



TEAMING UP TO TACKLE PLASTIC WASTE

CENTER FOR BIODIVERSITY OUTCOMES
ARIZONA STATE UNIVERSITY



TABLE OF CONTENTS

Table of Contents..... 2

Introduction..... 3

Why Biodiversity Is Important..... 4

Research Partnerships..... 5

Corporate Partnerships..... 6

What We Offer 7

Recent Work..... 8

Partner With Us..... 12

WHY BIODIVERSITY IS IMPORTANT

The ASU Center for Biodiversity Outcomes (CBO) catalyzes implementable solutions to address global biodiversity challenges. CBO does this through fostering research, education and partnerships with institutions worldwide in collaboration with the innovative power of ASU.

Earth has a growing biodiversity crisis. Policymakers, corporations, NGOs and other institutions on the front lines of biodiversity challenges are not getting the usable research and implementable solutions they need.

CBO catalyzes those solutions by connecting ASU's capacity for innovative, implementable research to biodiversity challenges faced by leading NGOs, corporations, policymakers and other institutions around the world. The result? Path-breaking, practical solutions to the biodiversity crisis that the whole world can use and adapt.

The corporate sector has shown an increasing commitment to considering sustainability issues over the past decade. However, many companies lack the data, expertise and incentive to rigorously consider biodiversity in operations. Biodiversity materiality represents an enormous risk for companies, but is difficult to quantify. Companies need access to data and support to ensure they have the expertise to implement effective biodiversity management plans across in their core operations and value chains. CBO fills this niche.




Learn more about our research [here](#).



RESEARCH PARTNERSHIPS

Example: Electric Power Research Institute

Problem: For the electric power industry, it is especially important to preemptively estimate the costs of compliance in regard to actions affecting endangered species and those under consideration for Endangered Species Act (ESA) listing. Critical to the success of the ESA is engaging with the private sector to understand how biodiversity conservation and business practices can be complementary and synergistic. Understanding these costs allows companies to make informed decisions around regulatory risk associated with the ESA.

Solution: We developed a tool to estimate the range of potential operational, reputational, legal and regulatory risks associated with ESA compliance for the electric power industry through our collaborations with EPRI.  ~~is included an evidence-based comprehensive framework for assessing pre-compliance and compliance costs.~~ This tool provides critical value to decision-making in the private sector (e.g., providing cost-efficiencies, reduction of regulatory risk, enhanced stakeholder reputation), and also increases awareness of sustainable practices.




Learn more about our partnerships [here](#).

CORPORATE PARTNERSHIPS

Example: Bayer

Problem: Modern agriculture relies on pesticides to ensure crop productivity. Assessing potential impacts of pesticides on endangered species is stymied by uncertainty in data and lack of coordination between agencies. As a result, companies can be challenged to employ best practices for pesticide use that ensure the conservation of threatened species.

Solution: We work with Bayer to develop data-based approaches to enhance the efficiency of risk assessment for pesticides to threatened species. Our published research demonstrates significant gains in efficiency in the species risk assessment process. We are currently applying our approach with high-resolution pesticide usage data to identify compounds that are relatively safe for endangered species. Our database and novel risk assessment metric also  identifies species that are most at risk from pesticide exposure.



Learn more about our partnerships [here](#).

WHAT WE OFFER

1

We offer executive education to ensure employees at all levels of the company are well-versed in the environmental issues that might affect their bottom line and how to address them.

2

We provide decision-making tools to assist corporations with measuring and valuing biodiversity. We do this by integrating disparate data to account for the full suite of specific risks sectors face, including applications in marine fisheries, oil and gas, agriculture and supply chain management.

3

We facilitate research driven by company needs on what they lack and what we know needs further exploration. We link CBO's capacity for innovative, implementable research to biodiversity challenges faced by leading NGOs, corporations, policymakers and other institutions around the world.

4

Our capacity is bolstered by our network of over 10,000 scientists representing hundreds of governmental, academic and conservation organizations in more than 160 countries across the globe.



RECENT WORK TO TACKLE PLASTIC WASTE



When we work with companies who want to lower their plastic footprint, we co-produce solutions at varying levels, depending on the company's needs. These solutions are scalable - from minor changes such as reducing plastic waste to bold changes that help reduce plastic pollution more broadly. We:

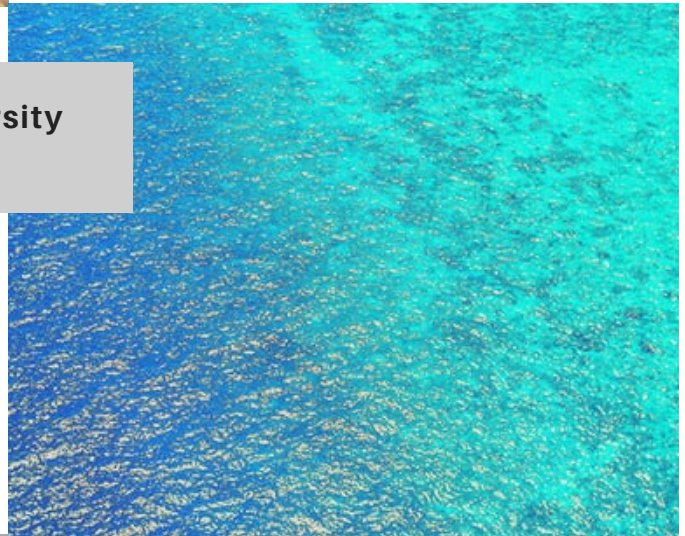


model global and local mitigation strategies to achieve global reduction targets for plastic pollution

With our Plastic Pollution Emissions Working Group, we developed a global model to identify the level of effort needed to achieve policy targets for plastic emissions. We work with local partners to develop high-resolution models to identify effective interventions.

pioneer methods to report on biodiversity conservation efforts

We work with industry partners to measure, assess cost, and report on the impacts of resource use and intervention strategies for biodiversity.



develop natural capital assessments for industry partners

In collaboration with our partners, we are developing an ocean supplement to the Natural Capital Protocol, which helps companies identify the impact of their plastic use on natural capital.

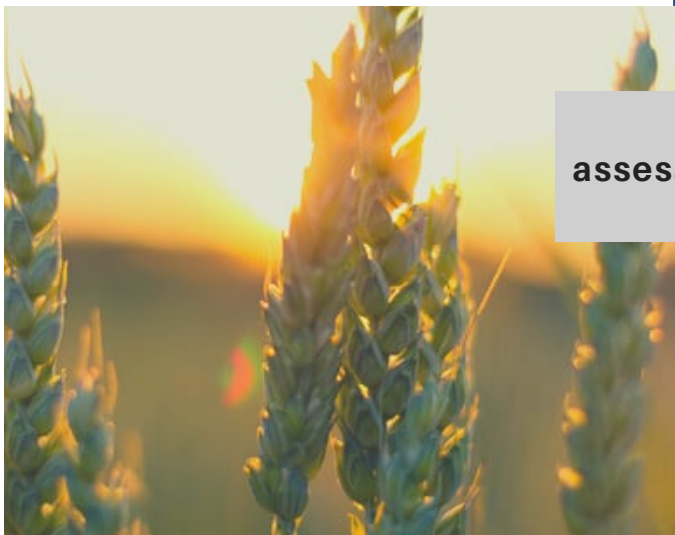


estimate the costs of interventions for marine plastic pollution

Our plastics emissions costing tool allows companies to assess the cost and benefits associated with alternate interventions.

evaluate the biodiversity impacts of plastic pollution

Our novel framework and extensive database on species-level impacts of marine plastics facilitates assessment of community and ecosystem-level impacts of plastics in particular geographies.



assess the effectiveness of partnerships

We use the best available research on knowledge partnerships to ensure that all our relationships operate efficiently and meet the needs of all partners.

RECENT WORK



The marriage of business and ecology. *Frontiers in Ecology and the Environment*, 14(1):3. doi: 10.1002/1209 [\(link\)](#)



Conservation science needs new institutional models for achieving outcomes. *Frontiers in Ecology and the Environment*, 16(8):438-439. doi.org/10.1002/fee.1951 [\(link\)](#)



A decision framework for estimating the cost of marine plastic pollution interventions. *Conservation Biology*, doi: 10.1111/cobi.13827 [\(link\)](#)



Predicted growth in plastic waste exceeds efforts to mitigate plastic pollution. *Science*, 369(6510):1515-1518. doi: 10.1126/science.aba3656 [\(link\)](#)



[It's time for a Project drawdown for conservation](#), Ensia



[Is the Endangered Species Act facing extinction?](#), The Christian Science Monitor



[Industry partnerships for biodiversity outcomes](#), United Nations Global Compact's Uniting Business LIVE



[Nature in Crisis](#), Politico Panelist



[Examining Biodiversity Loss: Drivers, Impacts, and Potential Solutions](#), Expert Witness for U.S. Senate Committee on Environment and Public Works



[Gone For Good: How A Species Is Declared Extinct](#), NPR 1A



[It's Time to Prioritize, Restructure Endangered Species Funding](#), NPR



PARTNER WITH US

We need help from friends like you!

Your donations fund science-based solutions and help us train the next generation of conservation leaders. Learn more about our programs and initiatives, and contribute to our efforts at:

biodiversity.asu.edu



Follow us on Twitter
[@BiodiversityASU](https://twitter.com/BiodiversityASU)



Subscribe to our YouTube channel
bit.ly/3qKQmT4



Contact us at
biodiversity@asu.edu

ASU Center for
Biodiversity Outcomes
Arizona State University



Copyright © 2021

Illustrations and design by Anahí Méndez