

*How Goes the Energy Transition?*

## Consensus Lacking on the Urgency of the Climate Imperative

As the litany of evidence piles up on the societal and economic ravages of climate change, the pressure and urgency to take more meaningful steps about reducing greenhouse gas emissions and preparing to adjust to harsher climate scenarios increases—and seems to bring new actors onto the climate change industry stage with every passing month.

Climate change scientists, theorists or what now could be called sages long talked of ‘tipping points’ where the presumably indelicate balanced equilibrium of atmospheric chemistry, global weather patterns, and natural ecosystems would be shattered, raising the potential for catastrophic impacts with little that mankind could do to stop them.

Even today in the middle of 2023 with abundant evidence of these escalating impacts, it may still be alarmist to say there is little we can do to stop them, but surely there is a lot we can do to slow these impacts down, to minimize them or to adapt to them. This of course is the business challenge of the climate change industry as CCBJ has defined it — and an increasing number would say the existential challenge of our species, but as a business publication we don't want to lapse into further alarmist thinking.

Suffice it to say that there is a continuum amongst national, global and corporate leadership from ‘maintaining the status quo’ to ‘the sky is falling’. Examples abound but here we focus on the United States of America and the current divide between its lead agency providing energy intelligence

### The Energy Transition & the Climate Change Industry

*Climate Change Business Journal assesses where we are in the energy transition in 2023 with a review of U.S. government energy and emissions data and forecasts, comparing business as usual with long-term net zero strategies. A review of venture activity and 10 company profiles in executive Q&A form reveal key trends.*

<i>Energy, GHG Emissions and Industry Scenarios: EIA vs. The White House: The U.S. Energy Information Administration expects U.S. energy-related carbon dioxide emissions to increase in 2023, but likely for the last time. EIA's long-term outlook only has CO2 emissions falling only by one-third by 2050, well behind the White House and NDC pathway outlined in The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050</i>	3
<i>U.S. Long-Term Strategy details net zero scenarios and highlights five key transformations creating the most challenging business opportunities</i>	8
<i>S&amp;P Global Market Intelligence Energy Storage by the Numbers</i>	13
<i>Climate technology venture investment trends from CTVC; From Cleantech to Climate Tech: Reflections on Investment &amp; Corporate Strategy</i>	14
<i>Green New Deal Network Represents a Diverse Group of Aligned Interests to Support Economic Transformation</i>	22
<i>CarbonFree Agrees MOU With U.S. Steel to Capture CO2 Using SkyCycle Technology; Forms Partnership with BP</i>	24
<i>Solarbank CEO Compares Regional Solar Markets, Government Funding and Hydrogen in USA and Canada</i>	27
<i>NANO Nuclear Champions Portable Micro Reactors, Seeks Vertical Integration from Uranium to Reactor in Small-Scale Nuclear</i>	29
<i>Vontier Commits to Leading in Sustainable Transportation Solutions Since Spinning Off from Fortive</i>	32
<i>PACE Equity's Cirrus Low Carbon Capital Package Offers Favorable Rates for More Efficient Building Design</i>	35
<i>Carbon Maps Aims to Replace Greenwashing With Science as it Supports the Food Industry to Achieve ESG Goals</i>	38
<i>Biohabitats Pioneered a Business and Culture of Ecological Restoration; Now it Pioneers Applying Ecological Principles to Ownership and Corporate Structure</i>	40
<i>Energy Vision Advances Anaerobic Digestion and the Organic Waste to Renewable Natural Gas Circular Economy in NYC and Beyond</i>	47
<i>Allume Energy's SolShare Software and Service Opens Access and Broadens the Base of Distributed Solar to Renters and Landlords</i>	50

## Biohabitats Pioneered a Business and Culture of Ecological Restoration; Now the Firm Pioneers Applying Ecological Principles to Ownership and Corporate Structure

**B**iohabitats reconnects communities to the natural world, working with public, private, and not-for-profit clients to restore and regenerate life-supporting ecological processes. Biohabitats supports a variety of clients with a variety of services like a municipality needing help with stream restoration, a college campus seeking to integrate ecology into a master plan, a conservation organization developing a continental habitat corridor, or a designer pursuing high performance project certifications such as LEED, Living Building Challenge, and SITES. The firm was traces its history back to the 1970s and supports a staff of about 100 employees. Biohabitats multi-disciplinary practice is best defined as a blend of sound science, place-based design and ecological democracy. Science forms the core of the practice. Science that is as informed by rigorous field investigations and meticulous research as it is from knowing the land and learning its stories. While the science provides the facts, stories provide the context to help see things from a whole-systems perspective. Patterns, connections and relationships continually reveal themselves through stories, providing a rich tapestry of life that forms the basis of a design ethos.

*Keith Bowers is the founder and president of Biohabitats, where he pioneered the practice of nature-based design, green infrastructure, and regenerative design within the landscape architecture community. As a multidisciplinary organization with a mission to Restore the Earth and Inspire Ecological Stewardship, Biohabitats practices at the crossroads between biodiversity conservation, climate adaptation and environmental justice. Keith's undercover mission is to change the way capitalism is practiced. As a B-Corp and 1% for the Planet organization, Keith has instilled Self Governance, Wholeness, and Evolutionary Purpose as the guiding principles behind Biohabitats success. Keith is an outspoken advocate for biodiversity conservation and ecological restoration. Keith serves as an Advisory Board member for the University of Pennsylvania's Ian L. McHarg Center and on the Board of Director of the Landscape Architecture Foundation. He also served on the Society for Ecological Restoration Board for more than 10 years and on the Wildlands Network Board for 6 years. He holds a B.S. in Landscape Architecture from West Virginia University and an honorary degree from the Conway School of Design.*

### **CCBJ: Please provide some history on Biohabitats: when you first founded the firm, what were your original aspirations and how you evolved your approach to business?**

Keith Bowers: Biohabitats' origins can be traced to the confluence of passion and serendipity. In 1978, when I was a sophomore studying landscape architecture at West Virginia University, I stumbled upon a newspaper article that highlighted a nonprofit called **Environmental Concern** that was reconstructing tidal wetlands on Maryland's Eastern Shore to stabilize shorelines and mitigate for past damages. Environmental Concern was established by Dr. Edgar Garbish, who, unlike most

people at the time, understood the ecological significance of wetlands and made it his life's work to restore the salt marshes of the Chesapeake Bay. Little did he know that his work would catalyze the launch of a whole new scientific discipline – restoration ecology – and a new applied practice we now call ecological restoration. I eventually arranged to meet with Dr. Garbish and see his work, and from the moment I did, I knew what I wanted to do for the rest of my life: restore ecosystems and heal our relationship with nature.

Fresh out of college, with no financial capital, no formal business training, and no idea how to serve a nascent market, I started Biohabitats. Looking back, I think

naivety worked in my favor. To figure out how to actually run a business, I grudgingly dived into how-to books and even took a Small Business Administration night course in accounting. While my desire to own a business and chart my own course remained intensely strong, I became increasingly disillusioned with the message that business must focus on profits at all costs. What about purpose and mission? What about values? What about people? What about long-term perseverance? I began to wonder: what if we applied the principles of ecology to build a business? Could we build a business based on regeneration rather than extraction? Could we walk our talk?

In the early 90s I came across a book by Peter Senge, *The Fifth Discipline, The Art and Practice of the Learning Organization*. In it, Senge argues that systems thinking, personal mastery, mental models, shared vision, and team learning can result in competitive advantages that spur innovation, quality output, a shared sense of community, and improved long-term decision making. It took me two reads, about 12 years apart, to fully grasp the power of these ideas and develop the confidence to weave them into our business practice. Simultaneously, I also began devouring business books that were bridging the divide between capitalism, ecology, and sustainability. These included Paul Hawkins' *Ecology of Commerce*; Tom Chappell's *Natural Capitalism, Soul of a Business*; and *Let My People Go Surfing: The Education of a Reluctant Businessman*, by Yvon Chouinard, one of my personal heroes.

In addition to fixating the idea that business could be a force for good (for people and planet), I also emersed myself in the philosophy of deep ecology. Deep ecology takes the position that there is inherent worth in all forms of life, and that nature as a whole should be respected and regarded as having the right to live and thrive, independent of its benefits for human use. I began wondering how a respect for the rights of nature could be incorpo-

rated into my business practice, and how, more broadly, it could impact the way we practice capitalism. Could we move from an economic model predicated on a linear system of “take-make-use-lose,” to one that emulates cycles of life and regeneration? Could we move from a system that relentlessly rewards extraction and winner-take-all outcomes to one that prizes fairness, justice, and reciprocity? In contemplating Biohabitats’ projects, clients, and operations, I began to ask questions like, “How would nature operate a business?” and “How could capitalism serve nature?”

A few years later I came across a business framework, where organizations are seen as living entities, oriented toward realizing their potential. Nicknamed by Frederic Laloux’s 2014 book, *Reinventing Organizations*, as a “Teal” organization, this structure opened my eyes to a different way of operating a business, one more in line with nature’s path. With the emergence of conscious capitalism, benefit corporations, and the B-Corps movement providing both a legal and practical framework for balancing social and environmental performance, I began to find some solid footing.

Biohabitats’ mission to “Restore the Earth and Inspire Ecological Stewardship,” along with core values that include Revere Wild Nature, harken back to this foundation. So, too, does our approach to geographic expansion: establish offices based on ecologically defined bioregions. The very tenets that guide our business practice — Management, Wholeness, and Evolutionary Purpose — are borrowed directly from nature.

Much like a longleaf forest, a boreal peat bog, or a tallgrass prairie, Biohabitats is an ever-evolving ecosystem of interconnected relationships between and among Team Members, clients, stakeholders, and nature. Everything we do — from our projects to our governance and daily operations (open-book management, unlimited PTO, advice decision making, mastery

development plans, to name a few) — is in service of this ecosystem and the mission it pursues.

**CCBJ: When did you focus on ecological restoration and how have the demands in that marketplace evolved over time, in both the predominant types of clients you served and the regulatory or other drivers stimulating demand for your expertise?**

Bowers: Right from the beginning, I set out to build a firm centered on ecological restoration (although back in 1982 I don’t remember using the term “ecological restoration”). I believe the term ecological restoration was first defined in the literature in 1987, and the first gathering of scientists and practitioners focused on the idea of restoring ecosystems took place in 1988 in Berkeley, California. What I did know was that I wanted to build on the pioneering work of Environmental Concern by applying the science of ecology, through the lenses of landscape architecture and ecological engineering, to restore impacted ecosystems. I wanted to create a practice that went beyond coastal wetlands to include non-tidal wetlands, rivers and streams, grasslands, and forests, and the restoration of habitat for endangered species.

Our first commissions came quickly, driven largely by the federal Clean Water Act and regional legislation. In our first three years alone, we helped 24 municipalities prepare Chesapeake Bay Critical Area plans to guide the conservation of critical habitat and the preparation of local development standards to protect water quality. At the same time, we were applying ecological restoration to help public and private sector clients address wetland impacts and stormwater issues. In 1985, we collaborated with the City of Baltimore, the State of Maryland, and the U.S. Army Corps of Engineers (USACE) to restore 11 acres of tidal estuarine wetlands adjacent to the Ft. McHenry National Historic Monument and Shrine, atop a newly con-

structed tunnel beneath Baltimore Harbor on I-95. One of America’s first successful tidal wetland mitigation projects for highway construction, the site was used by National Aquarium for research and environmental education.

In 1989, Biohabitats collaborated with the USACE, National Park Service, Washington Council of Governments, and George Mason University to transform a lifeless mudflat along Washington, DC’s Anacostia River into a thriving freshwater tidal wetland adjacent to Kenilworth Park & Aquatic Gardens National Park. Using a pioneering approach now commonly known as “adaptive management” Biohabitats implemented the restoration in several experimental phases, testing different plant mixes and containment structures under combinations of substrate elevation, solar exposure, and tidal-energy regimes. The project proved that urban freshwater tidal marsh restoration was possible and served as one of the first large-scale applied research projects focused on reestablishing tidal freshwater marsh.

In the 1990s, with the passing of Maryland’s Forest Conservation Act and the beginning of stormwater management practices for land development activities, demand for Biohabitats’ services increased. In addition to preparing forest conservation plans requiring reforestation of natural deciduous forest habitat, Biohabitats began exploring the integration of natural systems to manage and treat stormwater runoff from impervious surfaces. Working for Prince George’s County Maryland, we undertook groundbreaking research to develop soil and planting guidelines for a novel technique to treat stormwater runoff: bioretention. Today, bioretention and rain gardens have become ubiquitous tools in filtering pollutants from stormwater runoff.

In the 1990s, Biohabitats began helping communities identify and understand the causes behind their water quality problems and develop strategies to address them.

Many of our early watershed studies and management planning efforts were conducted at the municipal level, but as our expertise in this area grew, so, too, did the scale of many of these efforts.

By 2009, for example, we were helping Baltimore County and the City of Baltimore organize and prioritize concrete action items to jointly address stormwater, community greening, and public health in their shared regional watersheds. In the last decade, we have been working with communities throughout the country with large-scale water quality improvement initiatives. For example, we recently helped the Ohio DNR and the City of Sandusky develop a Strategic Implementation Plan that prioritized coastal wetland restoration projects to improve water quality and habitat in the 64-square-mile Sandusky Bay.

Many environmental firms offer solely ecological restoration design and consulting services, our approach from the beginning has been to offer restoration construction services as well. We've always believed that to better understand the interconnected relationships, structure, and function of ecosystems, we needed to have first-hand, on-the-ground experience in reconstructing them. Today, we offer clients both design-build and self-perform restoration construction, and we couldn't imagine not doing so.

With design-build, we serve as the at-risk general contractor for projects like river and stream restoration, tidal and non-tidal wetland restoration, native grasslands and prairies restoration, forests and woodlands restoration, invasive species management, along with green infrastructure for municipalities and cities. In 2015 Biohabitats launched a self-performing restoration construction practice in the Cascadia Bioregion based out of Portland, Oregon. Working for clients like Clean Water Services, the U.S. Fish & Wildlife Service, the Columbia River Estuary Study Task Force, and the Pacific Conservation District, this work has focused on large river restora-

tion and dam removal projects to restore endangered salmonoid habitat, manage invasive species; and revegetate riparian habitat.

The United Nations declared the 2020s to be the Decade on Ecosystem Restoration. I believe we have entered the Century of Ecosystem Restoration. It is essential if we are to reverse climate change, halt the loss of biodiversity, address water and food insecurities, and right environmental injustices.

**CCBJ: What have been the rough milestones in growth in terms of numbers of employees, and what kind of partners have you teamed with in order to expand your service base?**

Bowers: Biohabitats has experienced the same highs and lows as many AEP/E firms over the last 40 years, but our unique business model and our array of services have helped flatten some of those swings. Our work is distributed amongst the public, private and non-profit sectors and spread across different bioregions throughout North America, and this diversity has helped us weather economic downturns. Demand for the services we offer – ecological restoration, conservation planning, nature-based solutions, green infrastructure, urban ecology, rewilding, integrated water strategies and environmental justice – has been on a steady incline for the past 30 years, with no end in sight!

Our goal is not to grow for growth's sake, but to practice pragmatic development guided by a purpose-driven culture that prioritizes work/life balance and wild nature. We are very purposeful about matching our hiring needs with long-term sustainable growth. It's the antithesis of growing big and fast and extracting as much equity as possible at the expense of people, communities, and the environment. By practicing this philosophy – Wholeness – we have experienced very little turnover. When our Team Members thrive, our clients thrive, and Earth benefits.

As our practice has evolved, we've found that collaboration with other firms, organizations, communities, subject-matter experts, indigenous knowledge keepers, and marginalized peoples is essential, given both the complexity and systemic nature of the problems we are trying to address. While we sometimes team with local subject matter experts to reinforce our own in-house expertise, we also routinely team with allied design disciplines including architects, landscape architects, civil engineers, and planners.

What has changed over the years has been our collaboration with indigenous peoples, people of color, and marginalized communities. There is so much wisdom and deep-time knowledge of ecological relationships held by indigenous peoples that science or short-term observation alone cannot reveal. Equally, the disproportionate impact of environmental hazards and the lack of access to nature's benefits for people of color and marginalized communities has a direct bearing on our ability to halt the biodiversity extinction and reverse climate change. It takes an inclusive ecosystem of stakeholders to make systemic change.

**CCBJ: Have projects in restoration become more integrated and multifaceted over time, or are still the majority of projects one-off fix-it type of initiatives?**

Bowers: When the formal practice of ecological restoration first emerged in the 80s it was all about restoring to 'pre-disturbance', or past conditions. With the rise in awareness of climate change, trophic cascades, nutrient cycle imbalances, pre-colonization land interventions, etc., selecting a 'past' condition as a template for restoring an ecosystem is no longer a consideration. Now, we think about what it means to 'restore the future'.

While many restoration initiatives are one-off type projects, there is a growing recognition that we need to look at systemic causes of ecosystem degradation

and address them in a holistic manner. We are seeing this play out by both addressing the root causes leading to degradation and scaling up restoration interventions. A few examples include our work with Fairfax County, Virginia and community stakeholders to assess, understand, identify, plan, design, implement, and monitor restoration interventions to improve stream water quality, riparian habitat, and biodiversity on a watershed scale. This holistic approach has not been tried before.

Similarly, we worked with the **Nature Conservancy** and a coalition it founded, the **Metro Denver Nature Alliance**, to develop a regional conservation plan for the Front Range of the Southern Rockies. Working with a team of ecological and social scientists and a multi-jurisdictional leadership team, we synthesized multiple habitat criteria and climate resiliency factors to develop a conservation blueprint. This regional, multi-scale holistic plan, which includes core habitat areas, wildlife corridors, critical conservation gaps, connectivity barriers, and important conservation and restoration opportunities, enables Metro Denver Nature Alliance to prioritize actions in a way that value both people and natural landscapes.

**CCBJ: Given the impact of our species on nature, what percent of our landmass would you estimate has been degraded, and what percent of that degraded land mass do you think has realistic potential to be restored, completely understanding that both these terms degradation and restoration are subjective terms?**

Bowers: According to the UN, up to 40% of the world's land has been ecologically degraded, and more than 70% of the earth's land has been altered by human activity. The extent of land degradation is a complex and dynamic issue that varies across regions and ecosystems. Human activities, such as deforestation, agriculture, urbanization, mining, and pollution, have undoubtedly contributed to land degradation. However, estimating the exact per-

centage of land that has been degraded is challenging, as it depends on various factors and definitions of degradation. Our attention should not only should not only be focused on land, but at sea as well. Our oceans, bays, inlets and lakes are in trouble too. According to NOAA, up to 40% of the world's oceans are heavily impacted by human activities, driving many species to the brink of extinction. Currently, only about 15% of land and 3% of marine areas are protected globally.

Many scientists, governments and NGOs are suggesting that we need to set aside 30-50% of the earth's surface to ensure the long-term survival of biodiversity. The U.N.'s Global Framework for Managing Nature calls for at least 30% of land and sea areas be conserved by the year 2030 – 30X30 Target. This target was recently adopted by the Conference on Biological Diversity COP 15 and the US has also initiated efforts to conserve and restore 30% of lands and waters by 2030. Other organizations like **Half-Earth** are calling for half the Earth's surface to be designated a human-free natural reserve to preserve biodiversity. Recent research reveals that 44% of Earth's land area requires conservation and restoration to protect biodiversity.

In 2015 I had the privilege of attending the Tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP10) in Nagoya, Japan, where I had made a formal intervention to the Parties to support ecological restoration as a tool in the fight to save biodiversity and called for the development of practical guidance to help Parties restore degraded ecosystems. COP 10 signatories adopted a Strategic Plan for Biodiversity 2011-2020 that included the Aichi Biodiversity Targets 14 and 15, which call for restoring and safeguarding ecosystems that provide essential services and restoring a minimum of 15% of degraded ecosystems by 2020. Recognizing that this goal was not achieved, the UN has made 2021-2030 the UN Decade on Ecosystem Restoration, with primary purpose of putting the

world on track to ramp-up in-the-ground restoration projects.

To meet these goals, I believe several things need to happen. First, we need to protect and conserve intact and relatively intact ecosystems immediately, no exceptions. We can't keep chasing our tails. Second, we know that habitat loss and fragmentation are the leading causes of biodiversity loss and the collapse of ecosystem processes, so we must identify areas where we can, with minimal restoration effort, greatly increase the size of habitat patches and reconnect them through vegetative corridors.

Without large, interconnected areas of habitat, we not only see losses in species types and numbers, but also in genetic diversity and overall ecosystem function. Continental-scale wildways, like those promoted by **The Wildlands Network** in the US, are desperately needed, along with greenprint programs being promoted by state agencies, **The Nature Conservancy**, and other regional conservation organizations. Third, we need to strategically identify and implement restoration opportunities on the local level that support and connect to regional initiatives. The sum is greater than its parts.

Fourth, we need to do all of this through the lens of equity, inclusion, and justice. Restoring nature is just as much about restoring our social and cultural divides. And fifth, all of our efforts should be adaptively managed. Nature is messy, unpredictable, and subject to our political and economic whims. An adaptive management framework builds in a process for making good decisions in the face of critical uncertainties. While there are many other factors that need to be considered, including reducing global consumption and managing population growth, taking these five actions could give us a good chance in achieving 30X30 or even Half-Earth.

**CCBJ: What kind of resources helped start you on your journey towards modi-**

### **fyng your ownership and shareholder system, converting from an S corp to a certified B Corp and then eventually setting up the Perpetual Purpose Trust?**

Bowers: Some good advice I received a few years ago was to begin thinking about your exit strategy the day after you start your business. Unfortunately, I didn't receive that advice until I was 30+ years into my career. My first inclination was to give our shareholders and Team Members a chance to purchase my shares through an employee stock ownership plan (ESOP) but things quickly became clear to me. First, while there was interest from some shareholders to increase their ownership stake in Biohabitats, it wasn't nearly enough to buy me out. Second, there was nothing to stop future generations of shareholders from changing Biohabitats' mission or selling the company to the highest bidder, regardless of their alignment with it.

As I began thinking about how I would recoup the sweat equity I had poured into the company over the past four decades, I also pondered how to best position Biohabitats so that it could remain faithful to its mission and values while continuing to make a positive impact for the planet long into the future. This ultimately led me to write down a set of guiding principles to help me navigate available options. The one principle that served as my north star was for Biohabitats to always be 'in-service to Nature.' For me (and all Biohabitats shareholders), locking in Biohabitats mission and purpose for the long term was more important than maximizing my exit-value. These guiding principles proved to be one of the greatest resources in helping me decide which path to take with the ownership transition.

At the same time that I was exploring ESOPs, I was introduced to the concept of steward-owned businesses through a leadership forum to which I belong. The more I learned about steward ownership, the more excited I became. Unlike ESOPs, where profit serves employee sharehold-

ers, with steward-owned companies, profit serves purpose. And unlike ESOPs where the company is a commodity, salable to the highest bidder, the steward-owned company is locked into its purpose in perpetuity. Not only did this model align with my guiding principles, it also demonstrated to me that there was another way to practice business that didn't require the relentless extraction and objectification of people and nature.

### **CCBJ: How did the traditional business ownership advisors respond to your philosophical approach to life and business and how did you find the AOA or other support in your undercover mission to reinvent capitalism?**

Bowers: Over the years we have enlisted various business advisors to provide guidance on financial performance, project management, business development, and more recently, acquisitions, mergers, and valuations. While all of them have provided nuggets of good and useful information, I've learned that standard business models are not a good fit for Biohabitats. Top-down, process oriented, people management heavy models do not align well with my way of thinking.

When I started to seriously consider steward ownership, I naturally wanted to know what businesses had already taken the leap. **Organically Grown Company (OGC)**, the largest independent produce distributor in the country, started out as a non-profit, morphed into a grower's cooperative, shifted to an S-Corp, and eventually became a Perpetual Purpose Trust.

I learned that OGC spun off a consultancy, **Alternative Ownership Advisors (AOA)**, to share with other companies their expertise and network of professionals. After our first call, I knew that the folks at AOA both understood and appreciated my philosophy on business and the direction I envisioned for Biohabitats. I'm sure that being in the organic produce business where soil health, regenerative farming

practices and building community well-being certainly contributed to the instant comradery. They were already two steps ahead of us in reinventing capitalism.

### **CCBJ: On a personal note what were your other inspirations that got you into the environmental business in the first place?**

Bowers: I spent many of my summers as a kid at the beach and along the coastal marshes of barrier islands. I took up rock climbing, mountaineering and backcountry camping during college. Looking back, I think it was a cumulative effect of spending a lot of time outdoors, traveling, exploring, reading, and learning what the world was like before people became so ubiquitous.

### **CCBJ: What have been the most compelling pieces of evidence you have witnessed of climate change in your lifetime, both personally and professionally?**

Bowers: It's hard for me to separate professional and personal experience. I live along the Southeast coast of the U.S. In the past 10+ years, I've noticed an increase in the number of days we experience tidal flooding. I've had to evacuate three times in the past five years due to hurricanes. In the six previous years I only had to evacuate once. I'm also noticing native plants flowering earlier in the season and some bird species migrating through earlier in the year.

Given the climate resiliency work we do, I'm exposed to a wealth of both scientific data and anecdotal evidence on changes in sea level, storm surges, tidal nuisance flooding, heat levels, species survival, and health risks. That said, my greatest concern is that climate change is also serving as a catalyst for accelerating the loss of biodiversity. We can reverse climate change; we can't reverse species extinction. Fixing climate change will not halt the loss of biodiversity. We must do both. ✨

## The Natural Succession of Business by Biohabitats

*Adapted from the Earth Day 2023 edition of consulting firm Biohabitats' quarterly 'Leaf Litter' entitled Purpose Over Profit: Locking in our mission forever, and Succession: Why & How We Decided to Become a Perpetual Purpose Trust by founder Keith Bowers*

**W**hen an ecological community's structure or composition changes over time, we refer to it as "succession." It is a process we often think about when considering the restoration trajectory.

But change in the structure of Biohabitats? For most of my career, that is not something I spent a lot of time thinking about. I was too busy loving my work and what Biohabitats was becoming to think about it transitioning in any way. When my family and I moved from Baltimore to Charleston, South Carolina in 2010, however, the idea of ownership transition began to creep into my head. I was 50 years old at the time, and I knew that if the company was to continue pursuing its mission to "restore the earth and inspire ecological stewardship" and hold onto its core values long into the future, I needed to think beyond my own lifespan. By 2020, I was ready to begin a more formal process of exploring ownership transition options.

As with any important decision, this one required some reflection on the past. I founded Biohabitats in 1982 as an S corporation, which means that shareholders own and are legally and fiduciarily responsible for the company. Right from the start, we did things a little differently. I wanted to provide team members with the opportunity to own a stake in the company and share in its profits, so we set up a private stock ownership plan and developed a program where team members could earn and purchase shares of Biohabitats. Because we initiated open book management from the beginning, every team member—even those who were not shareholders—had, and continue to have a strong understanding of, and stake in, the financial health and viability of the organization.

I also wanted team members to participate in the governance of Biohabitats, and in 2008, we implemented our "Leadership Council." With rotating positions and a component for emerging leaders, this model of governance provides the opportunity for anyone in the company to participate in the highest levels of leadership and operations.

In 2016, we began codifying our culture through what we call Headwaters. It is a living document that lays out who we are,

what we do, and most importantly, why we do it. It articulates our mission, five core values, and our DNA tenets of Self Governance, Wholeness, and Evolutionary Purpose. It's a purposeful attempt to craft a better way to run an organization and structure a business that celebrates all life on this planet. It also made us rethink and realign all our company policies to better align with our mission, values, and DNA. Culture needs to drive policy, not the other way around.

In 2018, Biohabitats filed to become a Benefit Corporation. This overlay to our S corporation designation gave us the legal ability to place social and environmental values on equal footing with fiduciary responsibility. That same year, we became a Certified B Corporation™, signifying that we meet the highest standards of verified social and environmental performance, transparency, and accountability in balancing our profits and purpose.

Threaded through all of these stages in our development as a corporation was the importance of our mission and purpose. In retrospect, all of these initiatives set the stage nicely for a transition to a Perpetual Purpose Trust. But it took some exploration for us to land on that model as a perfect fit.

In exploring ways to transition ownership, three things remained at the forefront of my mind.

First, as a husband and a father, I wanted to make sure that my family would be financially secure as I contemplated my future retirement. It was important to me (and to the other shareholders of Biohabitats) that we would be fairly compensated for the equity we have invested in the company. At the same time, I wanted to ensure that Biohabitats would have the capital it needed after the transition to continue to develop and thrive.

Second, Biohabitats' culture, values, and DNA of Self Governance, Wholeness, and Evolutionary Purpose are at the heart of who we are. They define us, and I believe they are why we retain such exceptional, passionate team members who are so committed to our craft and mission. This is really important to me, and I wanted to make sure that this framework is carried forward.

Third, at Biohabitats, we have an undercover mission to reinvent capitalism. Maximizing shareholder financial returns is not what drives us. In fact, we believe this short-term driver is one of the leading causes of social and political inequity, climate change, biodiversity loss, and systemic racism. Traditional business models do little or nothing to address these issues head-on. While we are far from perfect, we believe there is a better way to practice capitalism for the good of the Earth and human well-being. We wanted to find a business model that not only allowed us to perpetuate our purpose, mission, and DNA, but one that embraced Nature as one of its primary stakeholders.

As I was researching alternative business models, I stumbled upon the concept of a non-charitable trust as a model that would benefit and protect our purpose rather than a person, or individual shareholders. Not fully understanding how this model compared to other governance frameworks, I encouraged our Leadership

Council to establish an Ownership Transition Committee so that team members and internal shareholders could evaluate and co-create a new ownership and governance model to protect our purpose and enshrine our mission in perpetuity. We knew we needed some help, so we retained Alternative Ownership Advisors (AOA); a consultancy born from Organically Grown Company, one of the first companies in the U.S. to become a steward-owned company.

Through a series of workshops with AOA, we explored many ways to transition ownership, including traditional, such as transferring ownership internally to existing and new shareholders, and merging with or being acquired by another firm. Transferring ownership internally was ruled out due to the cost of investment required by shareholders. It also failed to address the idea of protecting our purpose for the long term. Although I had been relentlessly approached by private equity investors and firms, allied design firms, and family offices interested in acquiring us, not one shared our mission, values, and culture, or seemed to have a genuine interest in changing the way capitalism is practiced for the betterment of the world.

We also looked at the possibility of becoming a worker cooperative, like REI, or officially converting to an Employee Stock Ownership Plan. Both these options were more appealing than a merger or acquisition, but both are structured to maximize profit at the expense of the company's purpose, and both are structured as a commodity saleable to the highest bidder. Neither ensured that Biohabitats would not be sold in the future, and neither would codify or provide long-term protection of our mission and purpose.

We then began seriously exploring the idea of "stewardship" or "trust" ownership. Steward ownership has become a popular model in Europe, and it is beginning to gain momentum in the U.S. Steward ownership companies are committed to two overarching principles:

**Self-Governance.** Control stays inside the company, with the people directly connected to stewarding its operation and mission. With the control of the company held in a trust, it can no longer be bought or sold.

**Profits Serve Purpose.** The wealth generated by a steward ownership trust cannot be privatized. Instead, profits serve the mission of the company, and are either re-invested in the company and its stakeholders or donated.

The more we learned about steward ownership, the more certain we were that it was the model for us. We then had to decide which of two types of steward ownership we believed was the best fit: the Perpetual Purpose Trust (PPT) or the Employee Ownership Trust. With the PPT, the trust owns all of the equity of the company, and all profits go to serving the purpose of the company, including sharing with employees and stakeholders.

While the company is self-governed, a Trust Stewardship Committee is established to ensure that the company is accountable to its purpose at all times. The employee ownership trust is very similar to the PPT, except it defines who governs the company and benefits from its value more narrowly as just employees.

Because our purpose, mission, values, and DNA make us who we are, we settled on the Perpetual Purpose Trust. It enables us to lock in our purpose, mission, and values without being beholden to any investors not involved in the day-to-day business of Biohabitats. Best of all, the PPT presents a new vision for businesses practicing in a capitalist market. It shifts the social contract of businesses. Rather than pursuing unrelenting economic growth to satisfy individual shareholders, we get to develop ecological stewardship in a way that benefits all stakeholders. It's a matter of choosing sustainable, regenerative development over extractive growth.

In the fall of 2022, just as we were coming to this conclusion, Patagonia announced that they were going purpose, and transferring 100% of the company's voting stock to the Patagonia Purpose Trust. While they stole our thunder, they didn't steal our resolve. They reinforced the idea that we are on the right path. All species need oxygen for breathing. But breathing is not their purpose. Just like we need financial returns to stay in business, it is not what drives us. In ecological succession, we see that survival of the fit habitually relies on cooperation and shared purpose as a strategy for evolution. That is what we are doing at Biohabitats. We are putting our shared purpose and values first. ⚙️

