

C R E A T I V E S P A C E S F O R N A T U R E



BRIEFING

How creative organisations and artists
can support biodiversity, habitats, and
ecosystems

“But man is a part of nature, and his war against nature is inevitably a war against himself. [...] Now, I truly believe, that we in this generation, must come to terms with nature, and I think we’re challenged as mankind has never been challenged before to prove our maturity and our mastery, not of nature, but of ourselves.”

– Rachel Carson: author of *Silent Spring* and one of the founders of the modern environmental movement, speaking in 1962: almost 60 years ago

C O N T E N T S

04 INTRODUCTION 

08 THREATS TO BIODIVERSITY 

12 OPPORTUNITY AREAS FOR ACTION 

- 12 Capital development & place-making
- 17 Outdoor events
- 19 Creative programming & inspiration
- 26 Procurement
- 31 Donations & fundraising



WHAT DO WE MEAN BY B I O D I V E R S I T Y ?

‘Biodiversity’ is the variety of life on earth – the richness of all living things, and the complex webs they create through their interactions.

It works at different levels: from the variation of different genes, to the variation of individual species in communities of living things, and finally whole ecosystems like coral reefs, deserts, and rainforests. A more diverse ecosystem is a more resilient ecosystem: the more variation there is, the more likely it is that individual species, communities, and ecosystems can adapt to physical changes in the environment, because the more likely it is that somewhere in that variation we will find an individual or species better suited to the unfolding changes.

Biodiversity can also be seen as millions of years of knowledge learned by species as we have evolved and adapted to survive in the countless different environments of the Earth. One metaphor that has been suggested for the unfolding biodiversity crisis is that humans are *‘burning the library of life.’*¹

We are in the midst of catastrophic and dangerous loss of global biodiversity, ecosystems, and the millions of species with whom we share our planet and depend on for our survival. Despite this, our unfolding biodiversity crisis has to date received less public attention than climate change.

We depend on healthy ecosystems for clean air and water, food security and raw materials, our health and livelihoods, and temperature regulation. Changes in ecosystems pose countless risks such as the spread of diseases through invasive species, or soil erosion caused by the cutting down of plants. Forests and wetlands have a hugely important role to play in regulating climate change, with deforestation a major driver – and afforestation, or the regeneration of forests, as a major opportunity for mitigating climate change.

All life on earth is interconnected in myriad ways that in many cases we are barely beginning to understand. For example, the disappearance of tapirs, spider monkeys, and toucans from the rainforest means a reduction in tropical hardwood trees, which depend on these large animals to disperse their seeds, which in turn means the rainforest is able to absorb less carbon dioxide from the atmosphere (because hardwood trees are better at this than softwood)². We don't even know how many species there are on the Earth: estimates hover around 8.7 million, of which we've described around 1.6 million – so up to 80% remain to be found, even as they are disappearing³.

In 2019, the UN's Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) published a comprehensive global assessment report on the state of ecosystems⁴.

¹Valliveronen and Helsten (2002) From "Burning Library" to "Green Medicine": The Role of Metaphors in Communicating Biodiversity, Science Communication.

²Carrington (2015) [Loss of monkeys and birds in tropical rainforests driving up carbon emissions](#), Guardian

³Mora C, Tittensor DP, Adl S, Simpson AGB, Worm B (2011) How Many Species Are There on Earth and in the Ocean? PLoS Biol 9(8): e1001127. <https://doi.org/10.1371/journal.pbio.1001127>

⁴Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Media Release, May 2019: <https://www.ipbes.net/news/Media-Release-Global-Assessment>

The report draws a picture of extraordinary loss, with nature declining at rates that have never been seen in human history and that are accelerating, propelled by five key human-driven activities. The IPBES ranks these, in descending order of impact:

- (1) changes in land and sea use
- (2) direct exploitation of organisms
- (3) climate change
- (4) pollution
- (5) the spread of invasive alien species

“The Report also tells us that it is not too late to make a difference, but only if we start now at every level from local to global. Through ‘transformative change’, nature can still be conserved, restored and used sustainably – this is also key to meeting most other global goals. By transformative change, we mean a fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals and values.”

– Sir Robert Watson, Chair, UN Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)

So what we do next matters:

- How can the creative community nurture living ecosystems and our connection with them?
- How can arts and culture create a regenerative relationship with nature
- How do we create a different kind of space for other knowledge systems and ways of understanding ourselves as inherently part of nature?

The climate and nature crisis needs us all to think differently about how we make, give and receive art so that we cultivate biodiversity and protect habitats, move beyond minimising impacts into understanding how we can restore nature and ecosystems, and connect with the deeper world we are a part of.



SPOTLIGHT

U K B I O D I V E R S I T Y

The UK has been described as “one of the most nature-depleted countries in the world,” ranking 189th out of 218 countries assessed in the Biodiversity Intactness Index. The 2019 State of Nature report*, which compiles data from over 70 organisations, found that:

- Nearly half of UK species (41%) have declined in abundance since 1970
- Up to 1 in 7 (15%) of UK species are threatened by extinction from Great Britain.
- One of the main drivers for species loss is agriculture, with 75% of UK land managed for food production.
- Other key drivers of nature loss are: climate change, pollution, growing urbanisation, and invasive species⁵.

⁵The State of Nature 2019, <https://www.rspb.org.uk/about-the-rspb/about-us/media-centre/press-releases/state-of-nature-2019/>





Benefits and opportunities

of engaging with biodiversity + habitat protection

- Protecting and nurturing our shared planet and contributing to restoring our ecosystems and halting the devastating loss of global biodiversity
- Beautiful, greener, less polluted spaces that we want to live in
- Improved health (e.g. plants helping to reduce air pollution) and proven mental health benefits of spending time in green spaces
- Bringing nature firmly back into our understanding of culture and heritage
- Strengthening and extending the links between arts, science, and nature
- Supporting the building of bridges between indigenous knowledge and other kinds of knowledge through artistic and creative approaches
- Belonging to the most urgent and inspirational movement of our time

T H R E A T S

TO BIODIVERSITY + HABITATS ... AND HOW THEY ARE LINKED TO WHAT WE DO IN THE ARTS & CREATIVE INDUSTRIES

THREAT	LINKS TO ARTS/CULTURAL ACTIVITY
<p>Changes in land and sea use resulting in habitat loss and degradation.</p> <p>Main drivers:</p> <ul style="list-style-type: none"> • Agriculture (for food, clothing and energy/ transport) and forestry • Mining • Construction of infrastructure <p>These threats act at all scales: from the loss of nearly a fifth of the Amazon rainforest in the past 50 years, to the construction of roads or walls that cut across existing habitats, to the disappearance of green spaces in and around our cities.</p> <p>Globally, the United Nations Environment Programme estimates that food systems are responsible for 60% of terrestrial biodiversity loss⁶. More than 33% of the world’s land surface – and around 75% of our freshwater resources – are dedicated to crop or livestock production⁷.</p>	<ul style="list-style-type: none"> • Food/catering offer and procurement, reducing food waste • Procurement and use of other materials e.g. timber, paper for everything from office use, set building, construction, instruments, cotton fabrics, etc. • Capital development and planning • Creation and maintenance of green spaces and spaces for wildlife • Sponsorship from mining and related companies • Programming, partnerships, and campaigns

⁶*Food Systems and Natural Resources*, International Resource Panel Working Group on Food Systems and Natural Resources, United Nations Environment Programme (2016)

⁷Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Media Release, May 2019: <https://www.ipbes.net/news/Media-Release-Global-Assessment>

THREAT	LINKS TO ARTS/CULTURAL ACTIVITY
<p>Overexploitation</p> <p>Main drivers:</p> <ul style="list-style-type: none"> • Fishing and hunting <p>In 2015, around 33% of global fish populations were overfished, while 60% were ‘fully fished’ (i.e. if fishing increases it would become unsustainable)⁸.</p>	<ul style="list-style-type: none"> • Food/catering offer and procurement, reducing food waste • Programming, partnerships, and campaigns
<p>Climate change</p> <p>Climate change drives habitat loss because most species are adapted to survive in very specific conditions. A changing climate shifts their ranges, breeding seasons, or means habitats are lost entirely through e.g. shifting temperatures, ocean acidification, long-term droughts.</p> <p>Main drivers:</p> <ul style="list-style-type: none"> • Burning fossil fuels for transport, generating electricity, and operating homes and businesses • Land use change such as deforestation or draining of peat lands, which releases centuries of sequestered carbon back into the atmosphere and reduces the environment’s capacity to reabsorb it. 	<ul style="list-style-type: none"> • How we power our buildings and events • Touring • Audience travel • Resource use and procurement including food and other goods • Programming, partnerships, and campaigns <p><i>Note: we haven’t included opportunities for action on climate change in the remainder of this briefing. See the resources section at juliesbicycle.com for further guidance.</i></p>

⁸Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Media Release, May 2019: <https://www.ipbes.net/news/Media-Release-Global-Assessment>

THREAT	LINKS TO ARTS/CULTURAL ACTIVITY
<p>Pollution and direct damage to wildlife</p> <p>Main drivers:</p> <ul style="list-style-type: none"> • Chemical pollution • Plastic pollution • Noise pollution • Air pollution • Construction <p>Plastic pollution in the ocean has multiplied by ten since 1980; and more than 80% of global wastewater is discharged untreated into the environment. Fertilizers running off into coastal ecosystems have produced more than 400 ocean ‘dead zones’, totalling more than 245,000 km² – a combined area greater than that of the United Kingdom⁹.</p>	<p>Direct and indirect pollution, such as:</p> <ul style="list-style-type: none"> • Chemical and fuel use and spills • Plastic pollution • Water pollution from improperly managed wastewater <p>Outdoor events or creative installations:</p> <ul style="list-style-type: none"> • Direct noise pollution and light pollution • Direct damage to e.g. tree roots, bird’s nests <p>Air and noise pollution from construction and capital development projects</p> <p>Direct and indirect pollution from food/catering offer, such as the use of pesticides, chemical fertilisers</p>
<p>Disconnection from nature</p> <p>We won’t protect what we don’t value or understand. With increasing urbanisation, we are becoming more disconnected from nature just at the moment where nature needs us to notice it most. Over 80% of the UK’s population now lives in towns and cities – globally, the figure is over 50%.</p>	<ul style="list-style-type: none"> • Programming, engagement, and campaigns celebrating nature and bringing people into green spaces • How green spaces are used at venues and buildings and how these are framed as part of wider ecologies

⁹Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Media Release, May 2019: <https://www.ipbes.net/news/Media-Release-Global-Assessment>

O P P O R T U N I T Y

AREAS FOR ACTION

Capital development + place-making

Think of your spaces as part of larger habitats

- Check your location for areas with special status or designated protected areas for **wildlife protection**.
- Use ecological surveys to identify positive opportunities to support biodiversity, if possible with other partners in your area e.g. linking into wildlife corridors, urban re-wilding initiatives, creating sanctuaries for at-risk species, planting native species that can support pollinators, etc.
- Create spaces for wildlife (and people): from bat and swift boxes, beehives, and wood piles for invertebrates, to green infrastructure – from tree-planting, planters, gardens, living walls, to green roofs to parks. Simple things work too: instead of paying to maintain lawns, consider turning verges etc. into wildflower meadows!
- Bring green spaces and plants into offices and buildings, e.g. plants for air filtration to support physical and mental well-being.
- Undertake environmental impact assessments to minimise the disturbance of capital projects on wildlife and habitats.
- Integrate biomimicry concepts into architectural briefs for capital development projects.
- Explore Sustainable Urban Drainage Systems and rainwater harvesting.
- For city-based organisations, celebrate the idea of the urban habitat, recognising the city as living ecosystem that is home to many other species, with links into rivers, forests, and other ecosystems

Resource: Julie's Bicycle Fit for the Future Guide: investing in environmentally sustainable buildings

[Go to resource](#)

Resource: UKGBC Demystifying Green Infrastructure

[Go to resource](#)

Resource: Institution of Lighting Professionals Guidance Note 8: Bats and Artificial Lighting

[Go to resource](#)

CAPITAL DEVELOPMENT & PLACE-MAKING

C R E A T I V E R E S P O N S E S

Liverpool Everyman & Playhouse have installed swift and bat boxes and are eagerly awaiting the first residents to move in.

Chichester Festival Theatre employed an ecology consultant and used the Sussex Biodiversity Action Plan to identify short- and long-term measures to protect and enhance the biodiversity of its parkland setting. They planted species with known value to wildlife, including many low maintenance and drought-tolerant species. Other measures include keeping piles of dead wood on site (instead of removing it) to create homes for invertebrates.

Edible Utopia is an art, environment, and food project at Somerset House run by artists Clare Patey, Jane Levi, Tim Mitchell, Sophie Mason, and resident mycologist Darren Springer. Somerset House doesn't have a 'traditional' green space, so one of the aims of the project is to explore how the building's historic architecture can open up new ecological opportunities.

As part of Edible Utopia, mushrooms are grown in old coalholes around the Somerset House courtyard, which historically were used to store coal. The mushrooms are organically grown using straw and waste coffee grounds from Somerset House's on-site cafés, and will be served in local cafés and restaurants. The project also runs educational workshops with different groups including young people, care groups, and vulnerably housed communities, explaining the importance of mushrooms and mycelia to the planet's ecosystem, and providing attendees with the knowledge they need to grow their own edible mushrooms from everyday materials. Another plant grown on-site is rhubarb.



CAPITAL DEVELOPMENT & PLACE-MAKING

C R E A T I V E R E S P O N S E S

Artist **Jony Easterby** takes a regenerative approach to many of his works. In 2012, commissioned by Sustrans Cymru, he transformed a heavily polluted site at Maesteg (where coal was cleaned and sorted for 100 years) into a new 1-hectare wetland comprising a network of ponds and around 2,000 native trees, shrubs, and wildflowers, planted with the help of the local community. The whole site has been designed with biodiversity in mind, creating habitats for as many species as possible. Barrier planting, sculptural monoliths, and raised paths help create 'buffer zones' for wildlife while still allowing the local community to visit the area.

London National Park City is a campaign and festival urging people to recognise the city as our habitat. Its aims are: to get people to enjoy London's outdoor spaces more, take action for the city to be greener and healthier, making more space for wildlife, and shape the city's identity as a National Park City.

HOME in Manchester hosts two honeybee colonies on its roof, in celebration of the city's emblem. The staff team repurposed old theatre lights, stage props, exhibition materials, and even old washing machine drums into potting containers for plants for the bees to forage from. Four staff members have been trained as apiarists at the Manchester District Beekeeper Association.

Michael Pawlyn is a British architect famous for advocating for biomimicry in architecture, creating structures inspired by nature that are regenerative (rather than just minimising environmental impact). His concepts include a data centre based on two biomimetic principles: making use of free cooling by locating the data centre in a cold location, and applying the highly efficient branching seen in nature to the cooling system to increase efficiency and reduce energy use.

“We want to rethink the building as a shared space, a space we share with all the various plants, bugs, birds, the moss on the roof, the spiders in the rafters, the flowers in the graveyard. If we rethink the building in this way we can rethink the organisation into a place where we can ask the questions that contribute to the debate and understanding of what causes climate change.”

ANTHONY ROBERTS

CEO, COLCHESTER ARTS CENTRE



SPOTLIGHT

G R E E N I N F R A S T R U C T U R E

'Green infrastructure' can take a wide range of scales: from green roofs and walls to open spaces and parklands.

It has a wide range of benefits, especially in cities, including:

- Cooling the air and reducing the 'urban heat island effect' – i.e. the way that cities are often hotter than their surrounding environment. Main causes of this include the way materials like concrete and asphalt absorb (and store) more heat, and the lack of plants. Plants are like nature's air conditioners: they absorb water, which is turned into water vapour through a process called transpiration.
- Filtering urban pollutants
- Increasing biodiversity
- Improving physical and mental health

Enlist professional help to choose appropriate plants: understand the growing conditions (e.g. is it light/dark, wet/dry), what properties are appropriate for your location (e.g. ornamental, erosion control, flood risk reduction), and how you can support native biodiversity.

Green infrastructure can be expensive, including not just the upfront investment, but also on-going costs of maintenance. Make sure you include maintenance into project budgets and briefs.



GREEN INFRASTRUCTURE

C R E A T I V E R E S P O N S E S

Village Underground, a music venue in East London, installed a green roof to help dampen concert noise instead of opting for a concrete roof (when wet, soil can provide sufficient sound insulation). Today, the green roof continues to provide a habitat for a range of insects and plants, including a beehive and pollinator-friendly vegetation like lavender. It stands out as an oasis of greenery in an increasingly developed neighbourhood, acting as a source of tranquillity and well-being for the staff and tenants at Village Underground.

The **Lyric Hammersmith** theatre installed a green sedum roof as part of its capital development project in 2015. More recently, they worked with their local Business Improvement District to install beehives as a home to approximately 180,000 Buckfast bees, who are helping the plants on the roof mature through pollination. Honey produced by the bees is sold in the Lyric's café.



Outdoor Events

Consider that your event site is a year-round habitat for plants and animals

- Undertake an ecological survey or environmental impact assessment to identify any protected or sensitive species that may impact your site planning. That can include pointing lights and sound away from bat or bird nesting sites, or creating exclusion zones around fragile trees or vegetation.
- Ensure you adhere to legal requirements to avoid pollution such as fuel or sewage spillages; and ensure you provide enough toilets to prevent ammonia running off into waterways from crowds urinating where they shouldn't.



OUTDOOR EVENTS

C R E A T I V E R E S P O N S E S

Byron Bay Bluesfest in Australia has a koala management plan in place that is approved by the New South Wales Department of Planning and Environment. The festival has worked with wildlife researchers at the University of Queensland to undertake year-round surveys of the koala population around the festival site and put in place measures to protect them – including giving antibiotics to sick koalas, planting trees to improve their habitat, and eliminating wild dogs (one of the leading causes of koala death).



Creative Programming + Inspiration

Think about how you can foster a deeper connection to nature

Through your programming, you can:

- bring people into green spaces;
- drive the regeneration and restoration of natural sites through art projects;
- highlight extinction threats;
- help us work through grief and other emotions connected with the disappearance of habitats and biodiversity;
- celebrate our green spaces and help people connect to them through activities like performances in parks, community gardening and food growing, or wildlife walks;
- improve our understanding of nature;
- shift our perception of the human connection(s) to nature and our place in global ecosystems;
- participate in and support citizen science biodiversity projects;
- support the building of bridges between indigenous knowledge and other kinds of knowledge through artistic and creative approaches;
- forge new partnerships with research institutions and environmental organisations;
- write to your local MPs and politicians about what you're doing and why this is an issue you care about

Support broader campaigns celebrating nature or highlighting the catastrophic risks to biodiversity, and support the work of scientists and organisations working on conservation.

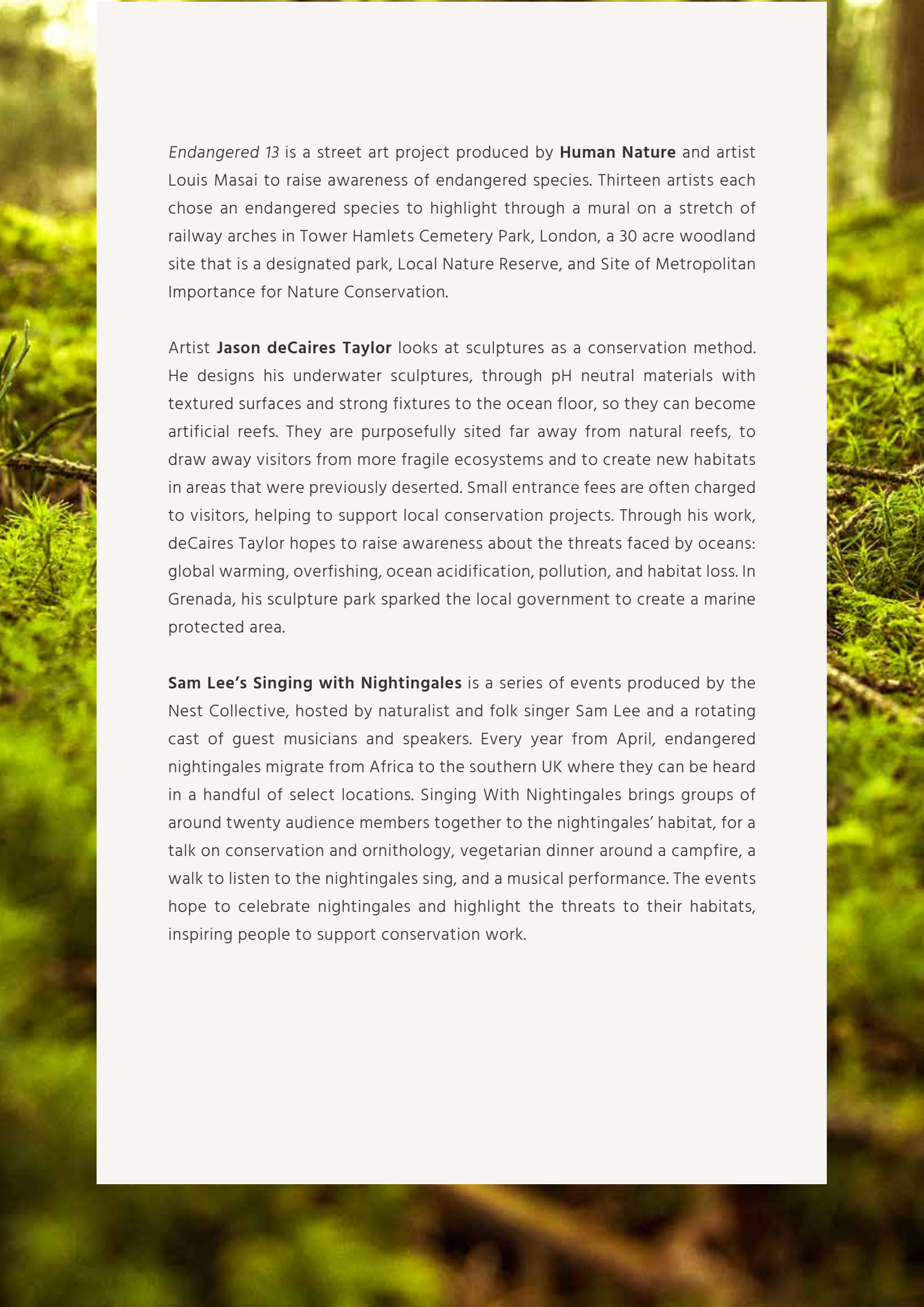
CREATIVE PROGRAMMING & INSPIRATION

C R E A T I V E R E S P O N S E S

Artist **Natalie Jeremijenko's** Mussel Choir tries to help people make sense of data and better understand their local water quality. Mussels, or bivalves, feed by filtering water, in the process also filtering out chemicals and pathogens. The rate at which they open and close is an indicator of how polluted or clean the water is. For Mussel Choir, Jeremijenko linked mussels up to sensors so they could 'sing' to people about the quality of the water they were in. The piece has been installed at the Venice Architecture Biennale, in the East River in New York City, and at Melbourne Docklands.

In the Eyes of the Animal is a Virtual Reality experience by collective **Marshmallow Laser Feast** and commissioned by **Abandon Normal Devices** and Forestry Commission England's Forest Art Works, supported through public funding from Arts Council England and Forestry Commission England. It is an immersive VR recreation of the sensory experience of four British woodland species – a midge, a dragonfly, a frog, and an owl – as they move through their forest habitat, designed to shift our human-centred experience.


Test Sites by **Arts Catalyst** is a project series exploring a range of environmental issues including flooding, pollution, and species loss, and the impact that they have on local communities. Each artistic exploration brings together the local community with artists, scientists, and other experts. One example is an inquiry into water governance and its impact on well-being and resilience in the Yorkshire Calder Valley, which has a history of flooding and water pollution. The project is bringing together artist Ruth Levene, anthropologist Megan Clinch, artist group Coney, Arts Catalyst, and Liz Sharp from the Pennine Water Group at the University of Sheffield and the water@leeds group at the University of Leeds. Activities include workshops, water-testing, walks, and riverboat journeys designed to spark conversations about the role of the local water system.



Endangered 13 is a street art project produced by **Human Nature** and artist Louis Masai to raise awareness of endangered species. Thirteen artists each chose an endangered species to highlight through a mural on a stretch of railway arches in Tower Hamlets Cemetery Park, London, a 30 acre woodland site that is a designated park, Local Nature Reserve, and Site of Metropolitan Importance for Nature Conservation.

Artist **Jason deCaires Taylor** looks at sculptures as a conservation method. He designs his underwater sculptures, through pH neutral materials with textured surfaces and strong fixtures to the ocean floor, so they can become artificial reefs. They are purposefully sited far away from natural reefs, to draw away visitors from more fragile ecosystems and to create new habitats in areas that were previously deserted. Small entrance fees are often charged to visitors, helping to support local conservation projects. Through his work, deCaires Taylor hopes to raise awareness about the threats faced by oceans: global warming, overfishing, ocean acidification, pollution, and habitat loss. In Grenada, his sculpture park sparked the local government to create a marine protected area.

Sam Lee's Singing with Nightingales is a series of events produced by the Nest Collective, hosted by naturalist and folk singer Sam Lee and a rotating cast of guest musicians and speakers. Every year from April, endangered nightingales migrate from Africa to the southern UK where they can be heard in a handful of select locations. Singing With Nightingales brings groups of around twenty audience members together to the nightingales' habitat, for a talk on conservation and ornithology, vegetarian dinner around a campfire, a walk to listen to the nightingales sing, and a musical performance. The events hope to celebrate nightingales and highlight the threats to their habitats, inspiring people to support conservation work.



Myconnect by artist **Saša Spačal**, mycologist **Mirjan Švagelj** and technologist **Anil Podgornik** is an artwork questioning the boundaries between human and nonhuman, ‘technology’ and ‘nature’. A person in a capsule is linked to a heartbeat sensor, as well as headphones and vibrational motors to various points of the body. The heartbeat signal travels through mushroom mycelium where it is modulated, before being transmitted back to the human body through sound, light, and tactile vibrations. This sensory experience changes the heartbeat, and begins a new signal loop – simulating a neural network or connection. The piece is intended to illustrate symbiosis and interdependence, erase the boundaries between nature and human, illustrate how we are all physically part of the environment, and ask how humans might understand the incredible flow of information transmitted through mycorrhizae (fungus and plant roots) networks around us.

Living Symphonies was a site-specific landscape installation in four of England’s forests, produced by Forestry Commission England and Sound and Music with support from Arts Council England. Artists James Bulley and Daniel Jones surveyed each of the forest sites to create a simulation of the forest ecosystem’s activities, creating a composition that shifts and adapts to changing weather and time of day, with different musical motifs representing different species of plant and animal and their interactions. A network of speakers was installed throughout each of the forest sites to play the symphony back out into the forest for visitors. Alongside the installation, events, talks, and walks were organised designed to attract new visitors to the forests, including dedicated coaches from nearby cities. Their learning from the installation was turned into a guide to support others planning outdoor works. The [Toolkit: planning and producing artworks in the natural environment](#) can be downloaded for free.



In 2014, American indie rock band **Portugal. The Man.** collaborated with the Smithsonian's National Zoo and Conservation Biology Institute to create the Endangered Song 'Sumatran Tiger': a song manufactured to go extinct unless it's reproduced. The band created 400 lathe-cut polycarbonate records to symbolise the estimated 400 Sumatran tigers left in the wild. The records degrade as they are played and were the only copies of the song in existence. For Earth Day, they were sent to 400 influencers – from celebrities and politicians to activists, journalists, and conservationists – along with instructions on how to digitise the song and a request to upload and share through their social media channels with the tag #endangeredsong to raise awareness and funding. *"The song will go extinct unless it's digitally reproduced. The Sumatran tiger will go extinct unless we take action."* The campaign received widespread press coverage and used other digital channels to extend its reach, such as a Reddit AMA (Ask Me Anything) with the band and Craig Saffoe, Curator of Great Cats at the Smithsonian's National Zoo.

Green Lungs by **MAC Birmingham** and **Ampersand Projects** worked through creative activities to introduce recently settled refugees in Birmingham to green spaces in the city. Participants collaborated with artists to co-create works to express their experiences in the landscape, which were subsequently exhibited at MAC. Other partners included **St Chad's Sanctuary** and **Birmingham & Black Country Wildlife Trust**. The project wanted to create a lasting legacy for the participating communities to feel connected to and use these urban green spaces.

Julie's Bicycle **The Colour Green** is a podcast series that traces the intersections of race, social and climate justice, and the natural world. Baroness Lola Young is in conversation with artists and activists of colour including speculative fiction writer and pleasure activist, Ama Josephine Budge; artist and former director of the Black Environment Network, Judy Ling Wong; musician and founder of the Rural-Urban Synthesis Society, Kareem Dayes; and poet and creative facilitator Zena Edwards. Each podcast episode is set in a familiar location of the guest's choosing as a departure point for exploring home, place, nature, climate justice, and nurture.

Gaja Mežnarić Osole is a Ljubljana-based designer and Creative Climate Leadership alumnus working at the intersection of design, ecology and participation. In 2017, she founded sustainable design NGO **Trajna** with designer Andrej Koruza. Their projects include *NotWeed Paper*: a paper created from invasive Japanese knotweed. Invasive plants can have a significant impact on local ecosystems, and cause significant costs and difficulty to eradicate. *NotWeed Paper* suggests an alternative use for this plentiful biomass, while also displacing virgin wood fibres from paper production thereby helping to contribute to forest protection.

Resource: Julie's Bicycle Case Study: V&A's Fashioned from Nature, outlining the strategy, narrative and design behind the award-winning exhibition examining the relationship between fashion and nature

[Go to resource](#)

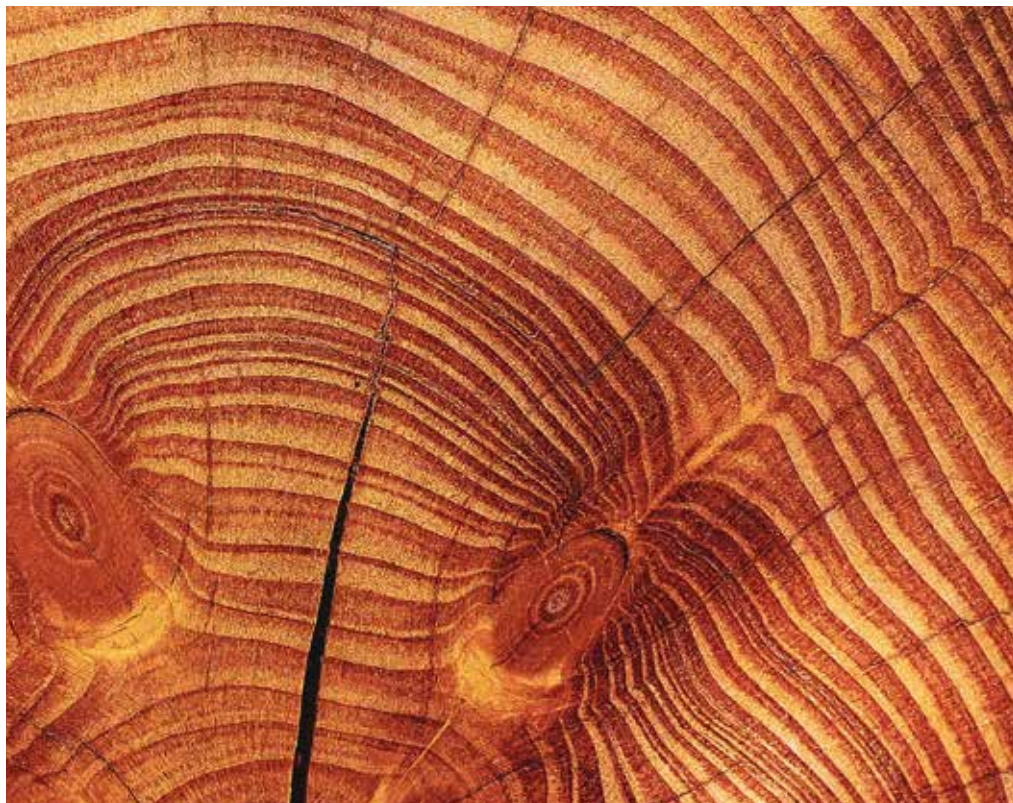
Resource: Living Symphonies: planning and producing artworks in the natural environment Toolkit

[Go to resource](#)

“I think of those works as being the products of a symbiotic process because the scientists can learn new things from my perspective as an artist, and as an artist it goes without saying that I always learn a lot from scientists. It’s odd, because when I was younger science was definitely not something I ever thought was for me. Now I find the older I’ve got, the more I’ve realised there are parallels between the ways artists and scientists work. We’re essentially searching for meaning and questioning the world around us, looking for answers. It’s a search for similar things that drives us even if our methods appear to be very different on the surface.”

ARTIST WOLFGANG BUTTRESS

Creator of award-winning installation *The Hive*,
speaking to a-n about his collaborations with scientists



Procurement

Understand how your buying decisions can impact biodiversity in other places

Overall, reduce your use of resources wherever and however you can: a key driver of biodiversity loss is our overconsumption of renewable and non-renewable resources.

Avoid driving deforestation by following minimum standards in the following categories:

- Food: mandating for example Rainforest Alliance or Fairtrade certified products, and sustainably certified palm oil (see breakout box).
- Other products: mandating post-consumer recycled, but as a minimum sustainably certified paper e.g. FSC, PEFC; and recycled or sustainably certified timber, e.g. FSC, PEFC (and make sure you have robust systems for reusing or recycling these resources after use!)
- Biofuels: buy fuels that are derived from waste sources from within the UK (or EU), and that aren't derived from palm oil feedstocks.

Increase your offering of vegetarian and vegan catering. Animal agriculture, especially beef, is one of the most significant contributors to deforestation (from both the land needed for grazing animals, and the land needed to grow livestock feed).

You can improve the transparency and traceability of your food supply chain by focusing on local, seasonal produce – either close to your location or as a minimum give preference to produce sourced from within the UK.

Buy from farmers that are taking action to improve biodiversity and regenerate nature on their land. If you are able to, trace your suppliers to farm level. You can also look for certification like the LEAF Marque, an environmental assurance system for sustainable farming.

Consider working to find suppliers of heritage/heirloom varieties of vegetables, fruit, and livestock to support food/agricultural biodiversity. We rely on a very small number of species grown commercially across the world, with high risks to the resilience of our food systems. Of 6,000 plant species that have been cultivated for food, nine account for 66% of total global crop production¹⁰.

Put in place a procurement policy that reduces pollution in the following categories:

- Food: focus on organic produce e.g. Soil Association Certified that avoids the use of pesticides (which are especially harmful to insect populations) and over-use of chemical fertilisers.
- Plastic: reduce your organisation's use of single-use plastics – only a fraction of global plastic production is recycled, and microplastics pollution has been found in every habitat on every continent.
- Cleaning: buy non-toxic cleaning products to minimise risks of water pollution.

If you have on-site green spaces, avoid the use of chemical pesticides, herbicides, or fertilisers.

¹⁰The Food and Agriculture Organization of the United Nations, The State of the World's Biodiversity for Food and Agriculture (2019) <http://www.fao.org/cgrfa/topics/biodiversity/en/>

Avoid overexploitation of threatened species:

- Either don't serve fish at all, or use the Marine Conservation Society Good Fish Guide and avoid buying any fish that is below a 'best choice' or 'good choice' rating.
- Avoid fish that has been caught using the most environmentally damaging methods such as sea-floor trawling or dredging.

In every case, speak to your suppliers about why you're changing your standards and how they can support you. Only by collectively making greater demands of our suppliers can we start shifting standards. For example, WWF, in its 2019 Timber Scorecard, identified music instrument companies as specifically lagging in performance when it comes to ensuring a sustainable timber supply chain¹¹.

Resource: Julie's Bicycle Sustainable Procurement Guide

[Go to resource](#)

Resource: Julie's Bicycle Paper and the Environment Factsheet

[Go to resource](#)

Resource: Julie's Bicycle Print and the Environment Factsheet

[Go to resource](#)

Resource: Julie's Bicycle & Powerful Thinking: Biofuels Guidance

[Go to resource](#)

Resource: Marine Conservation Society Good Fish Guide

[Go to resource](#)

Resource: Marine Conservation Society and Aquaculture Stewardship Council Chain of Custody – Consumer Facing Certification for restaurants and similar

[Go to resource](#)

¹¹ WWF, Timber Scorecard 2019. <https://www.wwf.org.uk/timberscorecard>



SPOTLIGHT

P A L M O I L

The disastrous impacts of palm oil on deforestation and biodiversity loss have made headlines recently, and there are prominent calls to go 'palm oil free'.

However, research published in 2018 by the International Union for the Conservation of Nature (IUCN) suggests that banning palm oil outright risks displacing rather than resolving the problem as other vegetable oil crops require significantly more land to produce the same amount of oil, leading to more significant habitat losses elsewhere. Currently, an estimated 35% of the world's vegetable oil production is palm oil, but oil palms take up less than 10% of the land taken up by oil crops globally.

The IUCN recommends that efforts should therefore be focused on improving and tightening sustainability certification of palm oil, and policies that help to limit the demand for palm oil for non-food uses (e.g. pending EU policies limiting the use of palm oil for biofuel). WWF also recommends purchasing palm oil products that are labeled with RSPO – Roundtable on Sustainable Palm Oil – certification. Greenpeace's End Dirty Palm Oil campaign encourages consumers to write to big brands to pressure them to drop palm oil producers that have repeatedly failed to show they are doing enough to address deforestation.

You can support by:

- When purchasing palm oil products, look out for the 'RSPO Certified Sustainable Palm Oil' trademark. The **RSPO Trademark App** can help you find a list of certified products available near you.
- Try to reduce your consumption of all vegetable oils across the board and reduce waste
- Support external campaigns pressuring palm oil producers and brands to keep to and enforce their No Deforestation, No Peat, No Exploitation (NDPE) commitments
- Write to your suppliers and tell them this is something you care about
- If you are sourcing biofuels, avoid those derived from palm products and look at the **Julie's Bicycle biofuels factsheet** for specific questions to ask your suppliers

Further reading: **IUCN, Oil palm and biodiversity (2018)**



FOOD & CATERING

C R E A T I V E R E S P O N S E S

The Phoenix arts centre and cinema in Leicester's Phoenix Green Finger project is an on-site garden, consisting of raised beds in their outdoor space in the middle of the city. The garden was the idea of Head Chef Dan Farmer and is tended to by volunteers. Fresh salads, herbs, and other produce grown in the garden are served in the on-site café. The project has been a huge success, winning several Royal Horticultural Society Britain in Bloom awards.

The Albany in London is constantly working to make its food offering as sustainable as possible. The café menu includes vegetables and herbs grown organically in the Albany garden, as well as ingredients sourced from local businesses. The menu offers predominantly vegetarian and vegan options. Reducing food waste is a key priority: the menu is flexible to allow for incorporation of whatever produce is available, and FareShare food has been used. The café has shifted to proper crockery/cutlery in order to reduce disposables, and is offering bottle refills and free tap water at all times. Alcohol products have been changed from bottle to can, significantly reducing the amount of disposable cups used at the bar.





Donations + fundraising

- Support biodiversity and habitat conservation through donations to conservation or tree-planting charities.
- Donate staff time to tree planting planting and other conservation and citizen science



DONATIONS & FUNDRAISING

C R E A T I V E R E S P O N S E S

The Orchestra for the Earth donates a tree for the Eden Reforestation Project for every ticket sold to one of their performances.

Additionally, through their tours, they have raised funds to open the 'Gustav Mahler Field of Flowers': a new nature reserve near Steinbach am Attersee in Austria, where composer Gustav Mahler lived and composed.

"It's a chance for music to give back to nature in a place where nature has given so much to music."

– John Warner, Orchestra for the Earth

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Julie's Bicycle
Somerset House
Strand, London, WC2R 1LA

juliesbicycle.com



Lead author: Chiara Badiali
Contributing authors: Alison Tickell, Louis Walsh

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