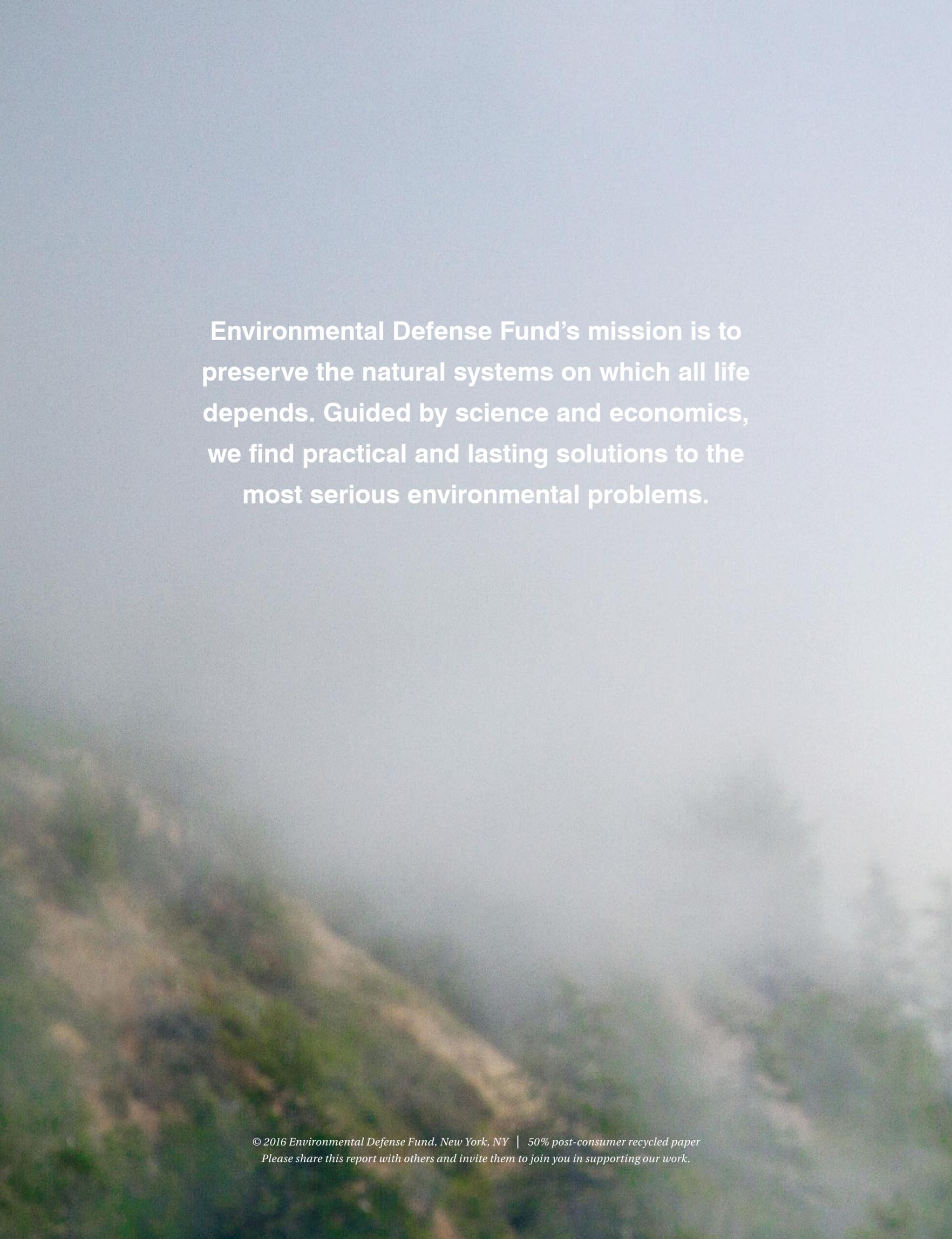




50  
YEARS  
1967 • 2017



ANNUAL REPORT 2016



**Environmental Defense Fund's mission is to preserve the natural systems on which all life depends. Guided by science and economics, we find practical and lasting solutions to the most serious environmental problems.**

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# Finding the ways that work



One evening in 1966, a small group of scientists and a lawyer met in a modest living room on Long Island, NY. The scientists had amassed clear evidence that the pesticide DDT was threatening the survival of magnificent birds of prey like the osprey, but local officials had ignored their appeals. So they did something highly unusual at the time: they went to court on behalf of the environment. Ultimately, they won a nationwide ban on DDT.

When the lawyer and scientists joined forces that day, it marked a turning point for conservation in America and led to their incorporating Environmental Defense Fund in 1967.

We soon strengthened the partnership of science and law by becoming the first U.S. environmental group to hire full-time Ph.D. economists, because we recognized that market forces can drive either pollution or progress—and we wanted to harness those forces for good. We also hired MBAs and political experts who could turn great ideas into reality. And we forged unlikely alliances—with ranchers, farmers, fishermen, business leaders and officeholders from both sides of the aisle—to create durable solutions.

In 50 years, EDF has grown from a handful of people on Long Island to a global force, with staffers working in more than 15 countries and some 1.5 million members from all walks of life. Now, as a newly elected U.S. president vows to roll back bedrock environmental protections, we must summon all of our strength to defend them. No single organization can possibly do everything that is needed to address today's urgent environmental challenges. But by working with partners at every level, we can and do make a lasting difference.

## WHAT WE DO

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**5** Health  
**9** Climate  
**15** Oceans  
**19** Ecosystems

## CORE STRATEGIES

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**8** Politics  
**14** Science  
**18** Economics  
**22** Partnerships

# Forging solutions that help people and nature prosper

We are pleased to report some important achievements in 2016.

In June, our years of bipartisan advocacy paid off when Congress passed legislation to help protect Americans from toxic chemicals in consumer products. It is the most significant national environmental law in decades, a heartening achievement in these partisan times.

In October, 195 countries agreed to limit carbon emissions from global aviation, using a market-based method that EDF helped develop. Shortly afterward, the Paris climate agreement came into force, years earlier than expected.

The U.S. election raises real concerns about the future of climate action. EDF and our allies are determined to ensure the continued strength of the Paris accord and to defend against threats to other vital environmental protections.

Meanwhile, the tide is starting to turn for the world's oceans. Three-quarters of global fisheries could be healthy within ten years, our recent study shows, if the sustainable management that EDF is helping to put in place continues to take hold around the world.

We're also seeing increased engagement on the part of farmers and other landowners to protect ecosystems. For example, in our program with Walmart and its grocery suppliers, companies have committed to cut fertilizer pollution on 23 million acres.

Solving global challenges means expanding our global footprint. This year we celebrated the launch of Environmental Defense Fund Europe, which is already helping to drive progress on clean energy and fisheries reform.

These advances would not have been possible without your support. Thank you. While there are momentous challenges ahead, we are confident that, together, we can meet them.



  
**Carl Ferenbach**  
Chairman

  
**Fred Krupp**  
President

  
**Diane Regas**  
Executive Director

# Health

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EDF used the dual levers of reforming public policy and encouraging corporate leadership to greatly reduce toxic chemical exposure.



**403-12**

U.S. House vote for strengthened law on chemicals



**95%**

Reduction by weight in target chemicals at Walmart

# Landmark chemicals law will make everyday products safer

For 40 years, the law that was supposed to protect Americans from dangerous chemicals in everyday products simply didn't work. The Toxic Substances Control Act of 1976 was so badly broken that it left the Environmental Protection Agency unable to regulate even known carcinogens like asbestos. Still, numerous efforts to reform the law failed.

All that changed in 2016 when Congress passed a sweeping overhaul. It's the biggest improvement to a major environmental law since the Clean Air Act and Safe Drinking Water Act were amended a generation ago, and EDF was at the center of it.

"It took bipartisan leadership, stakeholders willing to seek common ground, and many years to reform this dysfunctional law," says EDF biochemist Dr. Richard Denison, who spent 15 years pressing for change. "This adventure had more close shaves than a Jason Bourne movie." The road to reform goes back to 1997, when EDF published *Toxic Ignorance*, a seminal report revealing that basic health

data were lacking for many chemicals we use every day. At the time, Denison was trying to help companies identify safer chemicals, but without data it couldn't be done. By 2008, he was posting detailed critiques of EPA's chemicals program on a blog that became a must-read for congressional staffers, industry insiders and environmental advocates.

In 2013, Senators Frank Lautenberg (D-NJ) and David Vitter (R-LA) introduced a bipartisan, albeit flawed, reform bill. When Lautenberg died, Senator Tom Udall (D-NM) took up the cause. Denison provided expert advice to members of both parties, and EDF worked tirelessly to improve the bill and broaden support with partners like the March of Dimes.

The work paid off. The much-improved Frank R. Lautenberg Chemical Safety for the 21st Century Act was brought to the Senate floor by unanimous consent and passed on a voice vote. The House voted in favor by an overwhelming 403 to 12. In June 2016, President Obama signed it into law.



*"We made historic progress this year, but there's so much more to be done. We've got to keep fighting to protect kids from toxic chemicals."*

**Dr. Sarah Vogel**  
VP Health

EPA is now required to review the safety of chemicals already in use as well as the approximately 700 new chemicals introduced each year before they come on the market. And EPA finally has the power to ban dangerous chemicals from everyday products.

Few common chemicals have been adequately tested. Now EPA can regulate suspect chemicals such as in:

- TVs, computers**  
TBBPA
- Upholstered furniture**  
PFCs
- Carpet**  
Formaldehyde
- Wall paint**  
Toluene
- Hardwood floors**  
Toluene diisocyanate

TBBPA: Possible human carcinogen | Formaldehyde: Linked to asthma | PFCs: Linked to fertility problems  
Toluene: Linked to asthma | Toluene diisocyanate: Linked to impairment of lung function; possible human carcinogen

**“Frankly, if EDF had not been at the table, we would still have a broken law, and we might still be decades away from reform.”**

**Senator Tom Udall (D-NM)**



## MOMS MAKING A DIFFERENCE

No one fights harder for clean air than a mom. That's why 900,000 motivated mothers (and fathers) have joined Moms Clean Air Force, an EDF-backed community launched in 2011 to tackle pollution and climate change.

Moms works across the United States on national and local issues, meeting with lawmakers at every level of government to build support for commonsense solutions to pollution.

This year, Moms backed EDF's health team in the fight for chemical safety reform. Co-sponsor Senator Tom Udall (D-NM) credited the group with helping win passage of this landmark legislation.

Moms' new advocacy partner, Clean Air Moms Action, was launched in August 2016 with a mission to mobilize women. Some 500 activists recruited volunteers, made phone calls and knocked on doors to encourage women to vote for the environment.

Parents have passion and power, and Moms is harnessing their strength to fight for a safe, clean environment for today's children and future generations.



## REMOVING HARMFUL CHEMICALS

Shoppers want products for their families to be free from hazardous chemicals. EDF played a decisive role in helping Walmart identify and significantly reduce the use of eight harmful chemicals in the personal care products sold at its U.S. stores.

Walmart asked its suppliers to phase out the chemicals under a sustainable chemistry policy it developed with EDF in 2013. In 2016, Walmart reported its suppliers achieved a 95% reduction by weight of the eight chemicals from their products. That amounts to about 23 million pounds of hazardous chemicals removed from everyday products.

EDF senior manager for consumer health Boma Brown-West says, “We helped Walmart develop key criteria for its policy, including prioritizing the chemicals of highest concern, increasing transparency and advancing safer substitutes.”

Walmart's current policy affects about 90,000 items made by 700 manufacturers that are sold in U.S. Walmart and Sam's Club stores. Customers at other retail stores will find the safer products sold there as well.



## GETTING LEAD OUT OF DRINKING WATER

The water crisis in Flint, MI, may have shocked the nation, but it is not an isolated incident. Nationwide, hundreds of thousands of children have too much lead in their blood, putting them at risk for behavioral and learning problems and reduced IQs. Drinking water is the second-largest source of lead exposure, after paint. An estimated six to ten million American homes still rely on lead service lines connecting them to water mains.

“In these homes, any time you take a drink, the water could have high levels of lead,” says Tom Neltner, EDF chemicals policy director. “Since you can't see, smell or taste lead in water, you don't know when the water is unsafe.”

EDF is pushing for an overhaul of EPA's lead in drinking water rule, first issued in 1991. The revised rule should require a full inventory of existing lead service lines and steady progress toward removing them. We are also working with regional groups like the Healthy Homes Coalition of Western Michigan to encourage full replacement of lead service lines to homes.

# Leadership in politics



*“Politics, like it or not, is how you get things done in a democracy. EDF Action fights at both the state and national level to push our leaders for better environmental results.”*

**Elizabeth Thompson**

*President, EDF Action*

When Congress passed the Frank R. Lautenberg Chemical Safety for the 21st Century Act—by voice vote in the Senate and 403–12 in the House—it was a victory that would not have been possible without EDF Action, our political advocacy partner.

EDF Action, unlike EDF itself, can engage in unlimited lobbying of Congress and state legislatures. This provides the muscle to fight for environmental legislation while cutting through misleading arguments of well-funded opponents.

While the 2016 election signals challenges ahead, ultimately Americans strongly support environmental protection and will press their elected representatives to deliver. EDF Action

is working to build a bench of environmental champions among both Republican and Democratic officials.

We are also active at the state level. For example, in Wyoming we worked with Governor Matt Mead, the Wyoming Outdoor Council and local community members in the Upper Green River Basin—the heart of the state’s natural gas country—to enact some of the nation’s strongest air pollution laws for oil and gas drilling.

No major environmental law has ever passed Congress without bipartisan backing. Even in a polarized political environment, EDF Action will continue to fight for our values and create coalitions for environmental defense.

## TURNING POINTS



OCEANS

**2003**

Our efforts strengthen the Magnuson-Stevens law, helping end overfishing in many fisheries.



CLIMATE

**2006**

We cosponsor and help pass California’s cap on global warming pollution.



HEALTH

**2012**

EDF helps defeat a Senate resolution to undo limits on toxic mercury pollution from power plants.



ECOSYSTEMS

**2012**

We help pass the RESTORE Act, directing 80% of BP Deepwater Horizon civil penalties to Gulf Coast restoration.

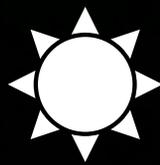


*President Obama congratulates EDF biochemist Dr. Richard Denison at the signing of the Lautenberg Act, with Moms Clean Air Force co-founder Dominique Browning.*

# Climate

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Temperature records were broken and extreme weather wreaked havoc, but 2016 also brought hope, as the Paris climate agreement entered into force.



**17**

Consecutive warmest months on record in 2015–2016



**500,000**

Solar panels installed globally every day in 2015



**110+**

Nations have ratified the Paris climate agreement

# Turning the corner on climate change

The nations of the world made history in 2016, when the Paris climate pact, negotiated by 195 nations, entered into force years earlier than expected. Countries from India to Japan have now formally adopted the agreement, crossing the threshold of 55% of global emissions needed for it to take effect. For the first time, developed and developing countries alike committed to reducing carbon pollution.

“By publicly announcing strong commitments early, China and the United States—the two biggest emitters—inspired others to step up,” says Gwen Ruta, senior VP for climate and energy. “In the aftermath of the U.S. election, EDF will work to ensure that the Paris accord continues to move forward.” Hundreds of the world’s largest companies have committed to help transition to a low-carbon economy. That leadership will be essential as we protect the Paris agreement and basic environmental laws.

In China, our work on pilot carbon-trading programs helped give Beijing the confidence to commit to launching a national carbon-

trading program in 2017. And in the United States, we helped replace obsolete rules with new policies at the federal and state level that reward innovative ways of reducing pollution.

The Paris agreement aims to keep the rise in global temperatures well below 3.6°F. (2°C.)—beyond which the risks increase significantly—and to pursue efforts to limit the rise to 2.7°F.

With our partners, EDF has identified a set of actions in key countries and sectors that will be enough to turn the corner on climate by 2020, so that emissions of both long-lived and short-lived climate pollutants stop going up and start coming down. We advocated the use of markets within the Paris framework as the most efficient way to reduce pollution by harnessing private sector innovation. So far, 92 countries have expressed interest in using markets to meet emission reduction targets. The Paris agreement includes provisions backed by EDF ensuring that emissions reductions will be measured, reported and verified—crucial rules of the road for thriving



*“The world’s economies are already showing that they can grow and decarbonize at the same time.”*

**Gwen Ruta**  
Senior VP Climate and Energy

markets. “Now we need to translate political will into implementation,” says Dr. Nathaniel Keohane, EDF’s VP for global climate.

In Europe and the United States, EDF has also introduced new standards to boost investor confidence in financing energy efficiency.



## “Many thanks to EDF for playing a pivotal role in achieving both the Paris agreement and the agreement to limit emissions from international aviation.”

**Christiana Figueres**, Executive Secretary (2010-2016), United Nations Framework Convention on Climate Change



### CHINA COMMITS TO LIMITING CARBON

The road to stabilizing the world’s climate leads through China, the world’s biggest greenhouse gas emitter.

Twenty-five years ago, Beijing called on Dr. Daniel Dudek, now EDF’s VP for Asia, to participate in the country’s first pilot projects with economic incentives for pollution control. Recently, EDF provided technical assistance as China launched seven carbon-trading programs. That set the stage for Beijing to roll out a national carbon-trading program, the world’s largest, in 2017.

“EDF’s goal is to help China develop infrastructure and policies needed to shift the economy toward a low-carbon future,” says Dr. Zhang Jianyu, our China managing director. The transition is being implemented by a new generation of enforcement officers, 34,000 of them trained through a program EDF established with leading universities. And since much of China’s pollution comes from factories that export goods, we began a green supply chain initiative that uses the purchasing power of the government and multinationals to improve energy efficiency.



### PROTECTING TROPICAL FORESTS

Deforestation and forest degradation account for about 15% of global carbon dioxide emissions, so protecting tropical forests offers one of the biggest immediate opportunities for reducing emissions. In Brazil, which contains one-quarter of the world’s rainforests, EDF has been working with state governments and indigenous communities to ensure that preserving forests—and the carbon they store—is more valuable than clearing the land for farming.

Impressively, Brazil has reduced deforestation by more than 70% since 2004. The government was able to put the brakes on large-scale slashing and burning in large part because it recognized indigenous peoples’ land rights and created protected areas that cover roughly 40% of the Amazon.

Recently, however, there’s been political instability and an uptick in deforestation. In response, EDF is finding other ways to drive progress. For example, we’re working with major companies such as McDonald’s to demand that production of commodities like soy, beef and timber leave forests intact.



### CLEANER, FRIENDLIER SKIES

If aviation were a country, it would be a top ten emitter of carbon dioxide. What’s more, if left unregulated, its CO<sub>2</sub> emissions could quadruple by 2050 as new jets take wing.

That’s why EDF has been engaged in getting governments, through the International Civil Aviation Organization (ICAO), to cap the carbon pollution of all international flights and to use carbon markets to help airlines meet that cap cost-effectively.

In a major achievement, ICAO reached an agreement in October 2016 adopting a global market-based measure to limit net carbon emissions at 2020 levels. This marks the first time an entire global industry has agreed to limit its total emissions, and it’s important because aviation is not covered by the Paris climate agreement. At least 65 nations have signaled that they will participate immediately.

“The agreement provides a basis for moving forward,” says Annie Petsonk, EDF’s international counsel, “but it isn’t perfect. We now need to ensure transparency, environmental integrity and even broader participation.”

# Seizing every opportunity to cut U.S. greenhouse gas emissions

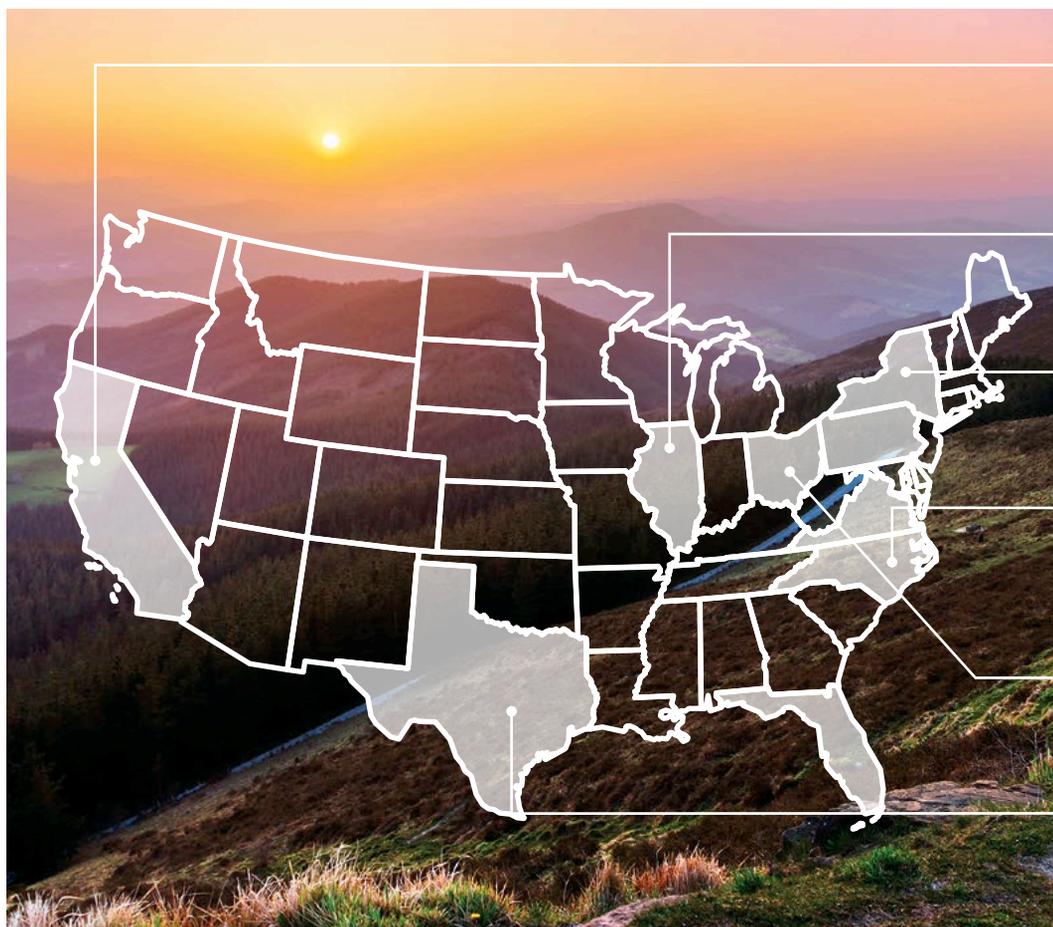
In 2016, EDF helped score important wins to cut U.S. climate pollution, including methane rules for the oil and gas sector, greenhouse gas standards for heavy trucks and a California law to further reduce emissions. In coalition with the American Lung Association, faith organizations, the U.S. Conference of Mayors and others, we went to court to defend EPA's Clean Power Plan, which would set national limits on carbon pollution from power plants and reduce unhealthy soot and smog. Many states and electric utilities have affirmed they can meet the new standards and are already making clean energy investments. Companies like General Mills, Tesla and Walmart have shown we can address climate while growing jobs and competing globally. In 2017, we face a challenging landscape at the federal level and will work vigorously on every front to defend these gains.

## HOW EDF IS PROMOTING CLEAN ENERGY

To meet its ambitious climate goals, the United States must transform its antiquated electric grid. Today, a jumble of obsolete rules encourages utilities to build more power plants, impeding progress toward a clean energy future. That's why EDF is working in key states that make up half the U.S. electricity market. Here are examples of what we're doing.

### EDF GOALS

- Rewrite old rules to reward conservation and clean energy
- Modernize the electric grid so it's intelligent and interactive
- Empower customers to make smart energy choices
- Spur private investment in energy efficiency and renewables



**CA:** In 2016, EDF helped extend climate change legislation that we co-sponsored in 2006. The new law requires emissions to be cut 40% below 1990 levels by 2030.

**IL:** EDF helped develop a first-of-its-kind metric that will link a major utility's earnings to its greenhouse gas reductions.

**NY:** Regulators adopted EDF's proposals to link utilities' earnings to emissions cuts and to open the energy system to clean-tech innovation.

**NC:** We helped create new ways to finance energy-saving retrofits for members of rural electricity cooperatives, many of whom are low-income.

**OH:** EDF beat back FirstEnergy's proposed \$12 billion bailout that would have kept aging coal plants running at customers' expense.

**TX:** Pecan Street Inc., a test bed for clean energy innovation co-founded by EDF, advances smart grid technology.

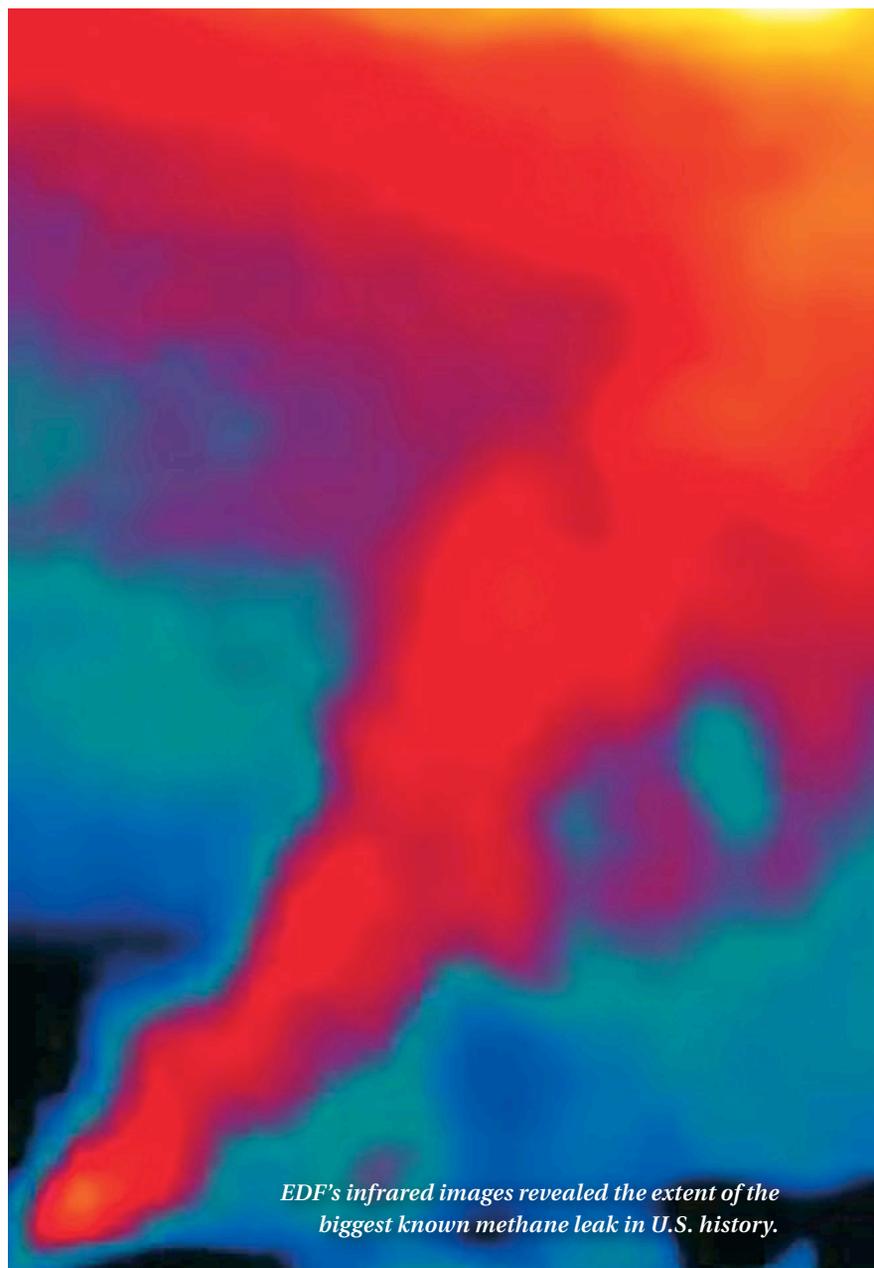
## A banner year for controlling methane

California's Aliso Canyon disaster spewed about 100,000 tons of methane from a natural gas storage facility over 112 days. It was a reminder of how common methane leaks are in the U.S. oil and gas system. The reality is that thousands of smaller leaks happen daily, from wellheads to pipes under streets.

Methane, the main component of natural gas, is 84 times more potent than carbon dioxide over a 20-year period. It accounts for a quarter of the warming we experience today, and leakage from oil and gas operations is a serious part of the problem. So it was good news when, in 2016, Mexican President Enrique Peña Nieto and Canadian Prime Minister Justin Trudeau joined President Obama in pledging to slash emissions. Each nation has vowed to cut methane from new and existing oil and gas facilities by 40–45% from 2012 levels by 2025.

EDF played a pivotal role by providing technical expertise to regulators and working with local partners in each country to build support for the action. The three countries together account for about 20% of global oil and gas methane emissions. Their commitments, when fully achieved, will reduce global emissions from the oil and gas industry by nearly 10%.

In the run-up to the nations' pledges, EDF led a multiyear campaign to reduce methane from oil and gas operations in the United States, at both the state level and nationally. In 2016, EPA, buttressed by EDF's scientific and economic data, finalized federal rules limiting methane emissions from new and modified upstream and midstream facilities. The federal rules built on our successes in getting Colorado, Wyoming and other states to regulate emissions.



*EDF's infrared images revealed the extent of the biggest known methane leak in U.S. history.*

## A new generation of environmental leaders

When we launched EDF Climate Corps in 2008, we knew it was a powerful idea: to pair graduate students with companies looking to reduce their environmental footprint.

For companies, the experience can be an eye-opener. Says a manager at Bloomberg BNA, "By day two on the job, our EDF Climate Corps fellow saved us \$100,000."

Since the program's inception, hundreds of EDF Climate Corps fellows have identified projects that could reduce greenhouse gases equal to the annual emissions of 430,000 cars.

This summer, 125 fellows helped clients ranging from a winery in California to a Coca-Cola bottling plant in Shanghai. And clothing retailer Gap Inc. enlisted Marine Corps veteran and Climate Corps fellow Lillian Mirviss to help reach its ambitious target of slashing emissions 50% by 2020.

Mirviss identified three distribution centers as potential sites for solar power. Her solution can be applied to Gap Inc.'s other distribution centers and provides a template for other companies to follow.



*Almost 70% of EDF Climate Corps alumni are pursuing careers in sustainability. Fatou Jabbie launched an energy consulting firm and advises builders and architects on energy efficiency.*

# The rigor of science



*“Solutions based on sound science are effective. That’s why rigorous science underpins all our work.”*

**Dr. Steven Hamburg**  
Chief Scientist

EDF was founded by scientists, and we continue to use the latest science to identify the most serious problems and most effective remedies. We apply a combination of approaches: doing the science ourselves, partnering with academics, hiring visiting scientists and convening expert panels.

Today—half a century after our founding—science is as important as ever. A case in point: our work to reduce methane emissions from oil and gas operations. Chief scientist Dr. Steven Hamburg identified the problem of methane pollution six years ago, then co-authored a peer-reviewed paper finding that the potential short- and medium-term climate benefits of natural gas as a substitute for coal or oil could be lost if too much was leaking.

To close a critical data gap on the amount of leakage, EDF launched the biggest research project in its history—16 field studies of the natural gas system—in collaboration with more than 125 academic investigators and industry partners. The studies, which have yielded more than 25 papers in peer-reviewed journals, revealed that leaks were occurring all along the system, from wellheads to pipelines, and that emissions were much higher than EPA or industry had estimated.

In 2016, responding in part to our work, EPA raised its estimate of methane emissions by 34% and committed to strong action. EDF science helped prod federal regulators, state governments and other nations to act on methane.

## TURNING POINTS



HEALTH

**1974**

Our study of Mississippi River water helps lead to passage of the Safe Drinking Water Act.



CLIMATE

**1985**

We publish research linking smokestack pollution to acid rain, leading to the 1990 amendments to the Clean Air Act.



ECOSYSTEMS

**1997**

An EDF-co-authored study in *Science* identifies concentrations of endangered species, helping focus our work on private lands.



OCEANS

**2009**

Using cutting-edge science, we help design the world’s largest marine parks in the Central Pacific, expanded in 2014.



*Working with EDF, Amazonian indigenous groups use advanced technology to help slow deforestation.*

# Oceans

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More than three-fourths of fisheries around the world can be healthy within a decade, if fishermen have a secure stake in the oceans' future.

Compared to business as usual, by 2050 sustainable fishing can yield:



**500 million**

More people getting significant protein from fish



**200%**

Increase in profits for fishermen



**2x**

Number of fish in the sea

# A brighter future for oceans

People have long thought of the oceans as an inexhaustible source of food. But generations of heavy fishing and ill-conceived management have proved devastating for fish and coastal communities. In a classic tragedy of the commons, fishermen have felt compelled to catch the last fish before someone else does. As a result, some scientists warned that overfishing could take wild seafood off the menu by 2050.

But this doesn't have to be our future. New peer-reviewed research by EDF and experts at the University of California at Santa Barbara and the University of Washington documents the immense potential of fisheries to recover—and much faster than previously thought. The groundbreaking study, published in the *Proceedings of the National Academy of Sciences*, shows that with proper management more than three-fourths of the world's fisheries can be healthy within a decade, compared to one-third today. The study examines 4,713 fisheries, and its conclusions are being borne out in fisheries around the globe.

Implementing reforms like secure fishing rights will increase fish populations, boost profits, enhance food production and help fisheries become more resilient to climate change.

How? By granting fishermen a right to a share of the catch—or access to a traditional fishing area—in exchange for adherence to science-based catch limits. This gives fishermen a reason to conserve: They benefit as fish populations recover and catches increase.

This approach, championed by EDF, helped triple red snapper populations in the Gulf of Mexico and is now established around the United States. By working to keep fisheries law strong and by implementing secure fishing rights, we've helped drive a 60% drop in overfished species in U.S. federal waters.

We're now expanding our impact globally. EDF advised key officials as they rewrote the European Union's fisheries law, committing member nations to end overfishing. In Sweden, for example, the government has endorsed



*“By putting fishermen at the center of the solution, we can flip the incentives from catching as much as possible today to protecting the fishery for the long term.”*

**Amanda Leland**  
Senior VP Oceans

our recommendations for reforms, including secure fishing rights, for the country's most important fisheries in 2017. It's all part of our effort to make sustainable and profitable fishing the norm worldwide.

*“Change had to happen. This is a much better system. We're fishing smarter, not harder.”*

**Joe Pennisi**  
Monterey, CA, fisherman



## EDF-backed reforms have helped rebuild **40** important fish stocks in the United States since 2000.



### BELIZE

*A model for small-scale fisheries*

The Mesoamerican Reef—the largest barrier reef in the Western Hemisphere—hugs the Belizean coast and supports nearly 500 species of fish. Many local residents depend on the reef for their survival, but overfishing and development have taken a toll.

In 2008, EDF teamed up with the Wildlife Conservation Society and local partners to enlist fishermen, policymakers and managers in pilot projects to help preserve the reef by ending the threat of overfishing. Local fishermen were granted rights to fish in a designated area and became stewards of their fisheries.

In just a few years, fish populations began to rebound in nearby marine reserves, and illegal fishing dropped 60%. That progress led the government to roll out the system nationwide. In June 2016, Belize became the first country to adopt a national, multispecies fishing rights program for small-scale fisheries.

“The adoption of fishing rights here shows other countries that reforms can benefit both the environment and fishermen,” says Larry Epstein, director of EDF’s Belize oceans project.



### PHILIPPINES

*Homegrown solutions*

In the Philippines, community buy-in is essential, not only to create reforms that last, but also to ensure the support of legislators, who must approve any reforms. So for 18 months, our partners held dozens of meetings in local communities. The result: three pilot projects to establish fishing rights programs combined with marine reserves.

Residents of the island of Ayoke came up with an ingenious solution to avoid potential fishing conflicts, by establishing two ring-shaped fishing areas around their island. Island fishermen are granted exclusive fishing access to the inner kilometer, while fishermen from other villages who agree to adhere to the rules, which include spawning closures and gear restrictions, are granted access to the outer kilometer. The reduction in fishing effort allows fish stocks to recover.

“We’d never been so included before,” said Analou Lumapguid, a community leader. “After all those meetings, debates and even times when some of us cried, we now see the results of our efforts.” Sixteen other sites are now in the final stages of design.



### UNITED STATES

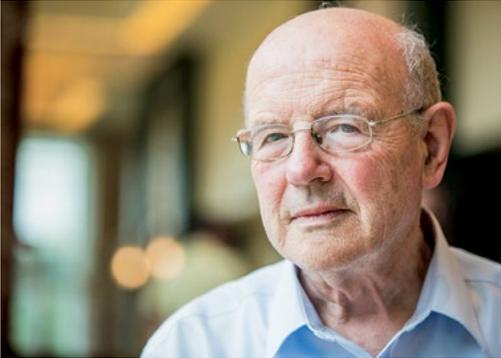
*New frontier: Recreational fishing*

In the Gulf of Mexico, the secure fishing rights program for commercial red snapper, which EDF helped design, has been a resounding success. But recreational fishing, which accounts for half the catch, is not part of the program and is poorly managed, leading to overfishing and large discards of fish.

EDF helped recreational fishermen launch a two-year pilot program for head-boats, or large charter boats. The result: 19 boats were able to take twice the number of customers fishing—an additional 60,000 each year—for red snapper and gag grouper. They could also fish year-round under strict catch limits, while those not in the program saw their seasons shortened to just nine days for red snapper in 2014. Discarded fish—typically dead or dying—dropped by nearly half, and revenues improved.

The new approach could be a model for managing recreational fishing nationwide. EDF now supports proposals before the Gulf fishery council to expand the approach to the entire Gulf for-hire fishing industry, which includes more than 1,000 charter boats.

# The insights of economics



*“Because market forces can either hurt or help the natural world, EDF works to get the incentives right to reward conservation.”*

**Dr. Frank Convery**  
Chief Economist

In the mid-1970s, EDF became the first U.S. environmental group to hire Ph.D. economists to work alongside our scientists, lawyers and policy experts. Some environmentalists were skeptical, but results soon showed we could win greater pollution reductions at lower cost by tapping the power of innovation. Since then, economics has been integral to our success in all program areas.

Our market-based plan to reduce acid rain, which had been devastating lakes and forests, was written into the 1990 Clean Air Act. The legislation required power plants to cut their sulfur dioxide pollution in half, but let them decide how to do it. To date, SO<sub>2</sub> emissions have dropped by more than 85% overall, at a fraction of the predicted cost.

For oceans, EDF’s partnerships with fishermen helped overcome a congressional moratorium on catch shares, an economically effective method to protect fisheries. And in 2010, the National Oceanic and Atmospheric Administration adopted our approach as part of its official policy to end overfishing.

Granting fishermen secure fishing rights works, because it aligns the needs of fishermen with the needs of the oceans and the people who depend on seafood for nourishment.

Rigorous economics has helped EDF win greater results at lower cost for clean air, clean water and habitat protection, prompting *The Economist* to call EDF “America’s most economically literate green campaigners.”

## TURNING POINTS



ECOSYSTEMS

**1983**

We help develop the economic basis for water trading between California farmers and an urban water district.



CLIMATE

**1987**

EDF helps introduce market mechanisms in the Montreal treaty to phase out chemicals that damage the ozone layer.



HEALTH

**1991**

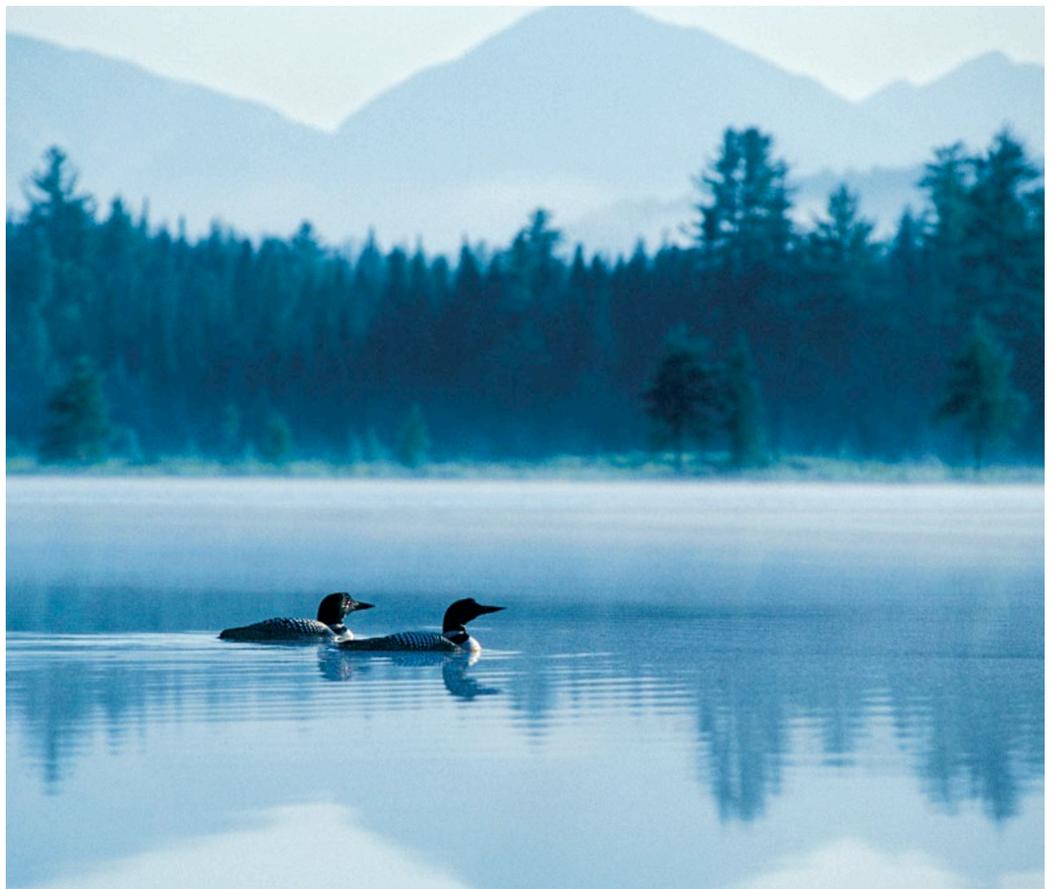
China invites EDF to participate in its first experiments with economic incentives for pollution control.



OCEANS

**2007**

We help design a catch share program for fishermen that puts Gulf of Mexico red snapper on the road to recovery.



*Many lakes are recovering from acid rain, thanks to our market-based plan to curb SO<sub>2</sub> pollution.*

# Ecosystems

---

By partnering with owners of working lands such as farms, ranches and forests, EDF is helping to reduce pollution and increase wildlife habitat.



**2/3**

Portion of lower 48 states made up of working lands



**23 million**

Number of acres where fertilizer runoff will be reduced



**2 million**

Acres of monarch butterfly habitat to be restored

# A quiet revolution in sustainable farming

Fred Yoder farms 1,500 acres of corn and wheat in the Ohio grain belt, where generations of farmers have raised crops. But unlike his forebears, Yoder practices conservation tillage and precision management of nutrients. He is part of a growing number of American farmers dedicated to sustainable agriculture.

“If we are to feed a growing population,” says Yoder, “agriculture must increase productivity and reduce its environmental footprint.”

In any given year, only 40% of the fertilizer that farmers apply is taken up by crops. Much of the rest runs off into rivers and lakes, creating huge algae blooms in the Gulf of Mexico, Lake Erie and the Chesapeake Bay that choke marine life and threaten drinking water. Excess fertilizer also escapes into the atmosphere as nitrous oxide, a potent greenhouse gas.

EDF is tackling the problem with a focus on grain, the biggest source of fertilizer pollution. We began a decade ago and have helped farmers on 750,000 acres in 12 states cut

fertilizer loss by 10 to 20%, while maintaining yields. But to solve the problem, we need a nationwide effort, so we engaged Walmart, America’s biggest grocer. Three years ago, Walmart asked its suppliers to find ways to reduce fertilizer runoff and improve soil health.

So far, 16 companies representing 30% of the U.S. food and beverage market have signed on, setting goals to improve water quality and reduce greenhouse gas emissions. Campbell Soup Company, Kellogg’s, Smithfield Foods and others have committed to having the farmers who supply them adopt best practices on 23 million acres by 2020.

But these companies aren’t usually in direct contact with the farmers in their supply chain, and farmers themselves often lack the information to apply fertilizer most efficiently. To bridge these gaps, EDF teamed up with the giant cooperative United Suppliers (now part of Land O’Lakes), whose members advise farmers growing crops on 45 million acres. Together, we developed a program to train



*“Farmers are now becoming stewards of clean water, fresh air and a healthy climate. They will need to be, if our planet is to sustain more people.”*

**David Festa**

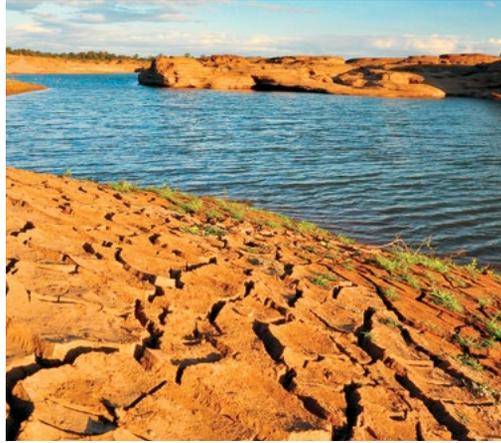
*Senior VP Ecosystems*

advisors to farmers on ways to reduce fertilizer loss and improve soil health. EDF’s goal: to have half of all U.S. corn sustainably grown by 2020. Says Yoder: “Across the Midwest, EDF is helping farmers like me transition to climate-friendly agriculture.”



**“We’ve learned a lot working with EDF. They made a lot tougher demands on us than we were initially comfortable with, but over the years I developed a deep appreciation for EDF’s mission.”**

**Kraig Westerbeek, VP Engineering, Smithfield Foods**



## PARTNERS IN A FIGHT AGAINST EXTINCTION

In 2016, EDF launched a nationwide effort to save the beloved monarch butterfly, whose populations have declined a staggering 90% in just two decades. A key reason for the monarch’s decline is the loss of its milkweed habitat, a casualty of increased use of agricultural herbicides, climate change and other factors.

In response, EDF and partners introduced the Monarch Butterfly Habitat Exchange, in which farmers can earn credits for conserving and creating monarch habitat. The credits can then be sold through an exchange to the wide array of stakeholders who want to see the monarch recover. Under the exchange, it will be more profitable for farmers to protect milkweed than to eliminate it.

Over the summer, EDF scientists traveled the country developing methods to accurately measure the quality of milkweed and nectar plant habitat. “Now we can better direct investments for maximum bang for the buck,” says EDF director of conservation strategy David Wolfe. The monarch’s recovery could make a controversial listing under the Endangered Species Act unnecessary.

## SOLUTIONS TO WATER SCARCITY IN THE WEST

Years of drought in the West are bringing a flawed water system to the breaking point. But the crisis has created an opportunity to improve the way water is managed. EDF is developing a series of pilot projects in some of the hardest hit regions.

After California passed a law in 2014 to safeguard groundwater, we began working with allies in the San Joaquin Valley, where many wells have gone dry. We’re providing leadership training to managers of small water districts to restore safe drinking water to parts of the Central Valley. We’re also working with state agencies to promote water sharing that encourages conservation and sends water to where it’s most needed.

Meanwhile, another critical Western water source, the Colorado River, is seriously overallocated. Facing mandated cuts in water usage, California, Arizona and Nevada are negotiating voluntary reductions in their share of water from the Colorado. Seizing this opportunity, EDF is creating a water exchange program in Arizona, which gets 40% of its water from the river, that will enable the state to manage a reduced supply.

## MAKING THE GULF COAST WHOLE AGAIN

Louisiana’s coast is home to nearly two million people, provides vital habitat for wildlife and contributes enormously to the national economy. But the state is vulnerable to storm damage, in part because of the ongoing loss of coastal wetlands that once buffered the force of storms. Every hour, a football field of marshland erodes into open water. Without bold action, Louisiana’s coast will continue to disappear, putting people, wildlife and industries at risk.

Now, powered by billions of dollars that BP agreed to pay in damages for the 2010 oil disaster, Louisiana is embarking on the largest coastal restoration project ever attempted. The money will help fund the Coastal Master Plan, the state’s blueprint for coastal restoration and protection efforts, which EDF helped create.

For example, by diverting sediment-rich Mississippi River water to the surrounding wetlands, we can help save the delta from collapse. This massive project will rebuild the coastline and revitalize struggling communities. The lessons learned here will help other regions that face rising seas and extreme storms.

# The power of partnerships



*“Companies, communities and the environment can thrive in unison—and we’re making it happen.”*

**Tom Murray**  
VP Corporate Partnerships

When EDF wants to drive change across industries and supply chains, we reach out to major corporations that have the leverage to transform how things are done.

It’s been that way since we teamed up with McDonald’s in 1990—the very first partnership between an environmental group and an industry leader. Over the course of a decade, McDonald’s eliminated more than 300 million pounds of packaging, recycled one million tons of corrugated boxes and reduced restaurant waste by 30%. Other restaurant chains quickly followed suit.

We accept no funding from corporate partners, freeing us to set aggressive goals and spread innovations across entire industries.

In our ten-year partnership with Walmart, for example, the world’s largest retailer has delivered leadership in removing hazardous chemicals from tens of thousands of consumer products (see p. 7) and in making a company-wide commitment to reduce 20 million metric tons of greenhouse gas emissions from its supply chain. With EDF’s help, Walmart far exceeded that goal, cutting nearly 36 million metric tons.

Now Walmart has made a new commitment to work with its suppliers to reduce one gigaton of carbon pollution by 2030—more than Germany emits in a year. Leadership from companies will be essential in demonstrating that we can address climate change while creating shared prosperity.

## TURNING POINTS



ECOSYSTEMS

**1995**

Pinehurst Resort becomes our first Safe Harbor partner. The program ultimately protects wildlife on four million acres.



HEALTH

**2003**

Our partnerships lead top U.S. poultry suppliers to protect antibiotics for human medicine by cutting their use in chickens.



OCEANS

**2008**

With help from EDF, the retailer Whole Foods introduces strict new standards for the farmed fish it buys.



CLIMATE

**2015**

EDF and Google Earth Outreach equip special Street View cars to measure methane leaks from pipes under roadways.



*Our first partnership success: At our urging, McDonald’s did away with foam-plastic sandwich boxes.*

# Support

---

**EDF's members and friends contributed a record amount of financial support in fiscal year 2016, providing the resources needed to make this year's results possible.**



## Financial overview

Environmental Defense Fund's lasting commitment to preserve natural systems requires financial strength and the stewardship to stay the course.

EDF continued to grow during fiscal year 2016, as total operating expenses reached a record \$164 million, a 13% increase over fiscal 2015.

Record support and revenue of \$172 million in fiscal 2016 represents an 18% increase over the prior year, showing sound fundraising strength. A significant portion of support is received in the form of multiyear grants. Nonprofit accounting principles require us to record income in the year that funds are raised, not in the year designated for use.

Program spending was 85% of total expenses. Development represented 7% of expenses, while management and administration was 6%. Membership and new member acquisition totaled 2%.

At the end of fiscal 2016, EDF's net assets stood at \$217 million, providing a strong financial foundation as we pursue our ambitious environmental goals.

We are thankful for your support and realize that as more donors recognize EDF's innovative work, we have a responsibility to steward your investment well and deliver strong results for the environment and human health.

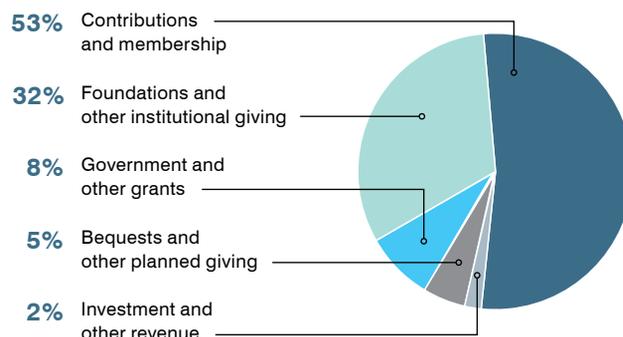
**John McGeehan**  
Chief Financial Officer

## TOTAL PROGRAM AND SUPPORTING SERVICES EXPENSES

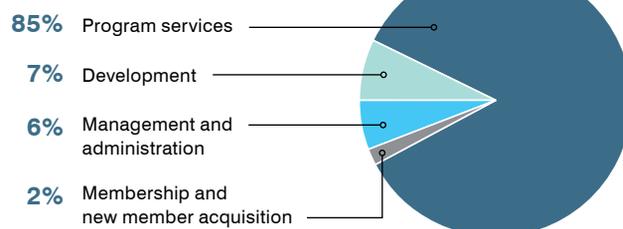
In millions of dollars

**120** 2013      **134** 2014      **145** 2015      **164** 2016

### SOURCES OF SUPPORT AND REVENUE



### EXPENSES



## STATEMENT OF ACTIVITIES

Year ended September 30

### OPERATING SUPPORT AND REVENUE

	Unrestricted	Restricted	Total 2016	Total 2015
<b>Support:</b>				
Contributions and membership	\$ 20,428,820	\$ 70,003,449	\$ 90,432,269	\$100,688,019
Foundations and other institutional giving	967,068	53,554,798	54,521,866	34,669,312
Bequests and other planned giving	9,152,889	—	9,152,889	4,270,009
Government and other grants	109,432	14,147,021	14,256,453	2,694,319
<b>Total support</b>	<b>30,658,209</b>	<b>137,705,268</b>	<b>168,363,477</b>	<b>142,321,659</b>
<b>Revenue:</b>				
Investment income allocated for operations	2,500,000	315,898	2,815,898	2,642,538
Fees, royalties and other income	1,056,541	—	1,056,541	689,511
<b>Total revenue</b>	<b>3,556,541</b>	<b>315,898</b>	<b>3,872,439</b>	<b>3,332,049</b>
<b>Net assets released from restrictions</b>	<b>138,113,991</b>	<b>(138,113,991)</b>	<b>—</b>	<b>—</b>
<b>Total support and revenue</b>	<b>172,328,741</b>	<b>(92,825)</b>	<b>172,235,916</b>	<b>145,653,708</b>

### EXPENSES

<b>Program services:</b>				
Climate and energy	75,453,948	—	75,453,948	66,537,070
Oceans	24,768,350	—	24,768,350	21,148,146
Ecosystems	20,985,800	—	20,985,800	19,940,260
Health	8,766,028	—	8,766,028	7,096,924
Education	7,040,201	—	7,040,201	5,986,910
Membership activities	2,240,862	—	2,240,862	1,975,333
<b>Total program services</b>	<b>139,255,189</b>	<b>—</b>	<b>139,255,189</b>	<b>122,684,643</b>
<b>Supporting services:</b>				
Management and administration	9,097,586	—	9,097,586	8,440,051
New member acquisition	373,477	—	373,477	301,533
<b>Fundraising:</b>				
Membership	3,091,988	—	3,091,988	2,801,490
Development	11,971,727	—	11,971,727	10,823,624
<b>Total supporting services</b>	<b>24,534,778</b>	<b>—</b>	<b>24,534,778</b>	<b>22,366,698</b>
<b>Total operating expenses</b>	<b>163,789,967</b>	<b>—</b>	<b>163,789,967</b>	<b>145,051,341</b>
Change in net assets from operations	8,538,774	(92,825)	8,445,949	602,367
Other expenses, net of contributions and other income	(171,373)	(461,440)	(632,813)	(730,572)
Investment results, net of allocation to operations	(902,045)	301,441	(600,604)	(1,929,532)
<b>Change in net assets</b>	<b>7,465,356</b>	<b>(252,824)</b>	<b>7,212,532</b>	<b>(2,057,737)</b>
Net assets, beginning of year	48,163,795	161,305,667	209,469,462	211,527,199
<b>Net assets, end of year</b>	<b>\$ 55,629,151</b>	<b>\$161,052,843</b>	<b>\$216,681,994</b>	<b>\$209,469,462</b>

This statement of activities represents the consolidated activities of Environmental Defense Fund, Incorporated, EDF Action and California Fisheries Fund, Inc. Copies of the complete audited financial statements are available upon request at: edf.org/audit.

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212 505 2100  
enorth@edf.org

Or contribute online at [edf.org/donate](http://edf.org/donate).

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