WALTON FAMILY
FOUNDATION

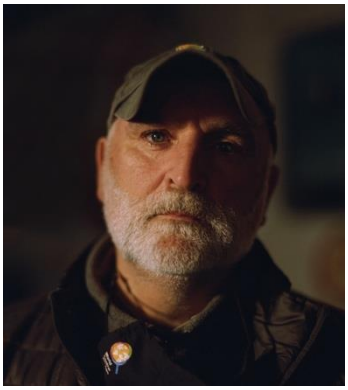
Water & Climate

The Opportunity Before Us

A position paper presented by the **Walton Family Foundation**, working to protect and preserve water resources so that nature and people can thrive together

Foreword

By José Andrés, World Central Kitchen



Water is fascinating to me. It is vital for life, and essential for cooking. Yet people talk about water as if it's a simple, everyday thing they barely value. In reality it's complex, and our relationship to water is getting more complicated all the time.

When my nonprofit World Central Kitchen shows up to feed communities after a disaster, more often than not, water is at the heart of the suffering – and the solution.

Hurricane Maria dumped vast amounts of water on Puerto Rico, driving some to escape for their lives to the upper floors of their neighbor's home. But it also knocked out the supply of clean water on the island when it destroyed the electric grid, including the pumps and filters that delivered the essence of life to every family.

Without clean water, you cannot cook the food in your kitchen. You cannot boil the bag of rice that good-hearted people donate. Your life shrinks to your essential needs: to find a bottle of water right now. You fear getting sick from the open water nearby.

Agriculture - food production - accounts for roughly 70% of water use worldwide. We find ourselves in a moment where we have to feed a growing population, while resources are becoming more scarce, and our planet is groaning under the weight of our demands for more.

Water is at the heart of the suffering – and the solution.

That's why I look for technologies that can help us bridge to a new moment. Where can we farm smarter, using cover crops and more efficient irrigation to protect soil and water? What is the balance of keeping enough fish in the oceans to keep a thriving food chain, while also providing enough seafood to sustainably feed people and support fishers? How can we work with nature to meet the challenges of this moment?

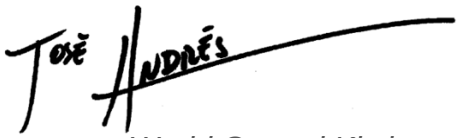
We need to think bigger and go faster with our water solutions; to take our ideas and innovations and scale them up quickly. We need to change how we think, eat, cook, farm and fish.

In the past, humanity has assumed our planet would always give us something new. We could eat all the abalone on the Pacific coast, all the cod in the Atlantic and all the tuna in the Mediterranean. We assumed there would always be something more.

Now we know there is an end to what our planet can give to us. Now we have to adapt to what our planet needs from us.

We have to stop damaging what we have, conserve what is left and learn to live differently. We need to farm on land and at sea in new ways. We need to eat in ways that our world can sustain. And we need to invest in one another – in communities that care for each other before and after disasters.

To me, it's as clear and as complex as a glass of water.



World Central Kitchen

Table of Contents

I. Introduction

Summer 2021

Friends,

For the last couple of decades, climate change has been a large, amorphous, existential threat to everything we hold dear. In more recent years, the threat has become increasingly clear and present in the lives of most Americans, who see the reality of the challenge reflected back at us in the most basic ingredient for life: ***water.***

Through water, many Americans experience the reality of climate change almost daily. Flooding, drought, record-breaking storms and even wildfires – each in their own way makes the presence of climate change and its impact on both water and everyday life inescapable.

In the coming years, the effects of climate change on water will continue to change both the natural world and people's daily lives in profound ways. These changes will affect our agriculture, making it more risky and difficult to grow crops. They will influence our oceans and waterways, changing the composition and movements of aquatic life. They will impact our ability to feed and sustain our communities. Yet, as we seek to slow climate change's effects, nature can be our ally. We are facing an inevitable transformation in the way we interact with our environmental ecosystems, whether we choose it or not – and if we do not address our impact and adapt to shifting circumstances, the results will become even more dire.

It is clear that we must protect and bolster our natural environments and the industries that depend on them to ensure their future. That doesn't mean drastically limiting our activity; in fact, as the planet's population increases, we will be more dependent than ever on the farms and fisheries that feed the world. Instead, we need to create a positive agenda with smart solutions that support our fisheries, access to water, agriculture and environment over the long term.

Our Role

The Walton Family Foundation has a longstanding and deep commitment to protecting rivers, lakes and oceans. We believe that connecting to nature through water is a fundamental part of healthy communities. We also recognize the vital importance of water's economic impact on the neighborhoods and industries that depend on it, and we understand that water and economics go hand in hand. That's why water is at the core of our efforts to build a more climate-resilient planet. As a solutions-oriented philanthropic organization, we have the ability, the opportunity and the obligation to lay out a workable agenda and fund projects, people and partners that can serve as guides for the public and private sectors.

Our Path Forward

Our response to this challenge involves building broad coalitions around commonsense ideas. That doesn't mean that the foundation is taking a politically moderate approach – or a liberal or conservative approach, for that matter. Instead, it means that the ideas we propose are well-reasoned, based in science and effective. It means that the voices we highlight will come from all areas - including both industries and the frontline communities that have historically been left out of the decision-making process on environmental issues. It means that our solutions can attract and engage people and communities of different ideologies that don't always see eye to eye. And, we hope it means that our progress will be durable – not dependent on one political party retaining power or one school of thought gaining influence but representing a smart and productive way forward that can stand the test of time.

Sincerely,
Moira Mcdonald
Environment Program Director
The Walton Family Foundation

II. Advancing Sustainable Solutions

Humanity has an opportunity to make critical progress that will support rivers and oceans, waterways, wildlife and industries like fishing and agriculture that depend on healthy ecosystems. In order to find ways for people and nature to thrive together, we all need to emphasize solutions that create sustainable environments and industries, promote effective policies and spur smart innovations to deliver stronger and more sustainable results. At the Walton Family Foundation, we believe that together, industry, government and communities can innovate and collaborate toward a resilient future.

1. Supporting Sustainable Products & Practices in the Marketplace

Supply Chain and Climate Connect: The material impacts of climate change on critical industries is clear in a wide variety of ways. Businesses are seeing supply chains disrupted by hydrologic extremes, from flooding to drought. Seafood companies are grappling with inconsistent supply and increased costs as climate change alters marine ecosystems, affecting the availability and size of fish. Brands are facing pressure from customers who are increasingly interested in driving a more sustainable vision for consumption. In order to respond, corporations need to be focused on both ends of the supply chain and every point in between – from practices among farmers and fisheries to procedures at processing plants to the policies at stores and retailers that bring products to consumers.

Ultimately, smart approaches to reducing climate impacts and creating more resiliency across food supply and other product chains can strengthen businesses, support farmers, ranchers and fishers and improve efficiency while driving environmental benefits.

There is a false narrative that suggests a strong economy and a sustainable environment are competing concepts – but the reality is that these ideas go hand in hand. Taking care of the planet means it will take care of us.

> **Using resources in a way that is sustainable isn't just good for the environment; it offers long-term benefits and ongoing security for businesses. This approach creates space for nature, communities and economies to thrive together - which is the path to a better, more resilient future.**

It's clear that this approach can be effective. About two decades ago, the seafood industry began to recognize the connection between better long-term management for individual fisheries and reduced business risk with a more secure supply. Industry leaders changed how they were sourcing seafood, investing time and logistical energy in a better overall outcome. Over time, consumer interest – and a consumer movement – caught up to business leadership. Today, 90% of U.S. retailers that sell seafood have sustainability commitments in place, offering the promise of a renewable market that supports our oceans, our waterways and our industries.

Now, we all need to build on that success to develop a robust, durable, self-sustaining economic ecosystem – and that requires doing three things:

First, with the vast majority of retailers that sell seafood committed to sustainability, we must make sure that both retailers and seafood producers are living up to those commitments, so that the progress is actually secured. There are many pressures to the food industry. We saw how COVID-19 caused many seafood restaurants to cut back or close, and how companies that continue to sell non-sustainable seafood are undermining the effort by selling to markets with lower standards. We need to ensure that promises of sustainability are met with real and continued action. That includes employing innovative tools to track commitments so consumers and retailers can ensure the fish they buy are sustainable.

Second, we must increase the supply of sustainable seafood to meet demand by supporting fisheries management systems that leave enough fish in the ocean so that stocks increase over time. The balance here is to make sure that there are a healthy number of fish in the ocean to support a thriving food chain and ecosystem, while at the same time recognizing that food from the ocean represents both an important livelihood for millions of fishers globally and a critical way to feed a growing global population in a sustainable way.

Third, we need retailers and end-users to take ownership of the responsibility for lasting change. That will require mitigating new risks to their supply chains, including climate change and its impact on fisheries. The Walton Family Foundation and other philanthropies are playing a role in funding the systems that connect supply and demand in a transparent and reliable way to establish proof of concept, and the next step will be to turn over responsibility for these processes to the industry itself, allowing buyers and retailers to support the mechanisms that help improve fishery management and demonstrate progress over time.

The same story is evident in agriculture over the longer-term; without sustainable practices that protect the health of our soil and waterways, farmers and agricultural businesses will struggle to produce high-quality crops and products that meet consumer expectations, including increasing pressure from the public to address climate change. In order to mitigate that impact, the foundation and our partners need to take a similar approach by promoting sustainable agricultural practices among the public, supporting farmers and ranchers in growing a supply of sustainable agricultural products and establishing measurements of success in order to gather useful data and track our progress.

Spotlight: The Economic Benefits of Conservation

Connecting the environmental and economic impacts of climate-smart agricultural practices is central to the foundation's strategy to expand conservation practices and advance solutions that are good for people and the environment. We know that conservation practices improve soil health, reduce erosion and improve crop yields – all outcomes that protect and strengthen farmers' most valuable asset: their land. And yet most people still assume that conservation and profit are diametrically opposed.

That's why grantees like the Environmental Defense Fund and AGree are working with farmers, policymakers and experts to demonstrate how the choice between profitability and conservation is a false one, using available data to recalculate risk and account for the true benefits of adopting cover crops, reducing watering and applying different treatments to fields.

If this updated, more accurate risk calculation is applied to the Federal Crop Insurance Program and other financial tools, farmers would reap considerable benefits, the federal government would be better stewards of taxpayer dollars, and there would be new, large-scale financial incentives to adopt these practices that far outweigh the cost of implementation.

2. Delivering Effective, Lasting Policies

Policies and Climate Interact: People can work with nature to help solve big problems. Working with nature offers potent ways to adapt to climate change, to mitigate its effects and to make our systems and communities more resilient. Changing agricultural practices on farms can benefit water quality and quantity, and boost the health of our watersheds and rivers while also reducing costs and increasing profitability for farmers. Restoring coastal and inland wetlands and floodplains can guard communities from sea-level rise, floods and storm surges – protecting people, ecosystems and infrastructure. Building flexible ocean management systems can make it easier to adjust rules and regulations when fish and their ecosystems move and change. And proactive management on land can drive carbon sequestration and help reduce catastrophic wildfires, which can ensure healthier ecosystems that last for the long term.

As local, state and federal governments incorporate climate change mitigation and adaptation into their policies, they should also enlist nature as an ally.

Food creates a vital and inseverable connection between people and nature, with farmers, fishers, ranchers and other supply-chain workers strengthening and serving that critical link. The importance of food production, particularly from agriculture, has led to a robust safety net of federal policies that mitigate risks, including federal funding to assist farmers when they lose crops to pests, floods, droughts or market failures, among other challenges.

Conservation methods in agriculture can reduce the impact of extreme drought and flooding on crop production, meaning that farmers who invest in these approaches can be more resilient to these risks. Crop insurance is now the country's largest agricultural subsidy, but it has yet to be updated to recognize the risk-reduction benefits of these sustainable practices. Some of these ancillary benefits include reducing the cost of the overall program, mitigating the effects of climate change and creating a more resilient agricultural system for the U.S.

> **In order to incentivize positive behavior, we need to adjust federal agriculture and fishing policies so they encourage farmers, ranchers and fishers to reduce their risks through conservation practices – presenting benefits to producers, to the environment and to taxpayers all at the same time.**

Many of the nation's policies were designed at a time when the impact of climate change wasn't being clearly felt; when the global economy was different; and when equity wasn't a part of the conversation. These policies need to be adjusted. For example, U.S. taxpayers spend more money on agricultural insurance subsidies, instead of conservation which can incentivize improved soil health, while also reducing farmer risk. By placing more value on the externalities of production and taking a more comprehensive, long-term view of outcomes, we can create smart policies that help the food production system adapt to climate change, reduce risks and promote stronger ecosystems.

Ultimately, policies need to be updated to serve farmers' and fishers' best interests – taking into account the new risks posed by climate change, while recognizing they should be rewarded for being part of the solution to sustainability.

Spotlight: Applying Natural Infrastructure

Enlisting nature as a partner in innovation is an important part of the foundation's work to create sustainable solutions to climate change. In coastal Louisiana, human activity has depleted and eroded coastal wetlands that continue to diminish by roughly a football field of lost wetlands every 100 minutes. In the face of climate change and rising seas, those wetlands aren't just home to natural ecosystems; they also provide protection against storms and hurricanes as they make landfall from the Gulf. As the wetlands diminish, the threat from natural hazards rises. Tidal wetlands can help prevent natural hazards from becoming natural disasters.

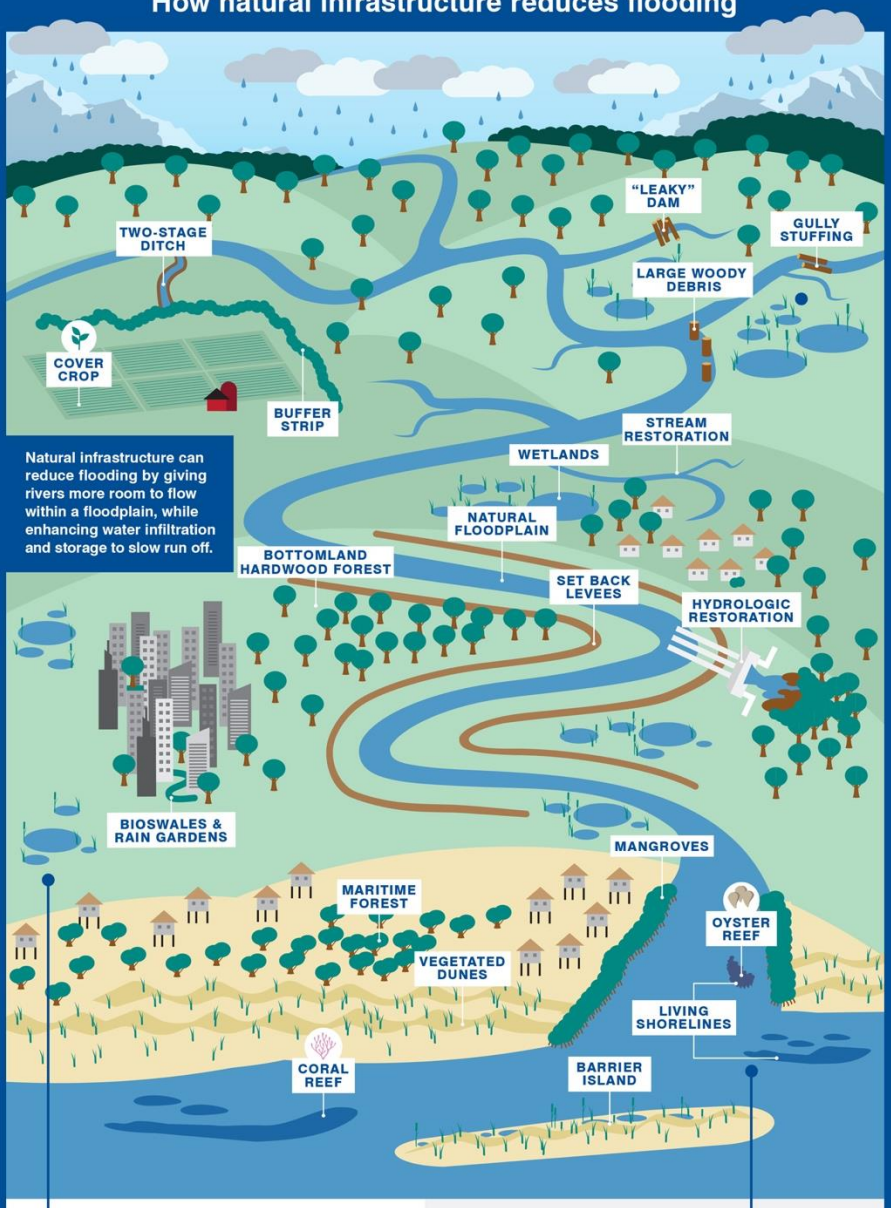
Today, a coalition of grantees form the Mississippi River Delta Campaign is working to rejoin the Mississippi River with coastal wetlands, bringing critical sediment back to the area and replenishing land that has been eroding for a century. Over time, sediment will once again do what it had done through regular spring floods for centuries before: collect to rebuild marshes and wetlands. In addition to restoring critical ecosystems, the expanded wetlands will help protect lives and livelihoods in coastal communities.

In Colorado and across the American West, the foundation is doing something similar with beaver-related restoration. Some 200 years ago, nearly every stream across North America was a beaver swamp that trapped water, carbon and nutrients – reducing flooding, increasing water quality and lowering water temperature. As beaver swamps disappeared, we've seen a reversal in all these areas.

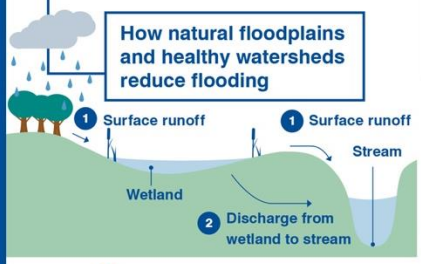
Now, alongside a range of grantees, including the National Wildlife Federation and The Nature Conservancy, we are building back these ecosystems with man-made beaver dams to ensure healthier soils and safer ecosystems.

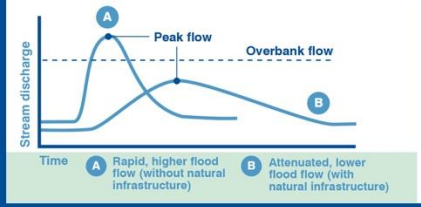
Solutions like these, which are routinely called natural infrastructure projects, leverage natural systems to solve problems so nature and people can thrive.

How natural infrastructure reduces flooding

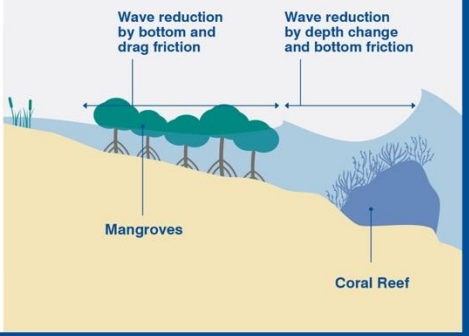


How natural floodplains and healthy watersheds reduce flooding





How natural infrastructure reduces wave heights and surge



Natural infrastructure examples and benefits

Barrier islands: offshore sand islands that absorb wave energy to reduce erosion.

Bioswales and rain gardens: low-lying vegetated areas that slow and cleanse urban runoff.

Cover crops: planted agricultural fields to increase soil permeability and slow surface runoff.

Floodplain restoration: Restoration approach that puts the stream channel and floodplain at or near historical elevations and locations, benefitting water quality, increasing absorption and providing wildlife habitat.

Gully stuffing: logs and woody debris placed in ditches, gullies or channels to slow the flow of water and trap sediment.

Hydrologic restoration: Structures, such as sediment and freshwater diversions, that reconnect rivers to wetlands to restore hydrology, deliver sediment and build and maintain coastal land.

Large woody debris: wooden structures or tree stumps placed in streams to decrease stream velocity near river banks and reduce erosion of banks.

Leaky dams: woody debris placed across a stream or channel that allows fish passage, provides habitat, and disperses and slows flow of water

Mangroves: coastal shrubs/trees with dense roots and stems that reduce wave energy and height, trap storm debris and slow inland transfer of water.

Maritime forests: dense coastal vegetation that reduces wind and wave energy and captures debris to buffer inland areas from storm damages.

Oyster, shellfish, and coral reefs: function like submerged break-waters to buffer coastal areas from waves and reduce erosion, while oyster and shellfish reefs improve water quality.

Set-back levees: levees built well beyond the river to allow natural floodplain flooding and store water, slow stream velocity, and reduce downstream flood height.

Two-stage ditch: drainage ditches that have been modified to include floodplain benches that mimic a natural floodplain. During storm events two-stage ditches allow the water to spread out onto the floodplain, slowing it down and leading to greater channel stability

Vegetated dunes: vegetated mounds or ridges adjacent to beaches or on barrier islands that trap and stabilize sand and absorb storm surge and waves.

Wetlands: act as sponges by slowing and absorbing water to reduce flood heights and storm surge velocity and height.

This infographic courtesy of Environmental Defense Fund"
https://www.edf.org/sites/default/files/content/natural-infrastructure-infographic.pdf

3. Spurring Smart Innovations

Innovation and Climate Intersect: Even the most ambitious plans to address climate change can't avoid the effects we are already seeing today in our oceans and fresh waters, or erase the impacts we are anticipating over the next few decades. We will have to use innovation – in water, agriculture, fisheries and more – to help communities and economies adapt to the world ahead. As we make strides in our tools and technology, we also want to make sure that the innovations we put in place are efficient and effective over the long term. That means bringing nature into the process in order to produce better and more sustainable results.

> **Conservation shouldn't be about what people *can't* do – but what we *can* do.**

To be human is to be uniquely adaptive. Rising to the challenges of this moment will require innovative solutions that build sustainable economies and resilient communities, so nature and people thrive together.

Innovations can come from many different places and be inspired by looking to nature. For example, tilling soil disturbs soil biology, making it more prone to erosion and nutrient runoff. Look at natural ecosystems, and you'll rarely see large swaths of completely cleared or disturbed land. To solve the problem, many farmers are reducing their tillage by using no-till farming to decrease soil degradation and erosion while increasing water-holding capacity – a practice that prevents pollution from entering nearby water sources while also leading to increased profitability and more resilient farms.

In other cases, technological advances can be leveraged to make practices more sustainable. Growing cover crops between cash crops can keep soil healthier, locking in nutrients, suppressing weeds and preventing erosion, but there are real challenges to managing a farm in this way. In response, companies are producing new equipment, and crop advisors are providing better agronomic advice to help farmers try cover crops. Using satellites and other technological advances can also help farmers and ranchers manage their operations more sustainably, leading to positive impacts on the health of our rivers.

Some innovations involve advances that have only become possible through recent technology. Enforcing catch limits in U.S. fisheries, for example, generally requires humans to be on fishing boats to monitor the crew's haul. By investing in an electronic monitoring system instead, we can reduce costs, prevent illegal fishing and make the process easier and more conducive to the fishing business.

These are just a few examples of the ways in which science and technology allows us to lessen our ecological impact while also improving profit, providing benefits to the environment and to farmers and fishers at the same time. Promoting healthy ecosystems will require building on these initiatives and investing in projects that expand their use.

Spotlight: Innovation for Conservation

In order to ensure that fish are being caught sustainably, the fishing industry employs a system of monitoring. Usually, that monitoring is done by an individual stationed aboard the vessel who is responsible for recording data concerning fishing practices and catches. But in-person monitoring can be expensive, and sometimes unsafe or logistically challenging. During the COVID-19 pandemic, for example, capacity limits on fishing vessels made it more difficult for monitors to observe fishing practices.

To improve the monitoring of fisheries, which is essential to ensure compliance with rules and sustainability practices, the foundation is increasingly looking at how electronic monitoring, including installing video cameras on boats to observe fishing practices and catches, is an efficient and cost-effective alternative to human observers. However, different electronic systems operate and log data differently. Agencies also store and use data in different ways—so, finding commonalities and shared best practices is important.

The Walton Family Foundation, joined with partners, including Net Gains Alliance, Ocean Conservancy, Environmental Defense Fund and The Nature Conservancy, to expand on this work. These partners are focused on identifying solutions to expand uptake of these technologies and creating a framework across the United States to standardize the application of electronic monitoring technologies. That means ensuring the technologies can talk to each other across systems and provide important data to the people who need it in a timely way. By putting a framework in place to support rapid, standardized use and application of electronic monitoring systems and data, we can make sustainable fishing easier, cheaper and more responsive to a changing world.

III. Engaging and Including Communities

Climate change is a global phenomenon, but the impacts are felt locally. That's why conversations about climate change need to involve frontline communities – especially those that have historically been excluded from the dialogue. We need to bring impacted communities to the table – from the people who work with nature through their livelihoods, like fishers, ranchers and farmers, to people who are disproportionately impacted by climate change because of where they live, like communities facing an increase in floods, hurricanes and wildfires. By bringing more people to the table, we can create more community driven and culturally relevant engagement and greater overall success.

At the Walton Family Foundation, we believe that the people closest to the problem are also closest to the solution. That's why our approach to water resources and climate change relies on the cooperation, innovation and drive of frontline businesses and communities. But we also recognize that those communities being harmed most by water scarcity, water pollution and climate change are disproportionately made up of people of color, while the environmental movement is too often led by white individuals who are not connected to the communities in greatest need.

While there is more work to do, the Walton Family Foundation has made incremental progress to change this reality by spearheading efforts to develop, engage with and support diverse conservation leaders. The foundation has joined with tribal communities in the Colorado River Basin to develop a Drought Contingency Plan – one of the largest voluntary water conservation plans in history. We work with indigenous fishers to develop management approaches that include them in decision-making, so that management brings benefits to these fishers, their communities and their oceans.

> **We need to ensure diverse voices are leading the conversation and impacted communities are leading our solutions. This requires dismantling the barriers that keep them on the outside looking in and building ladders to leadership that will build a more inclusive movement.**

If we intend to make truly sustainable progress, we must engage environmental and economic leaders from all backgrounds. That notion is at the core of the Walton Family Foundation's community-based work – and it should inform and motivate national approaches to environmental progress.

Spotlight: Expanding Capacity with Tribal Nations

In the Colorado River Basin, tribal communities are deeply connected to the water and landscape. But in recent years, like everyone else in the region, they have faced water scarcity and a changing climate, putting pressure on their communities.

The Walton Family Foundation partners with tribes and tribal-affiliated groups throughout the Colorado River Basin to invest in scaling their water management solutions, provide additional capacity to these small communities, and ensure that tribes have a seat at the table - during the negotiation and implementation of the landmark Drought Contingency Plan and future water management conversations.

Additionally, the foundation is learning from tribes about water conservation and agricultural practices. This allows our efforts to benefit from the knowledge that indigenous people have developed and passed down from generation to generation – also known as Traditional Ecological Knowledge or TEK.

The expertise and perspective the foundation can glean from local communities is essential to improving regional water management – and we're committed to expanding our efforts to ensure that we are working together, with all parties, to achieve effective and sustainable solutions.

Americans See Urgent Need to Protect Water Amidst Climate Change

In late 2020, the Walton Family Foundation released a poll that revealed almost universal agreement among Americans that the nation needs to take immediate action on protecting water and addressing climate change, regardless of political affiliation. The findings also made it clear that people of color are more concerned about the state of the environment and hold a more pessimistic outlook on the future of the environment compared to the rest of the population. The poll results showed most Americans agree (84%) that protecting the health of our water is essential to address climate change. There is also a broad consensus that the U.S. needs to take more action to address climate change.

Working on water-related environmental issues is an urgent concern for Americans, with people prioritizing all three components of water:

Protecting oceans

91%

say this is an urgent issue, including **62%** who say it is very urgent.

Protecting rivers, lakes and streams

91%

say this is an urgent issue, including **60%** who say it is very urgent.

Accessing clean, safe drinking water

88%

say this is an urgent issue, including **58%** who say it is very urgent.

At a time of deep partisan division, **88% of Democrats**, **73% of Independents** and **55% of Republicans** think humans can take action to reduce the impact of climate change. Additionally, the majority of those polled (**57%**) believe climate conditions will be worse for the next generation.

IV. Conclusion Forward Together

In closing, we want to note that the unofficial theme of this work is “together.” We need to strive to bring more diversity, equity and inclusion to conservation and sustainability, together. We must seek ways for nature and people to thrive, together. We recognize that it is not one set of solutions - but a whole range of ideas and approaches - from data and innovation, to supply chain improvements, to natural infrastructure and more – all in concert, together, that will see us through this moment into a more sustainable, brighter future.

The threat of climate change to water resources is real for all of us - for individuals, businesses, communities and governments. The Walton Family Foundation’s work alone will not end the difficulties and challenges posed by climate change in the coming years and decades, but we remain optimistic that there are practical and pragmatic actions to take, together.