ACCESS « WHITEPAPER SERIES

WAYS ACCESS TO NATURE CAN BOLSTER BIODIVERSITY, COMMUNITIES, AND CLIMATE

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INTRODUCTION

Momentum is growing around the world to address the myriad crises echoing around the biosphere, from climate disasters to mass extinctions, using the high-powered tools of nature protection and restoration. Almost 70 countries have joined the <u>High Ambition Coalition for Nature and People</u>, a United Nations working group with the goal of protecting at least 30 percent of the world's land, waters, and ocean by 2030.¹ In the United States, the Biden-Harris Administration actively works to advance its America the Beautiful initiative, the U.S.-based "30x30" goal, and supports it through landmark funding that provides an impetus for new conservation efforts.²

Recent federal legislation includes billions of dollars in funding for many of these priorities, including urban and community forestry, coastal restoration, and climate-smart agriculture, but the challenge is implementing these programs effectively, efficiently, and equitably.³⁴ At the subnational level, states from California to South Carolina are launching their own ambitious initiatives for nature protection.⁵

As governments move from goal setting to implementation, fundamental questions regarding priorities have arisen:

These solutions are a win-win-win for the multiple crises we face and provide a guide for prioritizing funding, resources, and attention.

- Which landscapes and geographies are most in need of protection?
- What areas should be restored?
- How do communities factor in, especially those that do not have natural spaces nearby?
- How can we reconcile environmental conservation and environmental justice in this effort?

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

- **1** NO POVERTY
- **2** ZERO HUNGER
- **3** GOOD HEALTH AND WELL-BEING
- **4** QUALITY EDUCATION
- **5** GENDER EQUALITY
- **6** CLEAN WATER AND SANITATION
- **7** AFFORDABLE AND CLEAN ENERGY
- 8 DECENT WORK AND ECONOMIC GROWTH
- 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
- **10** REDUCED INEQUALITIES
- **11** SUSTAINABLE CITIES AND COMMUNITIES
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
- **13** CLIMATE ACTION
- **14** LIFE BELOW WATER
- **15** LIFE ON LAND
- **16** PEACE, JUSTICE AND STRONG INSTITUTIONS
- **17** PARTNERSHIPS FOR THE GOALS

Source: https://sdgs.un.org/goals



This report aims to provide guidance to policymakers, advocates, and communities on these four questions by identifying the areas that provide the biggest "bang for your buck" with multiple benefits to biodiversity, human communities, and the global climate. We will share examples of protection, restoration, and regenerative projects that conserve biodiversity, help communities mitigate and adapt to climate change, and also increase equitable access to nature for communities that are nature deprived.

We posit that equitable access to nature is a key lever for improving biodiversity and climate impacts, not only within the 30 percent of lands, waters, and ocean that will be protected under 30x30, but also across the remaining 70 percent of the globe. It is also an essential part of remedying the historical harms of colonialism, racism, and disinvestment in marginalized communities across our world. Further, these solutions would progress the <u>United Nations Sustainable</u> <u>Development Goals</u>, including zero hunger (SDG 2), good health and well-being (SDG 3), quality education (SDG 4), clean water (SDG 6), decent work (SDG 8), reduced inequalities (SDG 10), sustainable cities (SDG 11), climate action (SDG 13), life below water (SDG 14), and life on land (SDG 15).⁶

It is essential to note for this conversation that, all over the world, historically and continuing into the present, conservation as it has traditionally been practiced by dominant groups and decision makers has harmed the rights of Indigenous peoples.7 Setting aside protected areas violates human rights when done without the proper consultation and consent of the traditional caretakers of that place.8 Rights violations have ranged "from the expulsion of Indigenous peoples from their lands to extra-judicial killings and mass murder."9 In addition to an ongoing human rights catastrophe, this approach is counterproductive to achieving biodiversity goals, given that wildlife numbers are highest in areas managed or co-managed by Indigenous groups.¹⁰ Therefore, protecting nature equitably first requires active engagement and planning by local and ancestral Indigenous communities, as a first step toward remedying this ongoing injustice.

Governments and communities at every level should look to the examples illustrated in this report centered in restoring, regenerating, and conserving biodiversity while also increasing equitable access to nature and mitigating climate change. These solutions are a win-win-win for the multiple crises we face and provide a guide for prioritizing funding, resources, and attention.



WHAT IS ACCESS TO NATURE, AND WHY IS IT IMPORTANT?

Before discussing the solutions that increase equitable access to nature, it is important to define "access to nature." The term was popularized in the 2020 report by the Center of American Progress and Hispanic Access Foundation, <u>The Nature Gap: Confronting Racial and Economic Disparities in the Destruction and Protection of Nature in America.</u>¹¹ This report found that, within the United States, nature is being destroyed at the rate of one football field-sized area every 30 seconds. What's more, this destruction of nature is disproportionately occurring in areas populated by communities of color, low-income communities, and families with children under 18, known as "nature-deprived

communities." The Nature Gap describes the uneven and inequitable distribution of forests, streams, wetlands, and other natural places within communities of color and low-income communities, caused by a history of discrimination, dispossession, segregation, violence, and exclusion on U.S. lands.

Multiple other studies have confirmed that, in the United States, people of color in particular face barriers in accessing nature. ¹² ¹³ Trust for the Public Land found that "parks in majority nonwhite neighborhoods are half as large and serve nearly five times more people than parks in majority white neighborhoods," while "parks serving majority low-income households are, on average, four times smaller and serve nearly four times more people than parks that serve majority high-income households."¹⁴ Even school campuses show this discrepancy. ¹⁵

This phenomenon is present around the world. In Britain, for example, "Wealthy and white people enjoy easier access to local green space than poorer households and people from ethnic minorities."¹⁶ In Australia, low-income communities have less available green space.¹⁷ In South Africa, affluent suburbs populated by whites have the most green space per capita.¹⁸

In this report, communities that have less access to green and blue spaces, or are facing their destruction, will be interchangeably described as nature-deprived communities, communities that lack access to nature, and communities experiencing the nature gap.¹⁹



The Nature Gap Confronting Racial and Economic Disparities in the Destruction and Protection of Nature in America

Download The Nature Gap at <u>bit.ly/3zuSB3p</u> or use the QR code to the right.



It is also important to note that the location of nature and whether it is sustained or destroyed are not the only elements that contribute to a community's ability to access natural areas. In fact, access to nature encompasses a wide range of socioeconomic factors as well as the characteristics and management of the nature area in question. A community may be ideally located and park rich, while still facing a lack of access. The reasons for this may include, among others:

 Lack of time – low-income communities and families with children may struggle with multiple jobs and caring for the household, leaving scant time for recreation²⁰



- Lack of money for what is considered appropriate clothing and gear for certain recreational activities²¹
- Lack of disability accommodations²²
- Lack of facilities, such as bathrooms
- Lack of culturally competent programming, resulting in a lack of community interest
- Pollution in any form, including noise, air, water, and soil pollution making the site unpleasant or unable to use
- Poor management such as a lack of entrances convenient to the community, or lack of walking paths making it unusable
- Lack of park personnel, facilities, and programming in the community's languages
- Park personnel who do not represent or "look like" the community²³
- Safety concerns such as lack of lighting, history of antagonism from neighbors, or inadequate pedestrian infrastructure
- Histories that are told on the park and place names that reflect a white supremacist, colonialist viewpoint²⁴
- A feeling of unbelonging²⁵ and other features that make parks unwelcoming, such as Confederate monuments or uniforms that call to mind law enforcement or the border patrol
- Lastly, for natural areas on the coast, access is frequently restricted by privatization, seizure of property, and restrictive fees, parking, and limitations on group sizes²⁶



CONSEQUENCES OF THE LACK OF HUMANS IN NATURE

Lack of access to nature has serious, destructive consequences to human well-being. Our health is inextricably bound to our ability to connect, commune, and access nature's benefits.²⁷ Natural areas and waterways nurture individuals with physical, psychological, emotional, and even spiritual benefits,²⁸ a lack of which has been coined "nature-deficit disorder" by Richard Louv.²⁹

Severing our connection with nature brings about educational, cultural, economic, and health losses to all communities facing the nature gap. These impacts include but are not limited to:

Education

Without familiarity and understanding of natural systems, ecosystem services, flora and fauna, and traditional ecological knowledge, many of the foundational educational frameworks in the United States do not prepare people to appropriately navigate and understand natural areas.³⁰ Children's education also benefits from access to the outdoors in other ways, providing cognitive benefits, reducing stress, and enhancing motor and social skills.³¹

Concern for Nature

Connectedness to nature is important because it leads to concern for nature. Mayer and Frantz (2004) state that "if people feel connected to nature, then they will be less likely to harm it, for harming it would in essence be harming their very self." Clayton (2003) states that being connected to nature nurtures our environmental identity.³² On the other hand, ignorance of nature leads to a lack of interest and care for it. As Miller (2005) states, "collective ignorance ultimately leads to collective indifference."³³ People who aren't aware of our role in nature will not be motivated to protect it.

Climate Vulnerability

Natural spaces and shade provided by trees moderate temperatures, keeping hot areas cooler and acting as windbreaks. Roots protect soil from erosion and the threat of mudslides, and healthy soil is better able to absorb stormwater and prevent floods. This adds up to climate resilience: mitigating the extreme heat, droughts, storms, and floods that we are increasingly experiencing with global warming.³⁴ Without intentional integration of surrounding ecosystems into the built environment, many communities remain at risk for natural disasters. This results in a built environment that does not adequately serve the needs of climate-vulnerable, over-polluted communities and the ecosystem more broadly.

Economic Development

Land conversion and privatization from forested, grassland, wetland, and other ecosystems into agricultural, urban, or industrial uses have fundamentally altered natural systems. For example, over the last two centuries, 75 percent of California's native vegetation, including over 90 percent of wetlands, has been altered.³⁵ This was accompanied by unsustainable and polluting land uses such as oil extraction, timber harvesting, and large-scale industrial agriculture, and a labor force that



often trades a healthy environment for household-level economic survival. On the other hand, an economy that is more integrated with the environment's needs can provide meaningful employment in environmental fields to historically underserved communities. An example of this is <u>Hispanic Access Foundation's MANO workforce development program</u>.³⁶ This could lead to upward social mobility while increasing conservation and restoration efforts on the scale needed to reach national goals. In addition, green and blue spaces provide a high return for the investment in tree maintenance, trail creation, and park management, while lifting the outdoor recreation economy.³⁷

Mental and Physical Health

There are many well established mental and physical health benefits of reliable access to green space, in part because greenery incentivizes exercise and absorbs pollution, cleaning the air, water, and soil around it. The physical health benefits of nearby nature include improved cardiovascular function, improved air quality, alleviation of heat stress, lowered obesity and mortality rates,³⁸ and reducing the risk of lung and airborne diseases, such as COVID-19,³⁹ while mental health benefits include stress reduction, decreases in anxiety and depression, and reduced risk of developing psychiatric and substance abuse disorders.⁴⁰ On the other hand, environmental degradation often exacerbates pre-existing health vulnerabilities.⁴¹

Environmental Racism

Nature-deprived and over-polluted communities in the U.S. are disproportionately nonwhite and in lower income brackets. These are the same communities facing other socioeconomic challenges, such as a lack of health insurance, energy insecurity, substandard housing, lack of reliable transportation, and more. Thus we have concentrated the communities with the greatest socioeconomic vulnerabilities in a built environment that is more likely to damage their health, homes, and resilience.⁴²





THE BIODIVERSITY CRISIS IS THE NATURE ACCESS CRISIS - AND BOTH CONTRIBUTE TO THE CLIMATE CRISIS

It is clear that lack of access to nature has harmful consequences for the people that experience it. But what about biodiversity and climate? Can humans' lack of access to nature also play a role in the biodiversity and climate crises we face? In one word, yes.

What is the biodiversity crisis?

Biodiversity refers to every living thing on our planet – "the variety of life on Earth at all its levels, from genes to ecosystems, and can encompass the evolutionary, ecological, and cultural processes that sustain life."⁴³ Biodiversity is necessary for human society to function, because our air, homes,

food and water supplies, medicines, and entire economies depend on the natural resources that biodiversity provides.⁴⁴ We are all interdependent and inherently interconnected with nature; if the species that make up all life on earth decline, so too will the structures that make up human lives and societies.

The earth's biodiversity is in crisis. Since 1970, 60 percent of the world's mammals, birds, fish, and reptile populations have been lost.⁴⁵ If climate change remains unaddressed, more living beings will face threats to survival. For example, the ocean is predicted to face catastrophic losses of almost 90 percent of all marine life by 2100.⁴⁶ Even when species are not at risk of extinction, they are in rapid decline. This has occurred for many reasons: extractive industries like mining, oil and gas drilling, and irresponsible logging have destroyed habitats; natural areas have been cleared for housing sprawl and roadways; pollution from pesticides, oil and gas drilling and leaks, untreated sewage and waste, and other industrial



chemical usage harms wildlife; over-usage of natural resources, such as overfishing, have caused us to use up more natural resources than the earth can replenish; and climate change is changing the conditions that once allowed plants and animals to thrive.⁴⁷

The history of biodiversity loss is the history of nature deprivation and climate vulnerability

A critical finding of <u>The Nature Gap</u> is that in the U.S., nature loss, and the resulting loss of biodiversity, is overwhelmingly taking place within communities of color.⁴⁸ A person of color in the United States is 3.5 times more likely to live somewhere that is nature-deprived than a white person. That discrepancy also



applies between high- and low-income communities and, more surprisingly, to children: families with children under 18 are more likely to live in census tracts experiencing nature destruction.⁴⁹

Around the world, evidence of wildlife patterns in urban areas supports this conclusion. Wealth and race are both predictors of the abundance of habitat and wildlife in neighborhoods.⁵⁰ Biodiversity is more abundant in places where nature has been intentionally preserved and maintained—among wealthy and white neighborhoods. Due to redlining, colonialism, and other forms of systemic racism affecting settlement patterns, lower income and minoritized neighborhoods are more polluted, more likely to exhibit heat island effects, and less likely to have tree canopy, green spaces, and other sources of habitat for wildlife. In non-urban areas, nature destruction in highly forested countries persists in areas where Indigenous communities do not have effective, enforced property and human rights.⁵¹

This shows that the catastrophic loss of biodiversity is not just inextricably linked to the lack of access to nature. Biodiversity loss and loss of access to nature are in fact the same problem, stemming from the same cause—the destruction and degradation of natural areas in and around communities of the global majority (i.e. nonwhite communities).

For example, in California's San Joaquin Valley, over 95 percent of wetlands were eliminated due to the expansion of the agriculture industry, which resulted in severe biodiversity loss and threats to keystone flora and fauna that provided critical ecosystem services.⁵² This process also led to settlement of communities of color for farm labor. Discriminatory urban planning pushed these communities to undesirable areas, and combined with underinvestment, created vulnerabilities in their built and natural environments.⁵³

Humanity is not separable from nature, and removing us from the equation does more harm than good



Among environmental advocates and government agencies, there have been tensions between understanding nature as pristine, unaltered green space and understanding it as an ever-changing, historically managed landscape. It is our position that humans are innately inseparable from nature, and by extension the benefits, management, and vulnerabilities of the natural world. People must be integrated into biodiversity frameworks, to ensure that benefits are sustained and sustaining to human society, nature, and the global climate alike.

Fundamentally, **most environmental injustices have a nexus with loss or degradation of the natural environment and climate stability**. Environmental injustices, including pollution, drought, flooding, extreme heat, and degradation of green and blue spaces are linked to both biodiversity loss and climate change.⁵⁴ Therefore, addressing these issues requires acknowledging and holistically understanding these linkages with environmental justice concerns in human communities.

Historically, nature has never truly been left alone by humans.⁵⁵ A study by the University of Maryland found that "areas untouched by people were almost as rare 12,000 years ago as they are today," and "most areas depicted as 'untouched', 'wild', and 'natural' are actually areas with long histories of human inhabitation and use."⁵⁶



For example, evidence from the Amazon region and pre-1492 Americas shows that Indigenous activity was critical to shaping and sustaining the region's biodiversity characteristics.⁵⁷ Before colonization, Indigenous peoples played essential roles as integrated species in their ecosystems. They were not visitors or recreationists but mainstays of the landscapes who relied on ecosystems to fulfill their material, social, and cultural necessities.

Today, there is nowhere in the world, regardless of how remote,⁵⁸ that has not seen the touch of humans. This shows that there is no such thing as maintaining the separation of humans and nature; there is instead a spectrum of our impact and a question of how we choose to manage various spaces. Moreover, much of the world's remaining biodiversity is on Tribal or Indigenous lands,

demonstrating that Indigenous management is successful in cultivating and sustaining biodiversity hotspots.⁵⁹ This has major implications for the reforming of land management practices, as well as for the return of ancestral lands to tribes that have been forcefully relocated.⁶⁰

In the United States, even the highest forms of environmental protections allow varying spectrums of access. For example, Wild and Scenic River designations, National Parks, and Wilderness Areas allow a range of sustainable access activities such as hiking and camping, some including more active forms of land management like grazing, prescribed fires, and logging. In addition, some wildlife refuges such as the San Luis and Merced National Wildlife Refuges are designed for low-impact self-guided vehicle tours to allow for increased public access.⁶¹



Many communities are located at the intersection of critical natural infrastructure such as rivers, migration corridors, and other

habitats.⁶² This makes it all the more important to consider human communities not as unnatural spaces to ignore when it comes to conservation initiatives, but as spaces full of potential where biodiversity and ecosystems can be restored, to the benefit of nature access and climate stability.

Nature and biodiversity loss also damage the climate

When we harm biodiversity and community access to nature, we also disrupt climatic systems.⁶³ In addition, the same communities facing nature and biodiversity loss are also more likely to be overburdened by air pollution and climate impacts.⁶⁴

Climate change, or the long-term change in average weather patterns,⁶⁵ is caused by the release of certain gases into the atmosphere, known as greenhouse gases. Greenhouse gases act like an insulating blanket over the Earth, trapping the sun's heat on our planet's surface.⁶⁶ This is a good thing – if we didn't have greenhouse gases, the Earth would be frozen and look more like Mars! But the key is balance. Too many greenhouse gases trap heat, causing the climate to change and, like biodiversity loss, threatening the natural resources we rely on to survive.

Causing climate change: emitting greenhouse gases

There are two main considerations when it comes to exacerbating climate change. The first consideration is emissions of greenhouse gases, which come from many sources. One of the primary sources comes from burning what are known as "fossil fuels" – coal, oil, and methane gas. Most electricity generation, transportation, heating, cooling, and industrial processes are also



driven by fossil fuels. If your car uses gasoline, or runs on electricity generated by a coal-burning power plant, then you burn fossil fuels every time you drive. Natural gas, also known as methane, is a powerful greenhouse gas even when it is not burned. Methane gas is released every time a cow burps or farts, and from certain farming methods, so our agriculture and livestock industries also contribute to climate change. Waste and trash also release natural gas, and natural gas frequently leaks from pipelines and oil and gas wells.

Lastly, deforestation, degradation of green and blue spaces, and burning wood and plant matter



Can humans' lack of access to nature also play a role in the biodiversity and climate crises we face?

In one word, yes.

also release greenhouse gases. These are occurring at a rapid pace around the world.⁶⁷ For example, in regions like the Amazon and South Asia, tropical forests are being cut down to grow livestock and plantations for palm oil.⁶⁸ In the United States, every 30 seconds, a natural area the size of an American football field (approximately 7,140 square meters) is cut down and paved over to build suburbs, highways, or energy infrastructure.⁶⁹ Limiting these sources of greenhouse gas emissions would also limit climate change.

Reducing climate change: removing greenhouse gases

The other factor to consider when it comes to climate change is greenhouse gas removal—when greenhouse gases are taken out of the atmosphere, thus reducing climate change. Vegetation does this naturally, as plants breathe in carbon dioxide (a greenhouse gas) and breathe out oxygen during the process of photosynthesis. Therefore, just as reducing greenhouse emissions will reduce climate change, increasing the amount of greenery is another way to reduce climate change, by absorbing or sequestering greenhouse gases within plants and soil.

However, given the biodiversity loss described above, we are rapidly losing this benefit as we lose nature. For example, land cover in the United States is losing its ability to sequester carbon dioxide, decreasing by an average rate of two million metric tons per year. This sets back any potential progress on reducing greenhouse gas emissions.⁷⁰ **Conservation of lands and habitat should therefore be of the utmost importance to climate change efforts and renewable energy transition plans.**

The good news is that protecting and increasing natural land cover and access to clean coasts and waterways, along with improving the

management of these spaces, is a natural climate solution—an umbrella of conservation and land management strategies that could form up to one-third of the carbon reductions necessary to limit global warming,⁷¹ while providing multiple other benefits.⁷² The following sections share examples of solutions that hit the win-win-win sweet spot of biodiversity conservation, climate protection, and nature access benefits to human communities, in order to guide policymakers and advocates on equitable solutions and show a proven way forward.



to solutions for nature access, biodiversity and climate

While every ecosystem and community has site- and culturally-specific needs, we offer the following recommendations as actionable opportunities to synthesize the needs of the climate, biodiversity, and people. We urge all policymakers and advocates to meaningfully consult with local communities of color and Tribal communities to develop longterm engagement, improve equitable distribution of nature's benefits, eliminate adverse impacts, and aid the long-term success of implementation.



INDIGENOUS LAND AND WATER MANAGEMENT

Historical and present conservation practices by governments and dominant groups have come with a cost: the massive infringement of the rights of Indigenous communities, including genocide, mass displacement, and being blocked from accessing their lands—a blow to the practice of culture, language, and political soverignty. According to the United Nations Special Rapporteur on the rights of Indigenous peoples, José Francisco Calí Tzay, "Protected areas are often created without the free, prior, and informed consent of Indigenous peoples in violation of international mandates and principles. Once established, Indigenous communities often have limited access to their ancestral lands or face forced evictions and violence from eco-guards."⁷³

To frame conservation as a choice between protecting nature and protecting the rights of Indigenous communities is false and dangerous. All over the world, evidence shows that **when Indigenous communities have enforced rights and decision-making powers over their own lands, their traditional ecological knowledge and practices manage the lands and waters sustainably.**⁷⁴ As evidence, "although Indigenous lands account for less than 22 percent of the world's land area, their traditional territories are home to approximately 80 percent of the world's biodiversity."⁷⁵ Indigenous stewardship is essential to meeting the world's climate goals and maintaining the Amazon's role in absorbing and storing carbon.⁷⁶

Reframing nature protection from "fortress conservation" that excludes Indigenous communities to framing it through the lenses of nature access, human rights, and righting the wrongs of colonialism would cause a sea change not only for biodiversity outcomes, but also for socioeconomic benefits and climate resilience.^{77 78 79} Governments "should legally recognize Indigenous peoples and land, protect them from extractive industry, and ensure access to lands in





17 percent of global climate and conservation funding intended for Indigenous and local communities actually goes to projects led by Indigenous people. accordance with cultural traditions."⁸⁰ In addition, Indigenous communities must be adequately resourced and have decision-making powers to do this work. Only "17 percent of global climate and conservation funding intended for Indigenous and local communities actually goes to projects led by Indigenous people," and Indigenous women receive less than a third of that.⁸¹

Access to nature might look different for Indigenous communities who have resided on their lands since time immemorial, and have been robbed of their day-to-day cultural and spiritual connections to the land and water by colonialism, land theft, and genocide—or are facing those threats today.⁸² All Indigenous communities are distinct and have distinct practices, historical memories, and statuses with respect to national and local governments. Therefore, Indigenous access to nature cannot be granted by implementing one blanket recommendation. While it is tempting to suggest that policies such as land back (i.e. returning Native lands),⁸³ co-management of lands,⁸⁴ restoring animal husbandry practices,⁸⁵ or other methods are the way forward, Indigenous sovereignty must be respected. This means that each potential policy or program must be an ongoing dialogue with the present and ancestral Indigenous guardians of the lands and waters in question.

Any activities taking place on current or ancestral Indigenous lands must adhere to the policy of Free, Prior, and Informed Consent, as recognized in the United Nations Declaration on the Rights of Indigenous Peoples.⁸⁶ This requires governments to treat Tribal nations as equals and to implement a mechanism for dispute resolution when these rights are violated.⁸⁷ Maintaining these rights are essential to movements like 30x30 and siting of renewable energy development, to avoid an energy transition and conservation practices that infringe justice.

GREENING URBAN SPACE

With the increasing urbanization of the human population, solutions for nature access in urban contexts should be among the highest priorities for policymakers to hit the nexus of biodiversity, climate gains, and societal benefits. In addition, cities are home to a surprising array of biodiversity.⁸⁸ Yet, destruction of green space in urban areas is also one of the greatest threats to global biodiversity.

In the U.S., the biggest hot spots for nature loss within communities of color are located in metropolitan areas—Los Angeles, El Paso, etc.⁸⁹ These zones are prime candidates for increasing biodiversity in the urban context, not only on land, but also on the coast and within nearby waterways.

Nature can and should be incorporated in multiple ways throughout the urban landscape. For example, street trees provide enormous benefits, from reducing the urban heat island effect and reducing energy bills,⁹⁰ to absorbing carbon dioxide and pollutants,⁹¹ shortening hospital stays,⁹²



reducing asthma rates in surrounding neighborhoods,⁹³ and lowering stress, noise, and damage from wind and water.⁹⁴ The value of street trees is estimated at over \$5 for every \$1 invested.⁹⁵ Regarding climate benefits, planting trees along streets and in parks in the U.S. can remove up to 50 million tons of carbon dioxide a year from the atmosphere.⁹⁶

Yet, "A map of tree cover in any city in the United States is too often a map of race and income."⁹⁷ Low income and communities of color are too frequently deprived of these benefits, an inequity that is visible from simply observing the surroundings from one neighborhood to the next in many American cities. <u>American Forests' Tree Equity Score</u> is a valuable tool for visualizing these inequities and targeting areas in need of investment.⁹⁸

In order to make street trees a benefit to local biodiversity, city planners must consider conservation "as a core value of urban planning."⁹⁹ While afforestation in Beijing added over 80 new bird species in the past few decades, other areas in China have not encountered this benefit, showing that simply planting trees is not enough; they should be tailored to the local area and managed for maximum native biodiversity.

Other urban greening strategies include green roofs, green walls, green tracks, green bridges, and other ways to incorporate nature into every neighborhood and city block.¹⁰⁰



Policymakers should also ensure nature conservation and restoration are carried out according to best practices for fostering native biodiversity¹⁰¹ and climate-proofing natural infrastructure investments.¹⁰²



Green infrastructure is an umbrella category for interventions that use natural systems in place of human-made ones, especially to conserve water or provide ecosystem services.¹⁰³ Green infrastructure is a valuable tool that can be applied throughout urban and suburban areas, in part because it can be flexibly designed for any space, even the most concrete neighborhoods and polluted waterways. It can also be adapted to a variety of landscapes, including the desert.¹⁰⁴

Due to the overuse of materials such as concrete and asphalt, rainfall in many areas is unable to be absorbed by the earth below; infrastructure such as storm drains and treatment facilities allow the flow of water to be managed. However, pipes and drains are considered "gray infrastructure"— although they displace the water to appropriate locations during rainfall, it is not in a resourceful



or sustainable manner. In addition, high flows of stormwater may not be adequately absorbed by gray infrastructure, leading to floods, especially in communities of color, which are more likely to be located in flood-prone areas.¹⁰⁵

Green infrastructure in nature-deprived communities provides an equitable, sustainable, and urban-appropriate alternative to stormwater and rain management that also provides economic and nature access benefits. It brings the natural environment into the artificial one, for example by adding rain gardens on the sides of streets and parking lots, or removing concrete and asphalt and replacing them with native plants and greenways.¹⁰⁶ As a matter of principle, green infrastructure is infrastructure and should be valued and maintained as such.





The location of parks in communities—or the lack thereof—is a major facet of inequitable access to nature. In the United States, communities of color and low-income communities have a disproportionate lack of nearby parks to enjoy.¹⁰⁷ This gap between high- and low-income communities, and between dominant and non-dominant groups, is also present in other countries, such as England,¹⁰⁸ Australia,¹⁰⁹ and China.¹¹⁰ Increasing parkland where it is lacking is therefore a powerful solution to bridging the gap in nature access, and bringing all of the biodiversity, climate, and other benefits of nearby nature. In the United States, <u>ParkServe by the Trust for the Public Land</u> is an effective tool to determine locations and communities most in need of parks.¹¹¹





In urban areas, it is even more beneficial for biodiversity and nature access to integrate green and blue spaces that can act as wildlife refuges. Even in small spaces, these areas, such as urban forests and streams, can provide enormous value to neighborhoods and the larger ecosystem.¹¹² The principles of ecosystem connectivity, and considering urban and suburban areas as part of a larger ecosystem, can multiply the benefits of these urban parks. Wildlife corridors are a prime example of this.¹¹³ Consulting local communities and park users can shape the most appropriate ways to ensure access to these areas.

Migration corridors should also be considered, especially in urban settings. Even when wildlife is not present year-round, species will be imperiled if their migration corridor is not protected. The ability to safely view nearby wildlife can be considered another avenue of access to nature, with the attendant health, economic, psychological, and educational benefits.^{114 115} For example, in Baltimore, Maryland, flocks of thousands of chimney swifts-a threatened speciesarrive from Canada every day during a period of two weeks in the fall, during their annual migration to South America. They roost in only a few unused chimneys across the city. Yet, their few remaining perches are under threat from development and demolition.¹¹⁶ In a highly segregated city where race and income frequently determine access to nature,¹¹⁷ opportunities to view natural phenomena like the chimney swift migration should be preserved for both the sake of the species and for the community that delights in experiencing it.

The nature gap also exists in wilderness areas outside more densely populated zones.¹¹⁸ It is imperative to protect these wilderness zones from further degradation, for the health of the biosphere and the human communities surrounding them.

In the U.S., maintaining forests that would otherwise be lost could prevent 38 million metric tons of carbon emissions per year, while reforestation in areas like riparian buffers, biodiversity corridors, floodplains, and landscapes impacted by wildfires could eliminate another 48 million tons of carbon emissions per year.¹¹⁹ Forest management techniques such as restoring degraded areas, managing pests and invasive species, and limiting grazing could absorb another 250 million tons of carbon dioxide per year. By protecting seagrass and grasslands in the United States, we can reduce carbon emissions by up to 114 million metric tons per year, while restoring peatlands could avoid nine million metric tons of carbon dioxide emissions.

Many existing parks are designed primarily for human use rather than as natural spaces or biodiversity preserves, such as sports fields, school yards, playgrounds, pools, picnic areas, etc. These areas can retain their purpose while also being managed for increasing biodiversity and climate gains, by integrating pro-biodiversity landscaping.



AND NATURAL RESOURCE CONSERVATION

Landscaping and restructuring of backyards, homes, churches, hospitals, eldercare facilities, corporate and college campuses, parks, and even cemeteries is another important approach to increasing biodiversity, access to nature, and absorption of climate change-causing pollutants at the community and individual level. Terms like "biodiversity gardening" or "meadowscaping" have been coined in light of this new approach to enriching local ecosystems, referring to the process of incorporating natural elements found in the surrounding ecosystem into gardens and small areas of land.¹²⁰

This solution is not only applicable to cities, but to any area that holds yards, museums, gardens, hotels, campuses, empty lots, and other opportunities for pro-biodiversity landscaping.¹²¹ As any gardener knows, incorporating shelters for bees, bats, birds, and other wildlife into your garden can be a successful way to increase the biodiversity of your space.¹²² Implemented on a municipal level or even greater scale, landscaping for biodiversity can be a method to fill in the gaps for wildlife migration corridors, cleaner waterways and coastal zones, and green infrastructure needs. To maximize nature access benefits, this solution should be implemented in concert with local nature-deprived communities, for example via educational and community science programs that provide engagement with the space.

Proponents of the 30x30 goal to protect at least 30 percent of the world's land, waters, and ocean by 2030 should consider small-scale implementation of 30x30 in the form of pro-biodiversity landscaping. For example, what might it look like to incentivize setting aside 30 percent of publicly or privately owned urban landscapes for native meadowscaping?



CULTIVATION: URBAN GARDENS, FOOD FORESTS, & POLLINATORS

Encouraging regenerative cultivation practices in urban and developed areas is another way to facilitate nature access for underserved communities, while also reducing greenhouse gases,

improving biodiversity, and bringing access to nutritious food. In the United States, one in eight individuals is food insecure, and there are more than 6,500 "food deserts," or areas with limited fresh food access, primarily in minoritized and high-poverty neighborhoods.¹²³ This makes accessible food an essential component of equity.¹²⁴

Several methods of urban cultivation have been pioneered for a variety of urban spaces. Schools, churches,¹²⁵ eldercare facilities, and corporate campuses have created gardens and food forests on their lands, which double as educational spaces.¹²⁶ Vacant lots¹²⁷ and dump sites¹²⁸ have been converted into community gardens. Even concrete walls have been turned into sources of green space and produce that grows on vines.¹²⁹ Designed well, food forests can be low-maintenance, bountiful fonts of biodiversity



and resilience.¹³⁰ In addition, they can provide outlets for children's education, youth leadership, and advocacy for environmental justice.¹³¹

Urban beekeeping is an emerging trend that counters the global decline in bee and other pollinator populations. Creative solutions put forth in Europe include "insect hotels, green-roofed bus stops and 'honey highways'" that counter the deleterious impact of roads on pollinators.¹³² An example of beekeeping providing nature access is recounted in the <u>2021 film "Barry the Beekeeper,"</u> telling the story of the importance of community beekeeping to preserving the culture and heritage of a Caribbean community in the United Kingdom.¹³³



Solutions for nature access, biodiversity, and climate improvements also exist in "working lands" agricultural and pastoral spaces. While not densely populated like urban areas, the potential human benefits to these areas are important to consider for environmental justice reasons. Many agricultural workers are migratory, living in substandard housing, with low wages, no benefits, and perpetual insecurity. In the U.S., 80 percent of farmworkers are Latino.¹³⁴ In addition, outdoor



workers are at the highest risk of health damage caused by climate impacts, such as extreme heat and wildfire smoke, as well as the risk to their jobs caused by drought and loss of topsoil.

This category of solutions would not only provide health benefits to this vulnerable population, but also reduce greenhouse gas emissions from the agricultural sector and improve biodiversity in working landscapes. Moreover, by improving the quality of the soil, preventing erosion, and improving water supply and quality, these solutions improve agricultural productivity in the face of multiple threats to productive farmland.¹³⁵

Several strategies further these goals on working lands, including planting adjacent trees as windbreaks and between rows in cropland areas¹³⁶ and planting native plant hedgerows for birds and pollinators.¹³⁷ These strategies combined, in the U.S. alone, could remove 71 million metric tons of carbon dioxide from the air.¹³⁸ Trees can also be integrated into pasture lands that were historically forested, while maintaining livestock production. This practice of "silvopasture" could sequester up to 87 million tons of carbon dioxide per year in the U.S., while full reforestation of pasture lands could sequester up to 188 million tons of carbon dioxide per year.

These solutions aid biodiversity by adding habitat for pollinators and absorbing pollution from farm runoff, cleaning local waterways. They also increase nature access for agricultural

workers, by providing shade trees and glimpses of wildlife and an ecosystem beyond the crops and livestock.

Integrated pest management is another solution at the intersection of health, environmental justice, nature access, and biodiversity. Widespread use of pesticides damages farmworker health, forces farmworkers to stay inside when not on the clock, kills off pollinators and birds, and hinders the overall quality of outdoor experience.¹³⁹ Integrated pest management, on the other hand, reduces the use of pesticides by using non-chemically based monitoring, prevention, and control methods, with pesticide spraying used as a last resort.¹⁴⁰

When agricultural and pastoral land is retired or degraded, it could be restored to natural lands for outdoor recreation and ecotourism. To demonstrate the climate benefits, "Replanting degraded rangelands and sowing legumes in planted pastures could sequester an additional 21 million metric tons of carbon dioxide in rangeland and pasture soils" in the U.S.¹⁴¹ In addition, restoring five million acres of marginal cropland in the U.S. to grasslands would remove an additional nine million metric tons of carbon dioxide per year from the atmosphere.





CLEAN WATERWAYS AND WATERSHEDS

Access to clean waterways, such as urban streams and waterfronts, is another powerful lever for changes that restore biodiversity, provide access to nature, and ameliorate the climate crisis.

However, many communities around the world are cut off from their local waterways, because the rivers have been dammed, forced underground, diverted, or overdrawn.¹⁴² Centuries of discrimination, land theft, and redlining have ensured that in the United States, it is largely white communities who live near clean waterways. In addition, communities of color and low-income communities are often located in areas situated next to polluted water sources and flood-prone areas, contributing to environmental injustices and climate vulnerability.¹⁴³



Watershed restoration initiatives that clean up invasive species, remove dams and culverts, replant native vegetation around waterfronts, restore the course of waterways that have been buried or altered, and create new parks by streams and coasts have the benefits of reducing erosion, building

beaches, boosting clean water supplies, absorbing pollution, sequestering greenhouse gases, and ameliorating injustices by reducing flood risks.¹⁴⁴

Community engagement is integral to ensuring access to clean and restored waterways. By including local residents in the regeneration of their waterways, such as training locals how to conduct river cleanups and water quality testing, we can begin to build a strong foundation of community knowledge and enthusiasm to sustain positive change.

HEALTHY, ACCESSIBLE OCEAN AND COASTS

A recent report by Hispanic Access Foundation and the Center for American Progress reported that only 10 percent of the U.S. coastline is covered by strong legal protections for public access.¹⁴⁵ Yet, as noted above, even legally guaranteed public access does not ensure a conserved, pollution-free or well-managed public nature area.

Fortunately, multiple solutions hold promise for benefitting the climate/access/biodiversity nexus on the ocean and coasts. These include the restoration of various ecosystems, such as seagrass, peatland, and coral reef restoration,¹⁴⁶ tidal wetland restoration, and oyster restoration or



biofouling.¹⁴⁷ Green infrastructure concepts can be applied to coastal areas to create living shorelines "using plants, reefs, sand, and natural barriers to reduce erosion and flooding while maintaining natural shoreline processes."¹⁴⁸ Clam gardening has also been used as a way to restore Indigenous cultural connections to the coast, while rebuilding habitats and strengthening treaty rights.¹⁴⁹ To find more examples of coastal restoration initiatives, the National Oceanic and Atmospheric Administration (NOAA) maintains a <u>Restoration Atlas</u> that maps and shares information from 3,200



U.S.-based coastal restoration projects.¹⁵⁰

A 2012 study from NOAA found that every \$1 million invested in coastal restoration creates an average of 17 jobs—more than triple the number of jobs created from an equivalent investment in oil and gas development.¹⁵¹ Since jobs in conservation are another manner of achieving access to nature—and are another area that is disproportionately white-dominated—decision-makers can further equitable access to nature by ensuring that these projects provide employment opportunities to nature-deprived communities.¹⁵²

Farther out from coastlines, marine protected areas can also play a role in providing access to nature, harboring wildlife, and sequestering carbon emissions. Ocean conservation solutions, including sea floor protection, kelp, seaweed, and coral protection and restoration, and restrictions on commercial fishing and extractive activities can lead to carbon sequestration,¹⁵³ boosts in wildlife populations,¹⁵⁴ and ocean access for disinvested communities.¹⁵⁵

In low-income areas where families rely on fisheries for food and livelihoods, habitat restoration improvements are especially important, because they increase fish stocks and reduce pollutants present in captured fish and seafood that are harmful when ingested. In addition, habitat restoration protects communities from flooding and sea level rise, hazards that are more likely in communities of color.¹⁵⁶

In terms of climate mitigation benefits, seagrass restoration in the U.S. has the potential to absorb six million metric tons of carbon dioxide by restoring the estimated 29 to 52 percent of historic seagrass extent that has been lost and could be restored.¹⁵⁷ In addition, restoring tidal flows to salt marshes that have been disconnected from the ocean has the potential to remove the equivalent of 12 million metric tons of carbon from the atmosphere by reducing emissions of methane, a powerful greenhouse gas.

CLEANUP FROM OIL AND GAS WELLS

Fossil fuel extraction, including new oil and gas leasing and permitting, is counterproductive to facilitating equitable access to nature. Moreover, the fossil fuel industry is the primary cause of climate change¹⁵⁸ and poses an immediate threat to the health and well-being of millions of people, local wildlife, and ecosystems.



Areas throughout the U.S. and world are pockmarked with the extraction of minerals and drilling for oil and gas. For example, research estimates "the land area occupied by [oil] well pads, roads, and storage facilities built from 2000 to 2012 is 3 million hectares, the equivalent land area of three Yellowstone National Parks."¹⁵⁹

Land conversion to oil and gas extraction significantly reduces the biological function of areas in ways including but not limited to: air, water, and soil pollution, fragmentation of migratory pathways,

altered wildlife behavior, reduction of carbon sequestration potential, increased susceptibility to ecologically disruptive invasive species, competition for remaining lands, and water stress due to high water usage from hydraulic fracking.

These drilling and mining areas also disproportionately harm the health and well-being of disinvested communities. Communities of color and low-income communities are more likely to be located near fracking wells that contaminate the local area with toxic pollutants, leading to heart defects, infant mortality, and childhood cancer.¹⁶⁰ For example, almost two million U.S. Latinos live in a place where air pollution from the oil and gas industry is so high that the cancer risk from this source alone exceeds the Environmental Protection Agency's level of concern for air toxics exposure.¹⁶¹ In addition, air pollution from fossil fuel emissions increases asthma risk and severity – and Latino children are twice as likely to die from asthma as white children.¹⁶²

This is true not only in rural areas, but also urban ones. For example, Los Angeles is home to the largest urban oilfield in the U.S., surrounded by predominantly Latino residents who may walk by an oil site on the way to school or work.¹⁶³



Similar demographics and oil well proximity to Latino communities are located in central California communities like Lamont, Arvin, and Lost Hills.

To help prevent further climate catastrophe and transition energy extraction sites from one the largest greenhouse gas sources to a resilient carbon sink, national and local governments must bring an end to fossil fuel extraction and prevent additional leasing and permitting of lands for the industry's use.

Drilling and mining areas, though currently polluted and dangerous, are ripe with opportunity for increasing biodiversity and nature access through remediation and restoration to create nature recreation areas. Plugging these wells to prevent leaks of methane and other pollutants and restoring this land for conservation purposes provides multiple benefits for the climate, wildlife, and park-deprived local communities. Fundamentally, land restoration shifts conservation dynamics from preventive to proactive expansion of healthy, resilient green spaces—especially in historically marginalized communities of color.

Restoration of formerly extractive sites should also form part of the strategy for enacting a just transition from fossil fuel industries. These land restoration efforts would help provide green jobs and encourage a just transition for the region's oil and gas workers. Oil and gas workers can be retrained and their income restored, for example, via employment in nature restoration and management, along with the economic opportunities surrounding ecotourism and outdoor recreation.¹⁶⁴



CASE STUDY: THE SALTON SEA

California's Salton Sea provides a powerful example of how directly environmental injustices, climate change, and ecosystem degradation are linked. It also provides an example of how co-valuing environmental justice and conservation practices can create intentional multi-benefit solutions for interconnected crises.

Brief historical overview

The Salton Sea was created when the Colorado River flooded between 1905-1907 and collected in the natural indentation. In fact, this process reflected the hydrologic system that had operated for thousands of years in the region, naturally flooding and collecting in depressions prior to the expansion of canal and irrigation systems. Once the body of water was reestablished and flooding was controlled, the site was designated as a "sump"—collection site for undesirable agricultural pollutant runoff.¹⁶⁵

During the 1950s and 1960s, the sea also became a popular tourist attraction for Southern Californians, but rising water from increased irrigation flooded its hotels and resorts, driving the tourists away. Rumors about the health effects of swimming and angling in the pesticide-contaminated water also influenced the decline of the resorts, indicating a decades-long concern for the Sea's adverse health impacts. Beginning in the 1970s, tourism to the area began to decline due to increasing salinity, sulfuric smells and fish and waterfowl mortality.



Globally important bird area

In addition to being valued as a site for recreation and disposing waste of the growing regional agricultural economy, increased flows resulted in major shifts in significance to hemispheric bird populations. The Salton Sea has become a globally significant Bird Area as a critical inland wetland habitat along the Pacific Flyway. For example, more than 400 bird species have been recorded in the area and significant populations of several bird species utilize the wetlands for nesting, wintering, and stopover sites. In the 2018 report, Status of Birds at the Salton Sea, Audubon scientists estimate that up to 90 percent of Eared Grebes, 50 percent of Ruddy Ducks, and 30 percent of American White Pelicans rely on this habitat.¹⁶⁶

Declining water levels and shoreline erosion

Nearly a century later, in 2003, the Imperial Valley transferred its Colorado River water rights to San Diego, and the Salton Sea, which had been sustained by runoff from the valley for most of the twentieth century, lost much of its inflow. As reduced flows and increased temperatures caused the sea to shrink, it released pesticides and other toxins, leading to massive fish and bird die-offs over

In other words, the ecological degradation from long-term pollution exposure, climate stressors, and reduced water flows has resulted in negative impacts for human, flora, and fauna communities. the course of two decades. In addition, bird populations decreased as the Salton Sea increased in salinity, leading to increased deaths from fish like tilapia and leading to reduced food supply.

Extreme heat and declining water supply have led to erosion of the beach shoreline, which has led to toxic dust being blown toward nearby residential communities and has led to increased rates of childhood asthma and other health conditions such as nose bleeds, wheezing, allergies, and dry coughs. The sight and smells of decaying fish and algae affect quality of life in the area, as well as the lack of recreational infrastructure such as observation decks and shaded areas.

The nexus between environmental degradation, climate change, and human communities is strongest pertaining to air pollution and lack of quality recreational opportunities. The eastern Coachella Valley is also home to many low-income, Latino, and farmworker communities such as Thermal,

Mecca, and Oasis. Many residents report having inadequate social and built infrastructure to adapt to the extreme heat and air quality conditions.¹⁶⁷

In other words, the ecological degradation from long-term pollution exposure, climate stressors, and reduced water flows has resulted in negative impacts for human, flora, and fauna communities.

Habitat restoration as a multi-benefit solution

Local stakeholders have identified several multi-benefit solutions to address these longstanding concerns, including coastline rehabilitation and expansion of plant cover. Years of stakeholder engagement has led to the adoption of the Salton Sea Management Plan in 2017.¹⁶⁸ This ambitious effort aims to construct nearly 47 square miles of habitat and dust suppression projects around the Salton Sea by 2028. However, many advocates claim restoration efforts have been too slow and share concerns about reliability of funding to manage the shoreline in the long-term.



CONCLUSION

This paper shows access to nature is a powerful lens through which to enact biodiversity, climate, and equity gains, through a variety of potential investments in nature conservation and restoration—including in the most urbanized and degraded locations.

All over the world, leaders must redouble efforts in the built and natural environment to better suit the needs of the biosphere and the people who rely on it. Access to nature is the lens through which we can make these investments in an equitable manner. When nature access for all is attained, the result is better-off communities, better-off ecosystems and a more stable climate, with more buy-in necessary to maintain the improvements.

It is important to note that nature access is by no means a substitute for the deep cuts in greenhouse gas emissions needed to keep the earth from drastic warming. However, it is necessary as a complementary measure along with emissions cuts, as well as a tool for adaptation and resilience. Even small-scale improvements, such as adding street trees or native plants in backyards, will have significant benefits to local communities and ecosystems, in addition to the carbon sequestration they facilitate. As policymakers at all levels of government present their plans for ambitious climate action at COP 27 and beyond, nature access must be an integral component.

Ensuring that we foster all of our world's diverse communities to be stewards of our natural infrastructure is the key to protecting, conserving, and restoring the world around us. As a matter of principle, in the creation, negotiation, and movement of these types of policies and initiatives, we must listen, absorb, and act on the concerns of disinvested communities, and with the free, prior, and informed consent of Indigenous peoples. Without diverse community voices and intimate knowledge of conditions on the ground, the best-meaning policies and initiatives can leave out or even harm those whom they were meant to serve.

The solution to our degrading biosphere and threatened communities is a comprehensive, just transition to a climate-safe society. Not only must we move away from sources of greenhouse gases, we must protect and restore the nature, waterways and ocean that surrounds us. And we must do so in a way that shares the benefits of these investments with communities and remediates the harms caused by such a transition—as well as the harms that have been done by past and present pollution and colonialism.



ENDNOTES

- ¹ https://www.hacfornatureandpeople.org/home
- ² https://www.doi.gov/priorities/america-the-beautiful
- ³ https://bipartisanpolicy.org/blog/inflation-reduction-act-summary-energy-climate-provisions/
- ⁴ https://bgrdc.com/infrastructure-investment-and-jobs-act-resiliency-and-environmental-remediation/
- ⁵ https://www.californianature.ca.gov/pages/30x30
- ⁶ https://sdqs.un.org/goals
- ⁷ https://indiancountrytoday.com/the-press-pool/ute-indian-tribe-calls-biden s-camp-hale-continental-divide-national-monument-declaration-an-unlawful-act-of-genocide
- ⁸ Spence, M. D. (1999). Dispossessing the wilderness: Indian removal and the making of the national parks. Oxford University Press.
- ⁹ https://grist.org/global-indigenous-affairs-desk/un-conservation-shouldnt-cost-indigenous-lives/
- ¹⁰ https://news.ubc.ca/2019/07/31/biodiversity-highest-on-indigenous-managed-lands/
- ¹¹ https://hispanicaccess.org/news-resources/research-library/item/978-the-nature-gap-confronting-racial-and-economic-disparities-in-the-destruction-andprotection-of-nature-in-america
- ¹² Scott, D., & Lee, K. J. J. (2018). People of color and their constraints to National Parks visitation. George Wright Forum, 35(1), 73-82. Weber, J., & Sultana, S. (2013)
- ¹³ Why do so few minority people visit National Parks? Visitation and the accessibility of "America's Best Idea." Annals of the Association of American Geographers, 103(3), 437-464.
- ¹⁴ https://www.tpl.org/the-heat-is-on
- ¹⁵ https://enewspaper.latimes.com/infinity/article_share.aspx?guid=78d16a36fc87-4454-abe5-59507dd8435e
- ¹⁶ https://www.theguardian.com/inequality/2020/sep/16/poorer-uk-householdshave-less-access-to-green-spaces-study
- ¹⁷ https://bmcpublichealth.biomedcentral.com/arti-
- cles/10.1186/1471-2458-14-292
- ¹⁸ https://core.ac.uk/download/pdf/145031112.pdf
- ¹⁹ https://www.americanprogress.org/article/making-castner-range-a-nation-
- al-monument-would-help-nature-deprived-communities/
- ²⁰ https://www.bbc.com/worklife/article/20220201-the-time-poverty-that-robsparents-of-success
- ²¹ http://www.alpinist.com/doc/ALP40/40-wired
- ²² https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7751420/
- ²³ https://academic.oup.com/jof/advance-article/doi/10.1093/jofore/
- fvabo71/6534367#348650160
- ²⁴ https://besjournals.onlinelibrary.wiley.com/doi/full/10.1002/pan3.10302
- ²⁵ https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-020-
- 08647-z#Sec9 ²⁶ https://hispanicaccess.org/news-resources/research-library/item/2083-how-to-
- fix-americans-diminishing-access-to-the-coasts-a-report-by-hispanic-accessand-center-for-american-progress
- ²⁷ https://www.apa.org/monitor/2020/04/nurtured-nature
- ²⁸ https://www.sciencedaily.com/releases/2009/02/090217092758.htm
- ²⁹ https://richardlouv.com/blog/what-is-nature-deficit-disorder/
- ³⁰ https://eepro.naaee.org/eepro/research/library/nature-based-environmental-education
- ³¹ https://www.childrenandnature.org/schools/learning-outside/
- ³² https://psycnet.apa.org/record/2004-14744-000
- 33 http://millerlab.nres.illinois.edu/pdfs/Biodiversity%20Conservation%20 and%20the%20Extinction%20of%20Experience.pdf
- ³⁴ https://phys.org/news/2022-01-green-backyards-urban-climate-resilience. html
- ³⁵ Department of the Interior. 1994. The impact of federal programs on wetlands, vol. II, a report to Congress by the Secretary of the Interior, Washington DC, March 1994, Dahl, T. E. 1990. Wetland losses in the United States 1780's to 1980's. Washington, D.C.: U.S. Department of the Interior, Fish and Wildlife Service.
- ³⁶ http://manoproject.org/
- 37 https://www.railstotrails.org/resource-library/resources/new-research-finds-public-investment-in-trails-walking-and-biking-infrastructure-delivers-potential-economic-benefits-of-1385-billion-annually/
- ³⁸ https://www.udel.edu/academics/colleges/canr/cooperative-extension/fact-

- sheets/human-benefits-of-green-spaces/
- 39 https://www.nature.com/articles/s41893-021-00781-9#Sec1 40 https://earthobservatory.nasa.gov/images/145305/green-space-is-good-for-
- mental-health
- 41 https://e360.yale.edu/features/ecopsychology-how-immersion-in-nature-benefits-vour-health
- ⁴² https://www.sciencedaily.com/releases/2007/07/070709133240.htm
- ⁴³ https://www.amnh.org/research/center-for-biodiversity-conservation/ what-is-biodiversity
- ⁴⁴ https://www.nps.gov/subjects/biodiversity/services-provided-by-biodiversity. htm
- ⁴⁵ https://www.theguardian.com/environment/2018/oct/30/humanity-wipedout-animals-since-1970-major-report-finds
- ⁴⁶ https://www.nature.com/articles/s41558-022-01437-y
- 47 https://www.cbd.int/climate/
- 48 https://hispanicaccess.org/news-resources/research-library/item/978-the-nature-gap-confronting-racial-and-economic-disparities-in-the-destruction-andprotection-of-nature-in-america
- ⁴⁹ https://hispanicaccess.org/news-resources/research-library/item/978-the-nature-gap-confronting-racial-and-economic-disparities-in-the-destruction-andprotection-of-nature-in-america
- 50 https://rlearley.people.ua.edu/uploads/2/5/6/9/25693686/schell_2020_ecological_and_evolutionary_consequences_of_systemic_racism_in_urban_environments.pdf
- ⁵¹ https://journalism.csis.org/deforestation-hits-home-indigenous-communities-fight-for-the-future-of-their-amazon/
- ⁵² https://www.energy.ca.gov/sites/default/files/2022-01/CA4_CCA_SJ_Region_Eng_ada.pdf
- ³³ Jonathan London, Amanda Fencl, Sara Watterson, Jennifer Jarin, Alfonso Aranda, Aaron King, Camille Pannu, Phoebe Seaton, Laurel Firestone, Mia Dawson, Peter Nguyen (2018). The Struggle for Water Justice in California's San Joaquin Valley: A Focus on Disadvantaged Unincorporated Communities. Davis, CA: UC Davis Center for Regional Change. 10-11. https://regionalchange.ucdavis. edu/sites/g/files/dgvnsk986/files/inline-files/The¹/20Struggle%20for%20 Water%20Justice%20FULL%20REPORT_0.pdf
- ⁵⁴ https://www.southernenvironment.org/topic/what-is-environmental-injustice/ ⁵⁵ Cronon, W (1995). The trouble with wilderness: Or, getting back to the wrong
- nature. Environmental History, 1(1), 7–28. https://doi.org/10.2307/3985059 ⁵⁶ https://cosmosmagazine.com/earth/sustainability/indigenous-steward-
- ship-linked-to-biodiversity/
- ⁵⁷ https://www.bbc.com/news/world-latin-america-39149334
- 58 https://education.nationalgeographic.org/resource/plastic-bag-found-bottomworlds-deepest-ocean-trench
- 59 https://blogs.scientificamerican.com/observations/indigenous-knowledge-can-help-solve-the-biodiversity-crisis/
- ⁶⁰ https://digitalrepository.unm.edu/cgi/viewcontent.cgi
- 61 https://www.fws.gov/refuge/merced/visit-us/activities
- ⁶² https://databasin.org/datasets/d579d87eb54f4374a77ea53e7ef66449
- 63 https://www.sciencedirect.com/science/article/pii/S2589791819300027
- ⁶⁴ https://www.oecd-ilibrary.org/sites/e6cc8722-en/index.html?itemId=/content/
- component/e6cc8722-en
- 5 https://climate.nasa.gov/
- 66 https://climatechange.lta.org/get-started/learn/co2-methane-greenhouse-effect
- ⁶⁷ https://www.globalforestwatch.org/
- 68 https://news.mongabay.com/2022/04/2021-tropical-forest-loss-figures-putzero-deforestation-goal-by-2030-out-of-reach/
- ⁶⁹ https://www.americanprogress.org/article/the-green-squeeze/
- ⁷⁰ https://www.srs.fs.usda.gov/research/2021-research-highlights/highlight. php?id=decreasing-capacity-to-sequester-carbon
- 71 https://www.nature.org/content/dam/tnc/nature/en/documents/TNC_Natural_Climate_Solutions_Handbook.pdf
- ⁷² https://usnature4climate.org/stories/
- 73 https://grist.org/global-indigenous-affairs-desk/un-conservation-should-
- nt-cost-indigenous-lives/ ⁷⁴ https://www.fao.org/americas/publicaciones-audio-video/forest-gov-by-in-
- digenous/en ⁷⁵ https://blogs.scientificamerican.com/observations/indigenous-knowl-
- edge-can-help-solve-the-biodiversity-crisis/



- ⁷⁶ https://www.pnas.org/doi/10.1073/pnas.1913321117
- ⁷⁷ https://rainforestfoundation.org/fortress-conservation-hurts-our-planet/
- ⁷⁶ https://www.fao.org/americas/publicaciones-audio-video/forest-gov-by-indigenous/en
- ⁷⁹ https://unesdoc.unesco.org/ark:/48223/pf0000216613
- ⁸⁰ https://grist.org/global-indigenous-affairs-desk/un-conservation-shouldnt-cost-indigenous-lives/
- ⁸¹ https://grist.org/article/the-world-spends-billions-to-protect-indigenous-landonly-17-goes-to-indigenous-people/
- ⁸² https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-020-08647-z#Secg
- ⁸³ https://www.sacbee.com/opinion/california-forum/article213494354.html
- ⁸⁴ https://www.sciencedaily.com/releases/2021/05/210517194745.htm
- ⁸⁵ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8280892/
- ⁸⁶ https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html
- https://grist.org/global-indigenous-affairs-desk/fpic-is-essential-indigenousrights-what-is-it-why-isnt-it-followed/
- ⁸⁸ https://academic.oup.com/bioscience/article/71/2/148/6102678?utm_medium=website&utm_source=archdaily.com
- ⁸⁹ https://hispanicaccess.org/news-resources/research-library/item/2o69-making-castner-range-a-national-monument-would-help-nature-deprived-communities
- ⁹⁰ https://www.sciencedirect.com/science/article/abs/pii/Soo38o92Xoooo89X
 ⁹¹ https://www.bbc.com/future/article/20200504-which-trees-reduce-air-pollution-best
- 92 https://www.elca.info/doc/Green%20and%20healthcare.pdf
- 93 http://news.bbc.co.uk/2/hi/health/7374078.stm
- ⁹⁴ https://www.sierraclub.org/sierra/2015-5-september-october/green-life/whyurban-trees-solve-so-many-our-problems
- ⁹⁵ https://www.sciencedaily.com/releases/2016/06/160614212452.htm
- ⁹⁶ https://usnature4climate.org/pathways/#trees-and-forests
- ⁹⁷ https://treeequityscore.org/
- 98 https://treeequityscore.org/
- ⁹⁹ https://www.sciencedirect.com/science/article/abs/pii/So16920462100267X
- ¹⁰⁰ https://greenrooftechnology.com/living-architecture/
- ³⁰¹ https://www.forbesindia.com/article/take-one-big-story-of-the-day/international-day-of-biological-diversity-2022-not-all-urban-greenery-is-created-equal/76469/1
- ¹⁰² https://theconversation.com/el-cambio-climatico-amenaza-la-supervivencia-de-los-arboles-urbanos-en-todo-el-mundo-189838
- ¹⁰³ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4555311/
- 104 https://watershedmg.org/learn/resources/GSI
- ¹⁰⁵ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4997461/
- ¹⁰⁶ https://www.epa.gov/green-infrastructure/what-green-infrastructure
- ¹⁰⁷ https://www.tpl.org/10minutewalk
- ¹⁰⁸ https://www.theguardian.com/environment/2019/feb/04/england-nationalparks-out-of-reach-for-poorer-people-study
- ¹⁰⁹ https://bmcpublichealth.biomedcentral.com/arti-
- ¹¹⁰ cles/10.1186/1471-2458-14-292
- ³¹¹ https://www.sciencedirect.com/science/article/pii/So16o412021004037#so110³¹² https://www.tpl.org/10minutewalk
- https://e36o.yale.edu/features/habitat-on-the-edges-making-room-for-wild-life-in-an-urbanized-world
- ¹¹³ https://www.nwf.org/Our-Work/Habitats/Wildlife-Corridors
- ³¹⁴ https://tpwd.texas.gov/landwater/land/programs/tourism/economic_benefits/ index.phtml
- ¹³⁵ http://whereisthewildlife.org/2015/12/15/the-psychological-benefits-of-wildlife-viewing/#:-.text=Here%20are%20the%20emergent%20themes,Sensual%20awakening
- ³¹⁶ https://www.thebaltimorebanner.com/community/climate-environment/ planned-demolition-of-hampden-bookbindery-would-deprive-migratory-birds-of-their-roost-LRUDNKD7RZFRBISYVRH44FCTME/
- https://parkserve.tpl.org/mapping/index.html?CityID=2404000
- ¹³⁸ https://hispanicaccess.org/news-resources/research-library/item/978-the-nature-gap-confronting-racial-and-economic-disparities-in-the-destruction-andprotection-of-nature-in-america
- https://usnature4climate.org/pathways/#trees-and-forests
- ¹²⁰ https://wmswcd.org/projects/the-meadowscaping-handbook/
- 121 https://auduboninternational.org/certifications/
- ¹²² http://aswp.org/pages/backyard-habitat-program
- 123 https://www.ers.usda.gov/webdocs/publications/45014/30940_err140.pdf
- 124 https://www.acfb.org/facts-and-stats/
- ¹²⁵ https://www.csmonitor.com/USA/2018/0919/With-land-to-spare-US-church-

- es-turn-to-farming
- ²²⁶ https://impact.economist.com/projects/foodsustainability/blogs/food-foreststo-feed-the-future/
- ¹²⁷ https://archforkids.com/vacantlots/
- ³¹⁸ https://www.smartcitiesdive.com/ex/sustainablecitiescollective/friday-funglobal-green-thumbs-urban-gardens/1057421/
- ¹³⁹ https://www.multisolving.org/wp-content/uploads/2022/05/Green-Curtains. pdf
- ³³⁰ https://impact.economist.com/projects/foodsustainability/blogs/food-foreststo-feed-the-future/
- ¹³¹ https://www.plt.org/story/from-food-desert-to-food-forest/
- ³³² https://www.weforum.org/agenda/2021/05/bee-populations-conservation-netherlands/#:~:text=ln%20the%20Netherlands%2C%20more%20 than,stops%20and%20'honey%20highways
- ¹³³ https://www.imdb.com/title/tt15470222/
- ³³⁴ https://hispanicaccess.org/news-resources/research-library/item/1715-conservation-toolkit-a-guide-to-land-water-and-climate-issues-and-the-impact-onlatino-communities
- ¹³⁵ https://farmlandinfo.org/publications/farms-under-threat-2040/
- ¹³⁶ https://nature4climate.org/science/n4c-pathways/grasslands-and-agricultural-lands/integration-of-trees-in-croplands/
- ³³⁷ https://www.rcdmonterey.org/images/docs/publications/CAFF_Hedgerow_ Manual_2018.pdf
- ¹³⁸ https://usnature4climate.org/pathways/#agricultural-lands-and-grasslands
- 139 https://pubmed.ncbi.nlm.nih.gov/2647086/
- ²⁴⁰ https://www.epa.gov/safepestcontrol/integrated-pest-management-ipm-principles
- ²⁴¹ https://usnature4climate.org/pathways/#agricultural-lands-and-grasslands ²⁴² https://www.nationalgeographic.com./environment/article/underground-rivers
- ¹⁴³ https://www.americanrivers.org/rivers-lands-and-belonging/
- ¹⁴⁴ https://groundworkusa.org/focus-areas/urban-waters/
- ³⁴⁵ https://hispanicaccess.org/news-resources/research-library/item/2083-how-tofix-americans-diminishing-access-to-the-coasts-a-report-by-hispanic-access-
- and-center-for-american-progress ²⁴⁶ https://www.euronews.com/green/2022/05/08/why-is-the-belize-barrier-reefone-of-the-most-successful-coral-restoration-projects-in-th
- ²⁴⁷ https://www.conservationgateway.org/Documents/2_Oyster%2orestoration%2ostudy_Kroeger%2oMay%2og%2o2012.pdf
- ³⁴⁸ https://www.epa.gov/green-infrastructure/coastal-resiliency#:--:text=A%20 green%20infrastructure%20approach%20to,on%20human%20health%20 and%20property
- ¹⁴⁹ https://www.usgs.gov/programs/climate-adaptation-science-centers/science/ clam-gardens-indigenous-community-driven
- ¹⁵⁰ https://www.habitat.noaa.gov/apps/restoration-atlas/
- ¹⁵¹ https://www.americanprogress.org/article/the-economic-case-for-restorinq-coastal-ecosystems/
- ¹⁵² https://www.nationalparkstraveler.org/2020/07/national-park-service-continues-grapple-diversity-workforce#:~:text=Whites%20account%20for%20 79%20percent,Americans%20in%20the%20national%20population
- ¹⁵³ https://pubmed.ncbi.nlm.nih.gov/35653565/
- ¹⁵⁴ https://www.science.org/doi/epdf/10.1126/science.abnoog8
- ¹⁵⁵ https://sanctuaries.noaa.gov/news/oct21/ballena.html
- ¹⁵⁶ https://digital.library.txstate.edu/bitstream/handle/10877/7282/Lopez-Andrea. pdf?sequence=1&isAllowed=y
- ¹⁵⁷ https://usnature4climate.org/pathways/#wetlands
- 158 https://www.ipcc.ch/report/ar6/wg1/
- ¹⁵⁹ Haden Chomphosy, W., Varriano, S., Lefler, L.H. et al. Ecosystem services benefit from the restoration of non-producing US oil and gas lands. Nat Sustain 4, 547–554 (2021). https://doi.org/10.1038/s41893-021-00689-4
- ¹⁶⁰ https://www.psr.org/wp-content/uploads/2021/07/fracking-with-forever-chemicals.pdf
- ¹⁶³ https://www.catf.us/wp-content/uploads/2016/09/CATF_Pub_LatinoCommunitiesAtRisk.pdf
- ¹⁶² https://lulac.org/blog/The_Fight_for_Clean_Air/
- ¹⁶³ https://www.theatlantic.com/photo/2014/08/the-urban-oil-fields-of-los-angeles/100799/
- ¹⁶⁴ https://nationaleconomictransition.org/
- ¹⁶⁵ https://wildlife.ca.gov/Regions/6/Salton-Sea-Program/Background
- ¹⁶⁶ https://ca.audubon.org/conservation/birds-salton-sea
- ¹⁶⁷ https://www.theguardian.com/us-news/2021/jul/23/salton-sea-california-lakedust-drought-climate
- ¹⁶⁸ https://saltonsea.ca.gov/



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Shanna leads a team that plans and executes programming to advance national conservation and climate goals while serving Latino communities. Shanna is a longtime conservation advocate and promoter of environmental justice in the U.S. and abroad. She comes to Hispanic Access Foundation from an extensive professional background including working in sustainable development at the World Bank and Global Environment Facility, climate policy at the nonprofit Climate Interactive, civil service with local government, and managing her own photography business. Prior to that, while pursuing her education, Shanna worked in Peru to protect forests in the Amazon, researched and published on civil rights in Mexico, and supported city sustainability in Baltimore. She earned her M.A. in Latin American studies and international economics from the Johns Hopkins School of Advanced International Studies (SAIS) and B.A. in international studies from Johns Hopkins University. Shanna resides in Baltimore, Maryland with her partner and dog.



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ABOUT HISPANIC ACCESS

Hispanic Access Foundation is a 501(c)(3) non-profit organization that connects Latinos with partners and opportunities improving lives and creating an equitable society. Our vision is that all Hispanics throughout the U.S. enjoy good physical health, a healthy natural environment, a quality education, economic success and civic engagement in their communities with the sum improving the future of America. For more information, visit www.hispanicaccess.org.

HAF was actively involved in elevating the Latino community's voice around the Browns Canyon, San Gabriel Mountains, Boulder-White Clouds, Sand to Snow, Mojave Trails, and Castle Mountains National Monument efforts. Additionally, HAF has launched the initiatives Por la Creacion Faith Based Alliance, which unites Latino faith leaders around the protection of God's creation and creating tomorrow's environmental stewards, and Latino Conservation Week, which includes dozens of conservation and outdoor-related events across the country.



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