A Hopeful Solution for Our Planet
Dear Friends,

In *Half-Earth: Our Planet’s Fight for Life*, E.O. Wilson describes the stakes of the biodiversity crisis with stark and sobering clarity. “Unless humanity learns a great deal more about global biodiversity and moves quickly to protect it,” he writes, “we will soon lose most of the species composing life on Earth.”

In so few words, he reveals humanity’s greatest challenge in the fight to protect Earth’s biodiversity: our own limited understanding of the living world around us.

The truth is, we know remarkably little about the planet we are entrusted to protect. How can we possibly stop the accelerating loss of biodiversity around the world when we don’t fully understand the species that live here or know how they work together in ecosystems to support our lives?

The Half-Earth Project®, the signature program of the E.O. Wilson Biodiversity Foundation, is committed to tackling this very challenge. On the pages that follow, I invite you to explore the many ways we’re working to improve our shared understanding of life on Earth and charting a new path to protect it at a global scale.

The urgency for this work is clear. We must seize this opportunity to learn as much as we can about Earth’s intricate network of life, connect with and learn from the Indigenous people and local communities who have historically been the best stewards of our planet and use that knowledge to pursue the hopeful goal of the Half-Earth Project—to conserve half of our planet for the rest of life.

E.O. Wilson reminds us that if everyone, especially young people, participates in this journey, we can hope to experience a transformational moment for ourselves and our planet. It’s that hope—that is grounded in science—that is the essence of the Half-Earth Project. I hope you’ll join us.

Sincerely,

Paula J. Ehrlich, DVM, PhD
President & CEO
E.O. Wilson Biodiversity Foundation

Half-Earth Project

“The only hope for the species still living is a human effort commensurate with the magnitude of the problem.”

E.O. WILSON
*Half-Earth: Our Planet’s Fight for Life*

A letter from President & CEO Paula Ehrlich

INDIGENOUS LANDS ACKNOWLEDGEMENT: At the Half-Earth Project, we acknowledge the relationship of Indigenous people with their ancestral lands, the exemplary tenor of that relationship and Half-Earth’s imperative to attend to that relationship with intention. The Half-Earth Project honors the wisdom of the traditional owners of the lands and waters we aim to protect and their ancient ways of seeing and experiencing nature. To explore the Indigenous history of the place where you live visit native-land.ca.
During the 3.8 billion years that life has evolved on Earth, nature has proven itself to be both remarkably fragile and amazingly resilient.

In the relatively short span of 65 million years since the last mass extinction, which destroyed 70 percent of all living species, life on Earth clawed its way back from the brink to flourish once again. We can see the fruits of this most recent recovery in the centuries-old forests that breathe life to the planet, the networks of insects that burrow underfoot and the wildlife on land and in our seas that inspire awe. We can see it in ourselves, human beings, who emerged during this period of relative calm, unique in our capacity for moral reasoning, cooperation and ingenuity.

Despite the undeniable prosperity of this era, life on Earth now finds itself hanging in the balance once again as the planet enters the early stages of its sixth mass extinction. And while the symptoms may be eerily reminiscent of the previous five events, this time they can’t be blamed on a volcanic eruption or colliding asteroid.

This is a crisis of our own making.

Human activity like the indiscriminate destruction of vital habitat, unchecked exploitation of land and water resources, overhunting of vulnerable species and seemingly limitless pollution from toxic, climate-warming gases have conspired to drive an all-out assault on biodiversity. In less than 200 years, humans have managed to engineer a global endgame.

The current rate of species extinction is now greater, by orders of magnitude, than it was prior to the emergence of homo sapiens. If we don’t stop this accelerating trend, we can expect to lose tens of thousands of species, including those that have yet to be discovered.

The good news is that we aren’t destined to repeat the mass extinctions of our past or realize the most extreme impacts that are currently being projected. There is a path forward—one where we begin to value nature for its intrinsic benefits and secure the bulk of biodiversity on Earth for future generations. It is a bold goal, but one that is well within our reach. It starts with elevating our collective conservation ambitions and committing to protect Half-Earth.

If we achieve the goal of Half-Earth, as E.O. Wilson writes, “Living Earth, all of it, can continue to breathe”.

“Will we continue to degrade the planet to satisfy our own immediate needs or will we find a way to halt the mass extinction for the sake of future generations?”

E.O. WILSON
Half-Earth: Our Planet’s Fight for Life
Half-Earth is a call to protect half the planet’s land and sea in order to manage sufficient habitat to safeguard the bulk of biodiversity. The Half-Earth Project is bringing this vision to life, collaboratively convening cutting-edge research, scientific leadership and inspirational engagement to achieve this hopeful solution for our planet.

The goal of Half-Earth is rooted in scientific principle originally conceived by E.O. Wilson and Robert MacArthur in the 1950s. Their groundbreaking discovery, called the Theory of Island Biogeography, revealed that larger areas of habitat support a greater diversity of life in a mathematically predictable way. Some 70 years later, the basic principles of this theory still underpin our understanding of the minimum areas of land and sea that are needed to safeguard the bulk of the planet’s biodiversity.

At the Half-Earth Project, we’re building on this scientific foundation and leveraging cutting-edge technology and community engagement tools to help solve today’s most pressing conservation challenges. Among other strategies, we’re documenting the most rewarding opportunities for biodiversity conservation globally, drawing on the expertise and experience of Indigenous people and traditional communities who are the original stewards of the lands and waters we strive to protect and engaging the scientific community, business leaders and people everywhere in this hopeful path forward for our planet.

Caring for the environment and human health calls for the best of our science and ingenuity, along with a strong sense of compassion and moral compass. With science at its core, the Half-Earth Project is building a better understanding of the beautiful intricacy of our planet and how we can best steward its enduring stability. Together, we’re setting the stage for a revolutionary movement and leading the path to Half-Earth.

“A biogeographic scan of Earth’s primary habitats shows that full representation of its ecosystems and the vast majority of its species can be saved with half the planet’s surface. At one-half and above, life on Earth enters the safe zone.”

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Half-Earth: Our Planet’s Fight for Life

TOGETHER WITH OUR PARTNERS, THE HALF-EARTH PROJECT IS:

- Driving research to better understand the species of our planet and their interactions within ecosystems.
- Providing conservation management leadership by mapping the species of our planet and identifying where we have the best opportunity to protect the most species.
- Engaging people everywhere to participate in caring for our planet and achieving the goal of Half-Earth.
The Half-Earth Project is leading an audacious effort to address this challenge with the development of the Half-Earth Map. Through the collection and synthesis of biodiversity data and the use of cutting-edge geographic information systems (GIS) technology, this one-of-a-kind platform is documenting species across the world with unparalleled resolution, mapping existing protected areas and illuminating human impacts (like agriculture and urban pressures) that most threaten species’ survival.

Together, these powerful data layers can help decision-makers around the world make smart, science-based conservation management choices that protect the bulk of biodiversity and advance progress toward the goal of Half-Earth.

The first phase of the Half-Earth Map has already come to life with the geospatial mapping of known terrestrial species and marine fishes. Next, we're integrating data on bees, ants and other invertebrates. And in an effort to consistently improve the map's utility and effectiveness, we’re actively increasing the map’s resolution, with the goal of reaching a 1 kilometer resolution.

Going forward, we’ll build on the platform's cutting-edge mapping capabilities to include immersive technologies that bring the data to life. The increasing richness and availability of data will converge with accelerating technological capability—from X Reality to Artificial Intelligence and Computer Vision—to facilitate an emotional connection with the places most in need of protection and inspire collaborative conservation action. This dynamic multimedia platform will immerse audiences in the natural beauty of our planet and connect them with the top opportunities for engagement with organizations that are actively working to protect these places.

By 2023, The Half-Earth Map will be able to do what no other platform can: identify, rank and recommend priority areas for conservation based on the latest, carefully developed and comprehensive species-level information for animals and plants worldwide.

As we enter the most critical decade for nature, the Half-Earth Map offers a game-changing tool for biodiversity protection as it helps create a uniquely comprehensive understanding of biodiversity and develops a clearer picture of the landscapes and waters that must be protected.
A New Perspective: The Half-Earth Map National Report Cards

The most recent update to the Half-Earth Map introduces the National Report Cards and Species Protection Index (SPI), which can be used to explore how each country is doing to protect the species within their national boundaries.

The country-by-country analysis offers a new lens through which to consider global conservation progress and existing opportunities for improvement. It can, for example, help visualize the locations of current protected habitat and reveal areas within individual countries that, if protected, could contribute more to reaching the Half-Earth goal. It puts fresh focus on each country’s number of endemic species—or those that are found nowhere else on Earth and therefore must be protected by national conservation strategies. It identifies the conservation responsibilities of individual nations, illuminates opportunities for collaboration between neighboring countries and much more.

The 2020 iteration of the National Report Cards only considers land vertebrate species—but there are many more invertebrate species, marine species and plant species waiting to be assessed, analyzed and mapped. With each species that is added to the high-resolution Half-Earth Map, a more detailed picture will emerge of which areas present the most viable opportunities for biodiversity conservation.

“Science has taught us a great deal about our planet in a remarkably short amount of time, but we still know surprisingly little about the intricacy of Earth’s ecosystems and the life they support. The Half-Earth Map is becoming a powerful tool for discovery as it combines the best of our mapping technology and global biodiversity data to help us chart a new path forward for the planet.”

DAWN WRIGHT
Chief Scientist, Esri

an actual view in map: www.half-earthproject.org/maps/
Chairs and Scholars:
Engaging the world’s brightest minds in biodiversity research and conservation

The Half-Earth Chairs and Scholars program champions the best of biodiversity scholarship by supporting students and researchers around the world who are advancing biodiversity science, teaching and leadership within their home countries. This partnership is increasing the footprint, depth of academic rigor and regional scientific insight of the Half-Earth Project. Inaugural Half-Earth Chairs and Scholars are both based in Gorongosa National Park in Mozambique, and more will be identified in the South America, Caribbean and Asia-Pacific regions, with additional recruitments to follow in Europe, the Middle East and North America.

“By offering fellowships to young, promising Mozambican scientists and graduate students, The Half-Earth Project is helping develop a new generation of local scientists who will, in turn, allow Mozambique to become Africa’s leading science and conservation destination. This is a model that can—and should—be replicated around the world.”

GREG CARR
President, Carr Foundation

Educator Ambassadors:
Leveraging a community of environmental educators

The Half-Earth Project Educator Ambassador program engages a diverse population of students and teachers with new tools and materials for understanding and protecting our planet’s biodiversity. The program focuses on scientific data, data visualization, real-world research problems and meaningful group work and supports new learning standards while being genuinely inclusive of diverse learners, including ESL students.

“The Hearst Foundation is proud to support The Half-Earth Project’s Educator Ambassador Program because of its unique model for engaging teachers and students in the exploration of our shared planet. The program is helping to ensure that biodiversity science is accessible to children of all backgrounds and, importantly, helping to educate the next generation of conservation leaders.”

ALISON N. YU
Program Officer, The Hearst Foundations
The Half-Earth Project recognizes the efforts that companies, communities, places and scientists are making to elevate their conservation ambitions and protect biodiversity for future generations. Through the Half-Earth Future programs and other signature initiatives, we proudly celebrate their unique contributions to the goal of Half-Earth.

Companies for a Half-Earth Future is an emerging network of like-minded corporations from multiple business sectors that are incorporating the Half-Earth goal into their business planning, decisions-making, practices and stakeholder valuation. Together, they are creating a transformational approach to corporate sustainability that places biodiversity and the environment front-and-center in how decisions are made and success is measured.

Communities for a Half-Earth Future is a mechanism for communities to affiliate their conservation activities with the grand ambition of Half-Earth. Their conservation achievements and collaborative best practices are showcased on the Half-Earth Project’s communication and engagement platforms, providing examples and inspiration for other communities interested in coming together in support of Half-Earth.

Scientists for a Half-Earth Future recognizes scientists, scientific organizations and research and technology innovations that are contributing to the goal of Half-Earth. Scientists for a Half-Earth Future includes not only biologists and conservation scientists, but also scientists working across diverse disciplines to contribute knowledge that supports our planet’s sustainability.

Places for a Half-Earth Future includes both areas that are being managed for conservation as well as those where people are pursuing scientific activities that contribute to conservation and biodiversity protection. The program brings diverse stakeholders, including Indigenous people and local communities, together to create opportunities for interconnection, expanding habitat and migration routes and improving the health of species populations, while providing examples and inspiration for anyone interested in contributing to the goal of Half-Earth.

Half-Earth Day® is an annual convening of scientists, conservationists, Indigenous representatives, business leaders, communities and educators that facilitates discussion about important research advancements, educational initiatives and model conservation efforts that are contributing to the goal of Half-Earth. Each year, this diverse group of cross-sector leaders and visionaries share their unique expertise, ask bold questions to help advance the Half-Earth moonshot for our planet and inspire people of all backgrounds to join us in achieving this grand ambition. Examples of past speakers include Sally Jewell, Tom Friedman, Tom Lalampa, Reggie Love and Hansjörg Wyss.

“Half-Earth in Action

“It is truly inspiring to know that we have so many great minds and so many dedicated people working to address our global environmental problems, working to teach us how important biodiversity is.”

GLENN CLOSE
Award-Winning Actress and Environmental Advocate speaking at Half-Earth Day 2020
Edward Osborne Wilson is the guiding force that shapes the mission of the E.O. Wilson Biodiversity Foundation and the Half-Earth Project.

Over the course of his career, Wilson transformed his field of research—the behavior of ants—and became a pioneer in spearheading efforts to preserve and protect the biodiversity of our planet. He joined the Harvard faculty in 1956 and today serves as Professor Emeritus. In 1963, his research notably led him to the theory of island biogeography, which he developed with the late Robert H. MacArthur of Princeton University. Their work culminated in their 1967 book *The Theory of Island Biogeography*, which has been a standard reference work ever since. He has received more than 150 awards from around the world, including two Pulitzer Prizes for Non-fiction for *On Human Nature* and, with Bert Hölldobler, *The Ants*.

Wilson’s journey to become a world leader in conservation and biodiversity protection began when he, a child growing up in the Gulf region of Alabama, spent his days exploring the edges of the Mobile-Tensaw Delta—a wild, untouched ecosystem of forests, streams and wetlands he once described as an American Amazon. Riding his bicycle along the buffering causeway, his imagination ran wild, fueled by stories of bear, bobcats and alligators that supposedly populated the untamed landscape. The surrounding wilderness was close enough to touch, yet practically impenetrable, a mystery waiting to be discovered.

These early days spent exploring the perimeter of the Alabama wilderness left their mark on the young boy and fueled a sense of curiosity about nature that would ultimately define his professional life.

The Half-Earth Project is striving to connect others with nature just as E.O. Wilson did as a young boy. Through the interactive Half-Earth Map and unique programs that meet students, teachers and business communities where they are, we’re making biodiversity and the entire natural world more accessible than ever. In everyone we meet, we’re working to spark the curiosity, wonder and respect for nature that E.O. Wilson was born into and that which we must all feel to ensure its protection.

“E.O. Wilson is an optimist and believes human existence could be a paradise if we do the job we must do and preserve our jewel-like planet. Half-Earth is compulsory if we care about the lives of our children, our children’s children and all of the species alive today.”

PAUL SIMON
Legendary Recording Artist
Looking Forward

Half-Earth isn’t just a goal; it’s a commitment. It’s a commitment—rooted in science—to understand, protect and steward our “little-known” planet.

Standing on the shoulders of biology and conservation legends like Rachel Carson and E.O. Wilson, the Half-Earth Project is turning that commitment into action and, with the contributions of diverse voices, perspectives, expertise and experience, helping write the next chapter of global biodiversity protection.

A number of forward-looking companies, foundations and individuals share that commitment and are lending their support financially and in other ways. Please consider joining them in helping us realize this bold and hopeful solution for our planet.

For more information:
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eowilsonfoundation.org | www.half-earthproject.org

“...if the conservation of Earth’s fauna and flora is not more expertly mapped and protected, and soon, the amount of biodiversity will be vastly diminished by the end of the present century. Humanity is losing the race between the scientific study of global biodiversity and the obliteration of countless still-unknown species.”

E.O. WILSON
Half-Earth: Our Planet’s Fight for Life
“The biosphere does not belong to us; we belong to it. The organisms that surround us in such beautiful profusion are the product of 3.8 billion years of evolution by natural selection.”

E.O. WILSON

_Half-Earth: Our Planet’s Fight for Life_