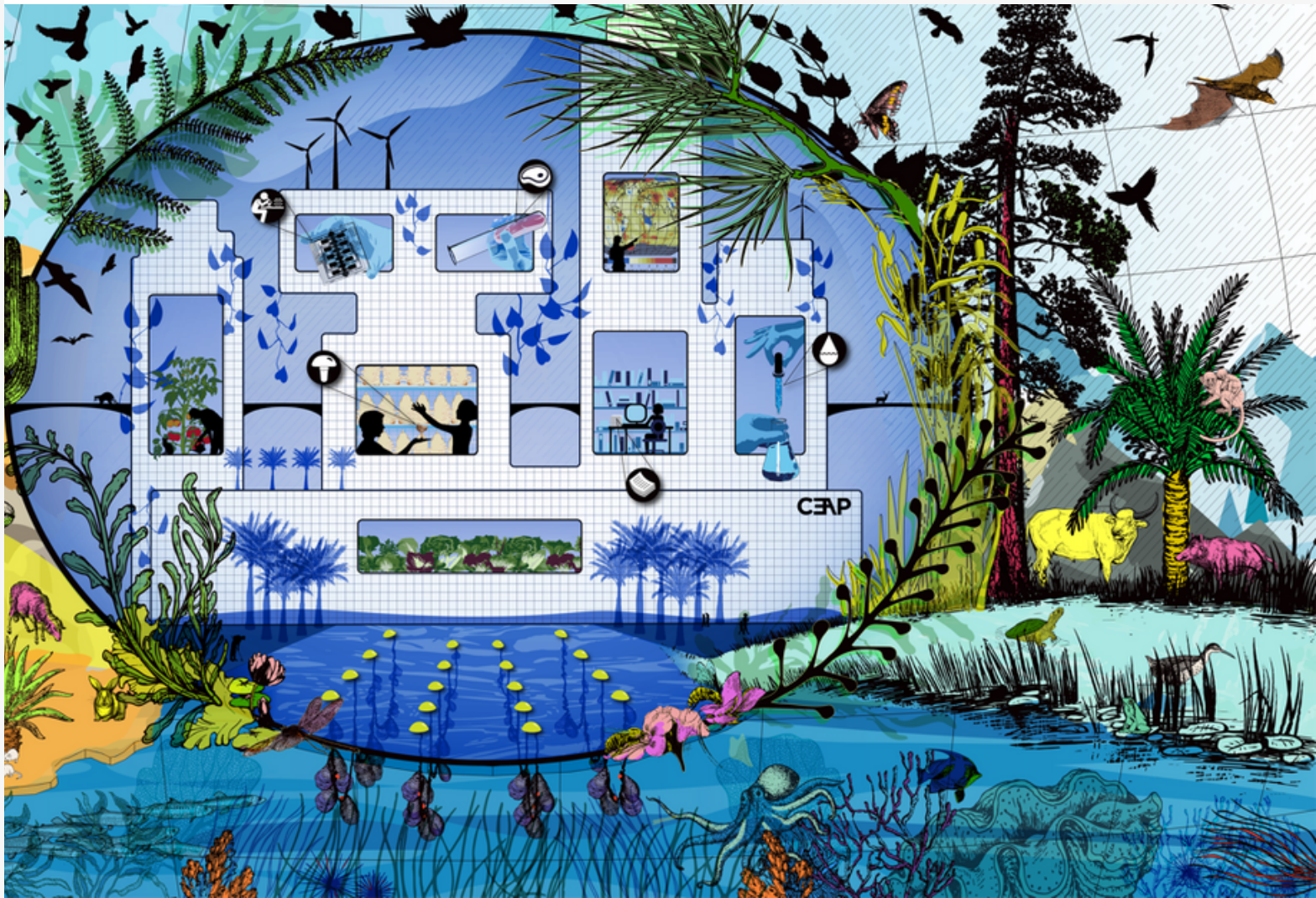




CENTER FOR ENVIRONMENTAL AND ANIMAL PROTECTION

2023 ANNUAL REPORT



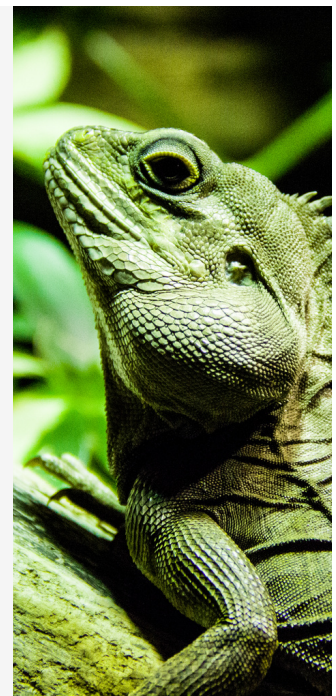
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INTRODUCTION

NYU's Center for Environmental and Animal Protection (CEAP) is an endowed research center that conducts, supports, and disseminates research that contributes to environmental and animal protection. The Center has three distinguishing features: (1) its focus on highly credible, evidence-based research that provides usable knowledge and policy recommendations to decision-makers and advocacy groups; (2) its emphasis on the integration of environmental and animal protection issues; and (3) its attention to fostering collaboration between scholars and private-sector change makers. In addition to supporting academic research, CEAP publishes occasional research briefs intended for a wide audience that you can sign up for by emailing: ceap@nyu.edu.

In its fifth year, CEAP's research continues to have a major focus on animal agriculture. Our live animal markets and zoonotic disease project (in collaboration with our colleagues at the Brooks McCormick Jr. Animal Law and Policy Program at Harvard Law School) released a report this year which garnered major media attention that focuses extensively (but not solely) on animal agriculture. Our project on global pathways towards a world without meat published an important scoping paper and made significant progress that will result in future publications. We also published a major report on the role of science in advancing protection for aquatic animals whose results may surprise many people. Finally, we completed projects on the genealogy of plant-based meats and on how to improve medical and veterinary school education about animals and the environment.

CEAP is an independent entity, housed in NYU's Department of Environmental Studies, which has close collaborative relationships across the University including with NYU Animal Studies and the professional schools in law, business and medicine. Since becoming a degree-granting program in 2007, Environmental Studies has graduated more than 1,000 students. The Animal Studies minor, created in 2010, has graduated approximately 145 students. The MA program in Animal Studies, which welcomed its inaugural class in 2018-19, has awarded 45 degrees and has 38 enrolled students contributing to a diverse community of energy, enthusiasm, and talent. In the Fall of 2025, the NYU Department of Environmental Studies will be launching a PhD program that will support students in researching a wide range of topics, including those at the intersection of environmental and animal protection.



ANIMAL MARKETS AND ZOOONOTIC DISEASE

Since 2020, CEAP has been working with a team from Harvard's Brooks McCormick Animal Law and Policy Program, as well as in-country collaborators, on a 15 country study of live animal markets. Our first results were published as an [editorial](#) in *Science* magazine on February 16th, 2023, which was downloaded more than 8,000 times and cited by 20 news outlets. On July 6th we released the [U.S. country report](#), which was featured on the front page of the *New York Times* science section, and covered by news outlets all over the world.



The U.S. report documents the immense and increasing scale of animal use that makes the country vulnerable to zoonotic outbreaks. Since 2011 the U.S. has recorded more “swine flu” infections than any other country. The largest avian influenza outbreak in U.S. history is currently ongoing and has left 58 million birds dead since it began in 2022. The U.S. is the largest importer of live wildlife in the world, importing more than 220 million wild animals a year, many without health checks or disease testing. The report concludes that animal industries in the U.S. pose serious risks of future pandemics and that the U.S. government lacks a comprehensive strategy to address them.

Research Team

Kristen Stilt (Professor of Law and Faculty Director of the Brooks McCormick Jr. Animal Law & Policy Program, Harvard Law School);

Dale W Jamieson (Professor Emeritus, Environmental Studies, NYU);

Ann Linder (Associate Director of Policy & Research, Brooks McCormick Jr. Animal Law & Policy Program, Harvard Law School);

Valerie Wilson McCarthy (M.A. Alumna, Animal Studies, NYU, currently Student, Harvard Law School);

Bonnie Nadzam (Research Fellow, Brooks McCormick Jr. Animal Law & Policy Program, Harvard Law School);

Chris Green (Harvard Law School, currently Executive Director, Animal Legal Defense Fund)

THE ROLE OF SCIENCE IN THE PROTECTION OF AQUATIC ANIMALS

On May 24th, 2023 we published a [report](#) on the role of agency, sentience, and cognition research in aquatic animal protection. We selected Cetaceans (i.e., whales, dolphins, and porpoises), Thunnini (i.e., tunas); and Octopoda (i.e., octopuses) for case studies because the trajectory of protection has been different with respect to each animal since at least the middle of the twentieth century: protection has increased for whales, not appreciably changed for tunas, and appears to be in the early stages of improvement for octopuses.



Comparing these three case studies showed that there was no strong, general relationship between the state of the scientific literature regarding agency, sentience, and cognition and greater protection. However, we identified seven key insights about how protection occurred, suggesting that science may generally be necessary but almost never sufficient in leading to greater protection: 1) when science is silent, it speaks volumes; 2) science matters but so do scientists; 3) no protection without advocacy; 4) familiarity can breed protection; 5) protection has multiple, interacting sources; 6) protection takes many different forms; and 7) legal and regulatory documents often cover their tracks.

Research Team

Dale W Jamieson (Professor Emeritus, Environmental Studies, NYU);
Jennifer Jacquet (NYU, currently Professor of Environmental Science and Policy, University of Miami);
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Becca Franks (Assistant Professor, Environmental Studies, NYU);
Paul Greenberg (Adjunct Instructor, NYU Animal Studies, Journalist);
Lori Marino (Adjunct Instructor, NYU Animal Studies, The Whale Sanctuary Project, The Kimmela Center);
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TOWARD A MEATLESS FUTURE

Humans now manage, slaughter, and consume billions of terrestrial and trillions of aquatic animals each year to fulfill growing meat demands. As a result, animal agriculture is now among the largest drivers of global environmental change, contributing to climate change; exceedances of biogeochemical flows; biodiversity and wild animal loss; land, energy, and water consumption; and ecosystem destabilization. Despite the enormity of animal agriculture, global food and nutrition insecurity is still both pervasive and persistent—this sector primarily serves the industrialized world and wealthier population segments.

Reducing human consumption of animal protein is one of the most effective things we can do for both environmental and human health, and animal welfare. Furthermore, an emerging body of research shows that diets higher in plant proteins—pulses, legumes, and coarse grains—could offset losses in animal protein by providing nutritionally dense foodstuffs, thereby contributing to food security and protein needs, while also providing several environmental co-benefits.

In response to these challenges, CEAP has undertaken a long-term research commitment to exploring how to reduce animal meat production and consumption while ramping up plant-based alternatives. A CEAP study “[Research Needs for a Food System Transition](#),” published this year in *Climatic Change*, identifies three core research needs to facilitate a protein transition: improved data collection and analysis at the intersection of protein production/consumption and human and natural systems; the development of current and future alternative protein pathways with varying degrees of ambition; and the use of these pathways to evaluate trade-offs and co-benefits (e.g., across environmental and socio-economic dimensions), and inform decision-making at national and regional scales.



A new component of CEAP research on animal agriculture addresses the research question: to what extent does adopting a plant-based diet aid in meeting climate targets of 1.5°C or 2°C? While previous studies have attempted to quantify the climate impact of “plant rich diets,” our work aims to move beyond this to evaluate the spectrum of dietary scenarios, from fully vegan to business-as-usual, as informed by the framework developed in our “Research Needs for a Protein Transition” paper.

Drawing from the methodology of several previous agricultural emissions modeling projects, we have constructed a model that estimates annual GHG emissions on a global scale from 2020 to 2050. This model can be used to assess a range of global dietary scenarios for their climate impact in response to a key set of input parameters, including agricultural production efficiency improvements and dietary composition disaggregated across seventeen major food groups. Preliminary results suggest that the global agricultural system (including post-production emissions, but excluding land-use change) would cumulatively emit 615 Gt CO₂e by 2050 under a “Business-as-Usual” scenario, but that a global shift to entirely vegan diets by 2050 could limit these emissions to 264 Gt CO₂e.

When potential carbon sequestration resulting from land-use change under a vegan scenario is incorporated into these results, our model suggests that approximately .45°C of global warming could be avoided by a global shift to fully vegan diets. The next steps for this work will be to integrate more rigorous and constrained (empirically and through process understanding) estimates of (avoided) carbon through changes in land-use change from vegan diets, and consider more comprehensively changes in methane as well as nitrous oxide emissions that result from dietary change, under both future “Business-as-Usual” scenarios as well as trajectories of vegan and plant-based dietary transitions that vary over ambition (i.e., rapid phase-out versus long-term transitions).



Research Team

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A GENEALOGY OF PLANT-BASED PROTEINS

A [recent CEAP study](#) published in *Agriculture and Human Values* investigates the current multibillion dollar alternative protein (AP) industry, finding that the industry is the result of a conscious strategy of capital investment to create and expand a plant-based protein market that could replace the current animal-based one. This goal is reflected in the use of design methods to mirror the texture and taste of animal products, making plant-based products that are virtually indistinguishable from their animal-based counterparts. These producers hope to create a future in which meat, eggs, and milk are taken for granted as coming from plants instead of animals, displacing the animal-derived versions of these products entirely from the food system.

However, the assumption that most omnivorous consumers will only stop eating animal products if presented with indistinguishable plant-based alternatives because they can't be persuaded for ethical or environmental reasons collides with the fact that there is no incentive for consumers to change to the alternatives absent any ideological commitments. What if mimicry were not the goal? What if, instead, inspiration toward something novel and different and even more desirable than the original was the aim of innovation in APs? If there is a next era of plant-based proteins that can actually relegate animal proteins to alternative status, perhaps it will come about through novel culinary forms that serve the as-yet-unimagined desires of a future consumer waiting to be inspired into existence.



Research Team

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A “MADE IN AMERICA” MEAT TAX

Agriculture is the fourth largest source of greenhouse gas (GHG) emissions in the United States, and enteric fermentation from cows is the largest national source of methane emissions in particular. Yet regulators have paid much less attention to emissions from agriculture than from transportation and electricity, the top two sources of GHG emissions nationally. A CEAP study forthcoming in the *NYU Environmental Law Journal* seeks to put the idea of a meat tax on the agenda of scholars and climate policymakers as a tool for reducing GHG emissions from agriculture. Drawing on scholarship and policy proposals from other jurisdictions where discussions of taxing meat are further advanced, the article identifies key issues that need to be addressed to design a meat tax that could be implemented in the United States, and recommends an iterative modeling process to devise concrete proposals for an equitable meat tax that would reduce agricultural GHG emissions. A meat tax could be one of a basket of policy measures to reduce emissions from agriculture, and reducing human consumption of meat would benefit human health, animal welfare, as well as the environment.

Research Team

Dale W Jamieson (Professor Emeritus, Environmental Studies, NYU);
Katrina Wyman (Wilf Family Professor of Property Law, NYU Law School);
Emma Dietz (Student, NYU Law School)



IMPROVING MEDICAL EDUCATION ABOUT ANIMALS AND THE ENVIRONMENT



This [study](#), published in the *AMA Journal of Ethics*, presents five general points that every clinician should know about animals, health, and the environment, focusing on why animals matter for their own sakes, why animals matter for health and environmental threats, why health and environmental threats matter for animals, and how medical and veterinary schools interact with animals. The authors then offer practical advice about how to address these issues. For example, they propose that medical and veterinary schools increase coverage of animal welfare and the links between animals, global health, and the environment. They also propose that medical and veterinary schools support alternatives to animal farming and animal research to the extent possible.

Research Team

Jeff Sebo (Associate Professor, Environmental Studies, NYU);
Zoe Griffiths (M.A. Alumna, Animal Studies, NYU)

ONGOING PROJECTS

Shark Tourism in the U.S.

Globally, shark populations are threatened with extinction due to anthropogenic activities like overfishing, yet their conservation is hindered in part by humans' fear and negative perceptions of them. Despite research indicating that sharks' cognition is on par with most other vertebrates, including mammals and birds, the narrative of sharks as mindless killers persists. Shark-centered tourism activities—sportfishing, ecotourism, and aquaria—purportedly contribute to shark conservation, but the degree to which operators rehabilitate versus reinforce negative stereotypes about sharks and promote environmental conservation remains unclear. This project examines the practices toward and narratives about sharks in U.S. sportfishing, ecotourism, and aquaria to inform shark conservation policy. Preliminary results indicate that operators across industries could be doing much more to minimize harms to sharks and encourage respect for them.

Becca Franks (Assistant Professor, Environmental Studies, NYU);

Laurie Sellars (M.A. Alumna, Animal Studies, NYU, currently Post-Graduate Fellow, Law, Ethics & Animals Program, Yale Law School)



The Benefits of No-entry Marine Protected Areas

Marine protected areas (MPAs) can provide resilience to climate change, and protection for biodiversity and marine animals. An estimated 7.7% of the global oceans are technically a protected area, although multi-use MPAs that allow commercial and recreational fishing and other forms of resource extraction are common. A number of MPAs have been designated (or are *de facto*) "no-entry" zones where humans are excluded from entering the park or in fact do not enter it. This project seeks for the first time to review all existing evidence for the effectiveness of no-entry zones for environmental and animal protection.

Gabrielle Carmine (B.A. Alumna, Environmental Studies, NYU, currently Ph.D. candidate, Duke University);

Patrick Halpin (Professor, Nicholas School of the Environment, Duke University)



Representing Sentient Antarctica

Traditional democratic theory focuses on “the people” as the ultimate decision-makers entitled to control the territory in which they reside. But who are “the people” in humanly uninhabited places such as Antarctica? This project investigates the possibility that the Antarctic demos could be constituted by nonhuman beings and perhaps also other natural entities. It goes on to examine how these extensions in the membership of the political community can be reflected in systems of political representation.

Alejandra Mancilla (Professor, Philosophy, Classics, History of Art and Ideas, University of Oslo)

Animal Agriculture in the United States: From Crisis to Domination

The animal agriculture industry has become the largest global user of land, with 70 billion domestic animals demanding the resources of 40 percent of global habitable land. This project examines how this came to be, focusing on an often-overlooked actor: the American state. In the late nineteenth century, the U.S. federal government created new powers to ensure the survival of the industry in a period of crisis, as disease and trade barriers rendered the industry unstable. The newly empowered federal government then worked to export its model of animal agriculture in the twentieth century, sending teams of USDA scientists around the world to help reconstruct global animal agriculture along American lines. This



project, the first extensive study of the global influence of the U.S. Department of Agriculture, sheds light on how animal agriculture has grown to be the single largest industrial driver of global environmental change, how the industry is maintained through its relationship to the American government, and how, too, the structures supporting the industry might be undone.

Oliver Lazarus (M.A. Alumnus, Animal Studies, NYU, currently Ph.D. Candidate, History of Science, Harvard University)



LOOKING AHEAD

While the COVID-19 pandemic was declared over officially last spring, the virus has taken almost 7 million human lives and continues to kill. Even worse, we have not learned the most profound lesson of the pandemic: that the health of humanity is inextricably linked to the health of other living things. In 2024 CEAP expects to announce the results of a project that investigates regulatory responses to live animal markets in 15 countries, work that has been done in collaboration with Harvard University's Brooks McCormick Jr. Animal Law and Policy Program and partners around the world. We are also continuing to build out our "world without meat" team with our first post-doctoral fellow: Dr. Shelby McClelland, who will be joining us from Cornell University.

Other exciting work continues as well on the role of the U.S. Department of Agriculture on creating the present system of animal agriculture, on aquatic animals, and on the moral, political, and legal status of nonhuman living things in that last wilderness, Antarctica. In April we will be sponsoring a workshop on conservation with the University of California at San Diego that will bring together philosophers, lawyers, scientists, and advocates to reimagine conservation in a way that respects diverse and often competing values.

We warmly thank those of you who make our work possible, and also those of you who find our work valuable. We welcome your feedback at ceap@nyu.edu.

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