Since its founding in 1900, the Yale School of Forestry & Environmental Studies has been at the forefront of bringing cutting-edge science to the management of natural resources and the environment. For more than a century the School has aimed to meet both urgent and long-term needs through innovative research and the training of new leaders. Today we continue to build on this legacy by providing world-renowned research, teaching, and public engagement in the face of increasingly complex environmental challenges.

In 2017, we unveiled an ambitious new Strategic Plan that brought renewed energy to our core mission and gave shape to our aspirations for continued evolution and growth.

In this report, we outline our most important priorities and share stories that illustrate the many ways that we are having a profound impact on the world. We do this through our world-class faculty, who are inspiring the next generation of leaders through their scholarship and teaching. We do this through our students, who are applying their intellect, passion, and creativity to tackle urgent environmental problems in every corner of the planet. We do this through our amazing alumni network — 5,000 and growing — which is providing leadership in nearly every sector worldwide. And we do this through our centers and programs, which serve as important hubs of research, student learning, and outreach to alumni and the wider professional world.

Our mission, simply stated, is to provide knowledge and leadership for a sustainable future. We thank you for your continued commitment to our School and for the many ways in which you help us achieve that mission.

Indy Burke, Carl W. Knobloch, Jr. Dean
Remote Sensing and Disaster Response

After an earthquake devastated Nepal, triggering thousands of landslides that buried whole villages in mud and rock, Karen Seto, the Frederick C. Hixon Professor of Geography & Urbanization Science, launched a research project that uses satellite imagery to study the links between urban growth, natural disasters, and a growing vulnerability for mountainous communities. A new collaboration between Seto and Eli Fenichel, Associate Professor of Bioeconomics & Ecosystem Management, will build on that research, examining how remote sensing can assist in the response to disasters in the Himalayan region — and across the world. “If decision-makers had the information from Karen’s research at their fingertips after the earthquakes hit, what could have been done differently?” Fenichel asks.

Carbon Charge: Taking Climate Fight to Campus

In 2014, during an Earth Day panel organized by Daniel Esty, the Hillhouse Professor of Environmental Law and Policy, an F&ES student asked how Yale might reduce its own greenhouse gas emissions. William Nordhaus, the 2018 Nobel Prize-winning Sterling Professor of Economics and a member of the panel, suggested, “Yale could implement an internal carbon tax.” The idea quickly gained traction. Within a year the university launched a program that would become the Yale Carbon Charge Project, an internal carbon-pricing initiative that incentivizes lower energy consumption in 250 buildings across Yale. The results are promising; an analysis of the initiative — by F&ES researchers, including Esty and Professor Kenneth Gillingham — found that putting a value on carbon can reduce energy use.

Examining Environmental Health Disparities

The health threats associated with environmental pollution, including air pollution, are often felt most acutely in low-income communities. Michelle Bell, the Mary E. Pinchot Professor of Environmental Health, is studying these disparities. In a long-term study funded by the National Institutes of Health, she and a team of colleagues are examining how environmental and socioeconomic status are related — particularly in the senior population, which is already vulnerable to health risks. By identifying the most common contributors to these environmental health disparities, Bell hopes to identify potential opportunities for intervention and improved health policy.

Opening the Door for Students

When Grethel Aguilar was named 2018 Dorothy S. McCluskey Visiting Fellow in Conservation at F&ES last year, she expected to spend her time at Yale working on a book. Instead she spent much of the spring working with students on a variety of projects — and she could not have been happier about it. Aguilar, who visited F&ES from the International Union for the Conservation of Nature (IUCN), helped the students organize major conferences — including the Sustainable Development in Latin America and the Caribbean Conference — and forge connections that will strengthen their own professional opportunities.

Students have leveraged classroom teaching to achieve real-world impact through field work and research projects to address complex environmental challenges, from lead-contaminated water in Flint, Michigan, to endangered species conservation in China.
Better Ecology Through Fluorescence

Frustrated by the lack of tools to track the development and movements of individual frogs in the wild — and thus better understand amphibian ecology — Ph.D. candidate A. Andis came up with his own. He found a way to make them glow. After dipping wood frog tadpoles in a safe liquid calcien solution, he found that marked animals glowed green, through each of their stages of development, when lit by a fluorescence flashlight.

Tracking an Endangered Heron

Indra Acharja ’19 M.F.S. has dedicated his career to conserving threatened wildlife species in the Himalaya, so he knows a lot about the critically endangered white-bellied heron. With the communication and professional skills he is acquiring at F&ES, the rest of the world soon will, too. Acharja is bringing his research to the public and private sector to develop a community-led conservation approach to save the bird from extinction.

A Cleaner Standard for Dairy Production

Working for the U.S. Department of Agriculture this summer, Abby Snyder ’19 M.E.M. wrote a Greenhouse Gas Inventory Guidance report that will help dairy producers achieve more sustainable practices.

Improving Access to Science in Indonesia

Working in East Kalimantan, Indonesia, where 6.6 million hectares have been allocated for coal mining, David Woodbury ’19 M.F.S. examined the benefits of re-vegetation on the province’s badly degraded landscapes. But perhaps his greatest impact was training local leaders on an open-source statistical program that will improve their access to academic research on this critical topic — and their ability to share their own findings.
A Sustainable Sendoff for iPhones

When a cracked screen or a spent battery becomes too much to bear, it’s important to dispose of your cell phone properly. Thanks to Charissa Rujanavech ’13 M.E.M., iPhone users have an easy and sustainable way to recycle their old devices. Rujanavech, who works for Apple, invented Liam, a robot that disassembles iPhones to recover the valuable materials inside for recycling or proper disposal. Liam has now been upgraded to Daisy, which is capable of taking apart nine different versions of the iPhone at up to 200 times an hour.

Texas-sized Conservation

With more than 268,000 square miles of land, Texas is larger than many countries. Overseeing the conservation of its wildlife and their habitats is a challenge; it is one Carter Smith ’97 M.F.S. relishes. The Texas native has served as executive director of the Texas Parks and Wildlife Department for the past decade, during which he has focused on private land stewardship, coastal issues related to the Deepwater Horizon oil spill, and outreach to children and the state’s urban populace. Earlier this year, Smith hosted Dean Indy Burke and F&ES alumni at Pedernales Falls State Park in Texas for Yale Day of Service, where they worked to improve a wildlife habitat.

Keeping Tourists from Loving Iceland to Death

Thanks to its stunning natural beauty, Iceland has become one of the world’s most popular travel destinations. The problem now is preserving the tiny island’s fragile and vulnerable ecosystem by improving the infrastructure at popular tourist destinations. Guðbrandur Guðmundur Guðmundsson ’06 M.E.M., Iceland’s Minister for the Environment and Natural Resources, is combining his private sector and nonprofit experience with his political cachet to find sustainable solutions and educate the public about this growing problem.

Better Resource Use, Better Living Conditions

Dora Cudjoe ’05 M.E.M. shows that improving the environment doesn’t always require getting your boots dirty. As senior environmental specialist at the World Bank, the native of Ghana assists developing nations by identifying tools and resources needed to optimize their natural resources to reduce poverty and improve living conditions. Cudjoe also stresses the importance of sustainability while teaching these practices, creating a stable economic environment that also addresses climate challenges.

Path to Leadership

When he arrived at F&ES in 2005, Terry Baker ’07 M.F. already had a taste of life with the U.S. Forest Service; he came to Yale to learn about leadership. In 2018, after several years climbing the ranks of the Forest Service, he was appointed chief executive officer of the Society of American Foresters. Baker, who views forestry as the centerpiece to effective land management in the U.S., most recently served as deputy forest supervisor of the Arapaho and Roosevelt National Forests and Pawnee National Grassland in Fort Collins, Colorado.
Leadership for a Healthier New Haven

Every year, about 257 million gallons of polluted stormwater flow into New Haven’s surface waterways when heavy rains overwhelm the city’s sewer system. To help curb the environmental threat, the F&ES-based Urban Resources Initiative has helped build nearly 100 “bioswales” across the city. These bioswales — landscaped areas that capture and infiltrate 56% of stormwater runoff before it reaches the sewers — make Yale’s home city more resilient and serve as an example of urban leadership.

Promoting Tools for Informed Forest Stewardship

About one-third of all forestland in the U.S. is owned by private individuals or families. But most of these owners don’t manage their forest and don’t receive advice or guidance from resource professionals. Since 2003, the Yale-based Sustaining Family Forests Initiative has trained more than 1,200 natural resources professionals from 400 organizations — at 44 workshops in 31 states — to better communicate with these landowners about their stewardship choices.

Fighting for the World’s Struggling Reefs

More than 30 percent of the world’s coral reefs have died since the 1970s, and by midcentury another 45 percent might be gone. Coral Vita, a company launched by two recent F&ES graduates, Gator Halpern ’15 M.E.M. and Sam Teicher ’15 M.E.M., is working to reverse this decline. This year they will launch the first land-based commercial coral farm to grow species resilient to changing ocean conditions. Their vision is one of many innovative ideas supported by the Yale Center for Business and the Environment. By providing support to student entrepreneurs, from inception and planning through pitching and seed funding, the center provides a powerful lever for affecting change.

Green Solutions for the Developing World

The Center for Green Chemistry and Green Engineering at Yale is working with the United Nations Industrial Development Organization (UNIDO) to promote and implement the design of cleaner chemical products and processes in the developing world. Drawing on research led by experts at the Yale center and other international partners, the collaboration is developing curricula and training on “green chemistry” practices — including training initiatives in Brazil, Serbia, Colombia, Sri Lanka, Egypt, and South Africa.

Since 1984, the Tropical Resources Institute has supported 685 student fellows to conduct projects in the tropics and publish their work in academic journals.

IN 10 YEARS
THE ENVIRONMENTAL LEADERSHIP & TRAINING INITIATIVE HAS IMPLEMENTED 150 COURSES REACHING 6,645 LEADERS IN MORE THAN 75 COUNTRIES

In 2018, the Yale Center for Environmental Law & Policy released its 11th Environmental Performance Index, ranking 180 countries on 24 environmental public health and ecosystem vitality goals.

YALE ENVIRONMENT 360, AN AWARD-WINNING ONLINE MAGAZINE PUBLISHED AT F&ES, WAS READ IN 238 COUNTRIES AND TERRITORIES LAST YEAR
F&ES Strategic Plan Progress Report

In May 2017, the Yale School of Forestry & Environmental Studies released its first Strategic Plan in more than 10 years. The Strategic Plan outlines priorities for pursuing our vision: Knowledge and Leadership for a Sustainable Future.

We seek to realize two overarching outcomes:

• Broaden and deepen the School’s impact on a sustainable future through scholarship, practice, training, and engagement

• Strengthen the School’s community of faculty, staff, and students

GOAL 1: Build and maintain our leadership in areas of historic strength and international recognition through faculty, doctoral, and professional master’s programs

✓ Revised professional master’s curriculum in a way that leverages our existing strengths to more effectively prepare students for the environmental challenges of the 21st century

✓ Invested in major facilities improvements at Yale-Myers Forest, including a rebuilt forest camp to replace the camp devastated by fire in 2016 and a new research facility

✓ Hired ladder-track faculty in the area of energy systems analysis

GOAL 2: Develop curricula that track our current and evolving strengths

✓ Introduced new curriculum for the Master of Environmental Management (M.E.M.) degree program, which requires students to select one of eight specializations

✓ Unveiled “learning communities” around the M.E.M. specializations and the Master of Forestry (M.F.) program that extend education and training beyond the classroom and illustrate potential career paths

✓ Re-evaluate content and structure of the Master of Environmental Science (M.E.S.c) and the Master of Forest Science (M.F.S.) curricula

GOAL 3: Develop initiatives to deepen our scholarly expertise and support new curricular and outreach impacts

✓ Organized and co-hosted campus-wide “Yale Climate Day” in May 2018

✓ Developed a new Environmental Data Science Hub, an online platform for resources and inspiration toward building environmental data science skills

✓ Started adding new courses in climate science and policy, urbanization research methods, environmental health and justice, and environmental communication

✓ Create new initiatives that address areas of increasing global urgency (climate change and energy, environmental health and justice, interdisciplinary urban approaches, and environmental data science)

✓ Develop, with Yale partners, cross-campus urbanization curriculum that promotes engagement, scholarship, and teaching

✓ Plan “Urban@Yale” research day

In 2019, Narasimha Rao, who studies the complexity of energy systems and how they affect society, will join F&ES as an assistant professor of energy systems analysis.
GOAL 4: Diversify our faculty, student body, and staff to best address the complex environmental issues of the future

- Created and staffed the F&ES Office of Community and Inclusion
- Initiated “target of opportunity” faculty search to identify diverse candidates
- Continue to prioritize strategic recruitment and scholarship support to strengthen diversity at F&ES and across the greater environmental community
- Foster national network of diverse environmental leaders, including F&ES alumni

GOAL 5: Expand the environmental communications capabilities of our students, faculty, and critical stakeholders

- Launched the Yale Environmental Dialogue, a series that convenes leading thinkers and decision-makers with the goal of producing solutions to sustainability related issues
- Developed new Center for Environmental Communication that will support new research, develop evidence-based communications strategies, teach students and professionals in theory and practice, engage the public, and convene networks to build public and political will for environmental solutions

GOAL 6: Inspire new interdisciplinary scholarship and teaching to address emerging environmental issues

- Awarded grant funding from the newly created Leitner Awards for Uncommon Environmental Collaboration, which promotes environmental research between F&ES faculty and other scientists across the Yale campus

GOAL 7: Enhance the spirit of community within the School and maintain partnerships campus-wide, nationally, and globally

- Created seed funding for sustainability efforts exploring pedagogical and applied resources for faculty research, student initiatives, and staff engagement
- Cultivate new cross-campus partnerships with other Yale departments and professional schools — including the Yale School of Architecture, the Yale School of Public Health, the Yale School of Management, and the Yale Center for Science and Social Science Information — for new F&ES-led initiatives

GOAL 8: Create reliable resources, including funding and space, to support existing and new work in our growing programs

- Introduced the Environmental Progress Fund to kick-start new projects and programs that advance strategic interests, including environmental communications, equity and diversity, environmental justice, and interdisciplinary and collaborative science and research
- Secure steady support for the School’s existing areas of strength, including student scholarship and internship funds, and centers and programs
- Develop new fundraising proposals for communicating science to audiences across political platforms, expanding environmental perspectives, and sustaining environmental science and scholarship in the face of public challenges

The two F&ES-led teams that received Leitner Awards include partners from the School of Engineering & Applied Science, the Department of Computer Science, and the School of Public Health.

The Yale Center for Environmental Communication, led by Anthony Leiserowitz, F&ES senior research scientist, will leverage existing strengths in research and public engagement to establish F&ES as a leader in environmental communication theory and practice.

Marlyse Duguid ’10 M.F., ’16 Ph.D., the first Thomas G. Siccama Lecturer in Environmental Field Studies, teaches field-based courses and leads a summer field ecology program for undergraduate and graduate students.
52% Salaries & benefits

$47M FY18 EXPENSES

14% Other non-salary expenses net of transfers
6% Grant subawards

6% Fellowships, stipends, and student health
9% Facilities costs

13% University services assessment

51% Endowment income

$50.9M FY18 REVENUE

2% Other income

10% Gifts

13% Tuition net revenue after scholarships

24% Grants and contracts federal, corporations, and foundations

The $3 million set aside to aid diversity efforts was replenished by the FY18 budget surplus.

FY18 COMMITMENTS* = $10,143,710

COMMITMENTS BY SOURCE

COMMITMENTS BY AREA

*Gifts and new pledges
Gifts to F&ES create a foundation upon which our entire school is built.

Because of your generosity, our faculty can conduct groundbreaking research, our students can take advantage of life-altering internships, and our alumni can pursue careers that provide solutions to the world’s most pressing environmental challenges. We can continue to bolster our historic strength in research and education, while building an ambitious and innovative path to a sustainable future. Each dollar makes a difference.

Help us continue the momentum created by an incredible year of successes — made possible through gifts from alumni and friends — by donating to F&ES today. Go to environment.yale.edu/giving or use the attached envelope to make your gift!

Contact the Office of Development and Alumni Services at 203-432-9958 or email fes.dev.alumni@yale.edu

28% of all alumni made a gift in FY18. Using last year’s averages, if all alumni made a gift, F&ES could have raised over $1.25 million.
The alumni and friends who volunteer on our boards play a critical role in shaping the Yale School of Forestry & Environmental Studies for future generations, and set an inspiring example for members of the F&ES community. We thank all of them for their service and commitment to our School.

Advisory Boards

Investments of time, energy, and counsel make a big difference.

F&ES Alumni Association Board

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- James Albis* '16 M.E.M.
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- Gary Barrett '96 M.F.
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- Tara Meyer* '15 M.E.Sc.
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- Maclovia Quintana '11 B.A., '14 M.E.Sc.
- Sara Smiley Smith '07 M.E.Sc./M.P.H., '16 Ph.D.
- Jane E. S. Sokolow* '80 M.F.S.
- Whitney Tilt '85 M.E.S.

Student Representatives:
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- YuFang Gao '14 M.E.Sc., Ph.D. Candidate

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- Carl W. Knobloch, Jr. Dean
- Kristin Floyd '01 B.A.
- Director of Development & Alumni Services

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- John Wargo '81 Ph.D.

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- Herbert I. Winer '42 B.A., '49 M.F., '56 Ph.D.

Honorary Lifetime Member:
- Herbert I. Winer '42 B.A., '49 M.F., '56 Ph.D.

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*Member of the Executive Committee

**Member, Steering Committee

***Co-chair, Steering Committee

**Member, F&ES Annual Fund
Thank you for your impact.

We are pleased to honor alumni and friends who have given to the School between July 1, 2017 and June 30, 2018. We also wish to recognize the corporations, foundations, and organizations that have provided their generous support to the School.

Alumni Giving Societies

Osthed C. Marsh Associates $5,000 donation and above.

Sand County Society $1,000-$4,999 ($500-$4,999 for last ten graduating classes)

Great Mountain Society

The Great Mountain Society recognizes all consistent alumni donors to the F&ES Annual Fund, no matter the size of the gift. All alumni who have made a gift in the last two consecutive fiscal years are welcomed to the Society, regardless of past giving history. To maintain your membership going forward, simply renew your support each year.

Class Secretaries

Class Agents are in italics *Deceased
Although our best efforts have been made, we recognize everyone's generosity in support of the students and programs at FYI, and apologize if any name was inadvertently omitted.

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