Protected area and private land conservation + community engagement

Justin Brashares
Environmental Science, Policy & Management
Eric and Wendy Schmidt Center for Data Science and the Environment
UC Berkeley

Brashares Group

UC Berkeley

Home | People | Research | Research Sites | Publications | Group News | Donate | Contact Us

Research

Community Ecology | Wildlife Utilization | Wi

Community ecology and pop

Fully "intact" or "naturally functioning" comm
competition, predation, parasitism and mutu
the sagest ecologists are seldom able to pre
and the need to understand more about the b
trophic cascades and other non-linear comm
relationships. However, to the conservation b
easily pushed over thresholds beyond which

In our research, we aim to quantify the impac
change on community dynamics and ecosys

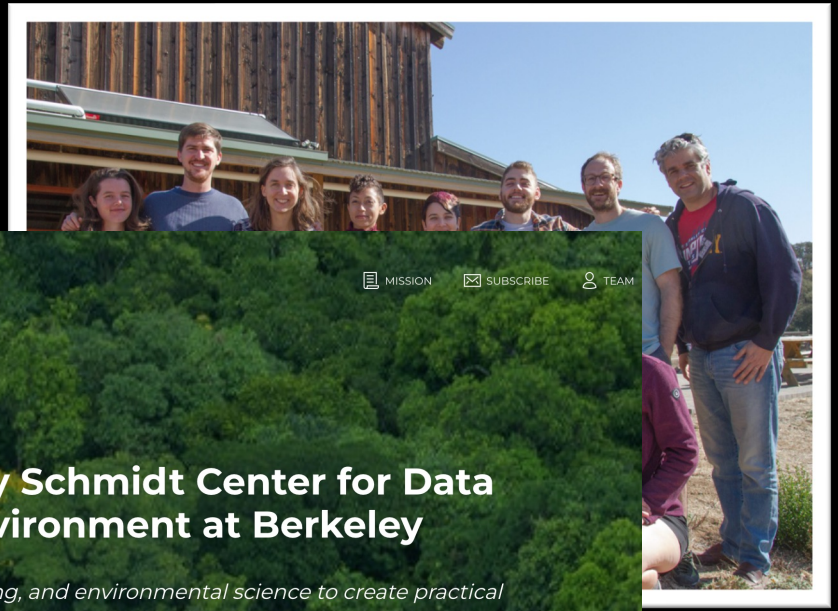
Causes and ecological conse

The harvest of wildlife for human consumpti
America. Nevertheless, surprisingly little is kn
known about the short and long-term impact
gaps in our understanding of the causes and
Madagascar.

Landscape planning and mo

Land planning for wildlife conservation existe
visualizing, quantifying and modeling landsca
area planning and studies of wildlife connect
remote sensing. Practitioners in these fields
occurrence and movement across vast, char
and provides practical strategies for land management and habitat protection while considering "real world" trade-offs for people and economies.

Research in my group employs the tools of Landscape Ecology to characterize animal movements, design and test corridor networks among protected areas, quantify interactions between people and wildlife at local and continental scales, and work with stake-holders to design and evaluate locally-based strategies for wildlife monitoring.



Berkeley The Eric & Wendy Schmidt Center for Data Science & Environment

MISSION SUBSCRIBE TEAM

The Eric and Wendy Schmidt Center for Data Science and Environment at Berkeley

Unifying the power of data, computing, and environmental science to create practical and scalable solutions to our planet's most pressing environmental problems


RIDGID

PROCEEDINGS
OF THE ROYAL SOCIETY B
BIOLOGICAL SCIENCES

Restricted access
View PDF
Tools Share

Human demography and reserve size predict wildlife extinction in West Africa

Justin S. Brashares*, Peter Arcese and Moses K. Sam

Published: 07 December 2001 https://doi.org/10.1098/rspb.2001.1815

Science

REPORTS

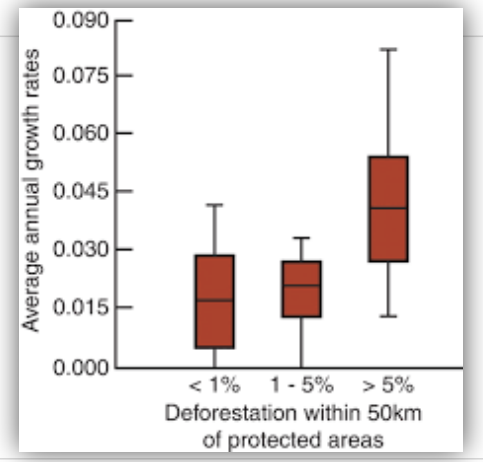
Accelerated Human Population Growth at Protected Area Edges

GEORGE WITTEMYER, PAUL ELSEN, WILLIAM T. BEAN, A. COLEMAN O. BURTON, AND , JUSTIN S. BRASHARES Authors Info & Affiliations

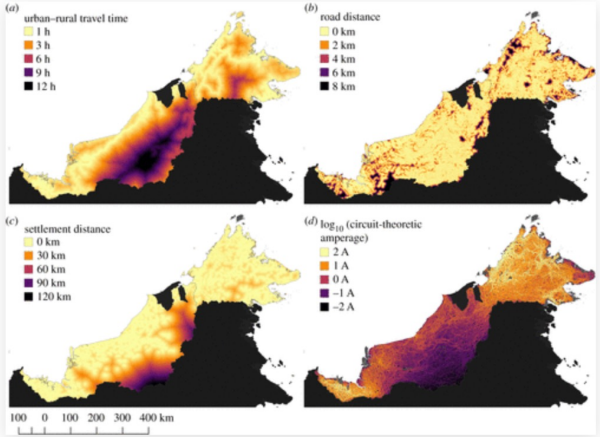
SCIENCE • 4 Jul 2008 • Vol 321, Issue 5885 • pp. 123-126 • DOI: 10.1126/science.1158900

The Human Honeypot

CREDIT: G. WITTEMYER

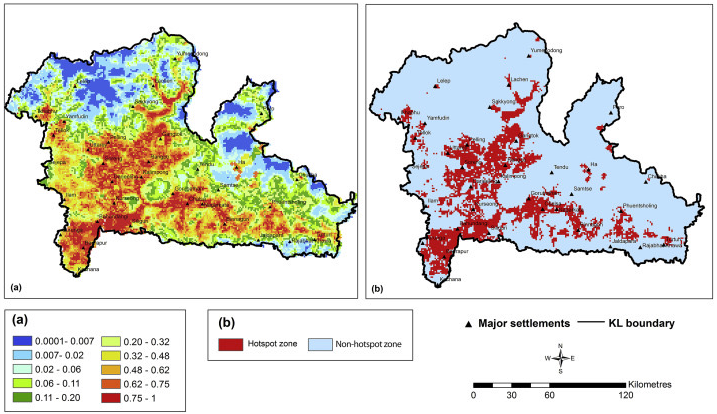


The possibility that international investment in protected areas would turn parks into magnets for human immigration (the "honeypot" hypothesis) and thereby reduce conservation effectiveness has been a concern of conservationists, economists, and the development community for some years. **Wittemyer *et al.*** (p. 123) now confirm that rates of human population growth around 306 protected areas in 45 countries across Africa and Latin America are nearly twice the country averages. The high population growth around protected areas is correlated with international donor funding to parks and the consequent creation of park-related jobs and services and, disappointingly, is associated with accelerated rates of deforestation.



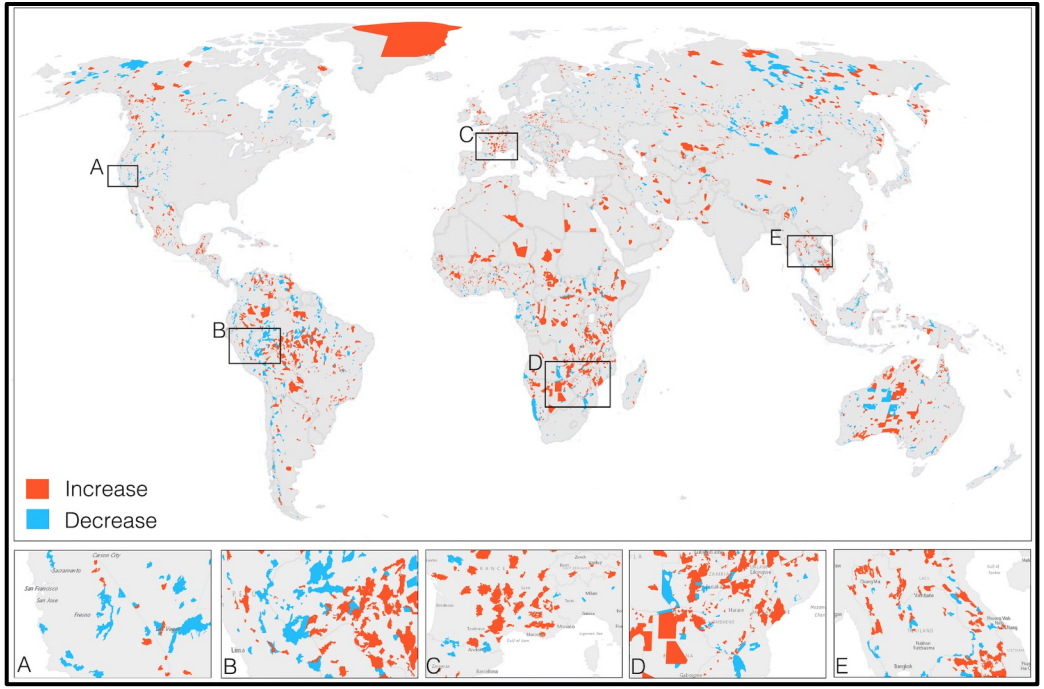
Deith & Brodie 2020

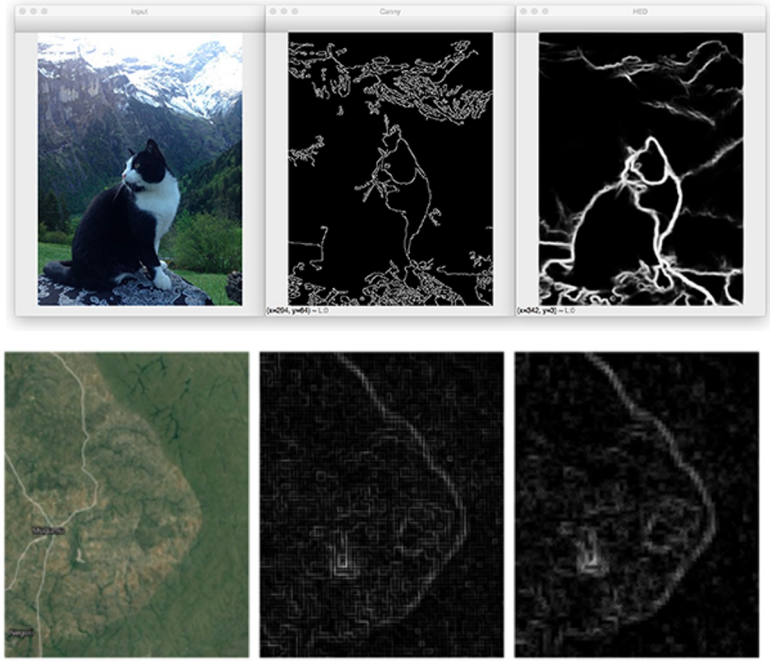
Figure 2. Accessibility of Malaysian Borneo to human hunters according to four alternative measures: (*a*) urban–rural travel time, (*b*) road distance, (*c*) settlement distance, and (*d*) circuit-theoretic accessibility. (Online version in colour.)



Sharma et al. 2020

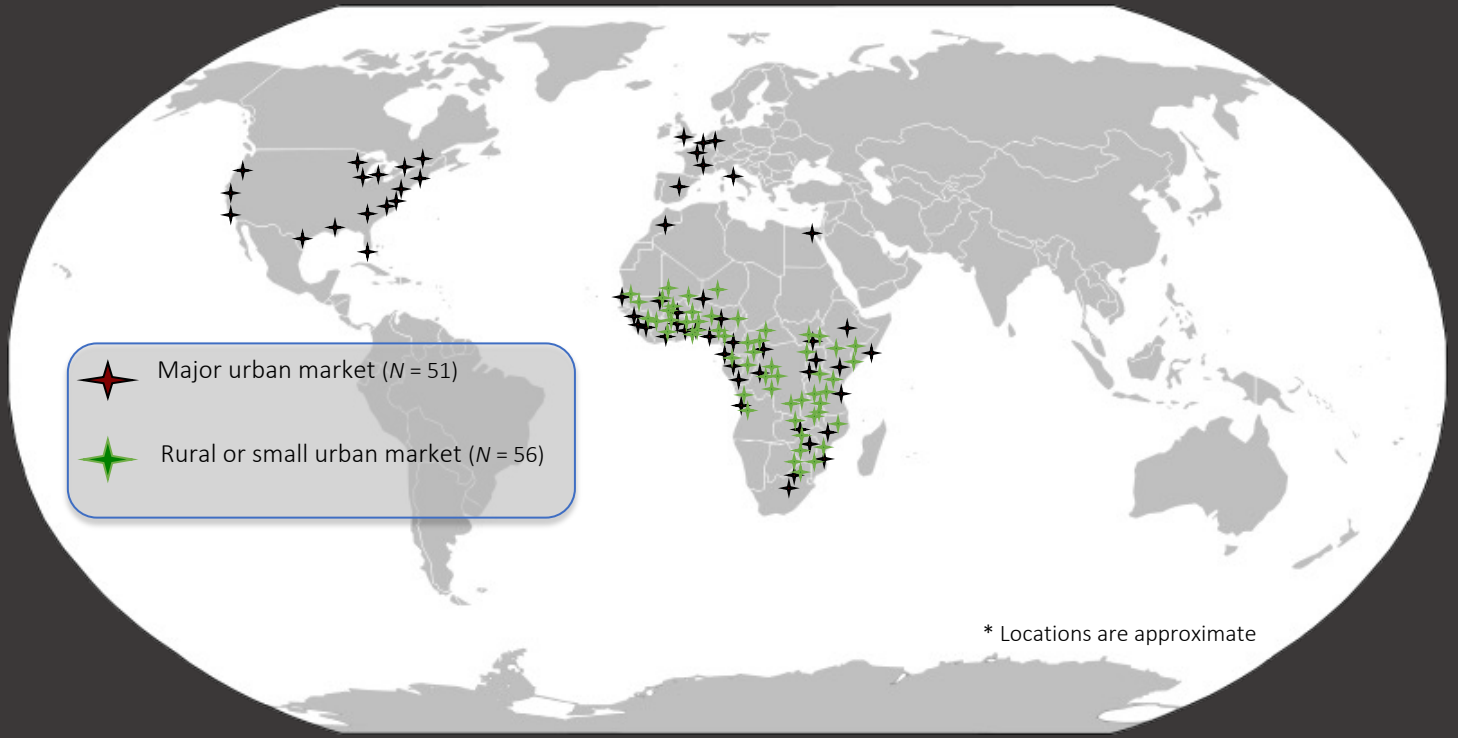
Islandization of terrestrial protected areas (*in review*)



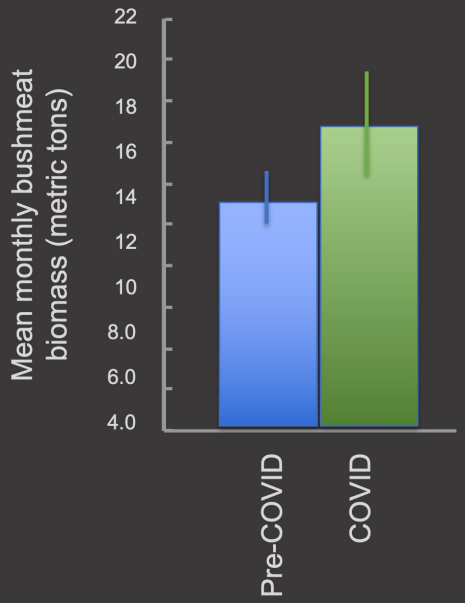


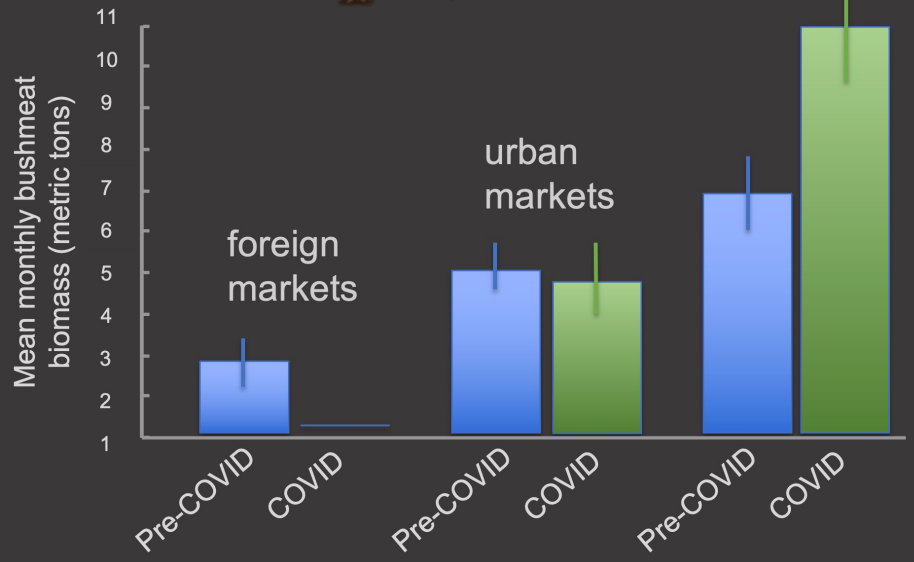
Twenty-year trend in protected area islandization across the world's biomes. From 2001-2020, half of protected areas (51%) exhibited a significant positive increase in habitat edges along boundaries that met unprotected land, signaling a 20-year loss in habitat continuity (n = 4,466). Thirty percent of protected areas exhibited a significant decreasing trend, while the remainder showed no change.

The Bushmeat Monitoring Network

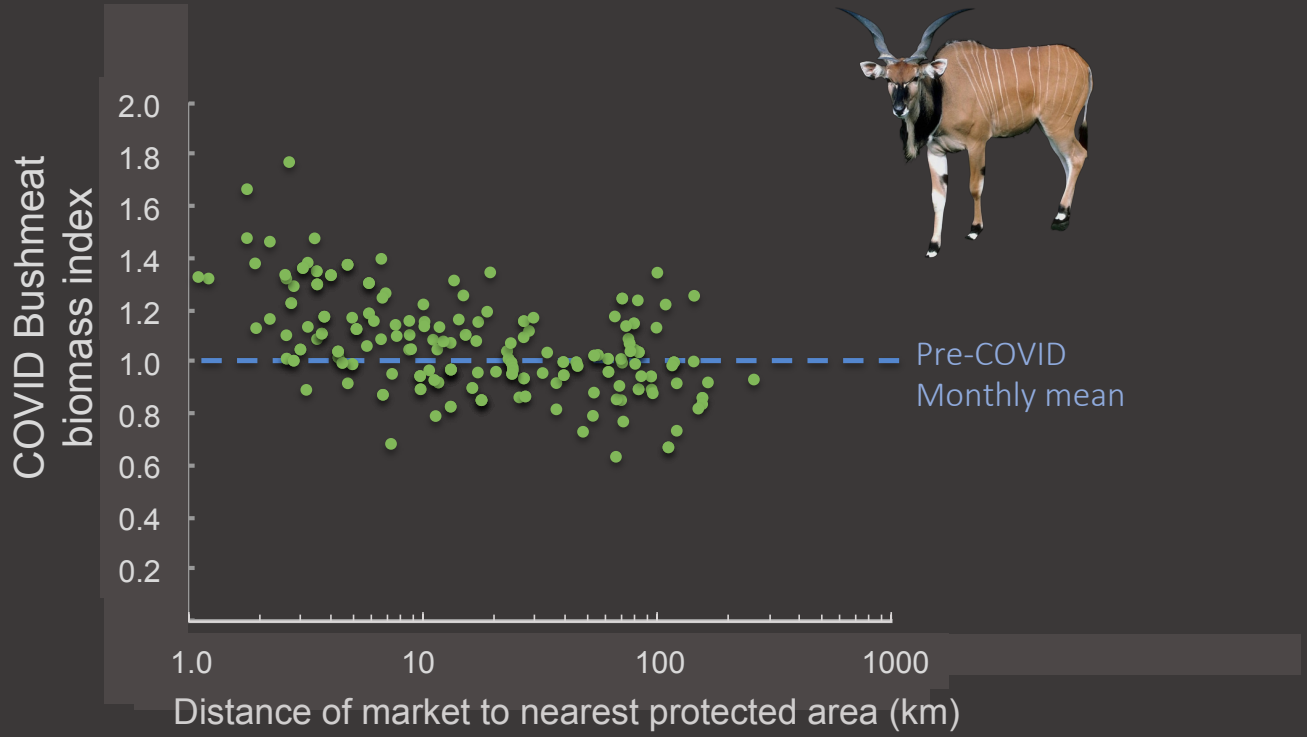


COVID impacts on wildlife consumption





Spatial patterns of African wildlife consumption



Ecological consequences of fences

Alex McInturff

Christine Wilkinson

BioScience

Issues More Content Submit Purchase Alerts About BioScience

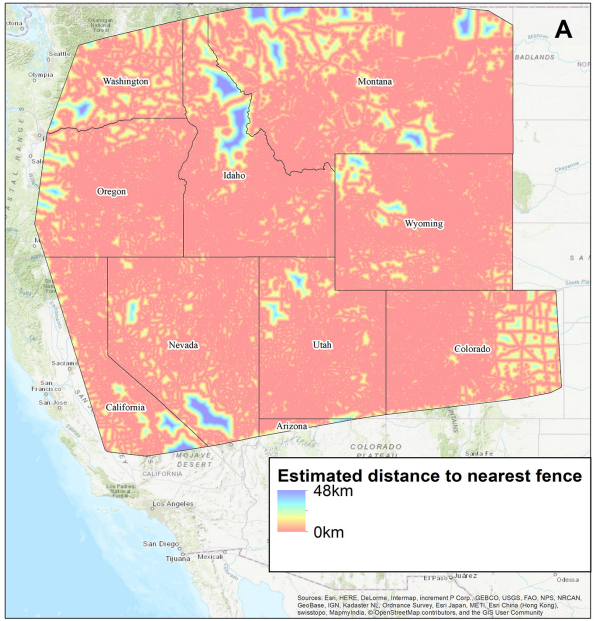
Volume 70, Issue 11

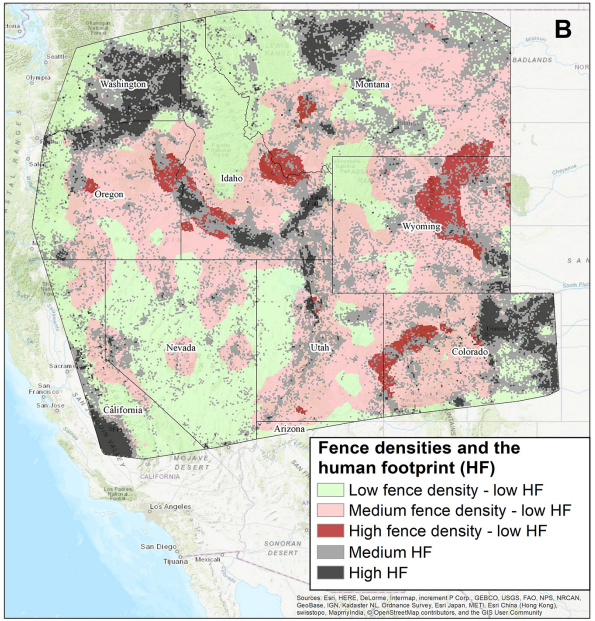
JOURNAL ARTICLE EDITOR'S CHOICE

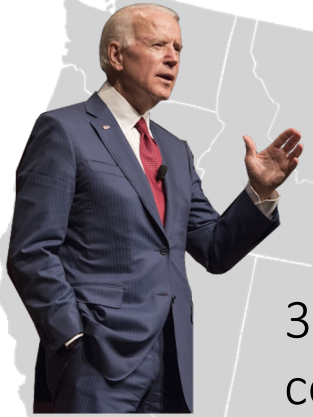
Fence Ecology: Frameworks for Understanding the Ecological Effects of Fences

Alex McInturff, Wenjing Xu, Christine E Wilkinson, Nandintsetseg Dejid, Justin S Brashares

BioScience, Volume 70, Issue 11, November 2020, Pages 971–985,



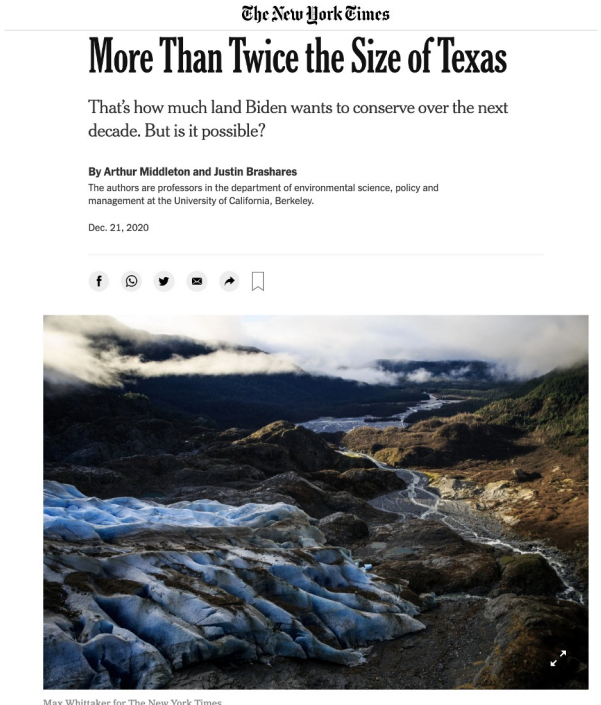




30 x 30 is the boldest and largest commitment to (land, carbon and biodiversity) conservation in human history

WHAT is being protected?
WHERE is it being protected?
HOW is it being protected?
and What defines ‘protected’?

WHO is at the table for each of these decisions?



The New York Times

More Than Twice the Size of Texas

That’s how much land Biden wants to conserve over the next decade. But is it possible?

By Arthur Middleton and Justin Brashares

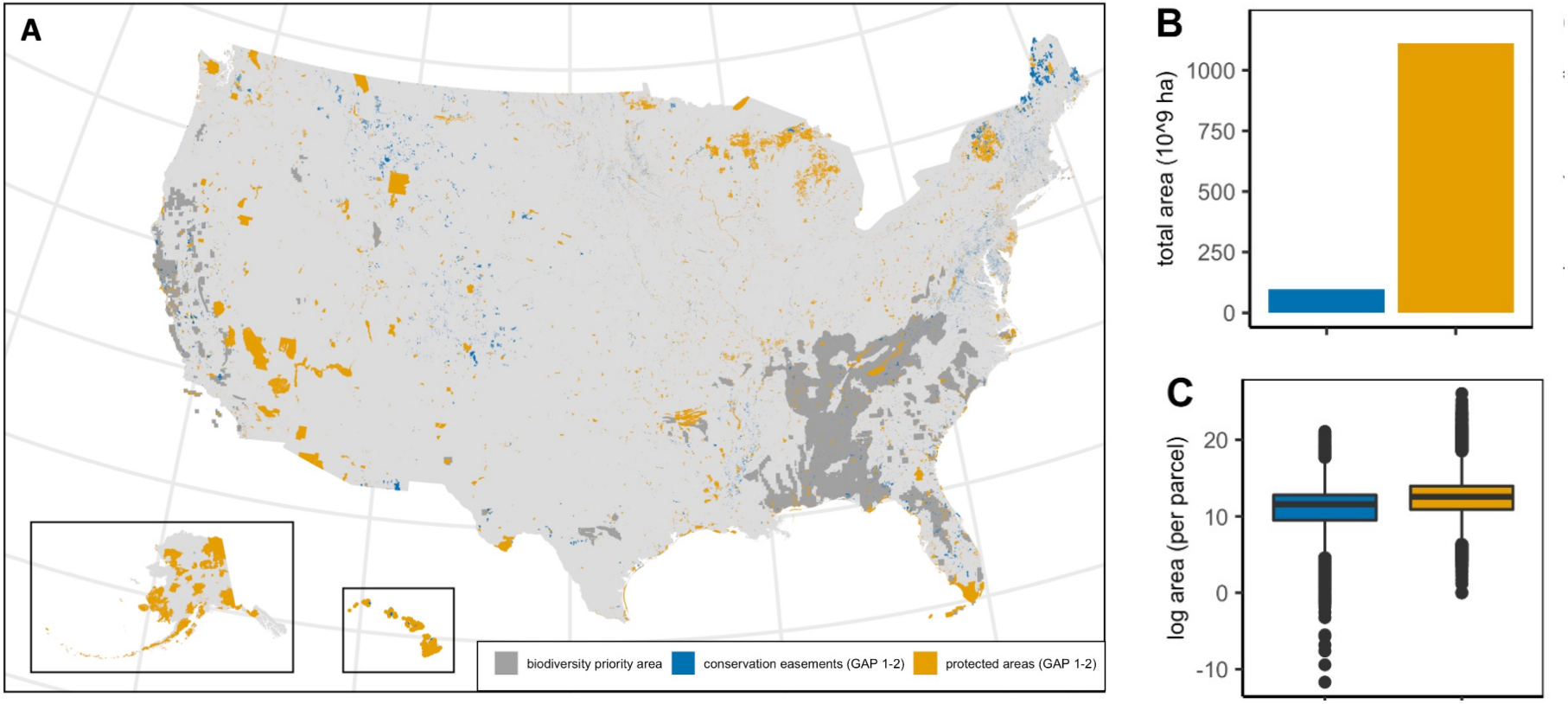
The authors are professors in the department of environmental science, policy and management at the University of California, Berkeley.

Dec. 21, 2020

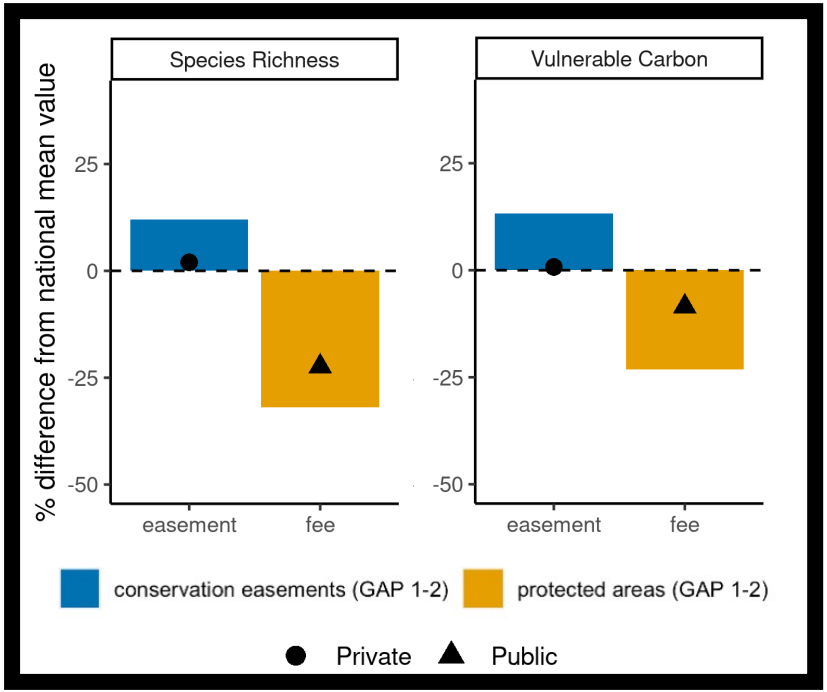
Max Whittaker for The New York Times

Millie Chapman

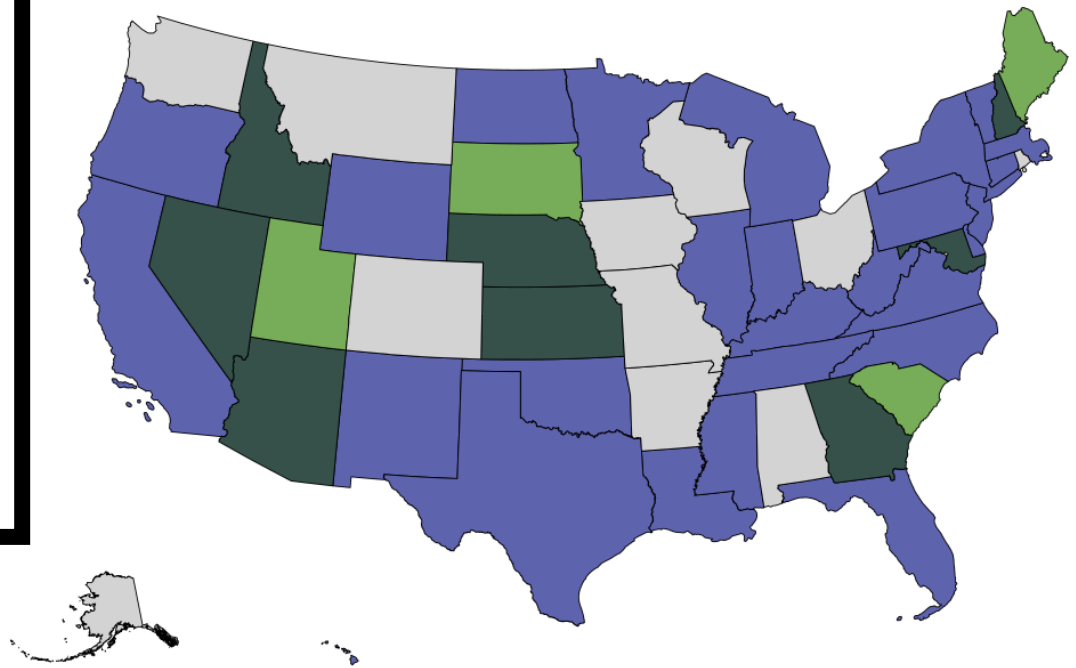
What is the potential contribution of private land conservation towards biodiversity and carbon storage goals?



Chapman et al., In review



In 39/50 states, conservation easements have higher mean richness and/or carbon density values than fee owned protected areas

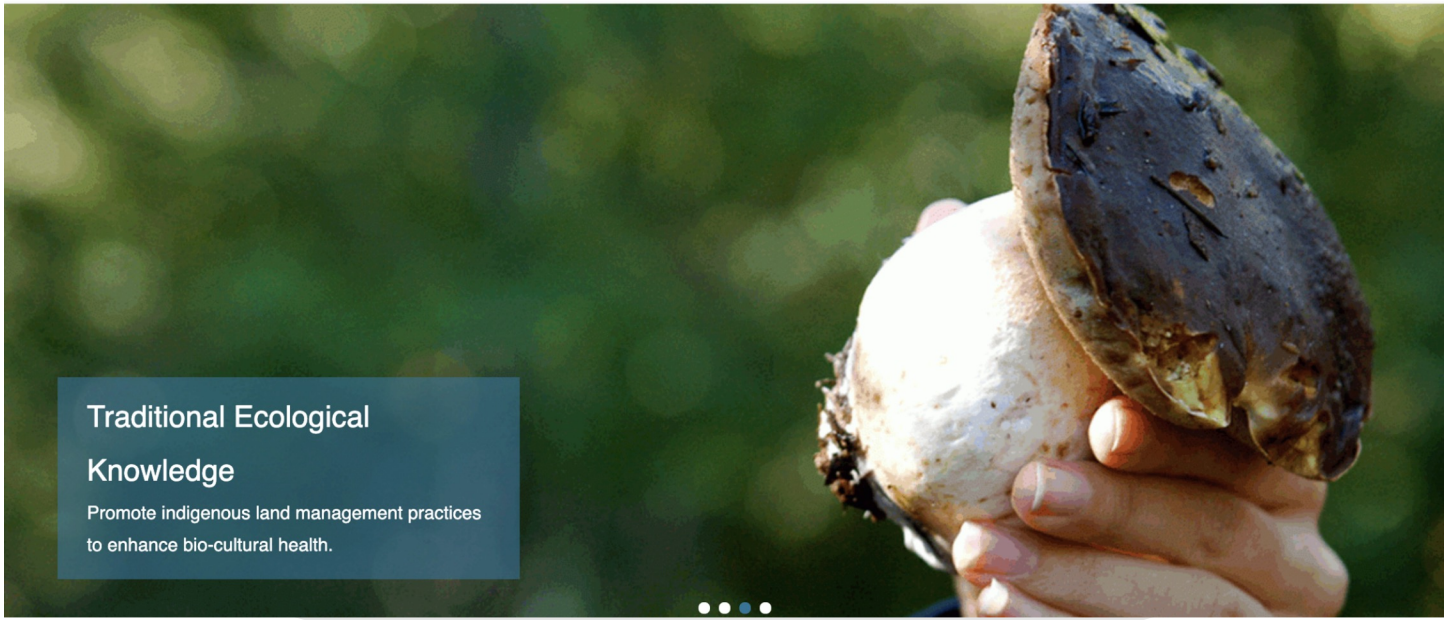


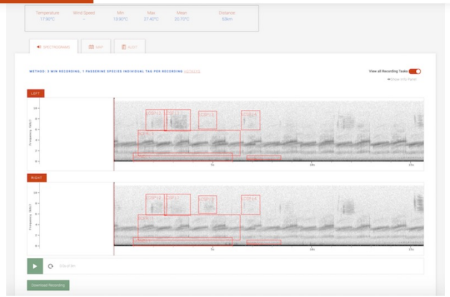
Easement mean < Fee mean (richness and carbon)
Easement mean > Fee mean (carbon, not richness)
Easement mean > Fee mean (richness, not carbon)
Easement mean > Fee mean (richness and carbon)

Chapman et al., In review

Karuk – UC Berkeley Collaborative

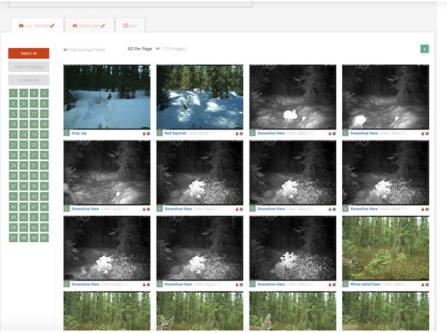
Home | About Us | Projects | News | Publications | Resources | Contact Us





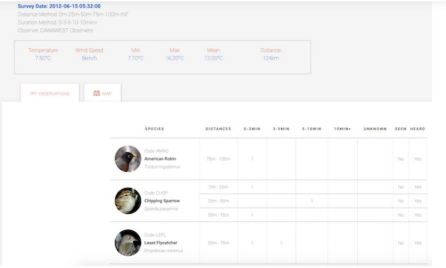
Autonomous recording unit features

Upload of acoustic media (wac, wav, mp3, flac)
Live tagging of dynamic spectrograms
Rapid species verification using BirdNET and detailed tag parameters



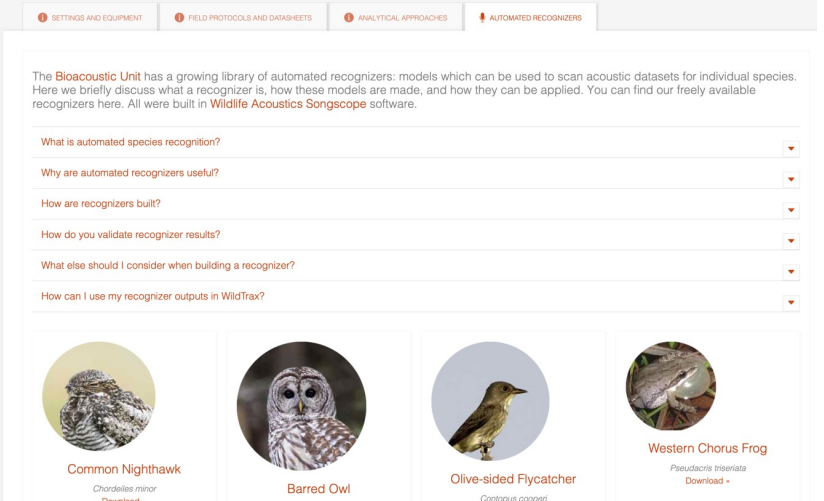
Remote camera features

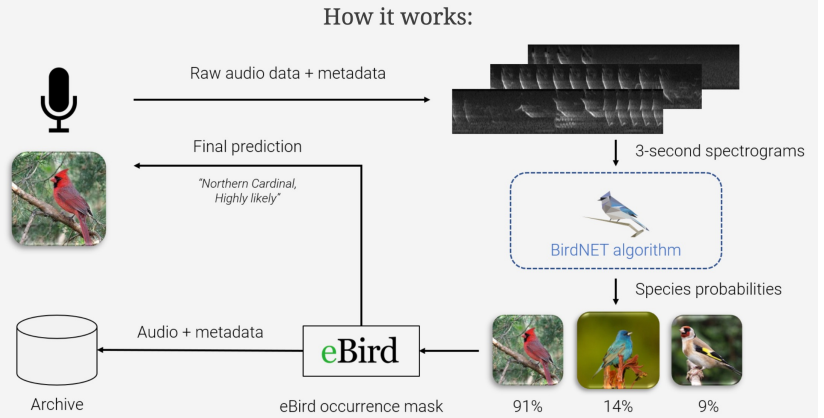
Upload of image sets
Custom settings including options for facial blurring and Megadetector AI results
Rapid and efficient species and image verification



Avian point count features

Supported by the Boreal Avian Modelling Project
Upload and view point count data
Download and synthesize with ARU data





Protected area and private land conservation + community engagement

AI to assist conservation decision-making in:

- Spatial prioritization and design of new conservation investment, including restoration
- Spatial and temporal prioritization for management and monitoring in traditional and non-traditional conservation lands
- Lowering barriers to accessibility and application of products to streamline and democratize data collection, classification and visualization

Thank you!

brashares@berkeley.edu
ds4e.berkeley.edu