



COLLOQUE à distance CNFPT – HORTIS – Ville de Gravelines

**LA NATURE, LEVIER DE RÉSILIENCE DES SITES
ET PAYSAGES INDUSTRIELS**

15 ET 16 OCTOBRE 2020



**QUAND LES TALENTS
GRANDISSENT,
LES COLLECTIVITÉS
PROGRESSENT**

QUELS PAYSAGES INDUSTRIELS POUR DEMAIN ?

Mettre la nature au coeur des sites industriels

Anna GRICHTING SOLDER,
paysagiste et enseignante à l'Université d'Architecture de Genève

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Quels paysages industriels pour demain ?



PUTTING NATURE AT THE HEART
OF INDUSTRIAL SITES

Dr. Anna Griching Solder, Architect-Urbanist-Musician, BORDERMEETINGS



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LANDSCAPE URBANISM

MULTIFUNCTIONAL LANDSCAPES

REGENERATIVE SYSTEMS

SYSTEMS THINKING

BIO(CULTURAL)DIVERSITY

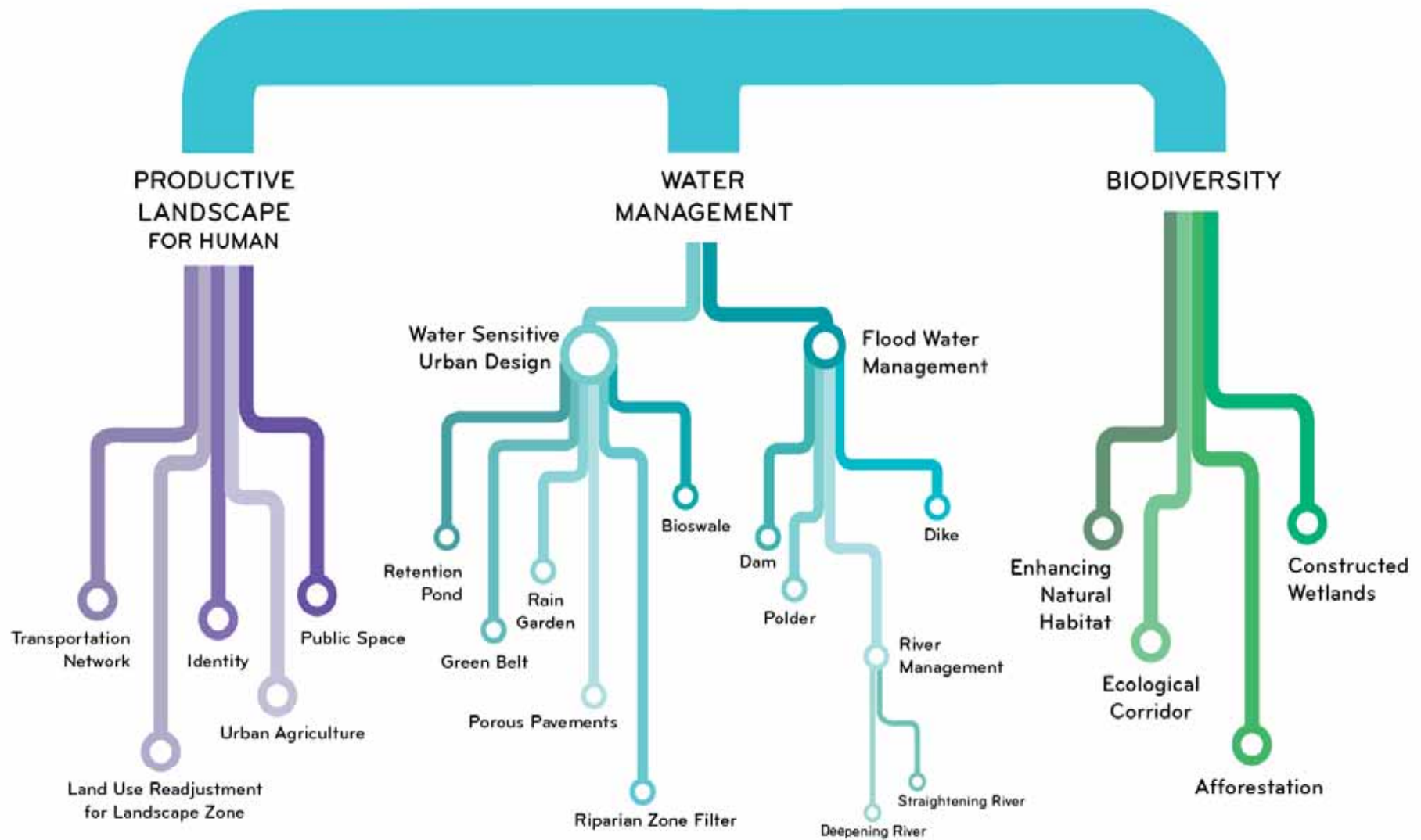
SOIL BIOMES

RESCALING INFRASTRUCTURE

URBAN/RURAL

COCREATING RESILIENT LANDSCAPE

LANDSCAPE URBANISM



Our future as humans, and the future of our planet and our landscapes, will not be determined by our economic growth and territorial expansion, but by how well and how fast we can regenerate our ecosystems



**THERE IS NO
PLANET B.**



BEYOND
BALANCED SYMBIOSIS
BIOFILIA
BIODIVERSITY
BIOME
BEUYS
BORDERS
THE 5 B's
BERLIN
BUFFER
BIOREMEDIATION
BLOCKADE
BLUE



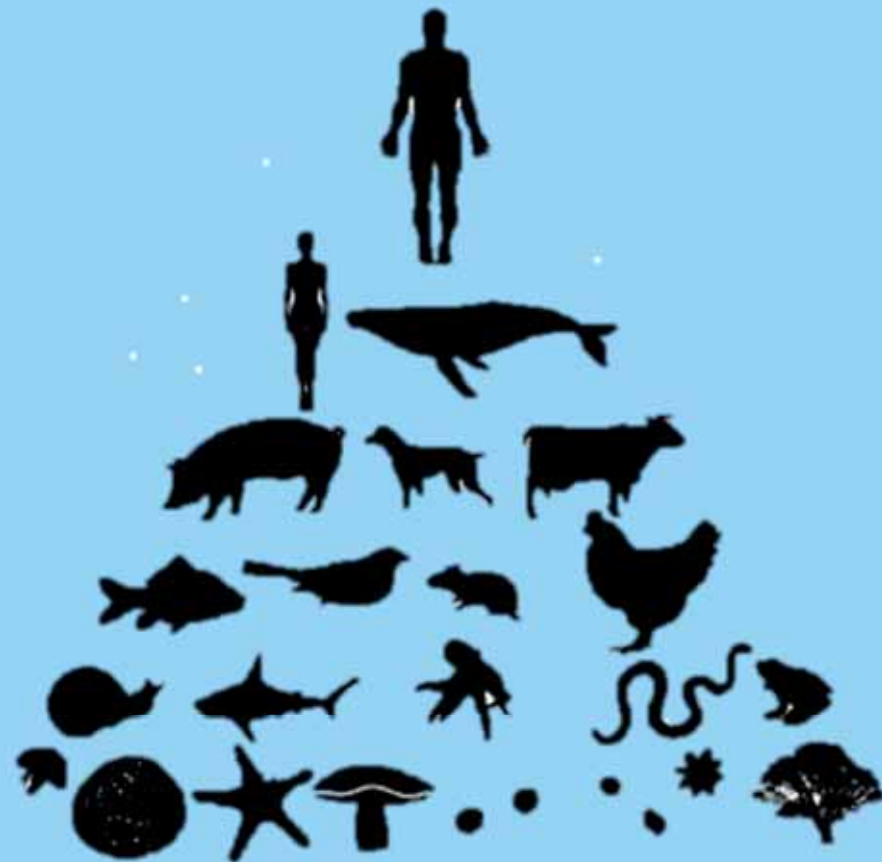
BEYOND

The Anthropocene signals humans' fleeting legacy in the annals of geologic history. This too shall pass, but what will come next?

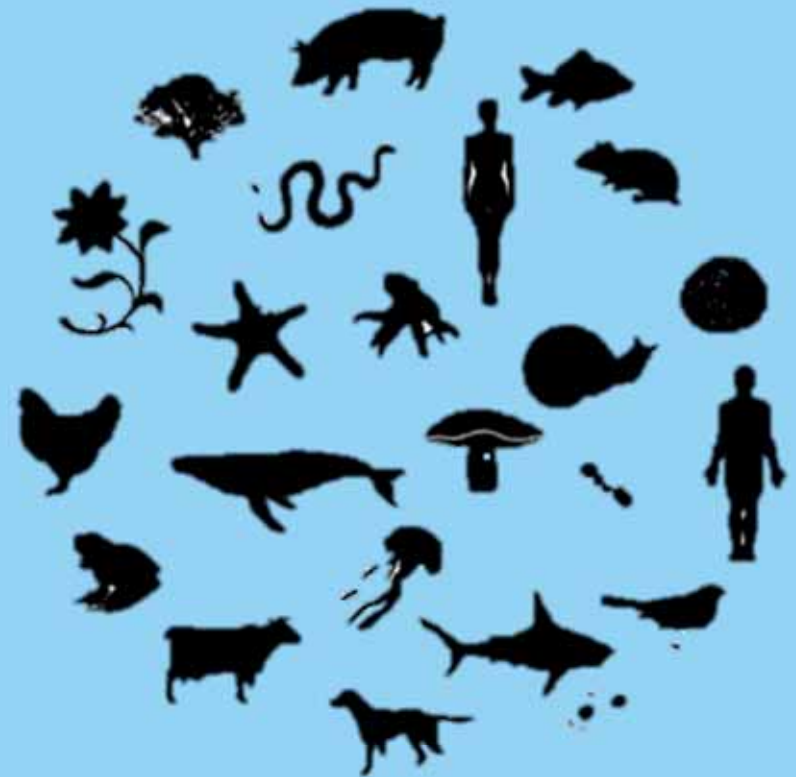
Beyond. To do more than (something) : to do more than is expected or required We need to go beyond merely talking about the problem.

<https://theecologist.org/2020/feb/03/beyond-anthropocene>

EGO

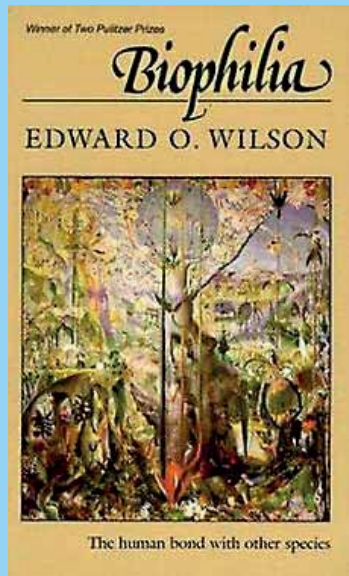


ECO



BALANCED SYMBIOSIS

From Anthropocen to Symbiocene. Projects should integrate plant, animal and human communities in a respectful and balanced symbiosis that is agile and resilient to future threats and changes.



BIOFILIA

The biophilia hypothesis suggests that humans possess an innate tendency to seek connections with nature and other forms of life. Edward O. Wilson introduced and popularized the hypothesis in his book, *Biophilia*. He defines biophilia as "the urge to affiliate with other forms of life"



Robert Hainard (1906-1999), artiste animalier d'origine genevoise, a beaucoup œuvré pour la défense de la nature. Il participa notamment, en 1928, à la création de l'Association pour la création et l'entretien des réserves naturelles dans le canton de Genève, devenue Pro Natura Genève (<http://www.pronatura-ge.ch/>).

A photograph of the United Nations Palace in Geneva, Switzerland. The building is a large, classical-style structure with many windows. In the foreground, there is a green rooftop garden with several sheep grazing. A woman in a green jacket is visible in the bottom right corner, holding a blue flag with the United Nations logo. The sky is clear and blue.

BIODIVERSITY

UNITED NATIONS PALACE GENEVA



CO-CREATION WITH A N I M A L S

RESEARCH QUESTIONS:

Is it possible to co-create with all animals? Are there ways to co-create with animals to improve ecological function on a site? And, how do we get animals to show up and participate?

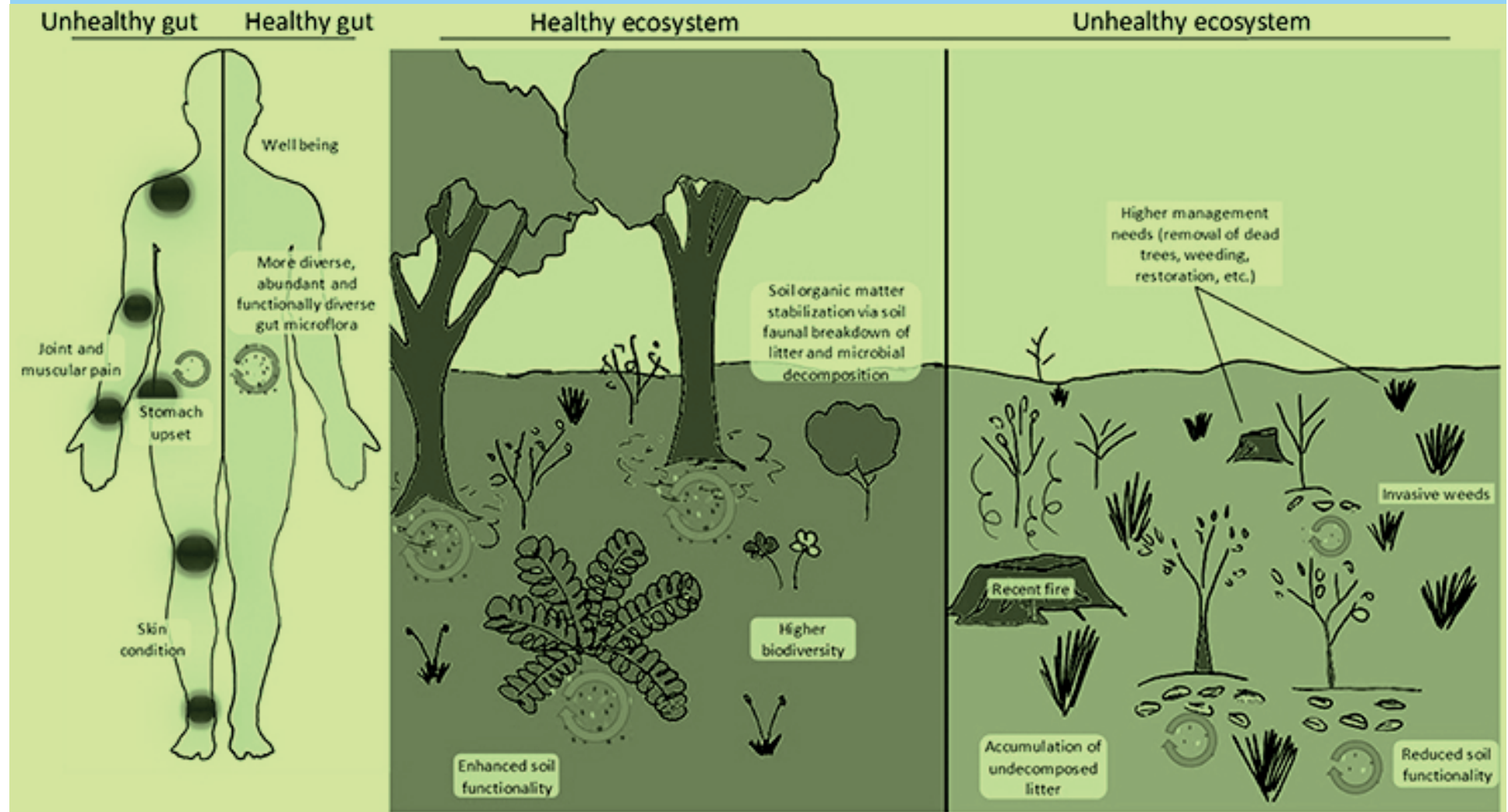
METHODOLOGY:

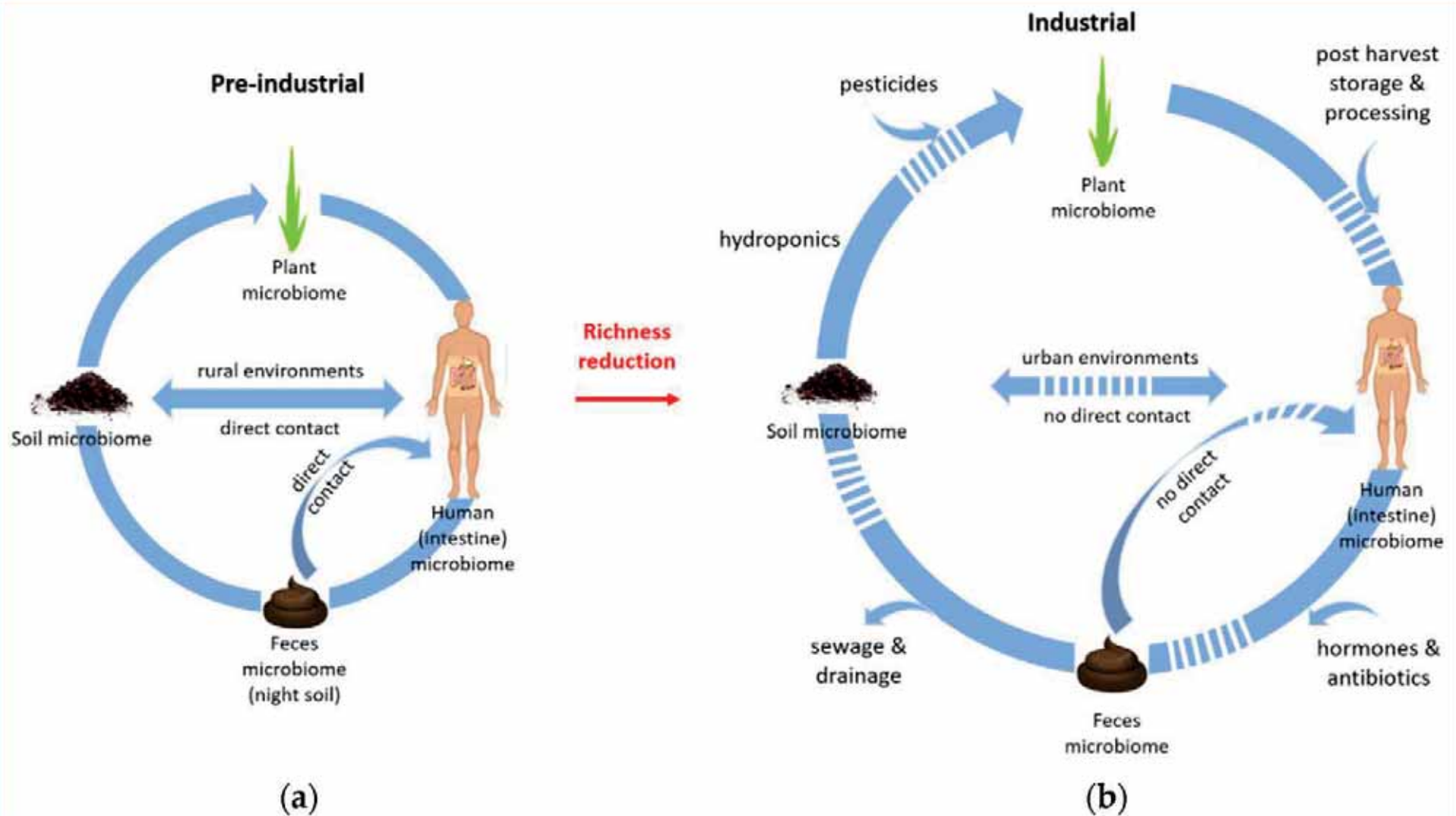
Using precedent analysis to inform a site-specific prototype study in the Pacific Northwest, this research proposes a typology of animal functions suited for co-creation and a research-through-design framework that designers can adapt for local ecological restoration.

MODE OF INQUIRY:

The framework provides a guide for site-specific prototype interventions that are iterated and refined to meet project goals.

BIOMES



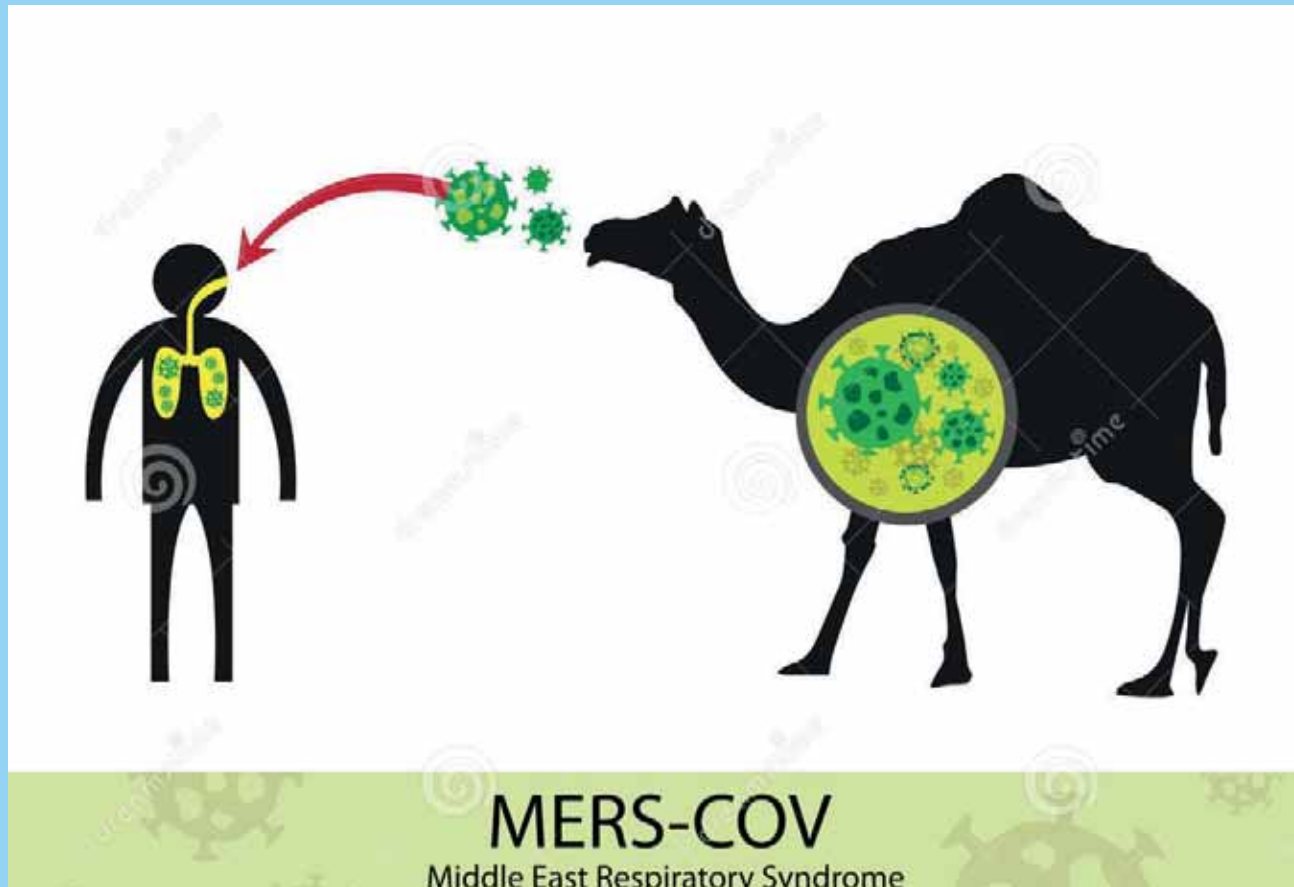


Does Soil Contribute to the Human Gut Microbiome?

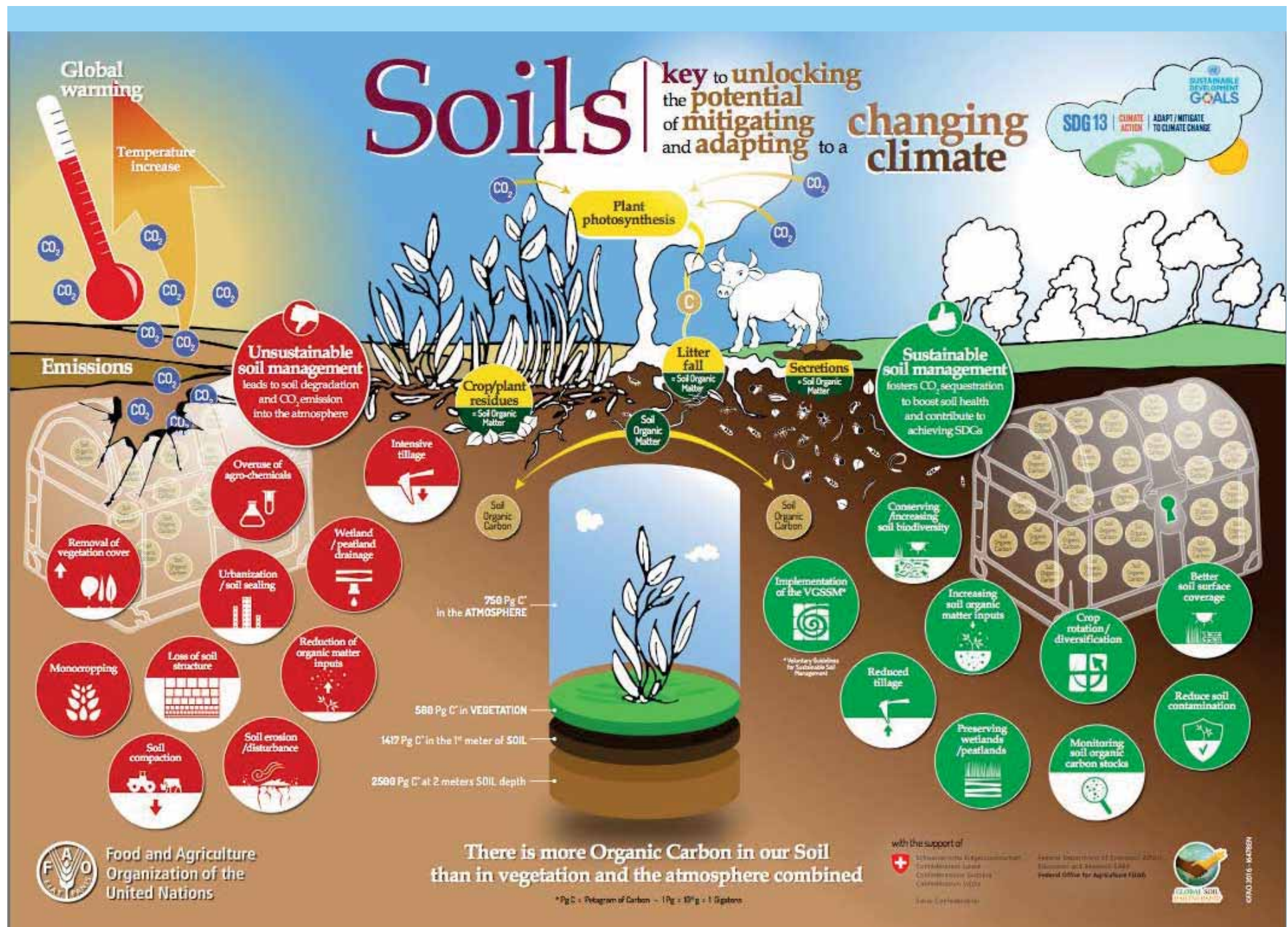
<https://www.mdpi.com/2076-2607/7/9/287/htm>. Institute of Soil Research, Department of Forest and Soil Sciences, University of Natural Resources and Life Sciences Vienna (BOKU)

Nature, Biodiversity and Disease

The changing climate causes more stress to wild animals who are already confronted with shrinking habitats, thus making it easier for diseases to jump from animals to humans. A recent article in the Guardian seems to suggest that human destruction of biodiversity has brought us to a tipping point, and therefore it is time to face nature's wrath.



<https://www.theguardian.com/environment/2020/mar/18/tip-of-the-iceberg-is-our-destruction-of-nature-responsible-for-covid-19-aoc>



Dr. Vandana Shiva, Qatar National Library. Ecological Crisis and the Future of Food Security.



BEUYS

I like America and America likes me, New York, 1974

I like America and America likes me

A photograph of a man in a blue long-sleeved shirt and black leggings jogging on a paved path. In the foreground, a coyote sits upright on the path, looking towards the jogger. The background shows green trash bins and a fence. The image is framed by a light blue border.

Rewilding the Urban

Coyote in Los Angeles

Joseph Beuys. Founder of the Green Political Party in Germany

The Artist-Activist Joseph Beuys. Action in Dusseldorf. "Save the Woods". 1972. Photo Courtesy of Ronald Feldman Fine Arts, New York.

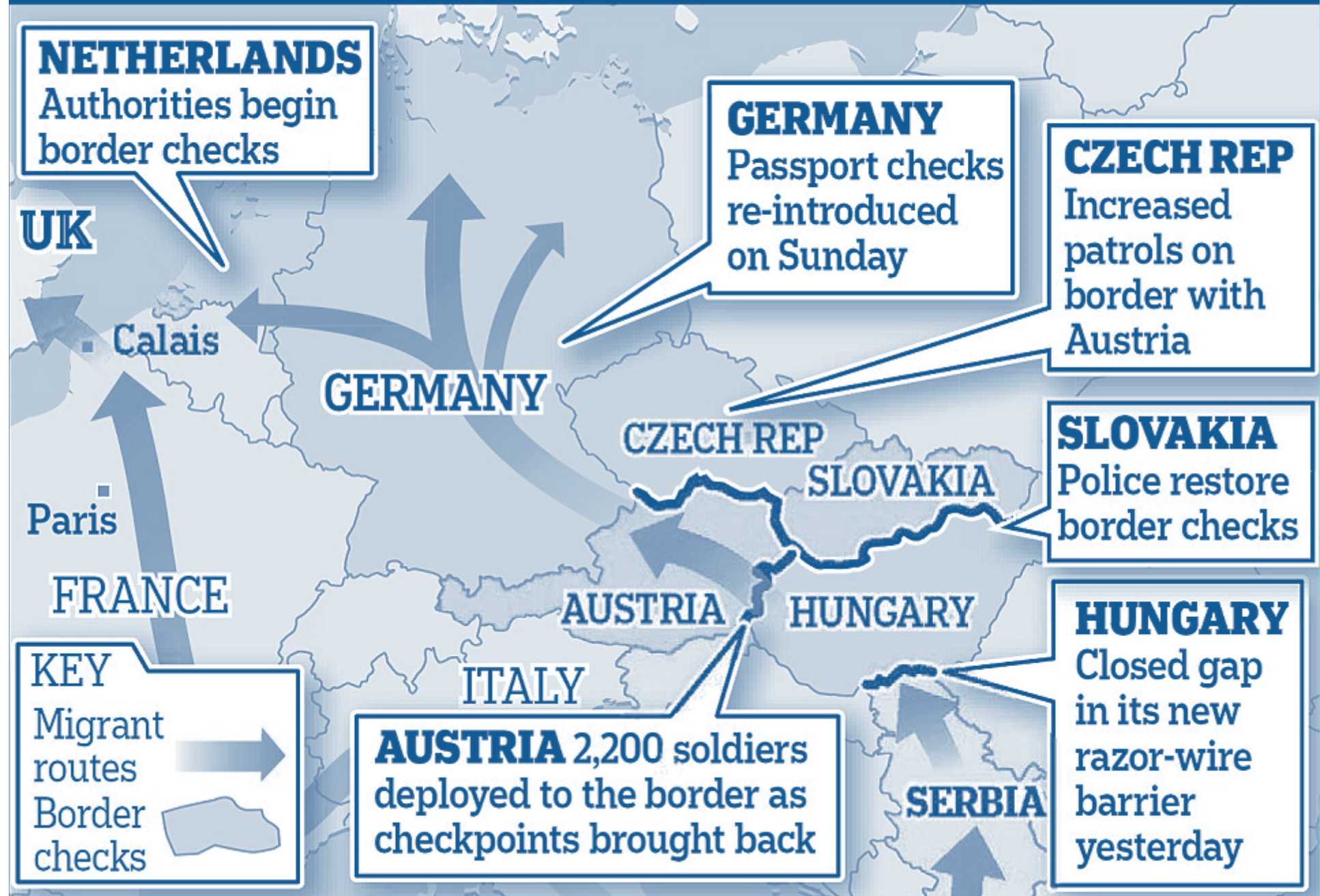
Überwindet endlich die...relendiktatur!



BORDERS

Urban Ecology. As early as the late 1970s, Herbert Sukopp and his colleagues in Berlin were speculating that wastelands are the “field laboratories” for future cities, “where possibly new and well-adapted ecotypes of our native or naturalized wild plants will originate in the changed environmental conditions” (Sukopp et al. 1979: 130).

EUROPE ON LOCKDOWN





Kashmiri goats roaming the streets of Llandudno, north Wales



A one-year-old puma prowls the streets of Santiago Chile. (Getty Images)

<https://twitter.com/manishkumar457/status/1241988724839395328/photo/1>



Architectural Association Visiting School Extended Programme, Berlin

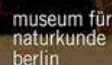
ANIMALESQUE

Visions on Human / Animal coexistence

Lectures, tutorials, seminars and discussions with a wide range of tutors and speakers from the scientific, artistic, technological and activist scene

06.08 - 17.08 2018

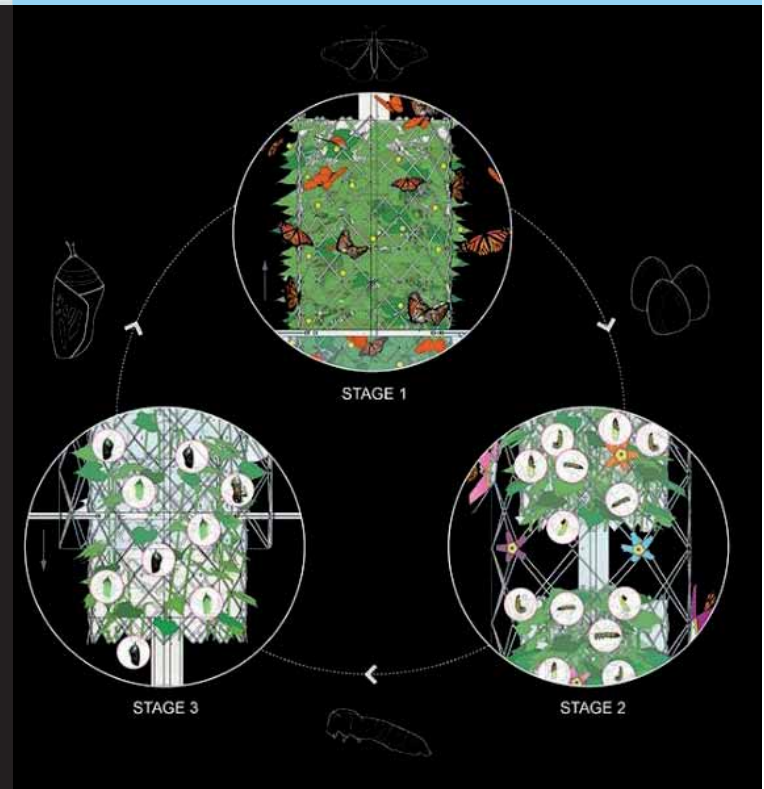
info: <http://animalesque.aaschool.ac.uk>



THE 5 Bs

Birds
Bees
Butterflies
Bats
Bugs

Monarch Sanctuary: Integrated Biodiversity in Double Skin Facade



http://terreform.org/projects_butterfly.html



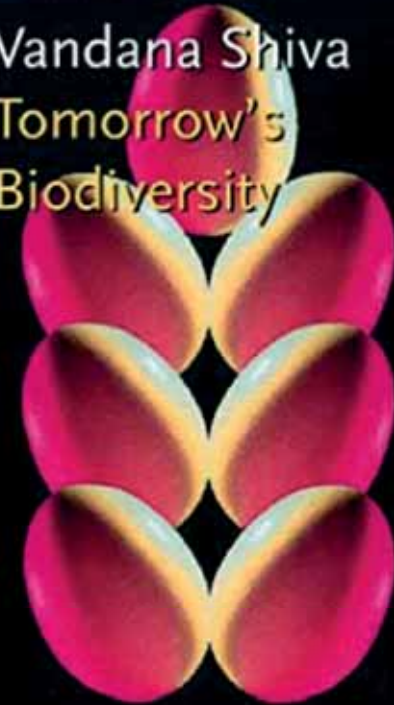
Painted Lady. Migratory Butterfly. Tatarstan



Painted Lady. Migratory Butterfly. Tatarstan

Prospects for Tomorrow
Creating a Sustainable World

Vandana Shiva
Tomorrow's
Biodiversity

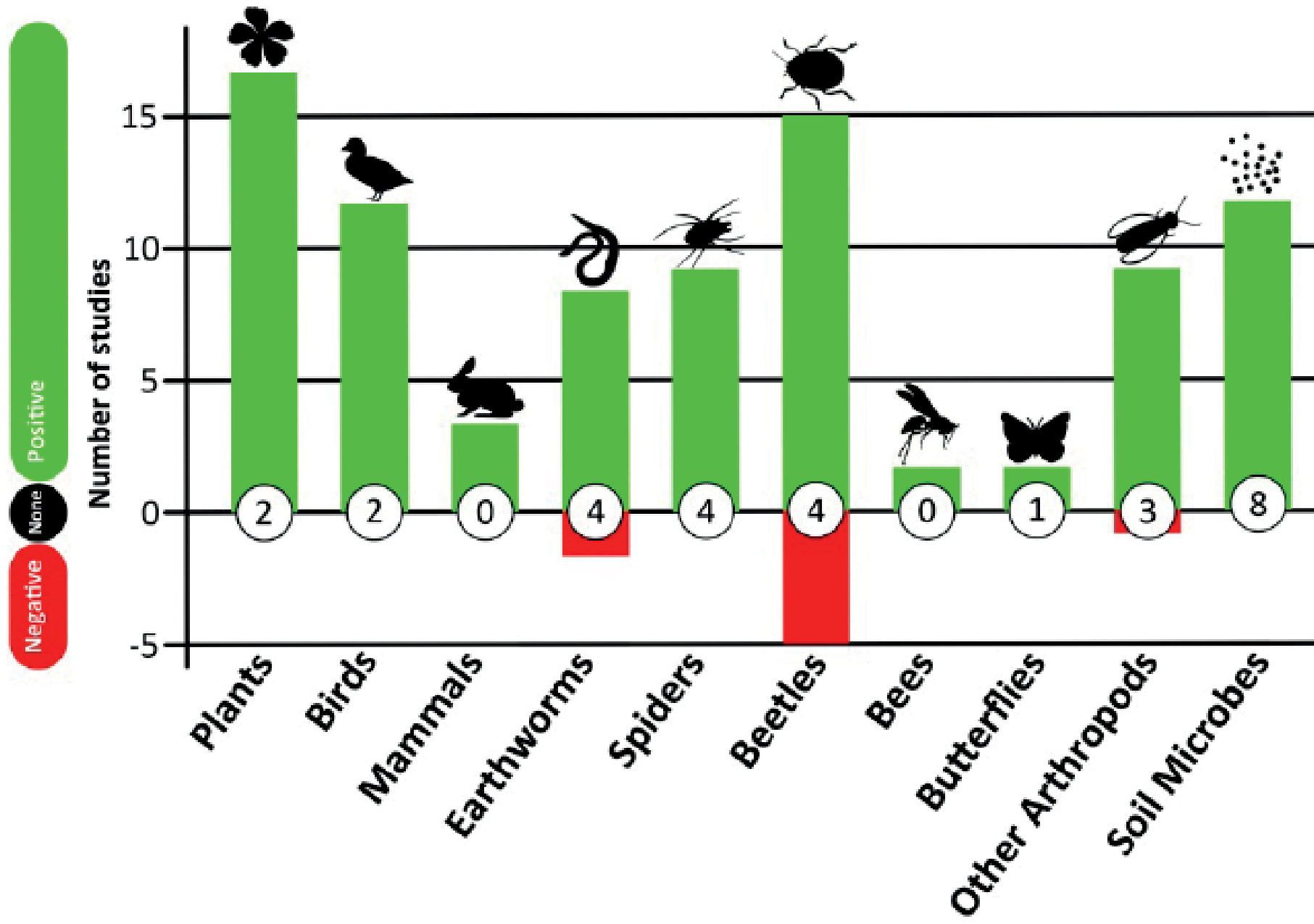


The Dangers of Monoculture

Agriculture is the world's **largest industry**. It employs more than one billion people and generates over \$1.3 trillion dollars worth of food annually. ...

Demand for **agricultural** commodities is rising rapidly as the world's population grows. **Agriculture** destroys **biodiversity** by converting natural habitats to intensely managed systems and by releasing pollutants, including greenhouses gases. Food value chains further amplify **impacts** including through energy use, transport and waste.

Impact of organic farming on biodiversity



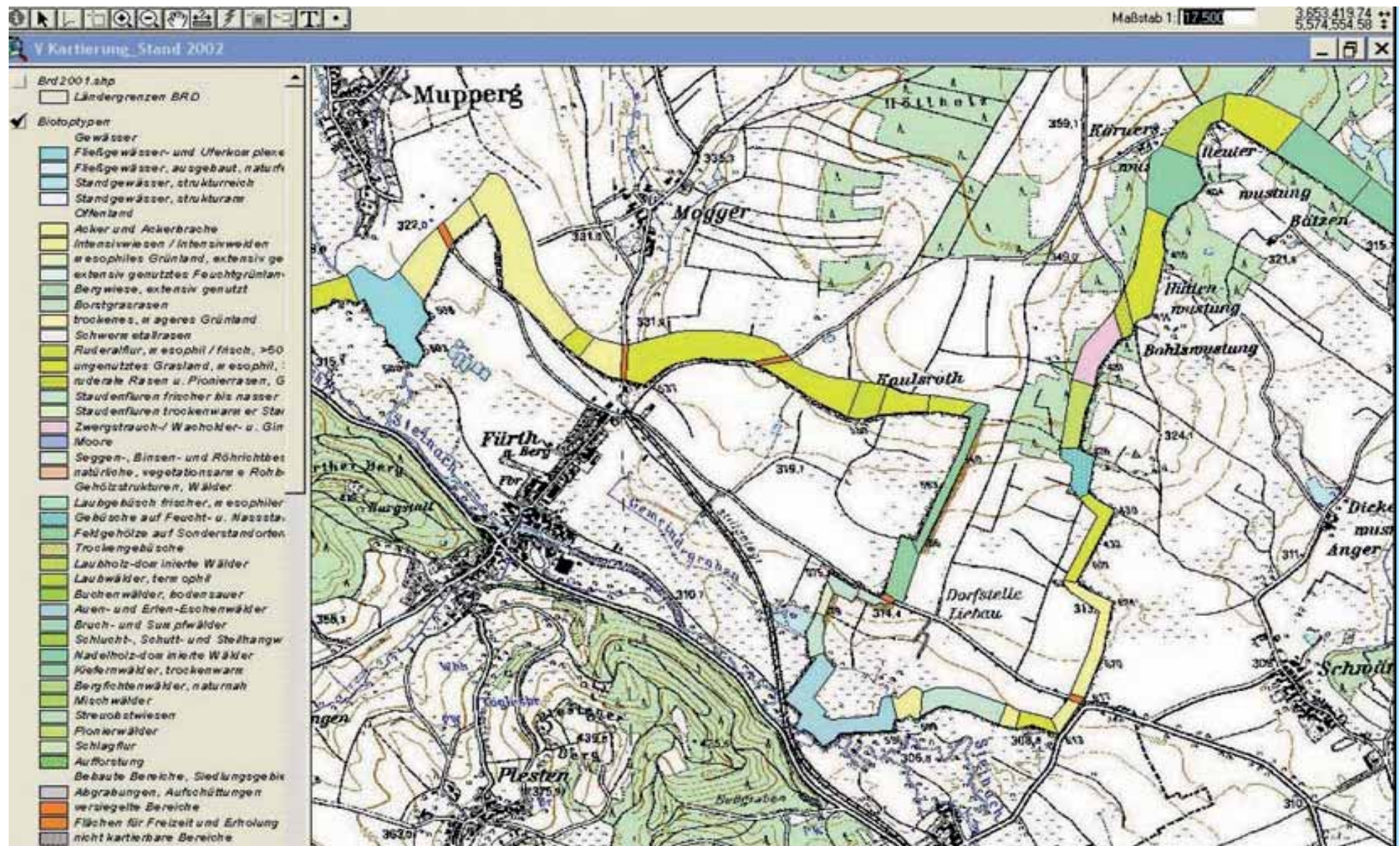
An aerial photograph of Berlin Wall Park. A prominent red line and a blue line run diagonally across the park, representing the original location of the Berlin Wall. To the right of these lines is a large, oval-shaped stadium with a green field and a red running track. The stadium is surrounded by trees and a parking lot. In the background, there are residential buildings and more greenery. The word "BERLIN" is overlaid in large white letters across the center of the image.

BERLIN

Berlin Wall Park



2 Elbe River and southern Altmark form a flat rural region full of fens, ditches and lowland forests, where crane and nightjar call. BUND volunteers show visitors from all over the world the traces of history and nature.



The German Green Belt - 1400 km of research. The longest biological inventory in the history of German nature conservation.

Rio Grande
Valley National
Wildlife Refuge

Wildlife affected by the potential border wall

In the Lower Rio Grande Valley National Wildlife Refuge

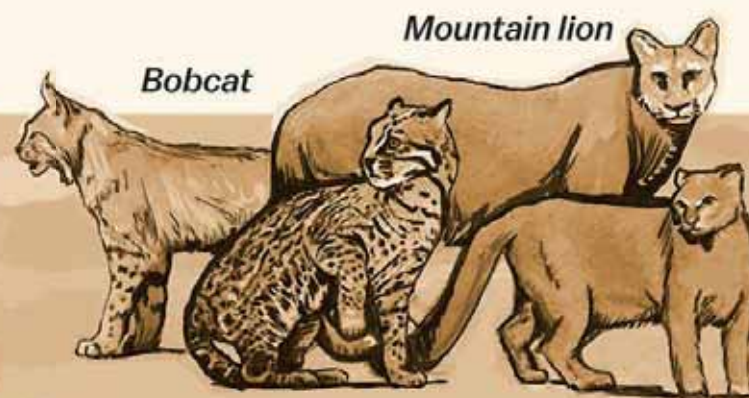


*Southern
Yellow Bat*

Mountain lion

Bobcat

Collared peccary



Ocelot

Jaguarundi



Chachalaca

*Nine-
banded
armadillo*



*Barred tiger
salamander*



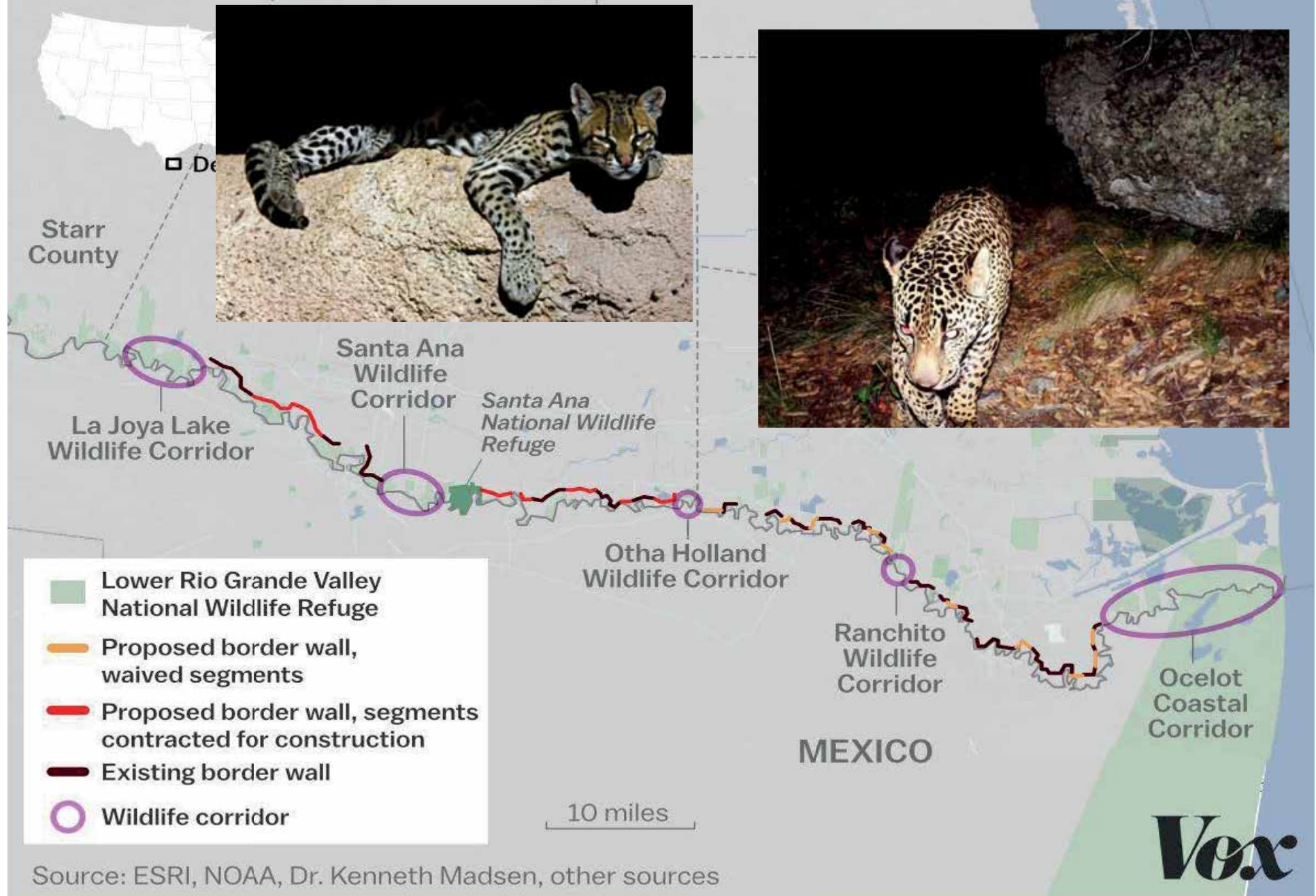
*Texas earless
lizard*



Texas horned lizard



Where the border wall cuts through South Texas





GREEN LINE

WASTE INFRASTRUCTURE

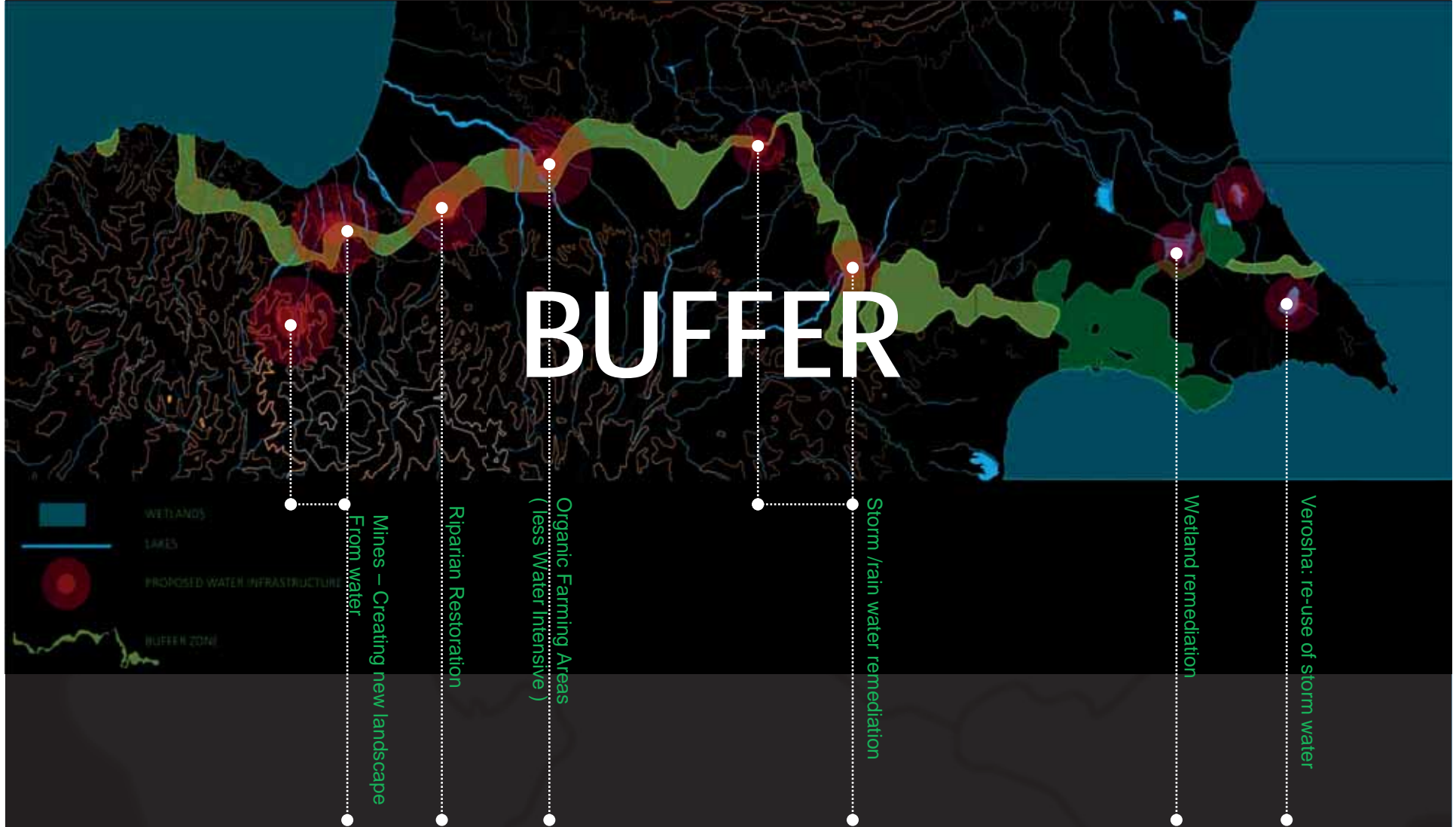
WATER INFRASTRUCTURE

ENERGY INFRASTRUCTURE

FOOD PRODUCTION

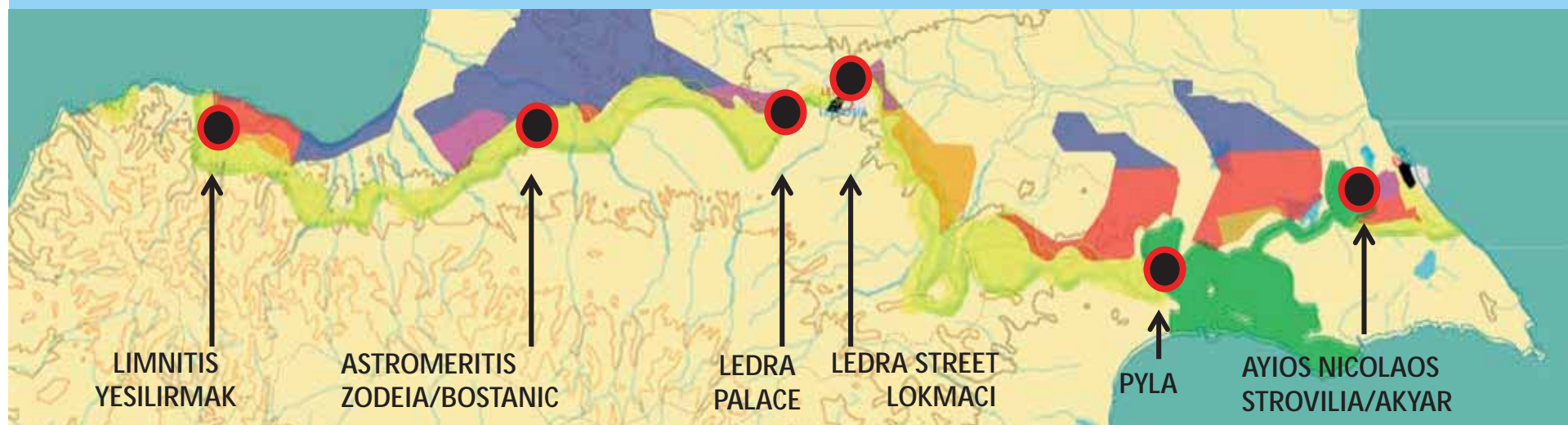
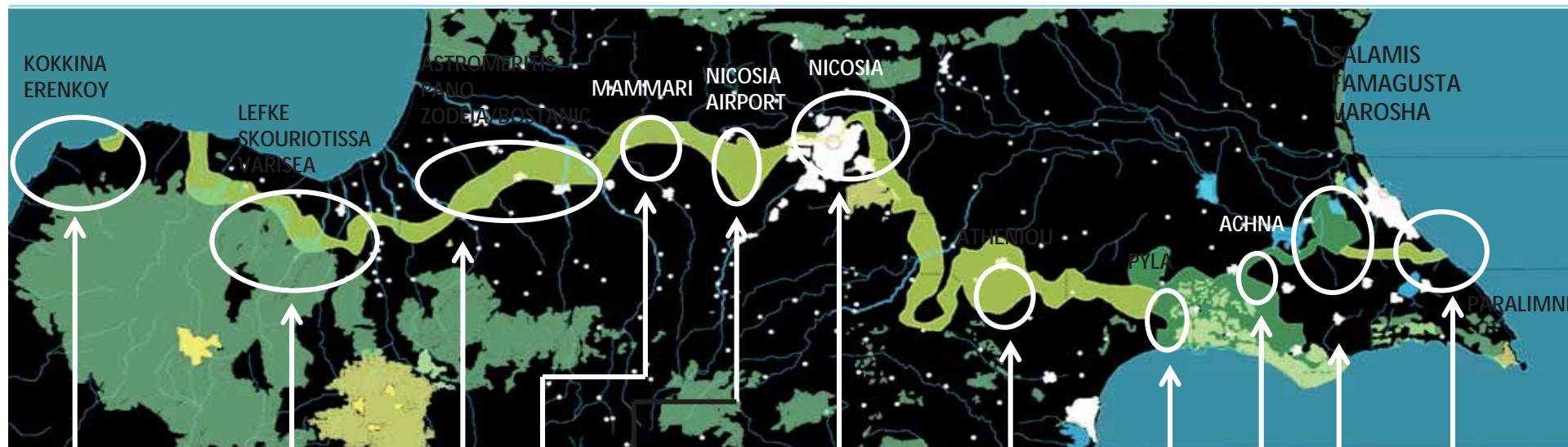
WATER INFRASTRUCTURE

BUFFER



Copper culture mines lake.





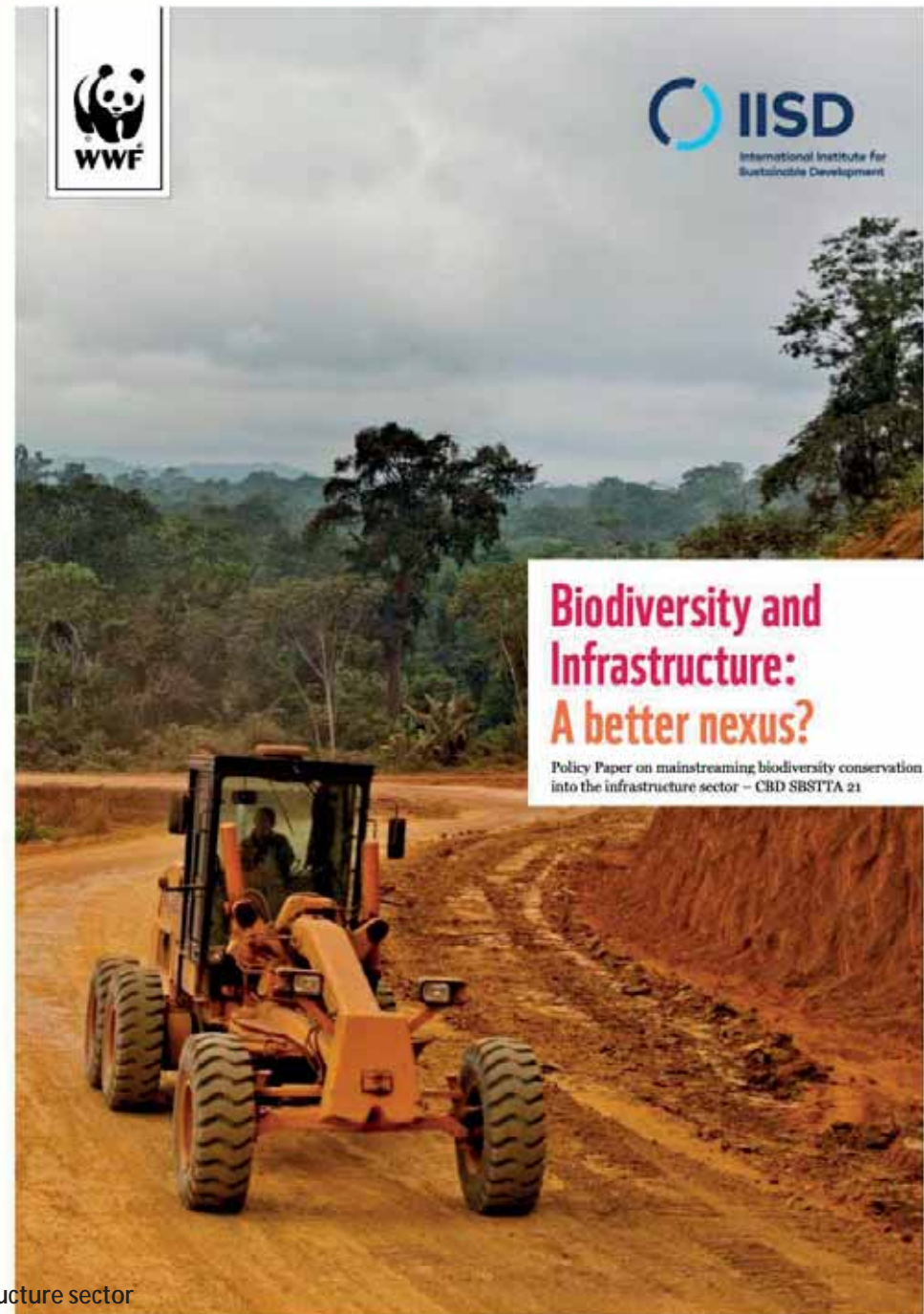


**WHAT IS AN
INDUSTRIAL SITE?**

INDUSTRY AS INFRASTRUCTURE.
NATURE BASED INFRASTRUCTURE
THE OPPORTUNITY TO RECONCILE
INFRASTRUCTURE AND
CONSERVATION.

From green roofs and the bio-adaptive microalgae building facades to the restoration of mangroves and dunes to protect against freak storms, floods and sea level rise, green infrastructure is fast emerging as a specialization of its own.

WWF. Policy paper – Mainstreaming biodiversity conservation in the infrastructure sector





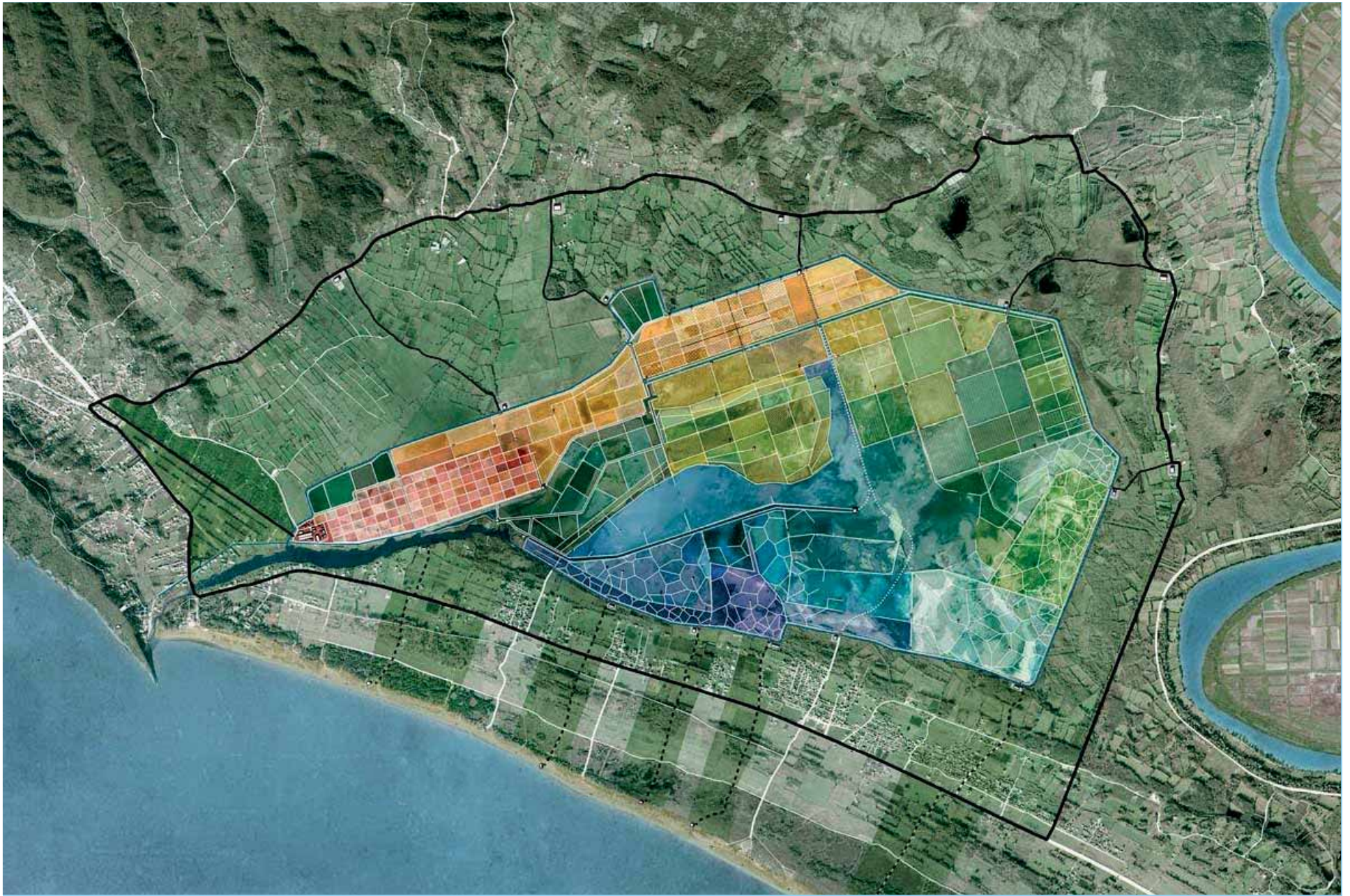
BIOREMEDIATION

BETHLEHEM





SOLANA ULCINJ





Thammasat University – the largest urban rooftop farm in Asia

Landscape Designer and greenroof design | LANDPROCESS
(Kotchakorn Voraakhom)

<https://worldlandscapearchitect.com/thammasat-university-the-largest-urban-rooftop-farm-in-asia/#.X4Mfii2B2m8>

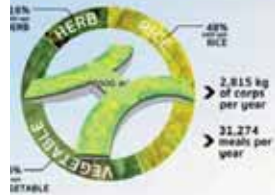


Kotchakorn Voraakhom
Fighting Climate Change

<https://worldlandscapearchitect.com/thammasat-university-the-largest-urban-rooftop-farm-in-asia/#.X4Mfii2B2m8>

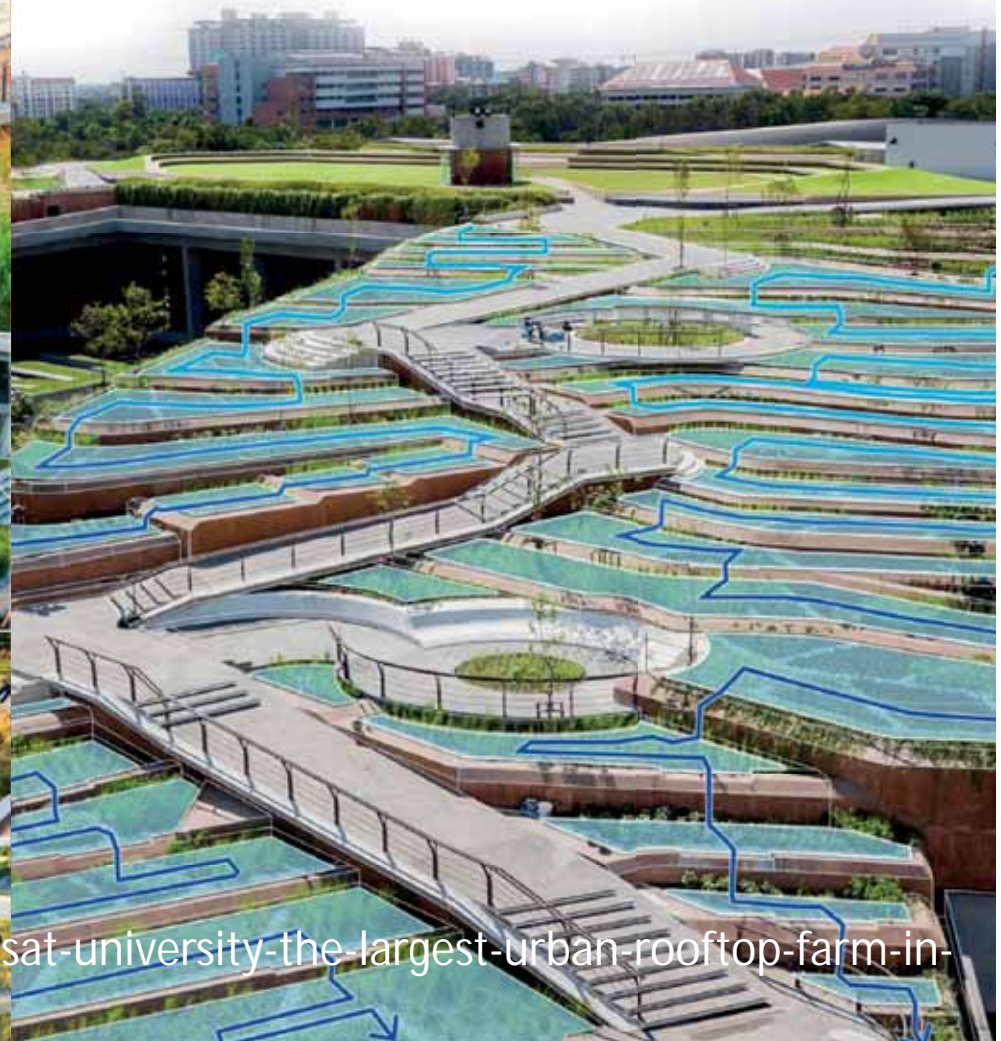
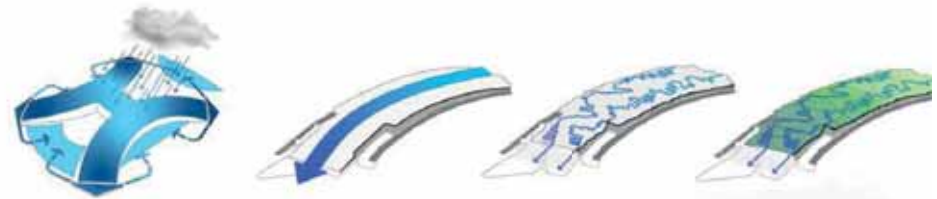
FEEDING THE PEOPLE FROM A SINGLE ROOFTOP

As a form of prolonged periods of mostly wetland habitats and wetland ecosystems, rice is one of the world's most important crops. By 2050, 1.2 billion people will be living in urban areas, and food production must be more sustainable to meet the needs of the future. By utilizing traditional wisdom from rice farmers on the ground and modern technology, the Thammawat University Green Roof can grow up to approximately 1,400,000 kg of rice each year to feed the community.

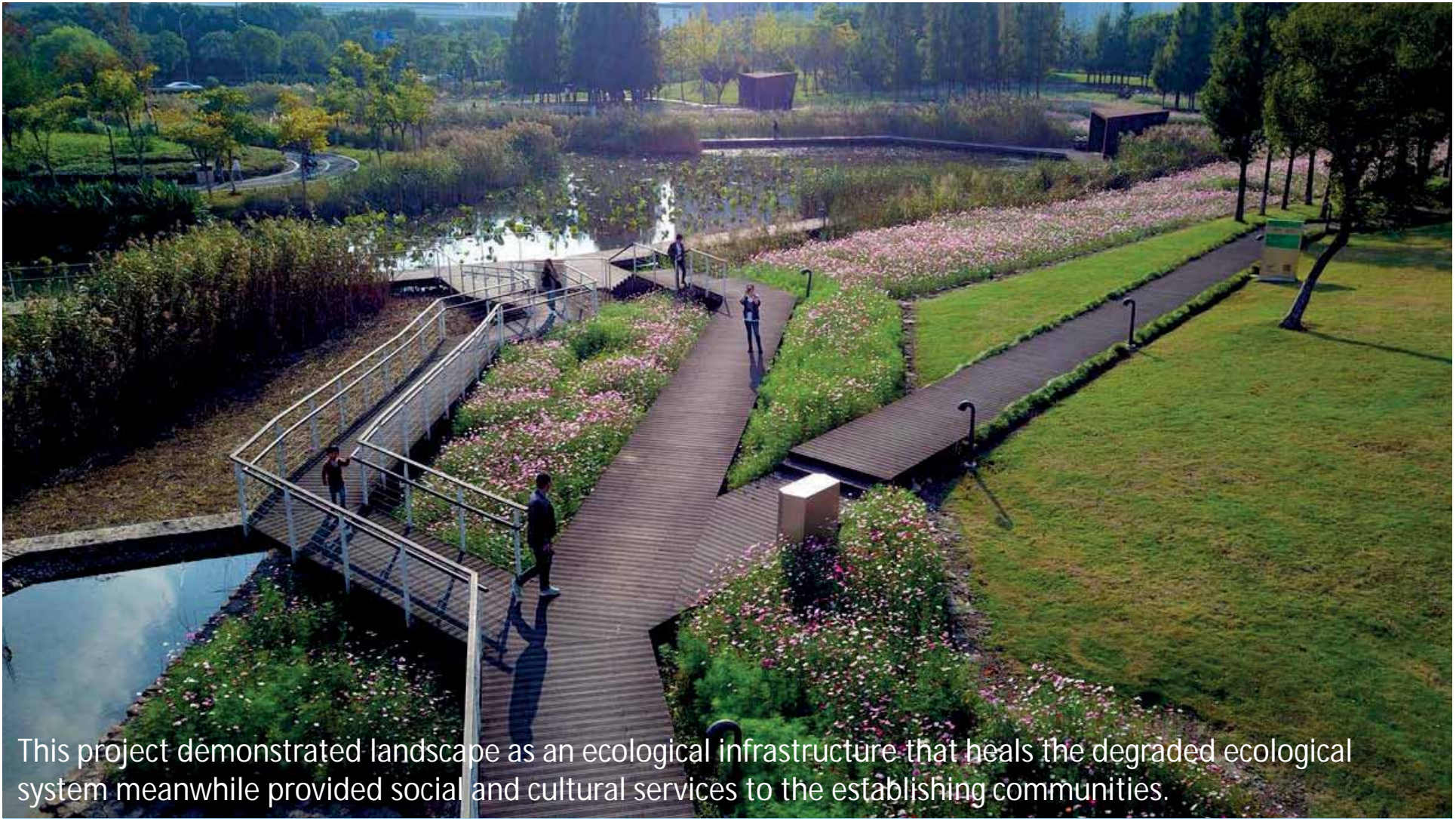


MANAGING WATER THROUGH CASCADING RICE TERRACE

Although concrete absorbs and reflects most heat, it rarely absorbs any water. During rain, the concrete at the top of urban buildings absorbs it. By incorporating the concept of cascading rice terraces, the Thammawat University Green Roof can manage the water runoff from the building's roof, absorb it, and use it for irrigation. The form and function of traditional rice terraces is a lesson to achieve maximum productivity, efficiency and saving resources effectively for times to come.



<https://worldlandscapearchitect.com/thammasat-university-the-largest-urban-rooftop-farm-in-asia/#.X4Mfii2B2m8>



This project demonstrated landscape as an ecological infrastructure that heals the degraded ecological system meanwhile provided social and cultural services to the establishing communities.

Ningbo Eastern New Town Ecological Corridor Turenscape

<https://worldlandscapearchitect.com/ningbo-eastern-new-town-ecological-corridor-turenscape/#.X4MhfS2B2m8>

A satellite image of the Persian Gulf, showing the dark green water of the gulf surrounded by the tan, arid land of the Middle East. The text "Persian Gulf BLOCKADE" is overlaid in white, with "BLOCKADE" in a larger, bolder font.

Persian Gulf **BLOCKADE**

Coronavirus: How the Saudi-led blockade prepared Qatar for the pandemic

Qatar has proven to be resilient despite the Covid-19 crisis hitting the peninsula at a time when it remains subject to an air, land and sea blockade by its neighbours.

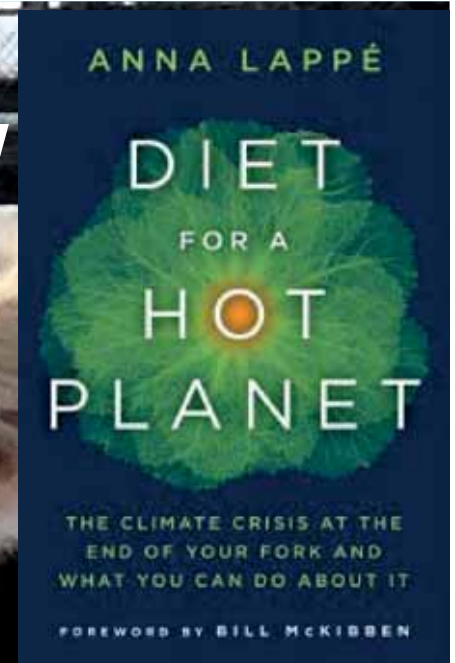
“The Covid-19 crisis has revealed strategic vulnerabilities in supply chains”

<https://www.middleeasteye.net/opinion/coronavirus-how-saudi-led-blockade-prepared-qatar-pandemic>

... and Opportunity

Within three years, Qatar hopes to be able to produce 60 percent of its vegetable needs

Between 2017 and 2018 there was an increase of 300 percent in the production of Qatari farms.



Cows... and/or Superfoods



Between 2017 and 2018 300 % Increase in
productivity of local farms

Within three years, Qatar hopes to be able to
produce 60 percent of its vegetable needs

- Faleh Bin Naser al-Thani, Assistant Undersecretary of Agriculture and Fisheries
Affairs

Reducing Food Miles

An aerial photograph of the Qatar University campus. The image shows a large, organized urban area with numerous buildings, roads, and green spaces. The campus is situated in a desert environment, with some greenery visible around the buildings and along the roads. The text "Qatar University" is overlaid in the top left corner.

Qatar University

An aerial photograph of the Turba Farms. The image shows a large, rectangular area of land that has been converted into a farm. The land is divided into several smaller plots, and there are some buildings and structures visible. The surrounding area is mostly desert, with some sparse vegetation. The text "Turba Farms" is overlaid in the top right corner.

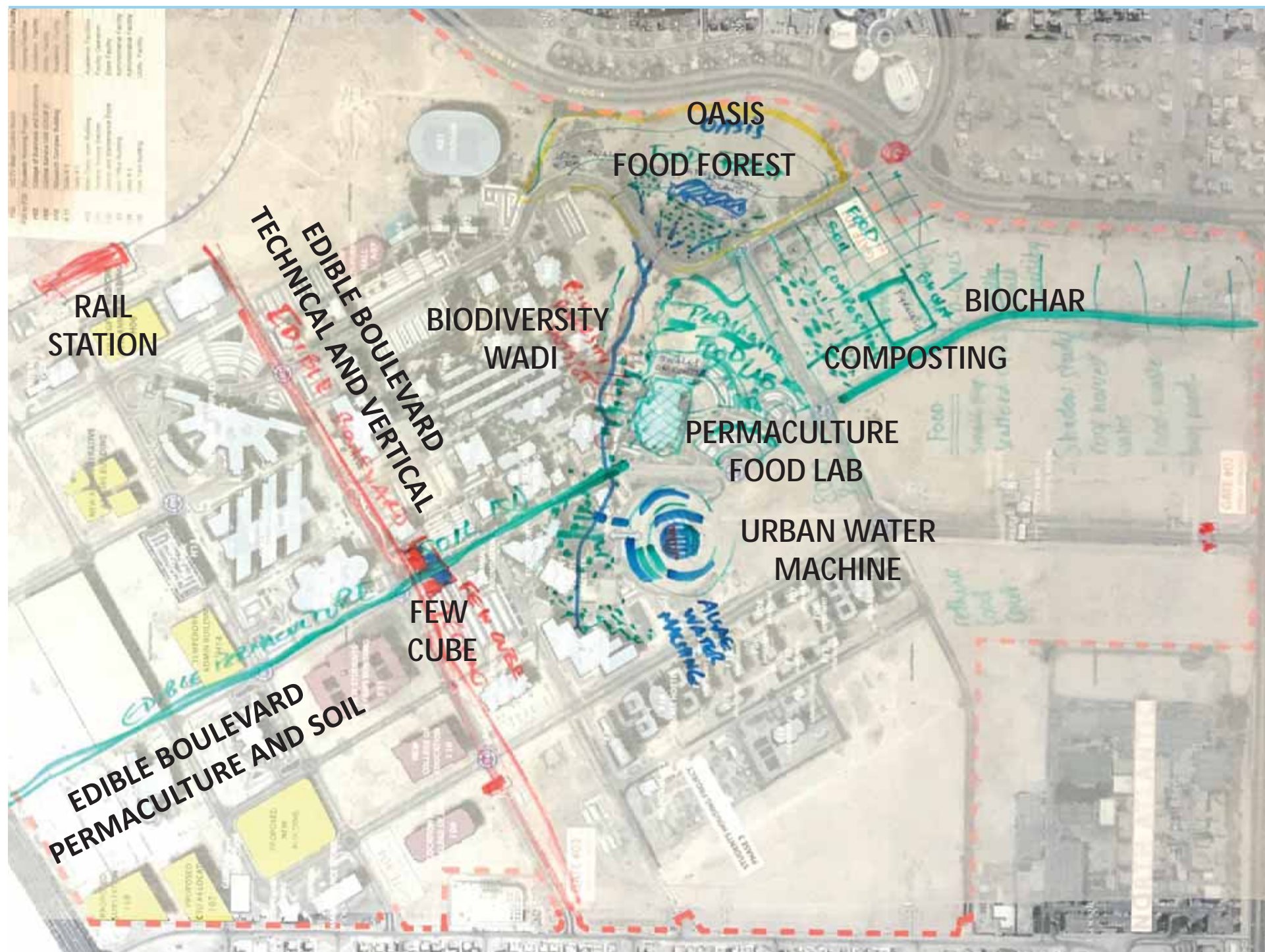
Turba Farms

**THE URBAN FARM AND THE
FOOD FOREST**

Turba Farms

Mohammad Al-Khater. Permaculture, Natural Systems, Indigenous Knowledge for the Food Water Energy Nexus and Public Health

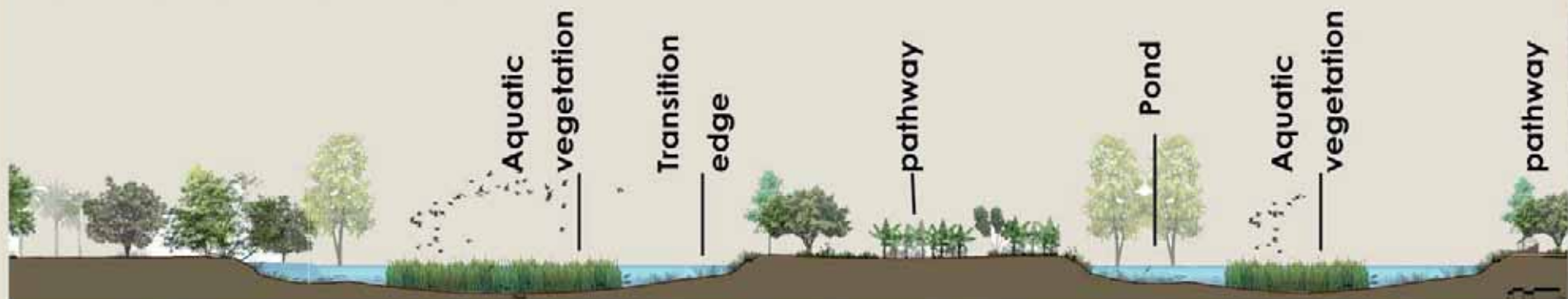




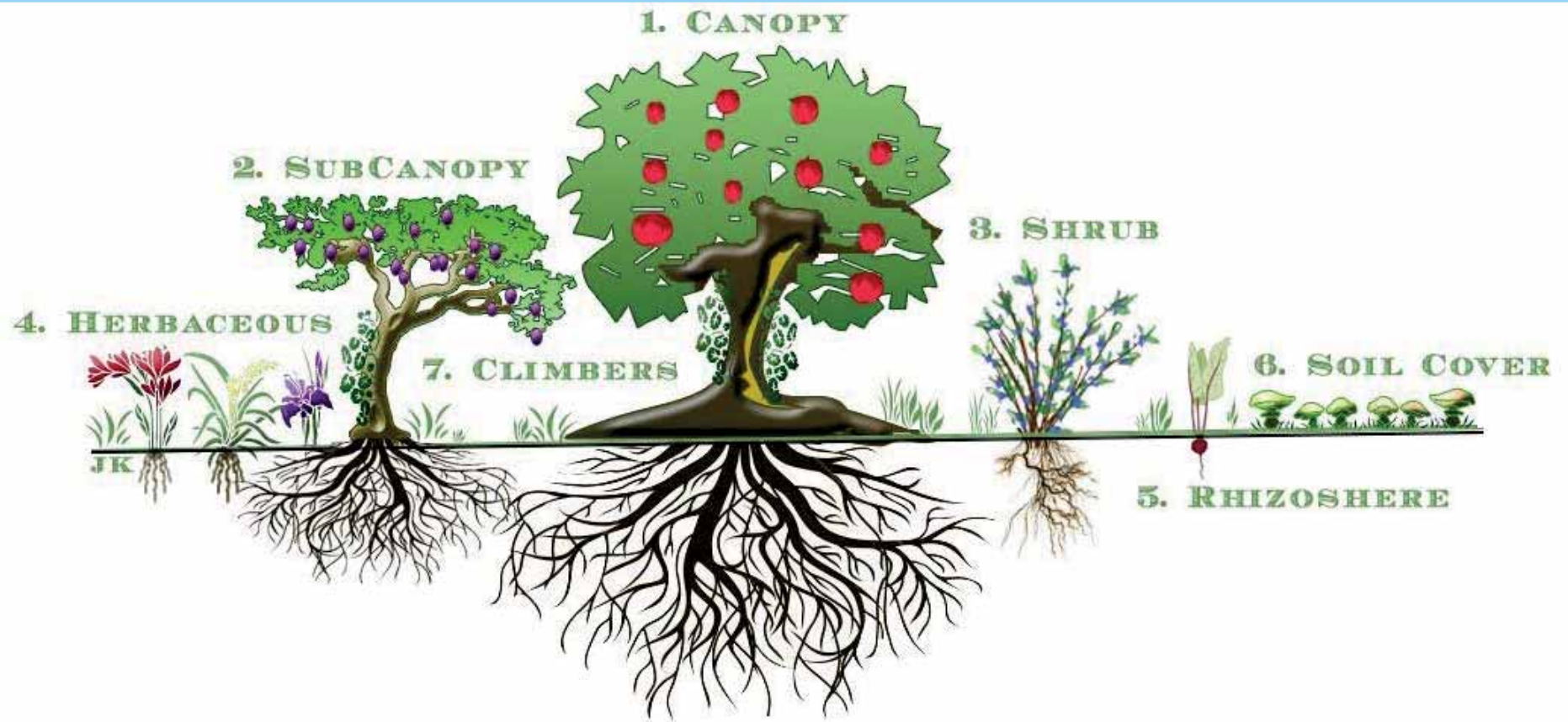
Biodiversity hotspot proposal



Noth Wet-lands section



Future Campus Biodiversity habitat







Student Projects. Site Design for Permaculture Edible Garden.



Paige Tantillo Permaculture Garden 2013

Contemporary Urban Design Thinking

Rob Roggema Editor

Nature Driven Urbanism

Blue Design for Urban Resilience in Drylands:
The Case of Qatar

40 Springer

BLUE



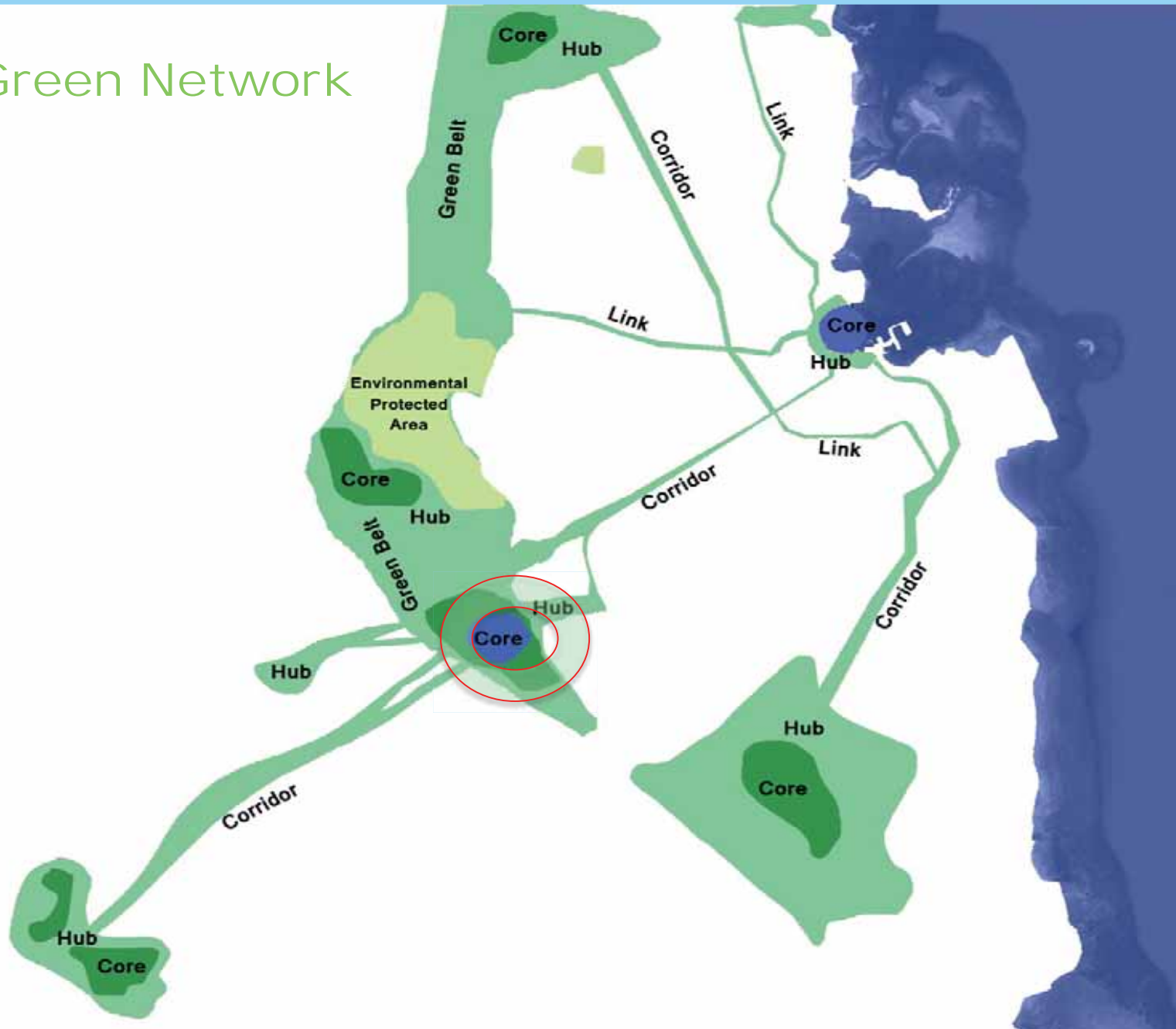
THE WORLD IS BLUE. Syliva Earle
BLUE DESIGN: Saatchi and Saatchi.
Beyond the Green, beyond the passif:
Giving back more
BLUE URBANISM: Increasing number of coastal cities, effects of urbanization on the ocean, the ocean as resource-industries, as indicator.

SEE LEVEL RISE

Our cities of the future can be *Blue* and *Biophilic*. Timothy Beatly. *Blue Urbanism*

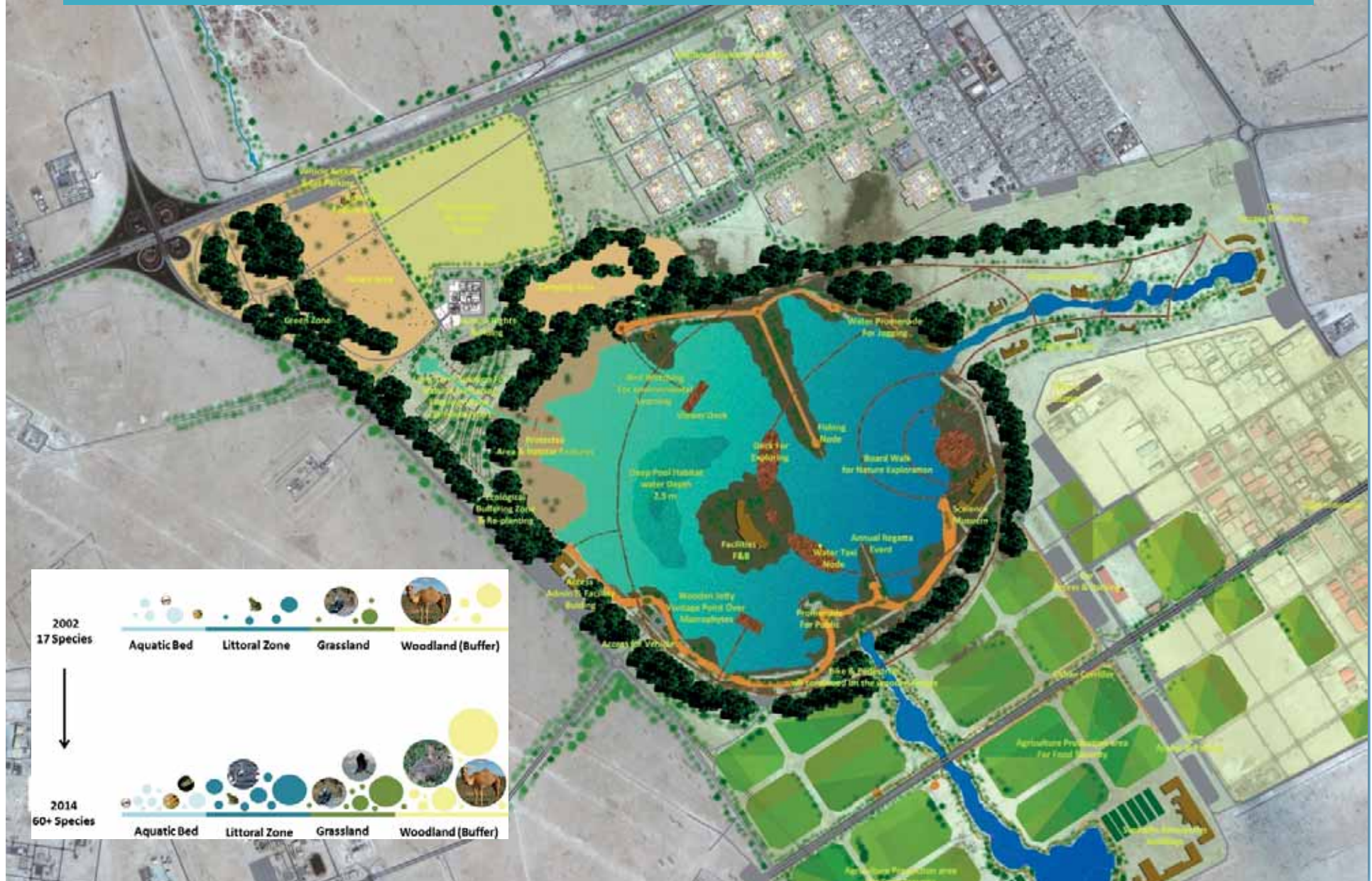


Green Network



The proposed Metropolitan Doha Green Network

New Landscape Ecologies for Constructed Wetlands in the Gulf. The Case of Abu Nakhla Reservoir in Qatar





MINISTER OF MUNICIPALITY AND URBAN PLANNING 2018

CYAN CORNICHE

THE FUSION OF BLUE AND GREEN URBANISM ON DOHA'S WATERFRONT

2

PRODUCTIVE PROGRAMS



COASTAL MANAGEMENT

CYAN CORNICHE

THE FUSION OF BLUE AND GREEN URBANISM ON DOHA'S WATERFRONT

SYSTEMS IN MASTER PLAN

WATER



The process of Saline Agriculture takes input of Saline water, and TSE discharge, to give output of food, bio-filtration, irrigation and public realm landscape irrigation.

ENERGY



The process of Saline Agriculture attempts to produce, and utilize renewable energy sources into the process of planting. This energy is used and produced by the components of this proposal.

WASTE



The process of Saline Agriculture proposes the making of organic compost from city waste in the central island as a symbolic central location, and part of process, which will then produce compost and energy from waste.

URBAN FOOD



The process of Saline Agriculture mainly produces food and bio-products. Inputs are taken from water, energy and waste, incorporated to be used into farming and planting.

CONCEPTUAL SECTION





Views and images that illustrate the character of the new design of the waterfront, integrating forestry, agriculture, and public realm.



View of the Marine center proposed in the cultural program area.

OUTCOMES OF SALINE AGRICULTURE

Coastal Management

Creating a protected shoreline with natural and ecological methods that help and enrich the biodiversity of the place.

Dyster-reeds help filtering the water and protect the shoreline from the rising sea level.

Food Security

Using sustainable water supply and environmental protection, as per the GHFSP food security program can be activated through this proposal, looking from the outer circle of greenbelt to the inner circle of corniche, all these urban spaces are used as productive landscapes.

Biodiversity & ecology

Creating interactive eco-systems and enhancing the ecological performance of the waterfront, in addition to functionally serving as protection against water surge and coastal erosion, mangroves also increase carbon capture.

Public realm

The Corniche becomes more livable and interactive with various programs. This amplifies the significance and quality of public realm by creating different high-quality attractions. Industrial spaces are converted into clean, productive, and social spaces.



SUMMARY

- Pandemic, revealing our unbalanced relationship with nature. Crisis of the Anthropocene, New model from Ego to Eco.
- The Role of Landscape. Landscape Urbanism – Ecological Design – Regenerative Design. Landscape as a restorative profession, not just the “Icing on the Cake”.
- What is Industrial Landscape? Past, present, future? 4th Industrial revolution.
- Regenerating and Restoring Earth and landscapes. Every new intervention in our territories should be seen as an opportunity to restore nature and to reintegrate biodiversity into the built environment.
- Design with Nature. Design for Nature. Design for Biodiversity. We are nature, nature is our teacher. New approaches: designing for endangered species.
- Nature based infrastructure. Industrial sites and infrastructures. (WWF report)
- Projects should integrate plant, animal and human communities in a respectful and balanced symbiosis that is agile and resilient to future threats and changes.
- Bioremediation. Healing ecologies. Nature and natural systems as healing for landscapes and the earth.
- Blue Urbanism. The Sea, Blue Planet, the effect of what we do on land. The amount of industrial activities on the coastlines. Blue Ports.
- Urban and Rural. Industrial agriculture and genetically modified crops. Threat to biodiversity – animals and diversity of seeds and grains.
- From Industrial Agriculture to Agro-ecology. (article).
- Recommendations. Participative processes. Crowdsourcing, Citizen science, involving all ages and communities, workers and citizens, NGOS, culture and art.