State of the College
College of Natural Resources
David Ackerly, Dean
September 5, 2019
Notes

• The State of the College is designed to share a range of data and perspectives on the past, present, and future of CNR.

• Please excuse the length of the PowerPoint – for this first presentation, I wanted to cover a range of topics to serve as a baseline for future updates.

• The ‘Notes’ slides provide brief annotations for those who didn’t hear the talk, to provide context and commentary.

• Thanks. – David Ackerly
Presentation Outline

- CNR ‘by the numbers’
- Faculty Updates + Initiatives
- Student Updates
- Diversity, Equity, and Inclusion
- Buildings and Facilities
- Development and Finances
- Signature Initiatives
College of Natural Resources: Berkeley’s Land-Grant Legacy

1863
Abraham Lincoln signs Morrill Act, creating land-grant university system

1868
University of California founded: College of Agriculture, Mining and Mechanical Arts (one of the founding colleges)

1912
Department of Forestry created

1947
School of Forestry created

1974
College of Natural Resources formed from merger of College of Ag and School of Forestry
Department Overview

ARE
- PhD: 16
- EEP: 1

ERG
- PhD: 5
- Master’s: 1

ESPM
- PhD: 46
- Forestry & Range Master’s: 1
- S&E, CRS, MEB, EMF, ES: 1

NST
- PhD: 2
- Metabolic Bio Master’s: 1
- NS-D, PM, Tox: 1

PMB
- PhD: 2
- GPB: 1

MDP
- Master’s of Development Practice: 1
CNR by the numbers

- 5 Academic Units
- 7 PhD Programs
- 114 Senate Faculty
- 19 Cooperative Extension Specialists
- 31 Adjunct Faculty
- 362 PhD Candidates
- 9 Undergrad Majors
- 2,400 Undergrad Students
- 56 dept & admin staff
- 15 Lecturers
- 5 Master’s Programs
- 110 Master’s Students
- 130 Postdoctoral Researchers
- 83 Research Staff
- 9 Undergrad Minors
CNR by the numbers

19 members of the National Academy of Sciences

30 American Association for the Advancement of Science Fellows

3 Wolf Prize Winners

10 members of the American Academy of Arts and Sciences

7 Macarthur Fellows
CNR by the numbers

**Spring 2019:** largest ever graduating class
500+ seniors (~30% junior transfers)

**Fall 2019:** largest ever incoming class
529 First-year students 124 Junior transfers

CNR has a diverse student body

- 65% Of undergrads identify as female
- 54% Of undergrads identify as URM & Asian
- 54% Of grad students identify as female
- 24% Of grad students identify as URM & Asian
CNR by the numbers

- $56M operating budget
- $37.5M sponsored research funding
- $121M endowment
Research Highlights

- Mojave birds crashed over last century due to climate change
- Environmental regulations drove steep declines in U.S. factory pollution
- Smallest life forms have smallest working CRISPR system
- Berkeley’s soda tax election changed drinking habits months before prices went up
- A reversible switch for algal photosynthesis
- Harnessing the cellular “trash can” to fight cancer
- Independent solar power could offer reliable electricity to sub-Saharan Africa

More online at nature.berkeley.edu/news
Features on CNR’s news site

More online at nature.berkeley.edu/news
‘CNR in the News’ Highlights

- **America’s new recycling crisis, explained by an expert**
  Kate O’Neill (ESPM) on Vox (also Wall Street Journal, Aljazeera, NPR Marketplace, and dozens more)

- **Op-Ed: Why Housing Policy Is Climate Policy**
  Dan Kammen (ERG) in the New York Times

- **What is extinction? The answer is complicated.**
  Steve Beissinger (ESPM) in National Geographic

- **The End Of The Longest-Running Warming Experiment**
  John Harte (ERG, ESPM) in Forbes

- **Can California avoid a third year of fire catastrophe?**
  Scott Stephens (ESPM) in the San Francisco Chronicle

More online at nature.berkeley.edu/press-room
2018-19 Honors and Awards

External Awards

- **David Zilberman** (ARE) awarded the Wolf Prize in Agriculture
- **Steve Beissinger** (ESPM) & **John Harte** (ERG) elected Fellows of the Ecological Society of America
- **James Olzmann** (NST) appointed Chan-Zuckerberg Biohub Investigator and Presidential Early Career Award
- **Inez Fung** (ESPM) and **Brian Staskawicz** (PMB) elected foreign members of Royal Society
- **Allen Goldstein** (ESPM) elected Fellow of American Association for the Advancement of Science
- **Ron Amundson** (ESPM) elected a Fellow of the American Geophysical Union

Internal Awards

- **Rachel Morello-Frosch** (ESPM) received Chancellor's equity and inclusion award
- **Kay Burns** (ERG), **James Sallee** (ARE), and **Ricky Vides** (CNR) recognized for advising excellence
- **Alastair Iles** (ESPM) honored with Chancellor’s sustainability award for his research, teaching, and outreach and for his role as the founding co-director of the Berkeley Food Institute
- **Students of Color Environmental Collective** selected for the Student Group - Civic Engagement award from the Chancellor for their contributions to the campus community
Notes

• The previous three slides highlight research, news coverage, and prizes and awards won by members of the college.

• Many thanks to Julie Gipple and the communications team for managing our news, press, and other web pages, and for editing and publication of Breakthroughs, our twice yearly magazine.
CNR Executive Committee

Newly elected for 2019-2021 terms

Arajit Majaran
ARE, Chair

Duncan Callaway
ERG

Celine Pallud
ESPM

Maggi Kelly
ESPM

Neil Tsutsui
ESPM

Marc Hellerstein
NST

Michi Taga
PMB

Kathleen Ryan
PMB

Scott Stephens
ESPM
CNR Advisory Board
Alumni, Retired Faculty and CE, and Students

Stacey Baba  Richard Beahrs  Arianna Carughli  Mike Cheng  Caroline Maser  
Chair

Michael Colvin  Josh Fisher  David Gilbert  Kathleen Green  Steven  
McCormick  

Cliff Ohmart  John Pardee  

Michael Jani  Janet King  Vernard Lewis  William Liu  
Vice Chair

Vince Resh  Sandeep Sacheti  Linda Schacht  
Gage  John Scharffenberger  

David Warner  Bryan Wilson  William Woods  

Viana Pham  Chloe Cho  

University of California College of Natural Resources
Notes

• The CNR Executive Committee represents the faculty. They reviewing curricular proposals, research centers, and some student petitions or concerns.

• The CNR Advisory Board meets twice a year, providing advice and support to the Dean for new initiatives, philanthropic efforts, and alumni perspectives on our research, training and service activities.
The Faculty and CE Specialists
CNR Faculty by Rank/Step

- Assistant CE Specialist
- Assoc. and Full CE Specialist
- Assistant Professor
- Associate Professor
- Full Professor
- Full Professor A/S
Faculty Members per Rank, by Gender

- Assistant CE Specialist
- Assoc. and Full CE Specialist
- Assistant Professor
- Associate Professor
- Full Professor

Female: Dark blue
Male: Orange
Notes

• These slides show the distribution of faculty and Cooperative Extension specialists, by gender and career stage.

• The distribution of faculty across career stages is balanced overall. Faculty spend fewer years as Assistant and Associate, and more as Full Professors. A small number advance to Professor Above/Scale as a mark of long and distinguished Berkeley careers.

• Across the college, 31% of faculty and 44% of CE specialists are female. The proportion is higher for Assistant and Associate ranks. Assuming these trends continue in current hiring, the gender balance will (slowly) become more even.
Faculty Trends 2008-2018

By 2020
111

Berkeley UNIVERSITY OF CALIFORNIA
College of Natural Resources
Notes

• The total size of the UC Berkeley faculty has shrunk by about 75 positions since the 2008 financial crisis. The decline was larger in CNR, relative to our size, as hiring has not kept pace with retirements and separations.

• If all currently authorized searches are successfully filled, the college will have net growth in the next year.
Faculty Hiring
Life Sciences Initiative and Cluster Hire Proposals
Faculty & CE hiring – 2018-19

- Environmental Sciences, Policy, and Management
  - Open search – in progress
  - Life Sciences Initiative – Ben Blonder
  - HIFIS search – in progress

- Nutritional Science and Toxicology
  - Engineering of Human Metabolic Health (open rank) – in progress
  - Computational Approaches to EHMH (.5 with CCB) – Denis Titov
  - Cooperative Extension Specialist – Susana Medrano

- Plant and Microbial Biology
  - Fungal biology – in progress
  - Adaptation and Response to Climate – Ben Williams
  - Life Sciences Initiative – <announcement soon>
Life Sciences Faculty Initiative

• Five positions in life sciences across CNR, L&S Biological Sciences, and Chemistry
• “candidates [with] commitment to equity and inclusion.”
• Require statement outlining Contributions to Diversity
• 250 passed first review out of 1,000 applicants
  • PMB and ESPM recruiting successful candidates
• ESPM and PMB followed same procedures
Notes

• CNR participated in the Life Sciences Faculty Initiative, piloting innovative search practices to seek faculty with joint excellence in research and demonstrated commitments to diversity, equity and inclusion.

• We will draw on best practices and lessons learned from the initiative in future searches.
Cluster Hire Proposals

• Campus has committed to 5 clusters over 5 years:
  • “Five scholars each working on social, historical, cultural, and other topics related to populations that have been historically underrepresented…”

• CNR participating in one cluster, with two more under review:
  • Native American Studies – ESPM search approved for Teaching Year 2020-21
  • Climate Equity and Environmental Justice – revised proposal invited
  • Latinx and Democracy – revised proposal invited
Faculty Searches – 2019-20

- Agricultural and Resource Economics
  - Broad Search (NT)

- ESPM/ERG (50:50)
  - Sustainability and Equity (NT)

- Environmental Science, Policy, Management
  - Vegetation Dynamics in Changing Environments (NT)
  - Native American Studies and the Environment (NT)

- Plant and Microbial Biology
  - Plant Biochemistry/Metabolism (NT)*

*Grace Kase STEM Chair
Students
Admissions and Experience
Admits and Registered

[Graph showing the number of admits and registered students from 1996-97 to 2019-20, with two lines representing different data sets.]
Notes

• CNR has expanded enrollment almost three-fold since the early 2000s. Over that time admissions rate have declined, reflecting the even greater increase in the number of students applying.
Where They Were From
Class of 2017

- Admitted Students: 392
- Transfer out of CNR: 105
- Transfer into CNR: 238
- Students Graduate: 525
Introduction

The University of California Undergraduate Experience Survey (UCUES) is a biennial survey conducted at UC's nine undergraduate campuses. It provides valuable information about student behaviors such as their use of time working, studying, socializing, and participating in campus activities; their level of academic engagement such as how much course material they read, classroom participation, and collaborative learning; their self-ratings of academic and interpersonal skills; and their involvement in community service. Results are used to better understand the academic and co-curricular experiences of students, assist with program evaluations, assess financial aid packages, and understand campus climate.

The data tables present summary results of student responses to UCUES by survey administration year, survey topics, and various student demographics. It provides the frequency and percentage of students who respond to each survey question. The longitudinal dashboard compares responses to the same questions across seven administrations.
UC Undergraduate Experience Survey (UCUES) Chart – Faculty, Course Quality

Faculty Advising
College Advising
Department Advising
Upper Division Course Quality
Lower Division Course Quality
Graduate Instruction
Faculty Instruction
CNR
Notes

• The UCUES survey is administered every two years to current students.
• CNR consistently receives very high scores for advising and instruction.
• The ‘spider plot’ shows averages for each College or division of Letters and Sciences. Values increase away from the center of the circle for each measure.
UC Undergraduate Experience Survey (UCUES) Chart – Academic Experience

- Major Course Availability
- GE Course Availability
- Faculty Access
- Research Opportunities
- Library Resources
- Small Classes
- Ability to Get Into Major

CNR
Notes

• We don’t outshine the other colleges in all respects, and the UCUES provides lots of data to reflect on where we can continue to improve.
# Self-Reported Proficiency

Example

## Academic and Personal Development

Please rate your level of proficiency in the following areas when you started at this campus and now.

<table>
<thead>
<tr>
<th></th>
<th>Very Poor</th>
<th>Poor</th>
<th>Fair</th>
<th>Good</th>
<th>Very Good</th>
<th>Excellent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analytical and critical thinking skills when you started here</strong></td>
<td>116</td>
<td>491</td>
<td>3,170</td>
<td>4,060</td>
<td>1,845</td>
<td>551</td>
<td>10,233</td>
</tr>
<tr>
<td></td>
<td>1%</td>
<td>5%</td>
<td>31%</td>
<td>40%</td>
<td>18%</td>
<td>5%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Analytical and critical thinking skills now</strong></td>
<td>44</td>
<td>84</td>
<td>739</td>
<td>3,145</td>
<td>4,473</td>
<td>1,718</td>
<td>10,203</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>1%</td>
<td>7%</td>
<td>31%</td>
<td>44%</td>
<td>17%</td>
<td>100%</td>
</tr>
</tbody>
</table>

+11 more questions

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**Mean on arrival**

**Mean @ graduation**
Notes

• Students are asked to report proficiency in a dozen different categories, once upon arrival and again at graduation.

• The increase represents self-reported improvement in skills in proficiency.

• The next slide shows a Principal Components Analysis (PCA) of mean improvement across colleges and L&S Divisions, CNR departments, and several ‘sister departments’ (MCB, IB, Geography, Economics, etc.)

• CNR has the highest mean improvement score in the first PCA axis, which captures most measures. We are close to university averages on PCA axis 2, which mostly reflects quantitative skills.
UCUES Self-Reported Skill Advancement
Principal Components Analysis

KEY
- Campus mean
- CNR mean
- CNR Dept. and Majors
- Other colleges
- 'Sister' depts

Higher
Quantitative proficiency

Lower
General Education Proficiency
Higher

Berkeley
UNIVERSITY OF CALIFORNIA
College of Natural Resources
Diversity, Equity, and Inclusion (DEI) Initiatives and Programs
Diversity, Equity, and Inclusion

Admissions, Hiring, and Retention

Research & Curriculum

Campus Climate

Berkeley
UNIVERSITY OF CALIFORNIA
College of Natural Resources
Notes

• Diversity, equity, and inclusion are integral to all aspects of our mission and community.
• Admissions, hiring, and retention shape student, staff, and faculty diversity.
• Research and curriculum captures both what and how we study and teach.
• Campus climate captures all aspects of our community culture and respect for individuals of diverse backgrounds.
• The three are intertwined and interdependent.
Notes

• Staff data updated since the presentation – apologies for the delay.
• Diversity of race and ethnicity is highest among undergraduates, then graduate students, staff, and lowest among faculty.
• Trends in CNR are similar to campus as a whole.
• Lower diversity among faculty reflects very slow turnover, especially compared to the undergraduate population, as well as historic inequities in education and opportunity leading to academic careers.
DEI Highlights – 2018-19

**Department initiatives**
- Equity and Inclusion strategic planning

**Dean’s Office initiatives**
- Life Sciences Initiative (above)
- Summer internship support
- ‘How to be a CNR scientist’ seminar
- Inclusive pedagogy seminar (Dean Sork, Life Sciences, UCLA)

**Two initiatives arising in CNR**
- Latinx and the Environment Second Annual Summit
- **Students of Color Environmental Collective** mentorship DeCal and program (received Student Engagement Award)
DEI: 2019-20 Initiatives
Partial List

• Faculty hiring procedures – embedding diversity review in all faculty searches

• Workshops and discussion opportunities (e.g., implicit bias)

• Develop inclusive pedagogy resources

• Student support via OISA programs

• Develop DEI web pages and list-serve

• Develop DEI portfolio for donors

May ’19 Retreat
DEI: 2019-20 Initiatives

Announcing creation of CNR
Associate Dean for Equity and Inclusion

AVC
Oscar Dubón

CoE AD
Kara Nelson

L&S BioSci AD
Gian Garriga

CNR AD
Notes

• In Fall 2019, we will solicit nominations for a faculty member to serve in a new position of Associate Dean of Equity and Inclusion.

• This position will join others recently created on campus.

• The position will include play a key leadership role guiding college and departmental DEI initiatives.
Notes

• Campus has initiated a major review of capital strategies for new construction and seismic renovations, focused on renewal of STEM facilities across CNR, Engineering, L&S, and Chemistry.

• Tolman demolition was first step, and eventually Evans is targeted for replacement, requiring numerous steps to surge current occupants to new locations (temporary or permanent).
Northwest Campus

KEY
- New construction or full renovation
- Ongoing renovation and renewal
- Wellman: Seismic VI
- Potential capital projects
  - A. Oxford Tract
  - B. Tolman
  - C. CNR Quad
Tolman Replacement

- Identified as top priority for campus
- Size and purpose of new buildings not yet decided
- Key decision-making planned for Fall 2019
CNR Quad

Rendering of Quad with a 4th building matching historical style
Notes

• The CNR Quad has been identified as an opportunity for new construction, depending on financing.

• This drawing is from the campus long range development plan many years ago, showing what the Quad could look like with a fourth building.

• The recent announcement that Wellman was a seismic ‘VI’ adds a new dimension as it will also require eventual renovation.
Discussions with administration continue.

**Scenario 2**

Presented in 2018 report is being used as starting point.

*Scenarios presented in 2018 Planning Committee Report*
Notes

• Campus is committed to building a student dormitory on part of the Oxford Tract.
• ‘Plan B’ from the 2018 planning committee currently serves as the starting point for planning.
• Dormitory and greenhouse designers will begin work to propose how the two projects will share the site.
Smyth-Fernwald
Site of a future student garden?
Notes

• Smyth-Fernwald, just north of Clark Kerr, had graduate dormitories which were removed after the 1989 earthquake.

• The site sits on the Hayward fault and is unlikely to be a site for development.

• An opportunity exists to explore development of a student garden and/or research field.
Development and Finances
Philanthropy, Funding, and Revenue
Expenses – Recent Trends

In Millions

**5-Year Total Expense Trend**

**Contracts and Grants**
Revenue and Expenses

FY19 Revenue & Operating

- Campus Support, 74%
- Professional Degree/Courses, 2%
- Gift & Endowment, 11%
- Centers & Facilities, 3%
- ANR, 9%
- Other Awards, 1%
- Summer Session, 1%

FY19 Expenses

- Supply & Expense, 14%
- Faculty Salaries, 36%
- Retirement & Benefits, 20%
- GSR/GSI/Readers, 13%
- Staff, 12%
- Other Academics, 5%
- Other, 1%
Notes

• CNR’s total revenue and expenses (excluding research grants) have grown to $56M in fiscal year 2019 (ending 7/1/19).

• Campus funding (tuition and state funds together) is the most important revenue source.

• UC Division of Agriculture and Natural Resources (ANR) funds the Cooperative Extension program.

• About 85% of expenses are salary, benefits, and retirement for faculty, staff, lecturers, and graduate student instructors.
Annual Giving to CNR
All Types of Gifts

FISCAL YEAR 2019 at a glance.. (as of 8/26/2019 5:29:55 AM)

AMOUNT

Fiscal Year 2019
Summary Area of Giving
Natural Resources - Col...
Area of Giving All
Department All

DONOR COUNT

2015 2016 2017 2018 2019
$12.70M $8.22M $10.17M $10.68M $18.79M
1,156 1,335 1,429 1,657 1,565
Funds and Market Value
Dollars in Millions

### Funds Distribution

<table>
<thead>
<tr>
<th>Year</th>
<th>Funds (in Millions)</th>
</tr>
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<tbody>
<tr>
<td>13-14</td>
<td>1.61</td>
</tr>
<tr>
<td>14-15</td>
<td>2.01</td>
</tr>
<tr>
<td>15-16</td>
<td>2.79</td>
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<tr>
<td>16-17</td>
<td>3.16</td>
</tr>
<tr>
<td>17-18</td>
<td>3.34</td>
</tr>
<tr>
<td>18-19</td>
<td>3.48</td>
</tr>
</tbody>
</table>

### Market Value

<table>
<thead>
<tr>
<th>Year</th>
<th>Value (in Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-14</td>
<td>46.2</td>
</tr>
<tr>
<td>14-15</td>
<td>83.6</td>
</tr>
<tr>
<td>15-16</td>
<td>81.5</td>
</tr>
<tr>
<td>16-17</td>
<td>94.0</td>
</tr>
<tr>
<td>17-18</td>
<td>98.8</td>
</tr>
<tr>
<td>18-19</td>
<td>121</td>
</tr>
</tbody>
</table>
Notes

• CNR philanthropy had a record year in FY19, with $18M in total giving.
• Gifts included ~$9M added to the endowment and $7.2M in operating funds (including $4.1M in foundation grants).
• CNR’s endowment has reached $121M market value, with an annual payout of almost $3.5M.
Development and Philanthropy

- **Grace Kase** and **Harry Tsujimoto** ($3M)
  - Endowed Faculty Chair
  - New Assistant Professor position in PMB
- Kelso Endowment - $5M
  - $1M as matching fund to build up grad student endowment funds
  - $4M unrestricted
- Endowments critical for faculty recruitment and renovation, grad fellowships, etc.
- CNR Annual Fund supports SPUR and other Dean’s Office initiatives
Strategic Planning
Signature Initiatives and Implementation
Signature Initiatives

Environmental Change, Sustainability and Justice
- Earth’s Future: Advancing Climate Science for Action
- Accelerating the Clean Energy Transition
- Answers for Adaptation: Sustainable and Just Solutions for the New Normal

Charting a New Course to Health and Well-being
- A Sustainable and Equitable Food System for People and the Planet
- Healthy Development from Infancy through Adolescence
- Charting a New Course for Neurodegeneration & Aging
Our shared mission...
Notes

• The triangle on the next slide represents our historic mission focused on food, forestry, and Californian agriculture.

• Over time (the following slide), these have expanded into diverse aspects of microbial and plant biology; nutrition and metabolic disease; energy, climate, and sustainability; land use, conservation, forest management, and wildlife biology; environmental economics and policy; equity and environmental justice; and more!
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