

Biohabitats

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Annual Benefit Report 2020

Keith Bowers, FASLA, PLA, PWS President and Founder Landscape Architect/Restoration Ecologist Southeast Atlantic Bioregion Team Leader

From the President

Nature guides and inspires everything we do at Biohabitats, from the solutions we create to the way we operate and structure our firm. So, when it came to pursuing our mission amidst the unprecedented challenges of 2020, we had our model. Nature adapts to changing conditions and evolves to persevere. Like a seedling in the forest, we bent toward the light, and as a result, we grew. We persevered.

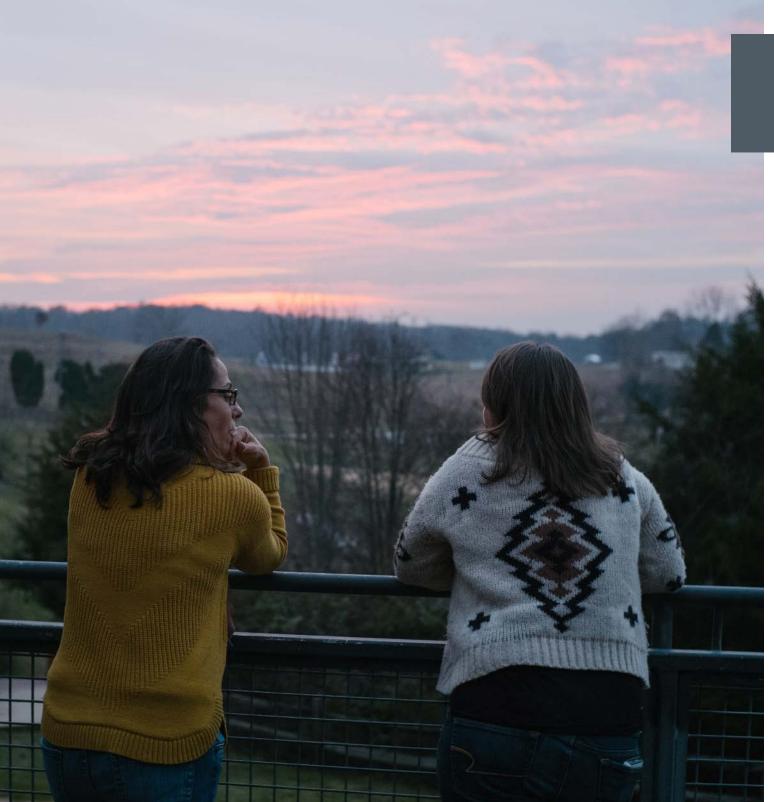
The pandemic required many challenging operational shifts, but we carried on, knowing that environmental issues cannot be quarantined. The Spring 2020 issue of our e-publication, Leaf Litter, explored the link between habitat degradation and the spread of zoonotic disease, a topic no longer relegated to faraway places. What we learned intensified the urgency with which we approached our work to conserve and restore intact ecosystems. The important role of parks and natural areas to public health and well-being throughout 2020 reinforced our resolve to ensure that the benefits yielded by our work in such spaces are not only abundant, but equitably distributed. 2020's political climate was disheartening, but we stayed the course with a deepened commitment to the people and planet we serve. The Black Lives Matter movement prompted honest reflection on the shortcomings of our field and our firm, and it strengthened our resolve to weave equity and environmental justice into all of our projects.

Persistence through such a tumultuous year required humility, patience, and open-mindedness—traits that have made us stronger as an organization. And it is with that new strength that we now dive head-first into hope. 2021 marks the start of what the United Nations has declared the "Decade of Ecosystem Restoration." As a pioneer of ecological restoration, we intend to continue demonstrating our leadership in the profession – to our colleagues and clients, to the communities they serve, and to the world. Here's to hope, and to a world in which the prevailing means of progress is no longer "working from home" but working for home, our ultimate home: Earth.

Be well and be wild,

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Keith Bowers



Our Values & Mission

Restore the Earth & Inspire Ecological Stewardship. Inspire communities to rediscover a sense of place through preserving indigenous ecosystems, restoring biological diversity, and inspiring ecological stewardship.

REVERE WILD NATURE

Nature, and the full array of life this planet has to offer, is at the very core of what we are about. Increasingly we find ourselves living in an artificial world. A world where ecosystem processes are compromised and biodiversity is marginalized and commoditized. Nature, in its wildest and raw form, is at the essence of what we are about.

Wild nature provides a blueprint for conserving, restoring, and regenerating the full expression of biological diversity and ecosystem functions to ensure our survival. It is at the heart of our collective souls.

HEAL COMPASSIONATELY

Nature is under assault. We are entering the next great extinction of flora and fauna. Our climate is shifting faster than ever before, and many of our ecosystem processes are beginning to break down. We know it's not enough to slow down or even halt these impacts. We know that what we need to do is heal by making whole our relationship with the earth and each other. The core of what we do-conservation, restoration and regeneration, is about healing. And healing embodies a sense of caring-caring for the land and caring for each other.

PRACTICE WHOLENESS

Life on Earth is interconnected, and that damage to a part entails damage to the whole. Thinking and acting whole means feeling a sense of connection to all of life—to other people, to new ideas, to the world around us. We have a responsibility to honor our obligations to future generations

MISSION

of all beings and to take their interests into account when we reflect on the consequences of our actions. Accordingly, our virtues are cooperation, respect, prudence, foresight, and justice. Living by the principle of reciprocity, giving as we receive, re-creates the richness of life.

ACT WITH UNCOMPROMISING INTEGRITY

Integrity in our work is doing our best to restore biodiversity and ecological processes. We must seek ways to employ science to objectively evaluate the performance of our projects, accept our findings and continuously learn. No matter what we do, if we don't have integrity then none of our innovation, creativity, passion, commitment, synergy, or affirmation for life will mean anything to our constituency. While science should lead the way, it must be tempered by keen observation and the stories that are borne from traditional ecological knowledge. We must do what is right, even when it is difficult or less profitable.

EVOLVE TO BE THE BEST

Everything on this earth is in a continuous state of evolving, refining, improving, adapting, enhancing... changing. If we aren't evolving, we aren't relevant. Being inquisitive, curious, and probing should be encouraged and celebrated. As we evolve, we will fail, and that is many times the most important part of evolving. Learning from our successes and failures is built into everything we do. In order to be our best, we must encourage testing, objective analysis, tinkering, innovation, and creativity.

Certified

Corporation

B Impact Assessment

Biohabitats is a Certified B Corporation[®], which means that our overall environmental and social performance is comprehensively measured and verified by a credible, transparent, and independent third party. For that third party, we selected B Lab®, a 501(c)3 nonprofit organization that serves a global movement of people using business as a force for good.

Through a tool known as the B Impact Assessment, B Lab® provides a rigorous, point-based evaluation of a company's practices in the areas of governance, workers, community, environment, and customers. The B Impact Assessment enables us to assess how we perform against dozens of best practices and develop a roadmap of improvements to deepen our impact.

The B Impact Assessment scores environmental and social performance on a 200-point scale. To be certified, a company must score 80. Our most current score is 110.9.

To date, B Lab[®] has certified 2,655 companies representing 150 industries in 60 nations. As a Certified B Corporation[®], Biohabitats is part of a global movement of people using business as a force for good.

More information about B Lab[®] and the B Impact Assessment is available at <u>bimpactassessment.net.</u>

B Impact Scorecard

GO	VERNANCE
N	IISSION + ENGAGEMENT
С	ORPORATE ACCOUNTABILITY
E	тніся
Т	RANSPARENCY
N	IISSION LOCKED
wo	RKERS
С	OMPENSATION + WAGES
BEN	NEFITS
Т	RAINING + EDUCATION
V	ORKER OWNERSHIP
N	IANAGEMENT + WORKER COMMUNICATION
JC	DB FLEXIBILITY/CORPORATE CULTURE
со	MMUNITY
JC	DB CREATION
DIV	VERSITY + INCLUSION
С	IVIC ENGAGEMENT + GIVING
L	OCAL INVOLVEMENT
S	UPPLIERS, DISTRIBUTORS + PRODUCT
N	/A POINTS
EN	VIRONMENT
L	AND, OFFICE, PLANT
INP	UTS
С	DUTPUTS
E	NVIRONMENT PRODUCTS + SERVICES INTRODUCTION
L	AND/WILDLIFE CONSERVATION
cu	STOMERS
S	ERVING IN NEED POPULATIONS

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•				3.1
•				0.9
•				1.1
				4.7
•				10.0
				33.6
				9.0
	•		•	9.9
•				2.5
				5.5
•				3.7
•				2.7
				13.8
				2.1
				3.1
				4.5
				2.0
				0.5
			•	43.5
				7.9
				3.2
				2.2
				N/A
				30.0
				30.0 0.0
				N/A

OVERALL BIMPACT SCORE





Restore the Earth

Even with lockdowns, travel restrictions, and a host of new safety protocols, we were able to complete 177 projects, launch 194 new ones, and continue ongoing work on more than 200 projects initiated in past years. Together with our clients, partners, and engaged stakeholders and citizens, we persevered in restoring degraded ecosystems, conserving nature, and strengthening community resilience.



We began helping the City of Charleston, SC identify and prioritize opportunities to implement nature-based solutions and green infrastructure to protect communities in the **Church Creek** basin while improving ecosystem services and access to nature. Further up the Atlantic coast, we teamed with New York/New Jersey Baykeeper to evaluate **<u>nature-based approaches</u>** for protecting the shorelines and communities along Sandy Hook Bay.

Biohabitats helped create an updated master plan to guide the evolution of the University of Utah Research Park campus into a vibrant, urban community that supports the University's research mission while also improving regional ecology and the quality of life for future residents.

The City of Atlanta released its **City Design: NATURE**, which helps to answer the question of how the city can be designed "For People, For Nature, and For People in Nature." It is a detailed and deepened exploration of the processes by which the core value of Nature can be fulfilled. It encompasses scientific, technical, and social research, along with the ideas and opinions of Atlanta residents. We led this work for the Department of City Planning.

Atlanta residents participate in City Design: NATURE.

Restore the Earth

RESILLIENCE & PROTECTION

We teamed up with the Nature Conservancy of Colorado to begin the **Denver metro area's first regional scale ecological** assessment, which will help the Metro Denver Nature Alliance identify high-priority places in the multi-county region to equitably protect, connect, restore, and enhance.



With funding from Ohio's new H2Ohio program, we worked with the Black Swamp Conservancy to transform 54 acres of frequently flooded farmland along the Sandusky River into the **Redhorse Bend** Nature Preserve, which improves public access to the river while enhancing regional habitat and water quality.

Construction began in New Jersey's **Teaneck Creek Park**, where we've been working with the Bergen County Department of Parks and the Teaneck Creek Conservancy to restore ecological function, public use, and beauty to one of the last remaining pieces of open space in the County.

social goals.

Restore the Earth

TRANSFORMATION & REGENERATION

We helped the Maryland State Highway Administration complete the restoration of three miles of **Bacon Ridge Branch**, a stream that had been degraded by deforestation and agricultural land use. Constructed using woody material found on site, the low-impact project is a novel, award-winning approach to restoring water quality, ecological function, and habitat. Adjacent to a camp that helps young people of all backgrounds experience outdoor adventure and fun, the stream serves as a model addressing ecological and



Restore the Earth

RADICAL SUSTAINABILITY

In 2020, we began designing water and wastewater infrastructure for <u>The Seventy-Six</u> building in Albany, NY. One of the first triple Net Zero (Energy, Water, and Waste) multifamily/mixed-use projects in the U.S., the project includes modern, affordable housing and seeks to create economic and environmental equity.

Georgia Tech's <u>Kendeda Building for Sustainable Design</u> performed well during its first full year in operation. Its Net Positive water infrastructure, which we designed to provide all of the building's water needs by harvesting, treating, and reusing rainwater, greywater, and condensate on site, was among the many systems audited over the year. With that first-year milestone passed, the Kendeda Building is well on its way to becoming the first Living Building Challenge certified facility of its size and function in the Southeast."

The City of Chicago Park District proceeded with construction on **Big Marsh Bike Park**, a 97-acre public natural area on the city's Southeast Side. Reclaimed from industry, the site includes Biohabitats-designed constructed wetlands for wastewater treatment, the first of their kind in Chicago.



estuary ecosystem.

Restore the Earth

DEMONSTRATING STEWARDSHIP & INNOVATION

New Yorkers seeking solace in the outdoors had a new public amenity to enjoy as the city's **Pier 26**, a 2.5-acre public pier dedicated to Hudson river ecology, opened to the public. The Pier's 15,000-square-foot Tide Deck, which we helped design, enables people to enjoy and learn about the ecotones of a northeast Atlantic

Other opportunities for urban residents to experience coastal ecology were available in Baltimore, where we continued ongoing work on two tidal marsh floating wetland projects. We maintained modular floating wetlands we designed and deployed in the publicly accessible **Bond Street Canal**, and we continued monitoring a prototype floating wetland at the highly visible campus of the National Aquarium.

Several zoos applied their conservation and stewardship mission to its own backyard with help from Biohabitats. SeaWorld San Antonio's **Turtle Reef Marsh**, for example, now features the first engineered salt marsh in an American zoological facility, which naturally enhances a sea turtle life support system.



Restore the Earth

CONSTRUCTING CONDITIONS FOR LIFE

With firm resolve and COVID-19 safety protocols in place, our construction team regenerated floodplains, restored critical habitat, stabilized waterways, installed green infrastructure, and opened up fish passage throughout 2020. Here are just a few examples.

We installed over 150 root wads and logs in <u>Suter Creek</u> near Estacada, Oregon to provide channel complexity within this important salmon and steelhead spawning area. Using a heavy lift helicopter, we strategically placed each structure to encourage scour and pool formation, gravel aggregation, and cover. We provided the materials and field engineered the wood placements alongside wildlife biologists from the Oregon Department of Fish and Wildlife. Coho salmon were observed spawning in the project reach in the fall

We continued working with Clean Water Services on the restoration of <u>Chicken Creek</u> with a slate of habitat enhancement elements within Oregon's Tualatin River National Wildlife Refuge. Within the newly realigned channel, we installed over 50 log jams and more than 20,000 native trees and shrubs.

We worked with Clean Water Services to realign a straightened portion of urbanized **Fanno Creek** in Beaverton, Oregon. The restoration reconnected flows to the floodplain, enhanced aquatic and backwater habitat, stabilized banks, and improved a popular path. The project involved the installation of over 500 logs and rootwads and more than 20,000 native trees, shrubs, and plants.



Restore the Earth

BUILDING CONNECTIONS

Our design-build team helped communities take their ecological restoration, green infrastructure projects from the groundwork of assessment, design, and permitting to in the ground. For example...

We helped the Left Hand Watershed Center restore a reach of Colorado's <u>Left Hand Creek</u> that had been severely degraded from the flood of 2013. We teamed with the City of Mentor, OH to design and construct the restoration of stream, riparian, and wetland habitat in the newly created Springbrook Gardens Park.

We helped restore a Use Class III trout stream on the active U.S. Army installation known as **Fort Detrick** in Frederick, MD. While relocating portions of the stream channel, we harvested and repurposed riffle material, which helped preserve and seed the newly constructed riffles with the existing native macroinvertebrate community.

We helped the District Department of Energy & Environment complete the **green infrastructure** portion of a recreation center that provides opportunities in an underserved neighborhood of Southeast Washington, DC. We removed impervious surface, provided stormwater treatment through the creative use of underdrains and bioretention areas, and installed a Furbish Smartslope Vegetated Retaining Wall with a custom plant palette that enhances seating areas.

Washington DC to assist the <u>Howard University Law School</u> address a large erosion problem on campus while treating stormwater, planting native vegetation, and engaging students in ecological and water quality issues. Our work set the stage for a solar panel project to be implemented by the University in the near future.



People & Culture

ELEVATING LEADERSHIP

The pandemic did not prevent us from promoting deserving team members and entrusting them with increased responsibilities.

We promoted two women to oversee company operations: Claudia Browne became Western Bioregions Operations Team Leader and Jennifer Missett became Eastern Bioregions Operations Team Leader.

James Way was promoted to the position of Proposal Director.

Mike Trumbauer was promoted to the role of Team Leader for the Chesapeake/Delaware Bays Bioregion.

People & Culture

SAFEGUARDING OUR CULTURE AND ONE ANOTHER

and development.

Maintaining our commitment to pay scale equity, we hired a thirdparty consultant to conduct an equity compensation analysis, which we will use to continue making needed adjustments and to benchmark our progress.

of a pandemic.

Practicing wholeness and healing compassionately are among our core values. Aware of the psychological toll and logistical burdens of 2020, we implemented new programs to support our team. We delivered workshops on handling stress, burnout, and isolation, and provided team members with access to an outside consultant for additional support. We provided a stipend for technology and home office upgrades. We continued our unlimited PTO and flexible scheduling policies, and encouraged and helped team members to apply for Federal FMLA to accommodate unexpected family needs.

Recognizing the need to consolidate human resources responsibilities and provide a support mechanism for our culture, we created the position of People & Culture Leader, which we plan to fill in 2021. The People & Culture Leader will work to safeguard and improve our culture and team member engagement, training,

We continued our series of "brain gardens," where team members and outside speakers shared knowledge and experience on topics such as computational design for flora and fauna, sensing the landscape, 2D wetland modeling, and engagement in the time



People & Culture

LIVING OUR VALUES

Our Values Council, comprised of volunteer team members continued to ensure that our projects and operations aligned with our values. During 2020, the Values Council:

Refined the scoring component of the go/no-go process we use to determine whether or not to pursue project opportunities. The update further ensures that our projects and project teams are inclusive, and that environmental justice and equity are positively addressed within the scope of work.

Created and implemented a monthly internal outreach program in which team members were provided with material and resources offering self-guided exploration on topics including intersectionality, micro-aggressions, biases, and cultural representations.

The Values Council ended the year with a commitment to establish an indigenous Land Acknowledgement protocol for projects, and to learn and grow a deeper understanding of this in

Our 2020 Team

We are a mission-driven firm, united by our shared values. But we are also fueled by our individual passions and our desire to collaborate and have fun. Our collaborative, caring, and down-to-earth culture serves as the foundation for how we do what we do. To us, it is as worthy of stewardship as the ecosystems we work to protect and restore.

Lauren Anderson Miguel Arteaga Bryan Arvai Katherine Bartter George Battersby Joseph Berg Keith Bowers Edward Brown Claudia Browne Tristan Burwel **Quinn** Caralle Olin Christy Derec Chumley James Cooper Tanaira Cullens Kevin Dahms Thomas Denbow Jennifer Dowdell Aiman Duckworth Audre'ana Ellis Erin English James Favret Lisa Feather

Adam Feuerstein Travis Flowers Francisco Garcia Antonio Garcia Ordonez Meghan Gloyd Suzanne Greene Kevin Grieser Crysta Grinnell John Herchl Jose Hernandez Orozco Destiny Hodges Suzanne Hoehne Dillon Houshour Jordi Kellogg Matthew Koozer Michael Lighthiser Brett Long Justin Lyon lorge Martinez Ryan Masé Christopher Matroniano Ellen McClure Markku McGlynn

lennifer Missett Edward Morgereth Peter Munoz Amy Nelson essica Norris Kevin Nunnery Justin Park Reynaldo Perez **Rose Price** Christopher Rehak Erica Robak Sarah Roberts Juan Rovalo Andrea Rutherford Ann Sacia Rachel Salazar Bryon Salladin Tyler Schlachter Susan Sherrod Favio Solis Vince Sortman Michael Spina **Elena Stachew**

Doug Streaker Christopher Streb David Sullivan Katie Talley Susan Thamavong Michael Thompson Sergio Tovar Garcia Michael Trumbauer Jacques Varvel Leopoldo Vazquez ose Velazquez Reyes Velazquez Deborah Vere James von Rohr Jaylin Ward James Way Carson West Rachel Whiteheart Laura Wildman Neil Williams Rebecca Winer-Skonovd Shayla Woodhouse Gregory Zuknick

Bacon Ridge Branch at Elks Camp Barrett tour with Joe Berg.

SHARING KNOWLEDGE AND INSPIRATION

In 2020 we launched "Wednesdays at the Watering Hole", a free webinar series consisting of informal talks and Q&A sessions with Biohabitats Team Members on a variety of water-related topics. We explored living infrastructure, water and equity in urban planning, biophilic design and visionary climate resiliency strategies. Over 476 people from the conservation planning, ecological restoration and regenerative design communities participated.

We took deep dives into topics relevant to our field and share what we learned in our free, digital publication, Leaf Litter, which is now in its 19th year, with 75 issues. 2020 issues explored topics that were particularly appropriate given the year's climatic, viral, and political storms: conflict resolution, habitat degradation and the spread of zoonotic disease, and nature-based approaches to urban shoreline protection.

Team members shared knowledge by giving talks, lectures at 22 live and virtual conferences, classes, and events and by publishing papers, articles, and blog posts.

WALKING THE TALK

renewable energy.

of life. In 2021 we will begin to broaden our Climate Friendly program by exploring more and more ways to reduce and offset our carbon associated with our projects.

A raised planter provides treatment for rooftop runoff at Green Street Academy.

Our Climate Friendly policy includes the goal to be net-zero carbon in our business operations by 2025 and in our applied work by 2030. We are currently carbon neutral in our business operations. Many of our offices are powered in whole or partially by renewable energy, and we continue to work with our property owners to explore options for converting to

For 2020 we took a conservative approach by providing carbon offsets that match our 2019 footprint. Our offsets are purchased through Cool Effect, a nonprofit that helps companies offset carbon emissions by supporting high-impact, carbon reducing projects that promote human rights and indigenous agency, protect endangered species, provide developmental programs, and conserve ecosystems. We are honored to support three such projects:

> Native Alaskans Saving Lands works to protect and ensure long-term sustainable management of Alaskan rainforest on the Prince of Wales Islands by operating a sustainable economy led by Indigenous Alaskans.

Chestnut Mountain, located on land donated to The Nature Conservancy, promotes sustainable forest and habitat management, protects biodiversity, and provides a platform for education and research on the Cumberland Plateau of the Appalachians,.

For Peat's Sake (the Katingan Mentaya Project) is preventing release of greenhouse gases equivalent to 4 million tons of CO2 over 60 years by protecting and restoring 157,000 hectares of peat swamp in Indonesia while also supporting indigenous ways

We continued to support allied organizations and initiatives in 2020 through our membership in 1% for the Planet, volunteer and probono service, advocacy, and donations. We donated to the following organizations in 2020:

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The Goilden Acorn Award recognizes team members who embody the Biohabitats mission.

STRENGTHENING RELATIONSHIPS

Baltimore Compost Collective Black Swamp Conservancy Cool Effects Gowanus Canal Conservancy GrowOurOwn Johnson Creek Watershed Council Maryland Stream Restoration Association South Carolina Environmental Law Project South Carolina Native Plant Society West Creek Conservancy

Wild Diversity

We provided \$7000 of support to nonprofit organizations in charitable donations and sponsorships and donated \$1,000 to organizations chosen by staff Golden Acorn Award winners: New York/New Jersey Baykeeper, the South Carolina Native Plant Society, the Mountain Center, and Wild Diversity.

We remained signed on and committed to the following initiatives: We are Still In, Global Alliance for the Rights of Nature, Earth Charter, Clean Water is Good for Business



ADVANCING THE FIELD

In collaboration with other organizations, Bioworks, our research and development practice, aims to advance knowledge and technology to restore the earth and inspire stewardship. For 2020 Bioworks undertook the following initiatives:

In response to a proposed 7.8-mile seawall for the City of Charleston, South Carolina Bioworks and a coalition of local experts developed **Imagine the Wall**, an alternative, nature-based approach to protect the city from storm surge, sea level rise, and flooding.

Bioworks provided proof-of-concept and preliminary design for inwater platforms that will support colonies of freshwater mussels for the Floating Water Workshop, a proposed exhibit and demonstration classroom that will be anchored on the Schuylkill River near the Philadelphia Museum of Art.

Through Biohabitats' work along Irishtown Bend on the Cuyahoga River, Bioworks continues to advance **green bulkhead** design solutions. At a Superfund site in the Salt Lake City metro area, Bioworks identified widespread occurrences of biological soil crust (Syntrichia sp.) essential to soil stabilization, water infiltration, and fertility in arid ecosystems. We worked with the client to salvage and reuse the soil crust to jumpstart the sit's biological restoration.

Bioworks teamed with the University of Maryland to help test the efficacy of innovative media for filtering persistent organic compounds and heavy metals. In partnership with OLIN Lab, Bioworks began a research project with the University of Maryland to test the efficacy of glass sand to stabilize dredge material disposal sites. Bioworks teamed with Cornell University to review landscape architecture students' design solutions along the Bronx River.



Headwaters

Biohabitats is proud to share <u>Headwaters: A Guide to</u> Biohabitats' Benefits, Policies and Cultural Practices. We encourage you to explore how we operate Biohabitats, share and borrow what works for you and offer us your thoughts and suggestions. We take seriously our value – Evolve to be the Best.

Headwaters is a purposeful attempt to find a better way to run an organization that is good for people as well as all the species with whom we share this planet. It is framed by important questions: How can we reshape business that prizes cooperation, humility, and long-term thinking? How can our business serve ecological regeneration and conscientious consumption? In our work and operations, how can we celebrate all life on this planet, including the uniqueness, diversity, and evolutionary potential of all species?

Headwaters codifies our practices, ensures that our corporate policies and benefits are in compliance with prevailing laws and regulations, and provides a framework, moral compass, and ground rules that allow us to move in the same direction, with purpose, perseverance, and passion.

It prompts us to step-back and be reminded of our organizational philosophy, to continually question its usefulness, and to seek better ways of operating our business advancing our mission. It also provides a useful introduction to new Team Members who are joining us on this journey.

Bring on the Decade on Ecosystem Restoration.







Restore The Earth & Inspire Ecological Stewardship.

biohabitats.com

