

University of California, Berkeley
Institute for Parks, People, and Biodiversity
<https://parks.berkeley.edu>

Strategic Plan 2023-2025
June 4, 2023

Mission

The University of California, Berkeley, Institute for Parks, People, and Biodiversity advances science and solutions to halt climate change, conserve biodiversity, and improve the experience of nature for all. The Institute conducts new scientific research and helps managers and policymakers apply the results to conservation of ecosystems around the world, especially in national parks and other protected areas. The University of California, Berkeley, has developed unique expertise in providing science to national parks, with more than a century of experience.

Public protection of land and water serves important roles for carbon solutions to climate change, resilience, endangered species, tropical forests, health and well-being, education, thriving economies, Indigenous cultures, and environmental justice. For these critical issues and other emerging questions, the Institute connects field managers and government policymakers to the high-level interdisciplinary research capabilities of the University of California, Berkeley.

Institute researchers also communicate science-based solutions to motivate public action and cultivate future conservation leaders. With new scientific insights, the Institute aims to advance meaningful progress for nature and people.

Strategy

Goal 1 Halt climate change, through carbon solutions and resilience measures.

- Objective 1.1 Increase ecosystem carbon in high biodiversity regions as a natural climate change solution.
 - Result 1.1.1 Reduction in tropical deforestation and carbon loss in a country in Africa or Latin America that currently does not have substantial scientific support, through collaboration with local communities, governments, and universities on analyses of carbon and biodiversity, in areas where new national parks and other protected areas would conserve ecosystems with high carbon densities and biodiversity. Any proposed conservation actions would integrate positively with local cultures and livelihoods. This work would provide the science basis for an effective national program of Reduced Emissions from Deforestation, Degradation, and forest management (REDD+) under the U.N. Framework Convention on Climate Change Green Climate Fund. (Gonzalez)
 - Result 1.1.2 Reduced carbon emissions from California ecosystems through an updated spatial analysis of carbon stocks and changes across California ecosystems, at 30 m spatial resolution, that would contribute essential scientific information for the State of California greenhouse gas emissions reduction plan. (Gonzalez)

Result 1.1.3 Advanced scientific knowledge through publications in refereed scientific journals. (Gonzalez)

Objective 1.2 Improve resilience to climate change across parks and park systems.

Result 1.2.1 Improved resilience across the California State Park system through analyses of observed and projected climate change trends and assessment of observed impacts and future risks in all 280 parks. The Institute would provide spatial data and other scientific information needed for prioritization of adaptation measures across the park system and management of individual parks. (Gonzalez)

Result 1.2.2 Identification of locations across the U.S. and Canada at highest risk of biome shifts (geographic displacements of major vegetation types) under climate change. Institute analyses would provide data to prioritize land acquisition and adaptation measures across U.S. and Canada protected areas. (Gonzalez)

Result 1.2.3 Improved forest resilience to climate change in Rock Creek Park, a U.S. national park in the city of Washington, DC., by providing key climate change and forest ecology information for the development of a forest resilience plan. (Gonzalez)

Result 1.2.4 Vegetation nurseries and restoration adapted to climate change in the Golden Gate Biosphere Reserve, an area listed by the United Nations Educational, Scientific, and Cultural Organization that includes federal, state, local, and private protected areas, through spatial analyses and an Internet tool to identify locations for collecting plant seeds more adapted to projected climate change. (Matthew Kling)

Result 1.2.5 Park-specific climate change scientific information provided for natural resource management, through park-specific climate change assessment reports with local information on impacts, risks, adaptation, and carbon. (Gonzalez)

Result 1.2.6 Advanced scientific knowledge through publications in refereed scientific journals.

Objective 1.3 Increase resilience of fire-adapted ecosystems to catastrophic wildfire under climate change.

Result 1.3.1 Identification of areas of highest risk of increased fire frequency under climate change in Yosemite, Sequoia, Kings Canyon, and Lassen Volcanic National Parks and adjacent lands, through completion of analyses in progress of observed and projected climate change, vegetation, and wildfire. (Gonzalez)

Result 1.3.2 Spatial data on understory carbon in Yosemite National Park, through analysis of field measurements and Light Detection and Ranging (Lidar) canopy data. This data will allow a more effective targeting of fire management actions. (Gonzalez, Stephens)

Result 1.3.3 Increased resilience of forests to catastrophic wildfire under climate change in Yosemite, Sequoia, Kings Canyon, and Lassen Volcanic National Parks through targeted prescribed burning and managed wildland fire, using the science results from above. (Gonzalez, Stephens)

Result 1.3.4 Publicly available spatial data on climate change and wildfire in the four national parks. (Gonzalez)

Result 1.3.5 Advanced scientific knowledge through publications in refereed scientific journals. (Gonzalez, Stephens)

Objective 1.4 Improve resilience of species at risk under climate change.

Result 1.4.1 Improved resilience of freshwater fish in intermittent water courses in Pinnacles National Park. (Ruhi)

Result 1.4.2 Improved resilience of coast redwood trees under climate change. (Dawson)

Result 1.4.3 Improved resilience to climate change of Dall's sheep in Denali National Park and Preserve, Alaska.

Objective 1.5 Communicate science to motivate public action.

Result 1.5.1 Public media communications.

Result 1.5.2 Public presentations and speeches.

Result 1.5.3 Institute web site information.

Result 1.5.4 Social media, through UC Berkeley College of Natural Resources.

Objective 1.6 Contribute to more effective climate change policy.

Result 1.6.1 Scientific advice to the White House and other U.S. Government agencies.

Result 1.6.2 Testimony to the U.S. Congress.

Result 1.6.3 Scientific advice on forest and fire management to the State of California. (Battles, Gilless, Stephens)

Result 1.6.4 Legal research on the Endangered Species Act, land-use regulations, biodiversity, wildfire, and climate change. (Biber)

Result 1.6.5 Legal research on water rights, adaptation to drought, and biodiversity. (Doremus)

Objective 1.7 Educate and motivate a new generation of conservation leaders on climate change science and solutions.

Result 1.7.1 Increased capabilities of students taught in the UC Berkeley course Anthropogenic Climate Change and Natural Resource Management. (Gonzalez)

Result 1.7.2 Ph.D. dissertations that newly apply scientific research to climate change solutions in national parks and other protected areas. (Faculty Affiliates)

Result 1.7.3 Increased knowledge of government natural resource agency employees on climate change. (Jarvis, Gonzalez)

Result 1.7.4 Advice to students on careers related to protected areas. (Gonzalez, Jarvis)

Goal 2 Conserve biodiversity, especially in national parks and other protected areas.

Objective 2.1 Extend effective conservation across large landscapes and seascapes.

Result 2.1.1 Progress in restoring natural migration of elk along key routes in the Greater Yellowstone Ecosystem, through collaboration among federal, state, and local government agencies, non-governmental organizations, and private landowners. (Middleton)

- Result 2.1.2 Improved effectiveness of conservation in national parks and other protected areas in Africa, Asia, Europe, and Latin America that do not currently have substantial scientific support, through collaboration with and assistance to local communities, government agencies, and non-governmental organizations on applied research and long-term ecological monitoring. Any proposed conservation actions would integrate positively with local cultures and livelihoods. (Gonzalez)
 - Result 2.1.3 Collaboration with the California Landscape Stewardship Network on identification of biodiversity conservation corridors. (Jarvis)
 - Result 2.1.4 Improved effectiveness of conservation of coastal and marine ecosystems through applied scientific research and monitoring.
- Objective 2.2 Expand land and water area under effective conservation for biodiversity to meet the global, national, and state goals of 30% protection by 2030 (30 x 30 goal).
- Result 2.2.1 Executive advice to the California Natural Resources Agency on the 30 x 30 goal. (Ackerly, Jarvis)
 - Result 2.2.2 Increased collaboration on conservation among government, universities, and non-profit organizations through participation in the California Biodiversity Network. (Ackerly, Jarvis)
- Objective 2.3 Educate a new generation of conservation leaders on effective biodiversity conservation.
- Result 2.3.1 International professionals trained on effective protected areas management. (Jarvis)
 - Result 2.3.2 Online course developed for the International Union for Conservation of Nature (IUCN) Academy. (Ackerly, Jarvis)
 - Result 2.3.3 Increased knowledge of students taught in UC Berkeley courses in ecology. (Battles, Beissinger, Dawson, Gonzalez, Merenlender, Middleton, Ruhi, Stephens, Tsutsui)

Goal 3 Improve the experience of nature for all, from cities to wilderness

- Objective 3.1 Improve access and experiences of nature for underserved groups.
- Result 3.1.1 Improved integration of Indigenous co-stewardship of natural and cultural resources into federal and state land management, through a workshop with Indigenous resource managers, government agency staff, and scientists. (Jarvis)
 - Result 3.1.2 More youth experiencing science and nature in San Francisco Bay Area communities and East Bay Regional Parks. (Tsutsui)
 - Result 3.1.3 Applied research to address environmental justice by improving access to urban parks and recreation. (Wolch)
 - Result 3.1.4 Assistance to one city in converting paved spaces to green spaces.
- Objective 3.2 Improve physical health of people by connecting them to nature.
- Result 3.2.1 More people experiencing the health benefits of enjoying nature, by extending successes of healthy parks–healthy people programs.
 - Result 3.2.2 Applied research on public health. (Balmes, Bertozzi, Corburn)

- Objective 3.3 Enliven the emotional and ecological well-being of people.
 - Result 3.3.1 People happier through Greater Good Science Center podcasts that discuss emotional well-being from experiences in nature and ecological well-being from life practices that protect our world from climate change. (Keltner, Gonzalez)
 - Result 3.3.2 People happier through experiences of awe in national parks. (Keltner, Gonzalez, Jarvis)

Goal 4 Assure future Institute work for parks, people, and biodiversity

- Objective 4.1 Establish a strategic plan to guide the Institute to effective results.
 - Result 4.1.1 Draft plan (Gonzalez)
 - Result 4.1.2 Input on current and future work (all Institute colleagues)
 - Result 4.1.3 Finished plan (Gonzalez)
- Objective 4.2 Produce an Institute logo.
 - Result 4.2.1 Logo that is distinctive and conforms with university visual identity guidelines (Gonzalez)
 - Result 4.2.2 Logo used in Institute communications (all Institute colleagues)
- Objective 4.3 Produce a content-rich and visual web site.
 - Result 4.3.1 Revised web site with updated text, photos, and organization (Gonzalez)
 - Result 4.3.2 Redesigned graphic elements of web site (Gonzalez with UC College of Natural Resources)
- Objective 4.4 Co-publish *Parks Stewardship Forum*, with the George Wright Society, as a key knowledge resource for conservation professionals.
 - Result 4.4.1 Advice on the Editorial Board (Jarvis, Beissinger, Doremus)
 - Result 4.4.2 Increased action by readers on climate change, prompted by a new column – Climate Change Solutions (Gonzalez)
- Objective 4.5 Increase the involvement of the Faculty Affiliates, a tremendous resource of knowledge and enthusiasm.
 - Result 4.5.1 Institute web site news on Faculty Affiliate work (Gonzalez)
 - Result 4.5.2 Funding for Ph.D. students of Faculty Affiliates from successful Institute funding proposals for one- to two-year applied research efforts that will assist field managers or government policymakers
 - Result 4.5.3 Official recognition letters to individual faculty from the Dean
 - Result 4.5.4 Inclusion of the Institute as an additional affiliation on publications (all Institute colleagues)
- Objective 4.6 Strengthen key partnerships.
 - Result 4.6.1 George Wright Society (Jarvis, Gonzalez)
 - Result 4.6.2 Department of the Interior Cooperative Ecosystem Studies Unit (Jarvis, Gonzalez)
 - Result 4.6.3 Point Blue Conservation Science (Ackerly, Gonzalez)
 - Result 4.6.4 Other university centers working on protected areas

Objective 4.7 Recognize century of UC Berkeley providing science to the U.S. National Park Service.

Result 4.7.1 George Meléndez Wright brass door plates for original 1930s U.S. National Park Service offices in Hilgard Hall (Gonzalez)

Result 4.7.2 A. Starker Leopold Lecture on UC Berkeley science in the U.S. national parks (Gonzalez with UC College of Natural Resources)

Objective 4.8 Obtain funding from research organizations, philanthropic donors, government agencies, and non-governmental organizations, according to a separate plan on funding. (Jarvis, Gonzalez, with UC College of Natural Resources)

Result 4.8.1 Funding for salary of a scientist, serving also as Executive Director

Result 4.8.2 Funding for tuition and salary of Ph.D. student researchers

Result 4.8.3 Funding for field research

Institute Colleagues

Executive Director
Faculty Co-Director
Faculty Co-Director
Chair of the Board of Advisors
Dean, Rausser College of Natural Resources

Patrick Gonzalez
Steve Beissinger
Holly Doremus
Jonathan Jarvis
David Ackerly

Faculty Affiliates

David Ackerly
John Balmes
John Battles
Steve Beissinger
Stefano Bertozzi
Eric Biber
Jason Corburn
Todd Dawson
Holly Doremus
J. Keith Gilless

Patrick Gonzalez
Dacher Keltner
Charles Marshall
Adina Merenlender
Arthur Middleton
Albert Ruhi
Scott Stephens
Neil Tsutsui
Jennifer Wolch

Board of Advisors

Nikki Buffa
Caryl Hart
Jonathan Jarvis
Zachary Knight
Gary Machlis
Michael Mantell
Daphne Miller

Strategic Plan

Writer – Patrick Gonzalez
Reviewers – Institute colleagues
Leaders for results – (in parentheses,
for activities with identified leaders)