NATURE'S TOOLBOX

Biodiversity, Art & Invention

BACKGROUND

"Nature's Toolbox" is an innovative traveling exhibition featuring contemporary artworks from around the world across a wide range of media. It is an engaging, informative, and entertaining exhibition that links nature's bounty to our everyday challenges. It is a celebration of both biodiversity and human ingenuity.

Earth is home to an estimated 10 to 20 million species, but only a fraction are known and scientifically classified. The interdependence among organisms and their environments sustains the conditions needed for survival by all living creatures: clean air and water, crop pollination, pest control, climate regulation, soil nutrients, and a diversity of plants and creatures, among other things. These links aren't commonly understood and, as a result, the importance of biodiversity is undervalued by most people. Species are disappearing at an alarming rate, claiming individual genes and entire ecosystems — and, along with them, the blueprints for a healthy planet and all who live here.

Some ecologists predict that half of all mammals and birds could be extinct within the next century, with similar loses in plants, marine life, and other species. Each loss carries with it a missing piece of life's intricate puzzle and the benefits it brings to human well-being.

"Nature's Toolbox" aims to light a path between our everyday activities and the loss of species and biodiversity. It will show how biodiversity contributes to the quality of our lives through health, climate, energy, culture, design and sustenance. Its goal is to demonstrate the potential to harness nature's designs to build a future in which human needs are met in harmony with nature.

ARTWORKS FOR CHANGE

CURATOR'S STATEMENT

Awareness is the first critical step in changing our individual and collective outlook from one that exploits nature to one that nurtures it; and from a mindset that separates us from the natural world to one that makes us part of it.

Art can help build awareness. Indeed, nature and science are inextricably linked to art in the environmental realm. While science measures the health of the planet, art helps us visualize our complex relationship to the natural world. Art has a unique set of tools to represent our world: irony and allegory, metaphor and humor. Science provides facts while art tells stories.

The need for environmental stories has never been greater. Earth is steadily crossing increasingly alarming thresholds of climate change and other environmental challenges. Biologists view human impact as the primary contributor to an emerging mass extinction. Some scientists believe the present rate of extinction could eliminate most species on Earth within the lifespan of our great-grandchildren.

People are hungry for positive images of the future. Effectively told, stories can have a powerful impact in determining how our future unfolds. The stories at the heart of "Nature's Toolbox" offer fresh perspectives and solutions, demonstrating that humanity is itself, an essential piece of this system, and the salvation not just of nature, but ourselves.

Randy Jayne Rosenberg
Curator, "Nature's Toolbox: Biodiversity, Art & Invention"
Executive Director, Art Works For Change

ART WORKS FOR CHANGE

EXHIBITION OVERVIEW

Earth is home to as many as 20 million species, but only a tiny fraction are known and scientifically classified. The interdependence among organisms and their environments sustains the conditions needed for survival by all living creatures: clean air and water, crop pollination, pest control, climate regulation, soil nutrients, and a diversity of plants and creatures, among other things. These are the “nature’s services” that support us, every hour of every day, for free. The link between disappearing species and human well-being isn’t commonly understood and, as a result, the importance of biodiversity is often undervalued, as free things often are.

The reality is that species are disappearing at an alarming rate, claiming individual genes and entire ecosystems — and, along with them, the blueprints for a healthy planet and all who live here. Some ecologists predict that half of all mammals and birds could be extinct within the next century, with similar loses in plants, marine life, and other species. Each loss carries with it a missing piece of life's intricate puzzle and the benefits it brings to human well-being. The price we pay for these losses is incalculable.

”Nature’s Toolbox” aims to light a path between our everyday activities and the loss of species and biodiversity. It shows how biodiversity contributes to the quality of our lives through health, climate, energy, culture, design and sustenance. Its goal is to demonstrate the potential to harness nature's amazing designs and blueprints to build a future in which human needs are met in harmony with nature.

At its core, "Nature’s Toolbox" is a celebration of biodiversity, creativity, and ingenuity.

ARTWORKS FOR CHANGE

FOUR THEMES

"Nature's Toolbox" is organized along four themes:

1. What is biodiversity?
2. Why is biodiversity important?
3. How do humans affect biodiversity?
4. What can we learn from nature about how to flourish?

The exhibition offers a visual, often poetic narrative, helping us better understand the significance of biodiversity. The words and images comprise a complete picture: the scientist's facts in partnership with the artist's vision. Together, they tell us — implicitly and explicitly, intellectually and emotionally — that humans are both the problem and the solution. In a format that is educational, hopeful, and at times playful, we will impart to our audience a newfound respect for nature that engenders a vision based not on what we can take from the natural world, but what we can learn from it.




ARTWORKS FOR CHANGE

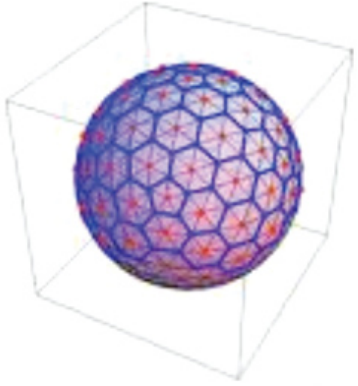
PROPOSED ARTISTS

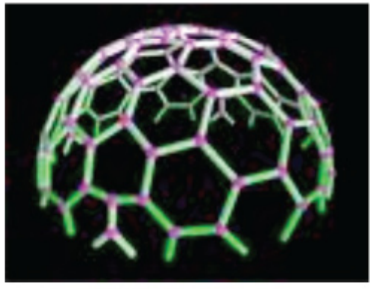
Suzanne Anker, USA
Antonio Briceño, Venezuela
Vincent Callebaut, France
Catherine Chalmers, USA
E.V. Day, USA
Donald Gensler and Maria Paz Gutierrez, USA and Chile
Patricia Gohil Dholakia & Charles Lee, India & USA
Chris Drury, UK
Aganetha Dyck & Richard Dyck, Canada
Joyce Hsu, Hong Kong
Chris Jordan, USA
Charles Lee, USA
Kahn and Selesnick, USA & UK
Free Range Studios, USA
Christian Kerrigan, UK
Isabella Kirkland, USA
Katja Loher, Switzerland
The Nature of Cities, USA
Lori Nix, USA
Lucy & Jorge Orta, France & Argentina
Donna Ozawa, USA
Neri Oxman, Israel
Susan Plum, Mexico
Ken Rinaldo, USA
Isabella Rossellini, Italy
Tomas Saraceno, Argentina
Yuriko Yamaguchi, Japan
Xu Zhen, China

ARTWORKS FOR CHANGE

PROPOSED HOST CITIES

Bangalore, India
Beijing, China
Berlin, Germany
Boston, USA
Bucharest, Romania
Chicago, Illinois
Istanbul, Turkey
London, England
Salt Lake City, USA
Ottawa, Canada
New Delhi, India
San Jose, California
Seattle, Washington
Seoul, Korea
Singapore
Tokyo, Japan
Wichita, Kansas





ARTWORKS FOR CHANGE

SPECIFIC OBJECTIVES

"Nature's Toolbox" is more than an exhibition for people to view casually. It is dedicated to the potential to influence and change individual behavior. Toward that end, we have specific objectives:

- The exhibition will travel to five major museums in the first two years, and will be viewed by a minimum of two million visitors.
- We will develop an interactive website that will enable viewers to share their thoughts on the exhibition's impact, including its potential to change individual behavior.
- We will facilitate a symposium with our educational and museum partners at each venue, featuring expert speakers and artists on the subject of nature-inspired sustainable designs and how it relates to climate change and biodiversity.
- We will partner with the venue's educational department to create educational tools to help children and families expand their perspective on the subject of nature as mentor and model.
- We will provide accompanying text for each artwork to include the artist statement and inspiration for the artwork from nature and commercial application.
- We will seek to expand the historic demographics of the host venue audience. (Museums reported that Artworks for Change exhibitions have attracted new audiences and record attendance, and that they have since maintained the higher attendance levels.)
- We will create and publish a catalog that both documents the exhibition and offers essays by experts on the subject of nature-based solutions to our environmental challenges.
- We will partner with each host venue's public relations department to engage major print, broadcast, and online media, both to attend our openings and press events and to use the exhibition as a springboard for articles on the topic of biodiversity and nature-inspired design.

PROJECT TEAM

***Randy Jayne Rosenberg*, Executive Director and Exhibition Curator,** has provided curatorial services for more than 20 years to a range of international and cultural organizations, including the World Bank, International Finance Corporation and Carnegie Endowment for International Peace.

***Alesha Martinez*, Registrar & Project Management**, has had extensive experience working at the San Francisco-based Asian Art Museum and the Natural World Museum in the area of art object management, travel logistics of exhibitions, and budget management.

***Joel Makower*, Special Advisor**, is chairman of GreenBiz Group and co-author of more than a dozen books on business and the environment. An international speaker, the Associated Press has called him the “guru of green business practices.”

ARTWORKS FOR CHANGE

ABOUT ARTWORKS FOR CHANGE

Art Works for Change produces traveling contemporary art exhibitions that address social and environmental issues. A nonprofit organization, Art Works for Change applies the transformative power of art to promote awareness, inspire action and provoke dialogue. The exhibitions serve as catalyst and crucible where artists, museums, advocacy organizations, and the local community may unite in common cause.

Art Works for Change is a 501c3 charitable corporation.

Contact:

Randy Rosenberg
Art Works for Change
Oakland, California
510-451-6610
Randy@ArtWorksforChange.org
www.ArtWorksforChange.org

ARTWORKS FOR CHANGE

THE EXHIBITION

ARTWORKS FOR CHANGE

PART 1: WHAT IS BIODIVERSITY?

The variety of life on Earth is commonly referred to as biodiversity. The number of species of plants, animals, and microorganisms, the vast diversity of genes in these species, the different ecosystems on the planet, such as deserts, rainforests and coral reefs are all part of a biologically diverse Earth. Almost all cultures have in some way or form recognized the importance that nature and its biological diversity have on their survival and prosperity, and the need to maintain it.

Biodiversity represents the extraordinary variety of living creatures and ecological communities growing and interacting with one another throughout the world. It is the richness and complexity of species and ecosystems throughout the planet — continually acquiring and adapting under constantly changing conditions.

E.V. Day, USA
Clematis, 2010-2011
Chromogenic archival print, 74 x 74 inches

Day's image was photographed at the impressionist artist Claude Monet's estate in Giverny, France, The work by Day is from a series called "The Seducers." The flower—plucked, pressed and scanned digitally to 18 times its original size—is vibrantly alive and sensuous. Its large-scale enveloping sensation places the viewer in the perspective of the creature entering the blossom, asking us to consider how the function and design of the flower attracts and lure pollinators with the sweet promise of reproduction.

Isabella Kirkland, USA
NOVA: Understory, Forest Floor, Canopy, Emergent, 2011
4 Archival ink jet prints, approx each 61.75 x 50.75 inches

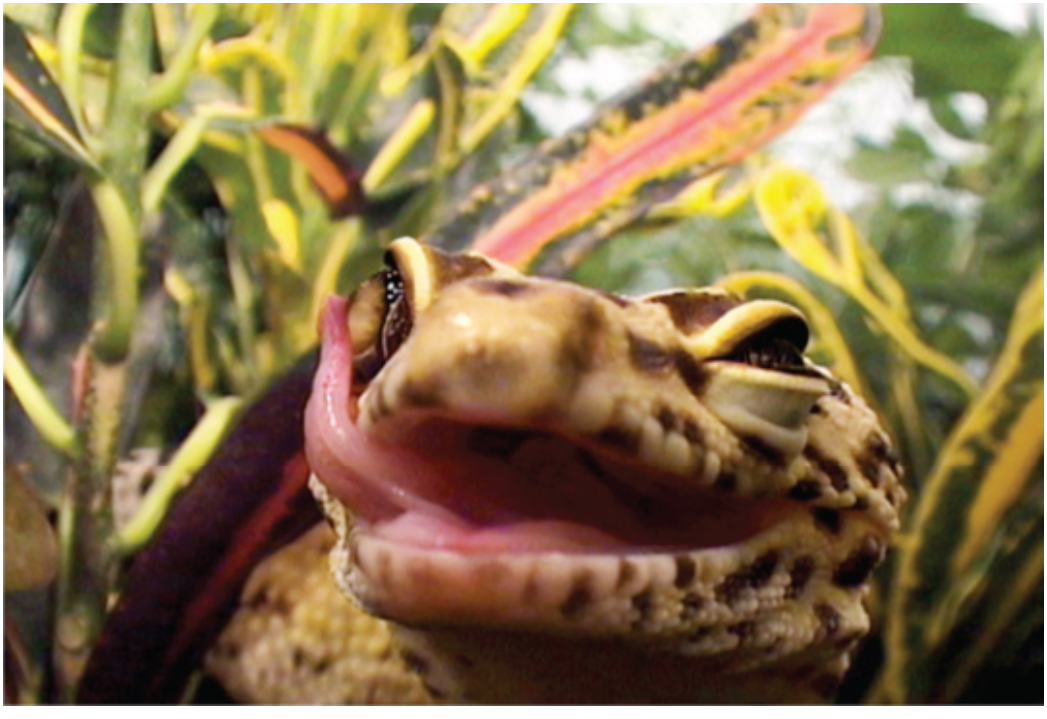
Scientists believe that of all living species on Earth, only 10 to 15 percent have been cataloged and assigned a place in their taxonomy. The NOVA series focuses on species of flora and fauna that are new to scientific literature within the last 20 years. Each of the four prints depicts plants and animals specific to a different layer of the rainforest — floor, understory, canopy, and emergent, or topmost layer. These organisms are from many continents and would never live together in real life, the images are idealized scenes, existing only in the artist's imagination.

Isabella Rossellini, Italy

Green Porno Series: Deer, Sea Horse, Spider, Salmon, Starfish, Bee, Snail, Praying Mantis, Duck, Anchovy, 2009

Looped video with audio, 15:42 minutes

Green Porno is a series of short films on animal sexual behavior. The series, which began in 2008 and created for The Sundance Channel, is conceived, written, and directed by its star, the actress Isabella Rossellini. Rossellini enacts the mating rituals of various insects and other animals with cardboard cut-outs and foam-rubber sculptures. “The secret to Green Porno is that they allow of us to laugh but they also communicate true scientific information,” said Rossellini. “Because of what I learned in doing research for this series I felt strongly that there needed to be an added environmental element to really inform people how delicate the futures of these creatures are.”



Catherine Chalmers
Safari, We Rule,Squish, 2008
3 HD videos with audio

Chalmers' work is often symbolic of the hierarchical relationship that human beings have to all species: our superior relationship to nature and the idea that we think of nonhumans as lesser species, as represented by the American Cockroach. She also points out the many ways we are remarkably similar to this recent immigrant to America. Her video work provides a portal to see close-ups of the place where human and insect desires become one, and the dance of survival and consumption.

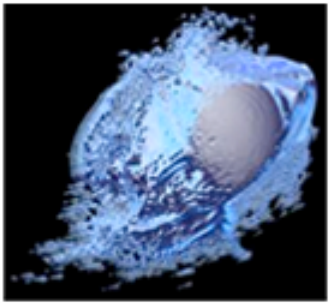
PART 2: WHY IS BIODIVERSITY IMPORTANT?

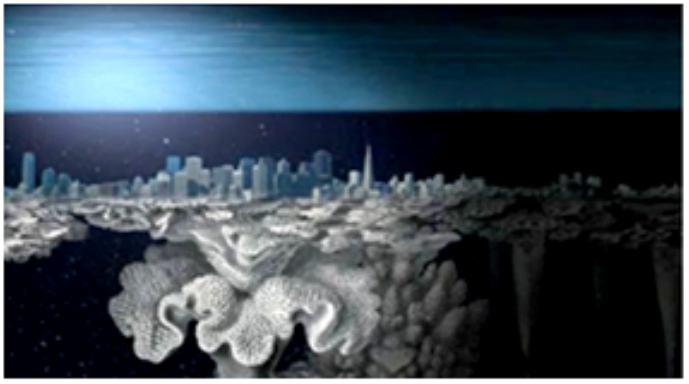
Does it really matter if there aren't so many species?

Biodiversity supports ecosystem productivity where each species, no matter how small, has an important role to play. And each loss in the chain of an ecological system weakens that system and its ability to support life in all its many forms.

Although many humans do not realize it, biodiversity is a fundamental building block of our ability to exist. Every day, biodiversity provides us with food, water, medicine, oxygen, energy, detoxification of waste, stabilization of the climate, recreation and tourism, and many other essential products and services. These are things that cannot be created by technology, even with vast amounts of money; they are beyond human's ability to artificially replicate. As a result, it is critical that we ensure the continued survival of the species that make these valuable things possible.







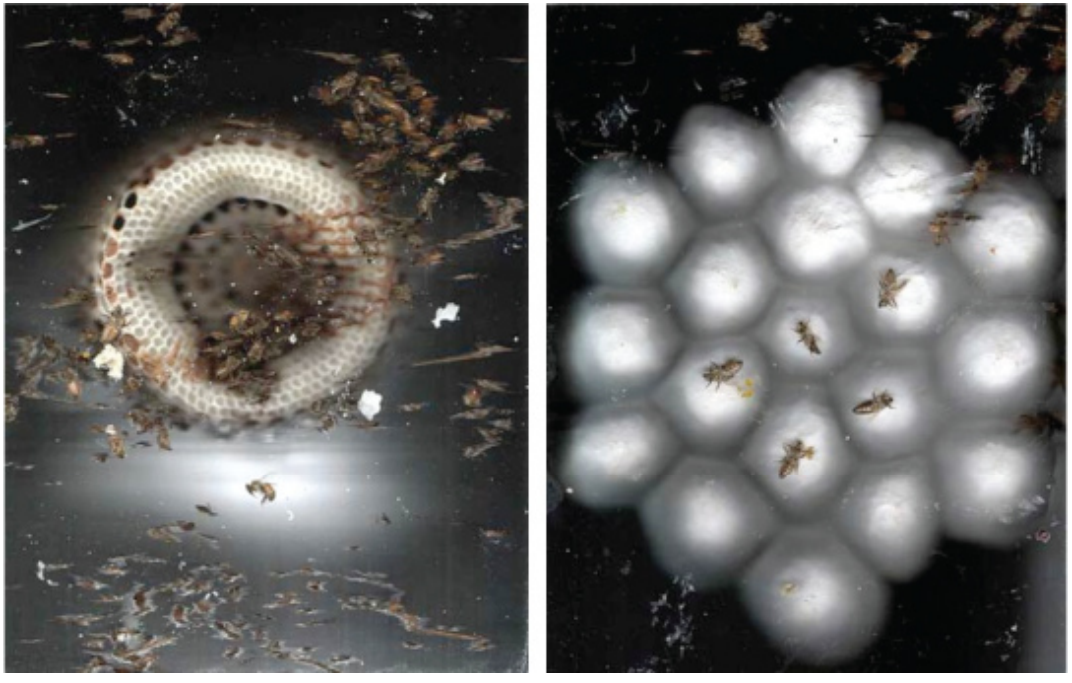
The Nature of Cities: Cities Liquid Asset—Water
Created for the UN Pavilion, Shanghai Expo 2010 by Art Works for Change
Allora & Calzadilla, USA**; Ri Crawford,** USA**; Hall & Moline,** USA**; Sven Pahlsson,** Norway**; Marina Zurkow,** USA

"The Nature of Cities: Water" includes 5 short videos from artists, animators and architects from around the world addressing the theme of urban biodiversity and the importance of water in an impressionistic style of storytelling.

Water is our lifeblood, nourishing all that lives. Seventy percent of the planet's surface is water, but only 3% of this is fresh water and only 1% is readily available for human consumption. The world's growing population, increasing consumption, climate change and toxic pollution all mean that this limited and unevenly distributed resource is threatened. Reduced availability of water in many areas constrains food production, exacerbating hunger and poverty, creates deadly illnesses such as childhood diarrhea, and threatens water-dependent species and ecosystems that rely on water for survival.

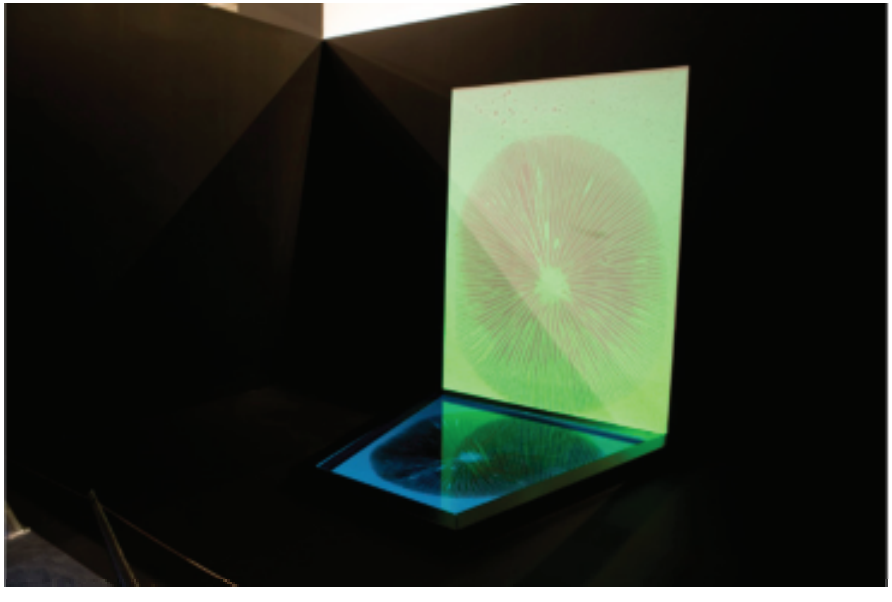
Lucy and Jorge Orta, UK, Argentina
Collection: Aepyomis, Gallimimus, Allosaurus, Pelaeomastodon, 2010
4 Royal Limoges porcelain sculpture, wood table

The porcelain fragments of life are tender and precious, recording the wonders of shapes and forms of bygone times and the present: the egg from the elephant bird Aepyornis, the limb bones from dinosaurs Gallimimus and Allosaurus and the elephant ancestor Palaeomastodon. Bones are memento mori, reminders of death. But the egg represents birth, the start of life. There is an underlying melancholy of the end of life, of the hot breath of extinction. We see ourselves as occupying a moment in time, through the reflection of the mirrored surface.



Aganetha Dyck and Richard Dyck
Collaborating in the Darkness Series, Hive Scan 2 & Hive Scan 4
Digital Photograph

The drastic increase in the use of toxic pesticides has also taken their terrible toll on bees. According to a recent estimate, 95% of the wild bees in North America have died in the last few years due to lowered resistance to mites, and farmed honeybees are being kept alive, as Aganetha puts it, by "all sorts of trial and error and tons of medication" (Dyck 1999). And now there is the new worry that genetically modified crops are killing and/or mutating butterflies and other insects in disastrous numbers. Dyck most recent research asks questions about the human ramifications should honeybees disappear from earth.



Chris Drury, UK
Spore Wave, 2005
Video and mixed media installation, 8 x 8 x 10 feet

This video of a mushroom spore is projected onto a wall and mirrored into a shallow pool of gently rippling water. Drury conveys the message that the mushroom, for all of its healing properties, is the great recycler of waste, breaking down dead matter into soil. Coupled with its circular, mandala-like shape, the mushroom is a perfect reflection and reminder that without constant renewal, our soils cannot support the biodiversity of life and will lead to our own demise.

Antonio Briceño, Venezuela
Millions of Pieces: Only One Puzzle, 2010
Six photographs, each 21.6 x 63 inches

Nature is an infinitely diverse mosaic. Every piece—animals, plants, bacteria, us—plays an irreplaceable role. It has taken thousands of millions of years to arrive at this magnificent web of interdependency. There is no other puzzle like this in the known universe.

This photographic installation, a tribute to the people of Rwanda, addresses the importance of biodiversity and ecosystems and how they contribute to human well-being —and how each of us holds a vital piece of the puzzle in our own hands.

Katja Loher, Switzerland
Beebubble (Why Did the Bees Leave?), 2012
14 x 14 x 14 inches, video-sculpture, hand-blown glass, 7:00 minute loop

Loher's surreal kaleidoscopic worlds are populated by realistic figures. Groups of worker bees, portrayed by humans in constantly changing constellations, need to complete the tasks of pollination that once occurred naturally by the bees themselves, and without human interference.

PART 3: HOW DO HUMANS AFFECT BIODIVERSITY?

Human activity has altered nearly half of the planet's surface, at times impinging on Earth's life-support systems. This is a result of population growth and the overconsumption and use of natural resources required for us to live our everyday lives.

Human actions have also played a role in changing the climate. The change is due to increased atmospheric concentrations of carbon dioxide and other gases, which cause increased land and ocean temperatures, along with changes in weather and sea level. With those changes comes a change in species. Climate affects the reproduction and migration cycles of millions of creatures, as well as the length of plants' growing seasons, species distributions and population, and the frequency and severity of pest and disease outbreaks. Scientists believe that the change in climate over the next few decades will cause a much higher rate of species loss and extinction than in the past 10,000 years— as many as a quarter of all land-based species.

What happens when a million species vanish from the planet? Could we eventually be one of them?

Xu Zhen, China
Just Did It, 2008
Microscope, grain of sand, desk, installation

Xu Zhen uses humor to provocatively challenge the meanings of cultural signs and symbols. Xu's title references Nike's iconic slogan, "Just do It." A grain of sand with a micro-carving, viewed under a microscope, reveals a footprint identical to Neil Armstrong's one as he set foot on the Moon for the first time, on July 20, 1969. The magnifying lens gives the illusion of watching through a refracting telescope, confusing infinitely small with infinitely big. Through this game of scale between microcosm and macrocosm, Xu Zhen plays with our spatiotemporal landmarks and questions the place of man in the universe, and his impact.

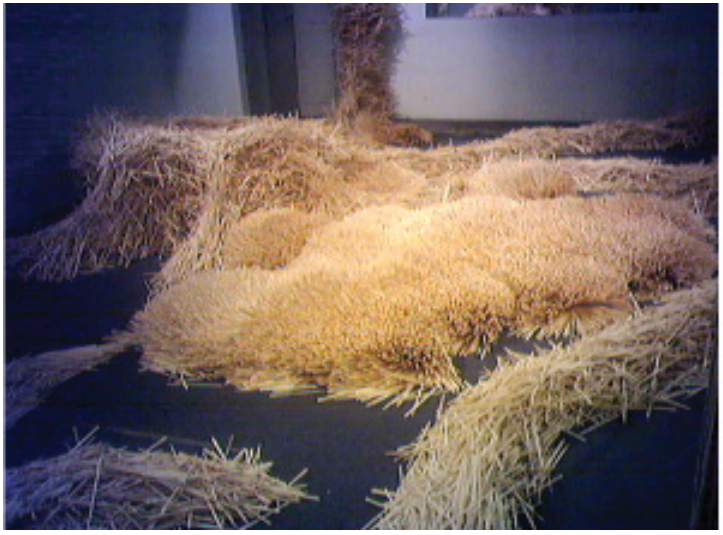
Lori Nix, USA
Natural History, and Aquarium from The City Series, 2005
2 Photographs

Influenced by landscape painters such as Thomas Cole and Casper David Friedrich, Nix creates and expresses intense emotions through both beauty and horror. She uses natural disaster to challenge the notion that we live in a friendly and predictable universe that is under our control. As a non-traditional photographer, she constructs her subject matter, “building the world” on a table-top in a miniature scale.

Free Range Studios, USA
Introduction to Design for a Lifetime, The Story of Stuff, abridged, 2010
2 Videos with audio, each approx 5 minutes

“Introduction to Design” introduces basic strategies for optimizing product lifecycle, deciding on the right design strategy, and getting stakeholder buy-in thereby providing some of the basic tools needed to craft a thoughtful and sustainable world.

“The Story of Stuff” opens the door to a serious cultural dialogue about the real costs of consumption and shares an impassioned message about how products affect society and the natural world as they make their way through the cycle of material extraction, production, consumption, and disposal.



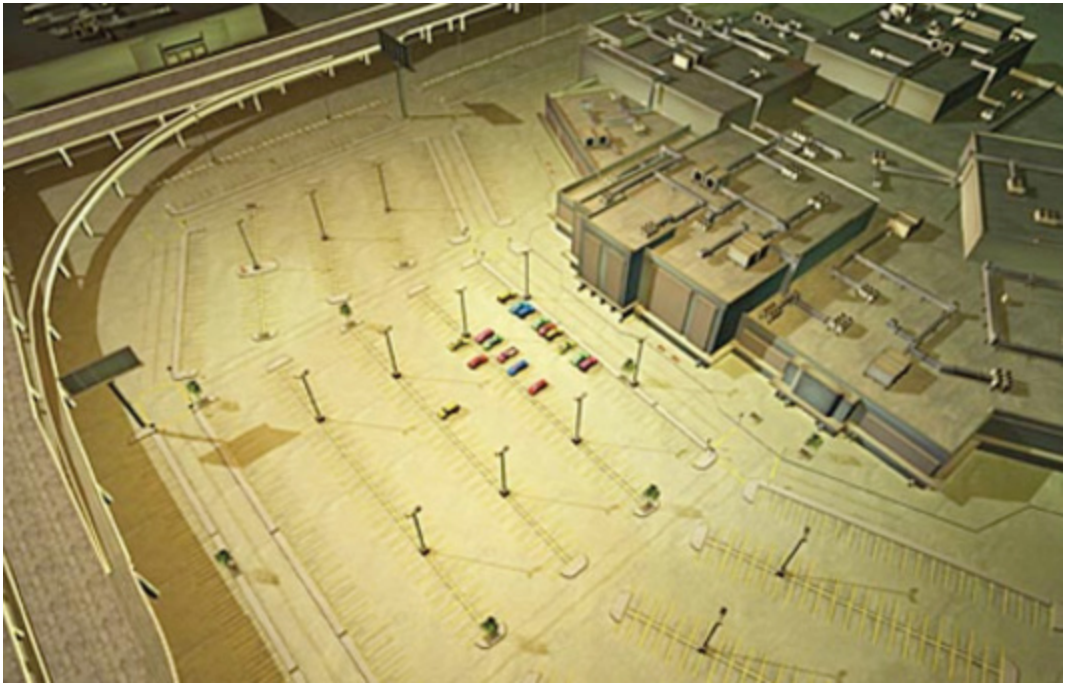
Donna Ozawa, Japan
The Waribashi Project, 2012
90,000 wooden chopsticks installation, 84 x 192 inches

As a pan-Asian icon in modern consumerist society, waribashi— disposable wooden chopsticks—pose a problem to our environment through deforestation and destruction of forest habitats. Every year, throughout the world, hundreds of billions of waribashi are thrown away after a single use. Deforestation is one of the largest contributors to the loss of biodiversity.

Kahn and Selesnick, USA, UK
Der Fledermaus!, 2011
Multi-media installation

The plight of the little brown bat and its endangerment by white nose fungus disease becomes a springboard to explore issues such as biodiversity, habitat loss, anthropomorphization, insomnia, and other anxieties associated with modern life.

The project focuses on the fictional Truppe Fledermaus, a small theatrical troupe based on early 20th century theatre of the absurd, and its attempts to stage a play about on the struggles of the bat against white nose fungus. The accompanying photographs show that the plight of the bat, who when stricken with this disease often succumbs to death by insomnia, has a strong corollary with our own contemporary nervous disorders.



The Nature of Cities: The Metabolism of Cities
Created for the UN Pavilion, Shanghai Expo 2010 by Art Works for Change
Rob Carter, USA**; Anthony Discenza,** USA**; Cao Fei,** China**; Sven Pahlsson,** Norway

A city's metabolism is the sum of countless physical and chemical processes that comprise its pavement and parks, rivers and runways, trucks and trees, lawns and landfills. They breathe in and out, just as we do. Cities are born, and cities can die. When birds and butterflies cannot survive in a city, it is a bad sign for humans. It means the basic ingredients for life — clean air and water, and a diversity of life — is threatened. It means we have despoiled our natural world, crippling its ability to filter air and water, fend off pests, pollinate flowers, moderate temperatures, and perform dozens of other "services" upon which we rely daily. unlike the others, this description doesn't say anything about the artworks that accompany it.

Chris Jordan, USA
Midway: Message from the Gyre, 2009
25 x 30 inches Four Ultra-chrome Inkjet Prints, 25 x 30 inches each

On Midway Atoll, a remote cluster of islands more than 2000 miles from the nearest continent, the detritus of our mass consumption surfaces in an astonishing place: inside the stomachs of thousands of dead baby albatrosses. The nesting chicks are fed lethal quantities of plastic by their parents, who mistake the floating trash for food as they forage over the vast polluted Pacific Ocean.

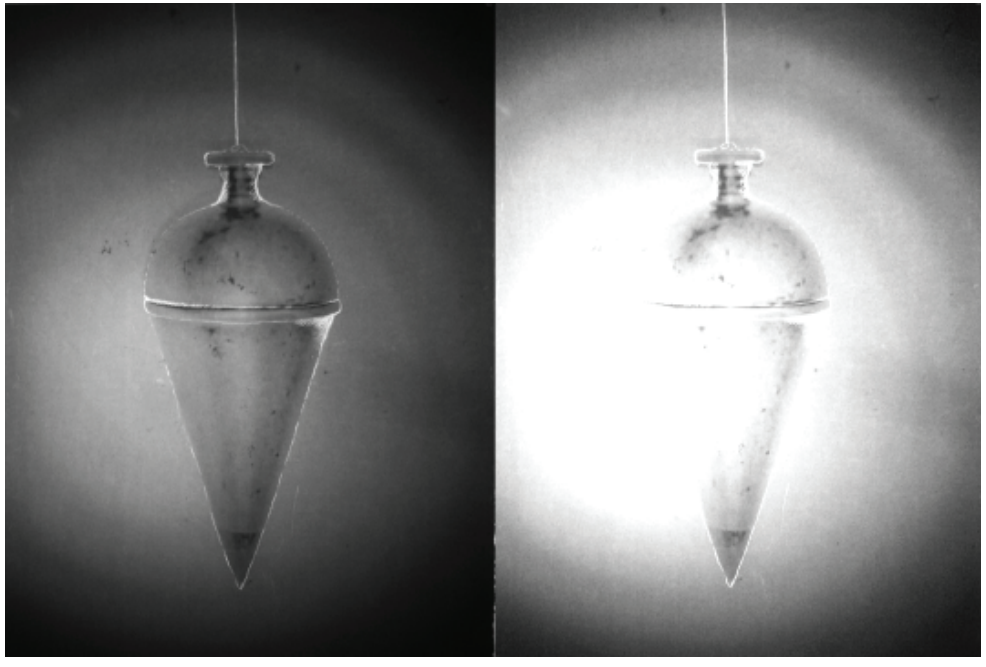
PART 4: WHAT CAN WE LEARN FROM NATURE ABOUT HOW TO FLOURISH

Biomimicry is the science and art of mimicking nature's best biological ideas in order to solve human design challenges. Nontoxic adhesives inspired by geckos, energy-efficient buildings inspired by termite mounds, and resistance-free antibiotics inspired by red algae — all are examples of biomimicry happening today, and none too soon. Humans may have a long way to go to living sustainably on Earth, but millions of species with time-tested genius are available to show us the way.

Biomimicry asks us to rediscover life’s best ideas to change the course of things. How does nature harvest energy? How does it manufacture things waste-free? How does it package, transport, shelter, feed, and heal? Every day, it does this things in a waste-free, nontoxic way, powered only buy sunlight and the elements. The more our world functions like the natural world, the more likely we are to endure on this planet that is ours, but not ours alone.

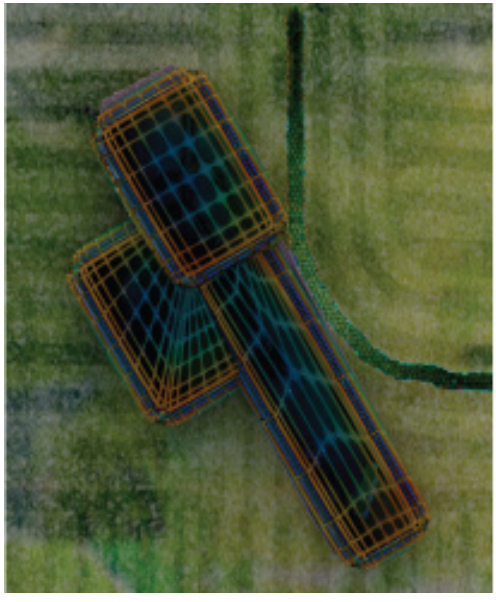
Tomás Saraceno
14 Billion, 2009
Photography based on installation inspired by a black widow spider web

Saraceno uses the imagery of spider webs to map the origin and structure of the universe. Spider webs are made without intense heat, pressure, or toxic chemicals, yet are stronger, pound for pound, than steel or Kevlar. They are inspiring the design and construction of suspension bridges, surgical sutures, textiles, and many other things.



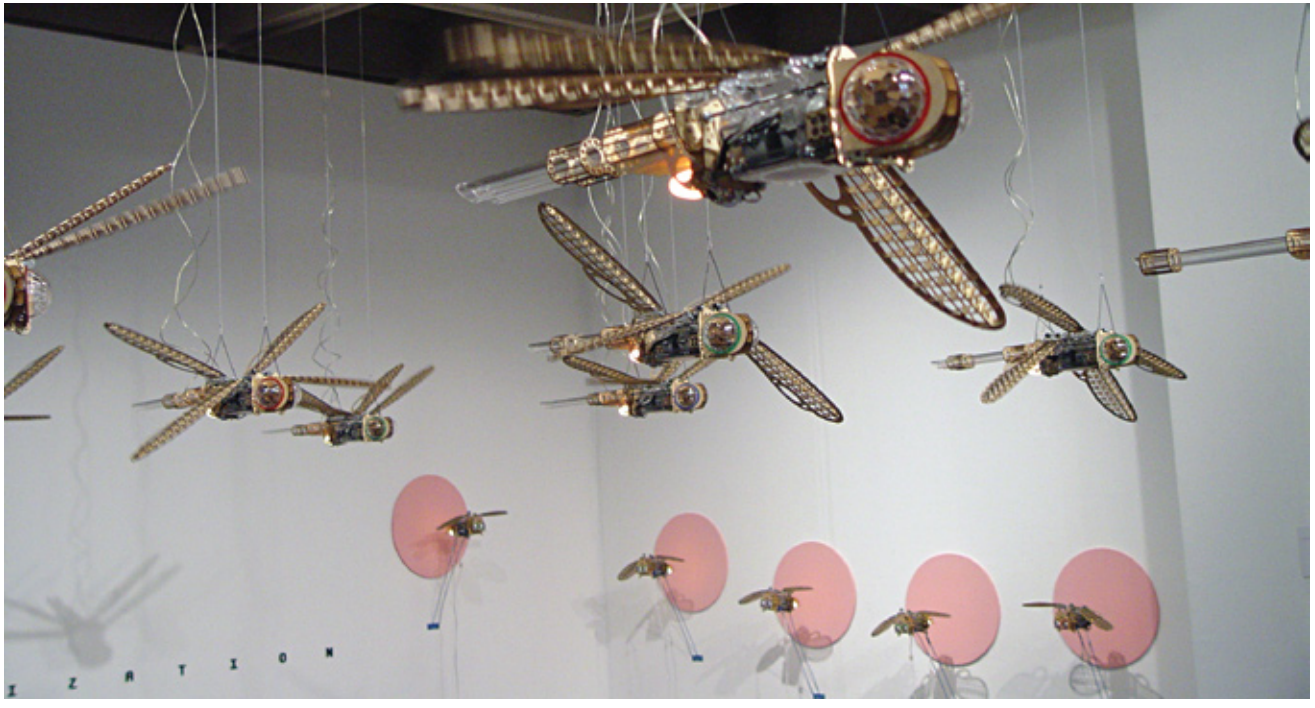
Susan Plum, Mexico
Divining Nature: The Art of Search, 2012
Woven glass and sound sculptural installation, 72 x 60 inches

In his 2007 Nobel Peace Prize acceptance speech, Al Gore said: "It is time to make peace with the planet." Susan Plum responds, wondering, What if we were to ask nature what works? What is it that nature would like us to do in order to bring balance to our planet? What do we need to do in order to evolve together to create harmony and equilibrium? Ancient cultures have always revered the Earth by asking and communing with the Elemental energies and respecting the answers.



Charles Lee, USA
Dissapative System, 2011
Digital prints and thermochromatic tile wall installlation

The photograph of the model house is created with thermo-chromatic tile used as a skin to regulate heat. The Dissipative System is a study into possible tectonics and materials for a new biomimetic building. It uses curved smart solar control glass for light transmission regulation. Dissipation Heat Sinks help passive thermoregulation in the building. Glazed ceramic cladding is used for interior and exterior of the shell. The ceramic has thermal color changing abilities to communicate functioning of heat system similarly seen in nature through the color, humidity, and temperature change in the exoskeleton of the beetle.



Joy Hsu, Hong Kong
Odonata, 2011
Mixed media kinetic sculpture

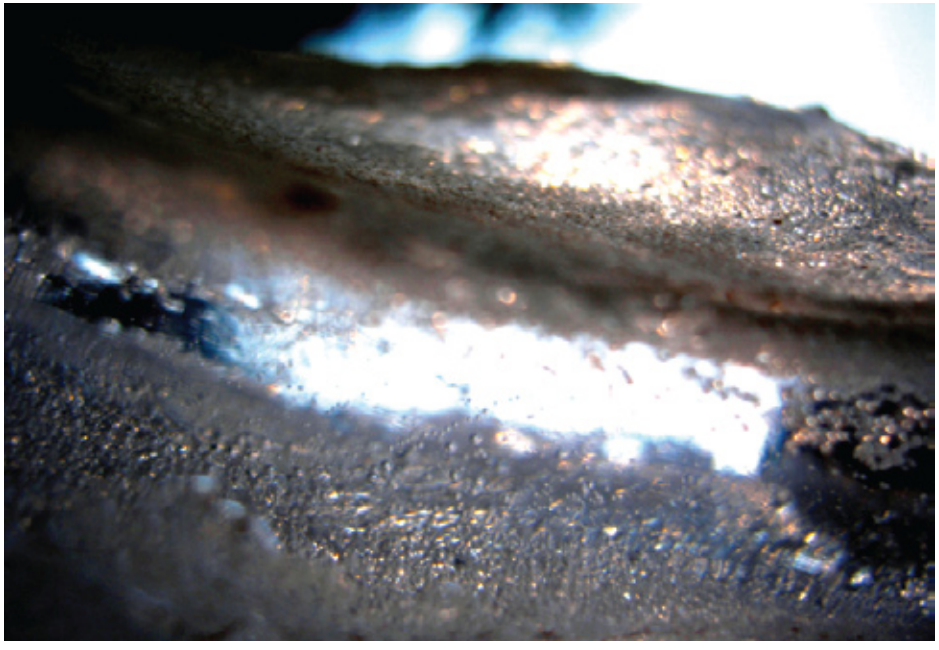
Hsu's giant robotic insects are highly engineered. Inspired by childhood dreams and cartoon characters, Hsu created mechanical creatures crafted to reveal their skeleton and bone structure with the desire to portray their "inner selves" and the notion that they possess individual characteristics such as curiosity, loyalty, and sociability. These biomimetic creatures, along with bees, lobsters, and flies, are the robotic inspiration for a number of purposes such as search and rescue in the aftermath of disaster, spying and reconnaissance, searching for land mines, pollinate crops, weather mapping, and traffic monitoring.

Ken Rinaldo, USA
Two Sides of One Branch Series, 2004
3 X-ray, tree branch and mixed media, each approx 24 x 27 x 6 inches

"Two Sides of One Branch" is comprised of three systems combined with tree branches: x-rays of a human hand, a human skull, and VLSI (Very Large Scale Integrated) circuits. The work points to the all-pervasive tree structure as a highly efficient matter, energy, and information-distribution network. Tree structures are forms that recur consistently in organic and inorganic systems alike. They may appear as fingers of rivers, cracks in rocks, branches of roots, snowflakes, cytoskeletons, brain cells, circuit boards, and replicated and mimicked in very VLSI circuits as well as Internet and telecommunications networks.

Vincent Callebaut, Belgium
Lilypad, A Floating Ecopolis for Climate Refugees: Oceans of the World Principality of Monaco, 2008
Six Archival ink-jet print, 16 x 20 inches each

This floating amphibian city, half aquatic and half terrestrial, is a solution for refugees displaced by the rising waters created by climate change. Inspired by the highly ribbed leaf of the Amazon Lilypad, it is a concept for a completely self-sufficient, zero-emissions floating city of up to 50,000 people. Each Lilypad is intended to reside either near a coast or floating in the ocean, traveling from the Equator to northern seas, depending on where the Gulf Stream takes it.



Don Gensler and Maria Paz Gutierrez
Sucrose Walls, 2006
3 panels 6 x 2 feet each
PMMA (33%) and Sugar (66%); digital fabrication and manual casting

In the pursuit of material optimization, material intelligence has arisen as a response to the desire to create matter that can internally respond to external conditions as a living entity. SucroseWalls examines the application of “material intelligence” as a mode of inhabitation and the advantage of using sugar, seen as an agricultural surplus. Sugar is characterized by being both a strong economic resource in many developing countries but also associated as a material of high-embodied energy. Sucrose-Walls, a translucent material providing light diffusion and thermal insulation, attempts to open new opportunities to use a known matter in unexpected ways.

Suzanne Anker, USA
Biota, 2011
Sculptural installation, 75 porcelain, silver-leaf figurines
84 x 86 x 24 inches

Sea sponges, a metaphor for the brain, are all individual and unique specimens. Although these ancient multi-cellar animals lack nervous systems, they offer clues to to the developmental origins of complex neurological systems. Sea sponges possess “signature proteins” which react like those functioning in synapses. They possess all of the building blocks for the development of nerves, which make them invaluable organisms for studying neurological disorders. Sea sponges share seventy percent of their genes with humans.

Yuriko Yamaguchi, Japan
Energy, 2011
96 x 120 inches, Resin and wire

The work, “Energy,” could be resultant from a cosmic bang, or a constellation genesis. The circle, a powerful emblem of natural cycles evokes nature on both: a large-scale— a searing red-hot sun; and a small scale— the cellular. Life is an energy intensive process. It takes energy to operate muscles, extract wastes, make new cells, heal wounds, even to think. It’s in an organism’s cells where all this energy is spent. Cell movements require energy and thousands of energy-hungry chemical reactions go on in every living cell, every second, everyday. From cells we learn how to organize and communicate as well as how to gather alternative and renewable energy sources such solar power and fuel cells.

ARTWORKS FOR CHANGE

Info@ArtWorksforChange.org
Oakland, California, USA
www.ArtWorksforChange.org