founding director of science communications for The Nature Conservancy, a position he created in 2010 after four years working as TNC's associate director of digital marketing.

Events



Graduate student workshops

Conversations with Dr. Possingham, TNC Chief Scientist • February 20, 2017

Hugh Possingham discussed various topics with ASU graduate students ranging from career advice to conservation policy. Possingham leads global, science-based conservation efforts in his role as Chief Scientist of The Nature Conservancy.

Science in policy and programs • February 22, 2017

Through hands-on exercises, NatureNet Science Fellow Kelly Gravuer met with students to explore challenges and opportunities for applying scientific research results to inform government policy and programs. Perspectives from scientists working with government agencies and legislative offices (primarily at the state level) were presented.

ASU-CI professors of practice • March 15, 2017

Each of the six ASU-Conservation International professors of practice presented on their respective areas of expertise, including sustainable fisheries, government decision-making, corporate sustainable development and rainforest biodiversity conservation. Students had a chance to ask for career advice and explore future opportunities for mentorship by the professors.



Hugh Hanson Seminars (sponsored by the School of Life Sciences)

Organismal adaptation to climate and adaptation by humans to climate change • September 28, 2016

Jessica Hellmann, Director of the Institute on the Environment and Professor in the Ecology, Evolution and Behavior Department at the University of Minnesota, presented her research on environmental responses to climate and human adaptation to climate change. Hellman provided details on genetic variances of species that allow different tolerance levels to climate change and explained how this research is informing management strategies.

Microbial responses to climate change • February 23, 2017

NatureNet Science Fellow Kelly Gravuer presented her research on microbial community responses to climate change and linkages to soil-carbon sequestration on working lands, specifically grasslands and row crop systems in California.

Mapping impacts of conservation on human wellbeing • March 22, 2017

Samantha Cheng presented a map of 1000+ relevant studies linking conservation interventions to human wellbeing and the value of such a tool in rapidly locating data on policy impacts and targeting knowledge gaps to guide future research efforts. This research was developed in collaboration with the National Center for Ecological Analysis and Synthesis and the Science for Nature and People Partnership.



Keynote presentations

Four real stories on how science impacts environmental policy (or not!) • February 20, 2017

Hugh Possingham described four instances where scientific research has impacted environmental policy, exploring – and sometimes disconnecting – science and environmental policy. Possingham leads global, science-based conservation efforts in his role as Chief Scientist of The Nature Conservancy.

How math helps save species • February 20, 2017

TNC Chief Scientist Hugh Possingham explained how the mathematics of decision science can help us find better answers to intriguing conservation questions such as: which species should we save – koala bears or polar bears; where should we place marine protected areas; and what is the point of gathering more data? This event was hosted in partnership with the ASU Sustainability Solutions Festival and the Arizona Science Center.

Catchers in the Rye: Sustainability, science and solutions in the Anthropocene • February 24, 2017

Josh Tewksbury, Director of the Colorado Global Hub of Future Earth and Research Professor of the Sustainability Innovation Lab at the University of Colorado-Boulder, shared insights about his work on creating solutions to bringing science together across disciplines and increasing the impact of science on decision-making. Tewksbury is also the Executive Editor of Anthropocene: Innovation in the Human Age magazine.

ASU-CI professors of practice reception • March 16, 2017

A welcome reception was hosted to welcome the six ASU-Conservation



President Crow welcomes ASU-CI professors of practice during reception.

International professors of practice, as well as Distinguished Professor of Practice and CEO M. Sanjayan and additional CI staff. ASU President Michael M. Crow spoke on the importance of this partnership as a catalyst for achieving conservation outcomes, while highlighting the value of providing students educational opportunities for innovative solutions to real-world problems.



Conferences, webinars and symposiums

IUCN World Conservation Congress: Planet at the Crossroads - September 1-10, 2016

Center directors and affiliated researchers attended this annual conference held in Honolulu, Hawai'i to present on the university's various biodiversity conservation research initiatives and to sign three official memorandums of understanding with the center's new knowledge partners: Conservation International, the International Union for the Conservation of Nature and the World Business Council for Sustainable Development.

Third Annual Biodiversity Research Engagement Symposium • November 14, 2016

Attended by various ASU faculty and students engaged in biodiversity conservation related research and projects, this event offered opportunities to partner with the center and our new knowledge partners. The center's postdoctoral research associates presented updates on their respective research projects, including Key Biodiversity Areas and ecosystem services, an eco-friendly tool for corporations to assess water usage and climate mitigation on working lands. Attendees worked in groups to discuss opportunities to collaborate in the areas of research, education and grant proposals.

Webinar: Why companies should care about biodiversity • January 18, 2017

In partnership with the Security and Sustainability Forum and ASU School of Sustainability, the center hosted a free webinar with panelists from ASU, Dow Chemical, Monsanto and The Nature Conservancy. The discussion focused on ways businesses can better account for biodiversity in their daily operations, as well as the role the private and nonprofit sectors play in achieving sustainable development goals. Over 200 people attended.

Redefining corporate value • February 13, 2017

In collaboration with the World Business Council for Sustainable Development, GreenBiz and the ASU Walton Sustainability Solutions Initiatives, the center hosted a pre-conference session at GreenBiz titled "Redefining corporate value: Changing the equation for cities, food, materials and climate by placing true value on natural and social capital." This event was the first convening of WBCSD and ASU scholars, focused on issues ranging from natural capital to sustainable supply chains. Attendees learned about the leading work of WBCSD in redefining corporate sustainability, as well as cutting-edge applied research from ASU scientists.

The Nature Conservancy Science Council meeting • February 15, 2017

Founding Director Leah Gerber represented the university during The Nature Conservancy's Science Council meeting. Along with TNC senior scientists and donors, Gerber discussed mechanisms to promote innovation and outcomes in NGO-academic partnerships.

STEAM+H diversity and inclusiveness • April 14, 2017

The center has partnered with the ASU Center for Gender Equity in Science and Technology, known as CGEST. The workshop was attended by approximately 35 faculty from across ASU, who discussed specific challenges diverse faculty and students face in advancing within ASU science, technology, engineering, arts and health (STEAM+H) careers, as well as remaining in those fields after

graduation. A significant portion of the workshop was used to discuss upcoming grant requests to assist minorities in STEAM+H areas, as well as other potential collaborations.



ASU events

Biodiversity conservation present during annual Homecoming celebration - October 22, 2016

Over 100 visitors stopped by the center's tent to play and learn about uses of palm oil and responsible production, as well as the many ways in which we depend on tropical rainforests for food, medicine and shelter. Potential and incoming students also learned about the various programs available to them via the School of Life Sciences, the School of Sustainability and how the center engages students via research opportunities.

"Down in the dirt" at Tempe Night of the Open Door - February 25, 2017

The center engaged children in two interactive activities about soil and ecosystems. The first activity was about the various organisms that live in our soils and their very important role for healthy ecosystems and climate adaptation. The second activity, called Living Landscapes, gave visitors an opportunity to match species to their corresponding habitats (Galapagos Islands and Yellowstone National Park). Participation prizes were awarded.



External events (assisted with marketing)

Extinction and Other Inconvenient Truths - October 20, 2016

Pulitzer Prize-winning author, Elizabeth Kolbert, explored with participants how imagination, storytelling and the arts merge with scientific inquiry to shape humanity's response to climate change and create global solutions for the future. This event was hosted by the Imagination and Climate Futures Initiative -- an interdisciplinary partnership between the Virginia G. Piper Center for Creative Writing, the Center for Science and the Imagination and the Walton Sustainability Solutions Initiatives.

What comes next after The Paris Agreement? - October 25, 2016

The ASU Planet Works initiative presented the second session of the Allies of the Anthropocene Dialogue Series. This time they hosted Daniel Bodansky, Foundation Professor of the ASU Sandra Day O'Connor College of Law. Bodansky facilitated a discussion regarding news and implications resulting from The Paris Agreement.

Phenology Workshop: What Is It and How Can It Help Study the Effects of Climate Change? • October 29, 2016

The McDowell Sonoran Conservancy and the National Phenology Network facilitated this event to teach participants how to properly observe and document phenology, or year-round changes, in selected desert plants. Understanding and collecting this data for various species is one of the easiest ways for scientists to capture changes in temperature and precipitation in our natural areas. Hands-on volunteering opportunities followed the learning session.

Botanical Garden: Conserving the Preserves • February 9, 2017

This inaugural luncheon was hosted in benefit of CAZCA. The program featured speaker was renowned conservation scientist Dr. J. Nichols. Nichols focused on how the beauty, wonder and inspiration of the Sonoran Desert enriches our lives and our innate need to feel connected to the natural world. CAZCA is a collaboration of 50 different partner organizations aimed at studying, protecting and promoting the Valley's desert mountain parks.

Fracture Zone: Making Loss Visible • May 25, 2017

This event sponsored by CAZCA featured award-winning photographer and journalist Osha Gray Davidson. Participants learned through photography about the lands and water above the largest copper deposit in North America, located outside Superior, Arizona, and how plans for mining this region could impact sacred Native American cultural sites, water and habitat – home to endangered and threatened species.



Meet-and-greet events

ASU Center for Biodiversity Outcomes 2016 Open House • December 15, 2016

The center welcomed students, faculty, staff and community members to celebrate its new central space in the Life Sciences Building (LSA 351). Guests had the opportunity to network, enjoy refreshments, earn a prize by answering biodiversity conservation-related questions and learn about the accomplishments and future goals of the center.

Coffee with Hugh Possingham, TNC Chief Scientist • February 20, 2017

Faculty had a chance to meet with Hugh Possingham, Chief Scientist for The Nature Conservancy, network and learn about ASU-TNC initiatives, relevant research and Possingham's keynote presentations scheduled for the day (see above: How math helps save species, conversations with Dr. Possingham and four real stories on how science impacts environmental policy – or not!).

Lightning Talks and Discussion with ASU-CI Professors of Practice - March 13, 2017

Faculty and students joined the six ASU-Conservation International professors of practice for a series of brief presentations on their respective areas of expertise, a discussion on the three goals of the ASU-CI partnership (protect natural capital, transition food producers to sustainable methods and help train the next generation of conservation leaders), followed by a Q&A session.

Operations

Established centric space in Life Sciences, wing A. This space is now available for meetings, small events and accommodates working stations for center directors, administrative staff, student workers, postdoctoral fellows, professors of practice and volunteers. An open house welcome reception was held in December 2016.



Colleagues and students join open house reception to celebrate new center space.

Center faculty leadership and staff consulted with strategic planner Gail Petersen to guide a high-level team retreat in May 2017. This retreat focused on center culture, employee wellbeing and strategic planning for FY18.

Funding

In FY17, the center submitted \$108,552,666 in grants, a 40 percent increase in from FY16. From the total amount in submissions, \$108,244,596 were denied and \$308,870 were awarded. As illustrated in the graph below, the center has significantly increased its grant activity since it was established in 2015.



Figure 6. Growth of grant activity since FY15.



Below are highlights of recognition and awards received in FY17:

- Secured a National Science Foundation grant to advance a proposal to study the behavioral and institutional determinants of public value knowledge outcomes in conservation science, in collaboration with the ASU Center for Organization Research and Design.
- Received a Fulbright Fellowship for Founding Director Leah Gerber's research on cross-sector biodiversity outcomes in Ecuador.
- Secured Nereus Program funding to hire a joint ASU-CI postdoctoral research associate to engage with CI professors of practice on sustainable fisheries.
- Received a MacArthur Foundation ranking as one of The Top 200 problem solvers (out of 801) for a proposal submission on a market-based approach to sustaining natural capital, as part of their 100&Change initiative.

Future direction

As the center enters its fourth year of operation, we look forward to continue advancing our knowledge partnerships. A priority will be to design and implement an effective business strategy to increase core center funding and ensure self-sustainability in the near future. In this new phase, we seek to capitalize on the great work accomplished thus far and create new opportunities for faculty and students to engage.

In FY18 we will be onboarding two postdoctoral research associates in partnership with **Conservation International** to work with the center for two consecutive years guiding research and conducting fieldwork. The first fellow will explore nature's role in achieving the United Nation's Sustainable Development Goals. The second fellow will work on developing sustainable fisheries and supply chains. As well, we look forward to continuing our work with the six ASU-CI professors of practice who will be teaching the biodiversity conservation in practice course in spring 2018, as well as solidifying our fundraising model and reaching out to potential donors via a unified marketing platform.



Next fiscal year we will also be facilitating a series of **IUCN Red List of Threatened Species** trainings as we continue the process of becoming an official training center for North and South America.

We will be joining other **World Business Council for Sustainable Development** members during the 2017 Council Member Meeting in Mexico City to further develop synergies to advance our agenda for mainstreaming biodiversity in the corporate sector.

As part of a **Fulbright Fellowship**, Founding Director Leah Gerber will be working at Ecuador's top university, **Universidad San Francisco de Quito**. Gerber will collaborate with scientists from the USFQ, CI's Ecuador office and the Ecuadorian government to assess the ecological and economic consequences of protected areas in the Galapagos Islands. As part of her role as lead author for the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Gerber will collaborate on an assessment of Ecuador's contribution to achieving the UN's Sustainable Development Goals. While in Ecuador, she will also facilitate an advanced course in environmental communication and leadership at USFQ field station in the Yasuni National Park. She is, moreover, contributing to courses in marine conservation, marine mammal science and field techniques. In July, Gerber will visit Tod Swanson, center faculty affiliate, at his Amazon field station, where she will give an evening lecture on cross-sector collaboration in achieving biodiversity outcomes. With Swanson, she is exploring the role of indigenous knowledge in achieving biodiversity outcomes.

Through the new **Natural Science Foundation** grant, new Assistant Research Professor and center's Associate Director of Conservation Evidence, Samantha Cheng, started exploring public value outcomes and actionable science in conservation biology research in October 2017. This grant was awarded to Founding Director Leah Gerber and to Professor Derrick Anderson in partnership with the **ASU Center for Organization Research and Design**.

We are in early discussions with **The Nature Conservancy** about growing our partnership to become a formal knowledge partner. This partnership would build on our successful collaboration with **NatureNet and SNAPP**, to build a novel professor of practice or professor in residence program similar to the model with Conservation International. In 2018 we will also work with TNC to hire our second NatureNet Fellow.

These are some of the initiatives we will be focusing on. The table below provides a more detailed list of **FY18 goals and metrics**.

Goals	Metrics
Increase funding	<p>Submit grant and philanthropic requests adding up to at least \$60,000,000. At least \$5,000,000 in proposals will be submitted to advance the MacArthur's 100&Change market-based approach on sustainable biodiversity project.</p> <p>Raise \$350,000 for operational costs.</p> <p>Develop the ASU-CI philanthropic strategy to serve as a model for future philanthropic initiatives.</p>
Streamline operations	<p>Finalize operational manuals (administrative, finance, HR, marketing and communication, travel and technology) to serve as training and reference tools for staff and student workers and to ensure compliance with ASU policies.</p> <p>Revamp digital and hard-copy filing systems to streamline information sharing and center documentation.</p> <p>Develop internal budget tracking and reconciling system that communicates with the Julie Ann Wrigley Global Institute of Sustainability business office to ensure accuracy and up-to-date, at-a-glance and detailed balances of all center accounts.</p>
Revamp marketing and communications	<p>Finalize and launch consistent center differentiation and leadership message and update all digital and print media accordingly, in addition to training team to use improved language.</p> <p>Create and implement a communication strategy designed to highlight thought leadership and garner external awareness of center (e.g. monthly center e-newsletter, revamp affiliated research labs' websites). This is intended to crystallize what we do and why.</p> <p>Organize and grow internal and external distribution lists to support marketing and communication efforts.</p>

Goals	Metrics
<p>Advance research, education and decision-making initiatives</p>	<p>Engage and hire more student researchers and postdoctoral researchers designed to advance critical biodiversity research outcomes.</p> <p>Design and implement an effective faculty affiliate engagement strategy designed to bring in core faculty whose research aligns with the center's mission and vision.</p> <p>Double the number of research publications from FY17 and ensure the center is in author affiliations and acknowledgments (track accordingly).</p> <p>Develop a US Agency for International Development funded certificate degree in bio-enterprise in the Amazon.</p> <p>Launch Environmental Communication and Leadership Certificate in fall 2017 with 10 students registered by year-end.</p> <p>Develop a non-degree executive education program focused on training for companies, to be delivered by three webinars over FY18.</p>
<p>Cultivate existing and secure new knowledge partnerships</p>	<p>Establish mechanisms to implement a shared strategic action plan between WBCSD and ASU to advance partnership across multiple work streams, with a focus on raising funds.</p> <p>Build out the CI professors of practice program over FY18 and continue to advance three outcome goals.</p> <p>Explore relationship with The Nature Conservancy to advance towards a formal partnership.</p> <p>Establish the ASU Red List Training Center in Life Sciences- Wing C, Room 286, training at least 8-10 ASU students.</p>

Table 2. FY18 goals and metrics.

Open to all graduate students across ASU

Graduate Certificate in Environmental Communication and Leadership

This certificate trains graduate students in environmental sciences to communicate their findings to the broader public and decision makers. Graduate students will obtain valuable training in leadership and will learn to communicate with public, media, policy makers and other relevant stakeholders.

Students will learn to:

Effectively communicate with the public, including media and decision-makers, to translate complex technical and scientific concepts into easy to understand language.

Demonstrate leadership skills such as strategic thinking and planning, team management, conflict resolution, collaboration, mentorship and self-reflection.

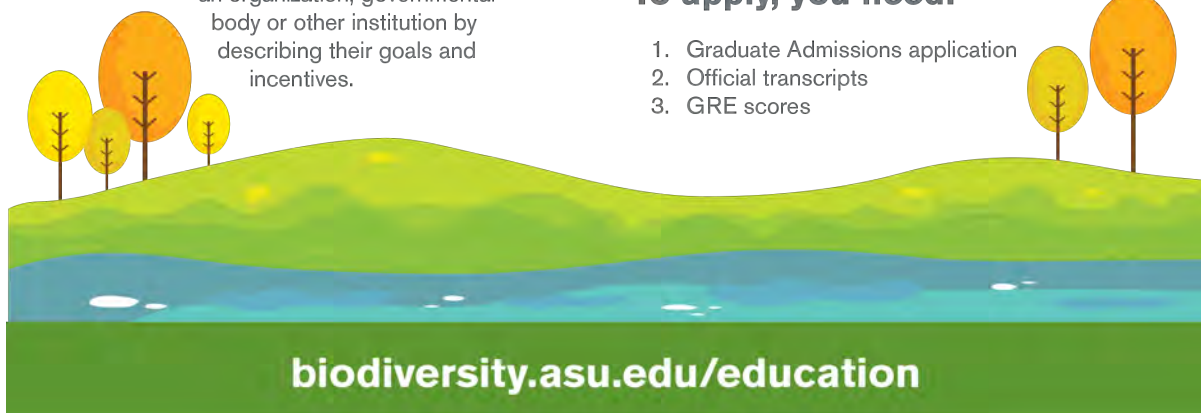
Inform policy and decision-making for an organization, governmental body or other institution by describing their goals and incentives.

BIO 578 Environmental Leadership and Communication (3 credits) is the core course for this 15 credit hour certificate. This course is designed to build skills specific to environmental policy and management (offered in spring 2019).

Students will complete 12 additional credits of coursework from our approved course list in the areas of policy and management, communication and leadership.

To apply, you need:

1. Graduate Admissions application
2. Official transcripts
3. GRE scores



The Center for Biodiversity Outcomes is a partnership between the Julie Ann Wrigley Global Institute of Sustainability and the School of Life Sciences.

V2 12-4-17

Annex 1. Flyer promoting new graduate certificate managed by the center.

This class is open to all ASU undergraduate and graduate students

Biodiversity Conservation in Practice



This course will explore the practical applications of biodiversity conservation. Taught by six **Conservation International–ASU Professors of Practice**, students will be granted the unique opportunity to work directly with global conservation field practitioners to better understand the link between academia and practice.

We will examine a range of the most pressing and key debates in **conservation practice and policy** via lectures and organized student-led discussions. Topics will vary based on each professor's expertise – one week students will learn about Peruvian sustainable coffee farming and biodiversity and the next will review the latest literature on sustainable fisheries policy in Hawaii.

The partnership between CI-ASU is designed to “train the next generation of conservation leaders” by exposing students to leading experts working with one of the best conservation NGOs in the world.

Spring 2018

T/Th 1:30-2:45 p.m.
Life Sciences-Wing E
Room B52 (LSE B52)
ASU Tempe campus

This course qualifies as:

BIO 412
BIO 598
SOS 598
GPH 598



biodiversity.asu.edu/education

The Center for Biodiversity Outcomes is a partnership between the Julie Ann Wrigley Global Institute of Sustainability and the School of Life Sciences.

Annex 2. Flyer promoting new class taught by ASU-CI professors of practice.

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Thank you for supporting the center.

Your dedication helps us protect the biodiversity
we all depend on to thrive on Earth.





ASU Julie Ann Wrigley
Global Institute of Sustainability
Arizona State University

ASU School of
Life Sciences
Arizona State University

The Center for Biodiversity Outcomes is a partnership between the Julie Ann Wrigley Global Institute of Sustainability and the School of Life Sciences.