

Warren J. Baker Endowment

for Excellence in Project-Based Learning

Robert D. Koob Endowment *for Student Success*

The logo for Cal Poly, featuring the words "CAL POLY" in white, serif, all-caps font on a dark green rectangular background.

PROPOSAL NARRATIVE

(Max. of 3 pages including figures/tables but excluding budget page, 1" margins, 12-point font. See Sec.XII of RFP for more details.)

Proposals not complying with format guidelines will not be considered.

I. Project Title

The Real Food Challenge: Establishing Baseline Information and Assessing the Feasibility and Impact of Implementation

II. Abstract

It is widely believed that the CSU has signed on to the Real Food Challenge (RFC), a grassroots movement seeking to increase the proportion of university food spending on “real food,” which is defined as “local/community-based, fair, ecologically sound and humane.” These principles not only benefit the environment but also producers, consumers, and stakeholders. However, despite widespread support for the movement within the CSU, no consensus has actually been reached on implementation. This project focuses on produce sourcing data provided by the Cal Poly Center for Sustainability and the Cal Poly Real Food Collaborative to assess current university practices and impacts through geospatial and statistical analyses.

III. Introduction

The modern food-supply chain is one where the food we consume travels from farms to packaging centers, to distribution centers, to grocers, restaurants, or institutions before finally being eaten by the consumer. The current food trading system adversely affects the health and well being of thousands of Californians by increasing pollution levels, which contributes to increased greenhouse gas emissions and higher asthma rates. Equal stakeholder representation is a tenet that is often lacking within large-scale food systems; in order to mitigate this issue, a just food system would incorporate the well being of laborers, producers, distributors, buyers, consumers, the environment, and other third parties negatively affected by production and distribution. The combination of issues related to environmental impacts, health concerns, and equal access to healthy, fresh foods poses the question: How can university food-sourcing practices be improved to mitigate the effects of the larger food trading system?

The RFC is a grassroots food movement that intends to shift \$1 billion of existing university food budgets away from industrial farms and toward local, community-based farms that are ecologically sound and humane by 2020. In accordance with the RFC, the CSU system

aims to source 20% of campus food from farms and businesses that align with characteristics of a just food system. This project seeks to provide a comprehensive analysis of recent Cal Poly food purchases and their relationship to producer and consumer health. Results will provide a baseline picture of current produce purchases, thereby bolstering knowledge on the current campus climate, and ultimately contribute to campus-wide planning and implementation of effective and sustainable food strategies. This project will draw on knowledge and applicable skills from an array of diverse backgrounds including anthropology, geography, biology, nutrition, kinesiology, ecology, and geospatial analysis. The application of interdisciplinary major related coursework to campus research is in alignment with the “Learn by Doing” philosophy of Cal Poly and will provide a framework for future CSU sustainability action.

IV. Objective(s)

- 1) Provide a baseline geospatial analysis of Cal Poly’s fresh produce sourcing.
- 2) Assess the sources of campus produce to decipher how much of it is organic, local, humane, and fairly traded; identify how much of it is “real food.”
- 3) Assess associated impacts of food supply chains with standardized metrics, such as food miles and health disparities.
- 4) Conduct qualitative research pertaining to sustainable food sourcing on other California university campuses and the relative importance of food sustainability to members of the Cal Poly community.
- 5) Produce a geospatial simulation of a regionally based food supply chain.
- 6) Contribute to the Real Food Challenge—to make 20% of all campus food “real” by 2020.

V. Methodology

Measures. Geospatial analysis will focus on location and cost data provided by Cal Poly Center for Sustainability. These data consist of all produce purchases over three non-consecutive months in 2013-14, including food items, costs, and sources. Additional standardized metrics, including distance and food miles, will be paired with Cal Poly produce data. Food miles are a measure of food distance travelled, inclusive of associated pollution levels and ecological impacts. Health metrics data, including relative rates of asthma, cancer, and respiratory disease, will be publically sourced and paired with Cal Poly produce data.

Data collection. Produce data were provided by the Cal Poly Center for Sustainability and the Cal Poly Real Food Collaborative. These data were initially made available to calculate Cal Poly’s investment in ‘real food’ and will serve as the basis for all analyses. Further data collected from the USDA will be used for the simulation of a regionally based food supply chain with farms within San Luis Obispo County and adjacent counties. Qualitative data will be collected from farm visits, which will be useful for understanding the context of local farmers and their motivation for partnering with university sustainability initiatives. Qualitative and quantitative data will be gathered among members of the Cal Poly community, including students, faculty, and staff, with the primary goal of understanding the meaning and relative importance of campus food sustainability. In combination with a review of annual food service reports and feasibility studies published by the University of California, qualitative case studies from UC Santa Cruz and UC Santa Barbara will be completed to provide effective models with which to

compare Cal Poly's food sustainability initiatives. Additional data on health impacts will be gathered from publicly available health organizations, including the Center for Disease Control and Prevention.

Analyses. Analysis of existing GIS data available through the United States Geological Survey (USGS), USDA and Cal Poly produce data will be conducted through the use of ArcMap and ArcGIS Online. Analyses aim to represent food transportation routes and spatial relationships between Cal Poly and sources of produce. Additional layers will analyze demographic, health, economical, and environmental impacts related to the food-trade system. Bivariate statistical tests will be run on to establish significant relationships.

VI. Timeline

3/13/16: Formalize outlines of each student research's scope of research

3/15/16 - 4/15/16: Data collection (farm visits, UC visits, case studies, surveys)

4/15/16 - 5/15/16: Data analysis

5/16/16 - 6/5/16: Project write-up

5/29/16: Final draft of senior project submitted for review

5/30/16 - 6/10/16: Revisions and Senior project submission

6/10-6/25: Write-up of two papers for submission to peer reviewed journals

6/27/2016: Present findings at California Higher Education Sustainability Conference

VII. Final Products and Dissemination

Final products will include: (1) a complete 60-70 page report on the analysis of produce sourcing at Cal Poly, which will serve as a team-based senior project; (2) policy-oriented maps displaying geo-spatial relationships between Cal Poly, distributions centers, and farms; (3) policy-oriented simulation of a regionally-based food supply chain. Results will be disseminated in the form of: (1) two student co-authored publications in a peer-reviewed journals; (2) a comprehensive senior project submitted to Kennedy Library and housed in their database; (3) student-authored presentation at the California Higher Education Sustainability Conference; (4) student-authored CSU student research competition presentation.

VIII. Budget Justification

To complete this project, we will need supplies such as writing utensils, paper, and printer ink (\$20), in addition to a Survey Monkey subscription (\$26/month x 3 = **\$78**). The California Higher Education Sustainability Conference will take place June 27th-July 1st, 2016, where we will need to pay for registration (\$119/person x 4 = **\$476**); mileage (1 car x 450 m. round-trip x \$0.54/m. = **\$243**); lodging (1 room x 4 nights x \$149/night = **\$596**); per diem (4x 5 days x \$55/day = **\$1,100**), for a total of **\$2,415**. We will need to meet with representatives of Real Food Initiatives at UC Santa Cruz and UC Santa Barbara. Cumulative mileage for both trips (1 car x 530 m. round-trip x 0.54/m.= **\$286**); cumulative lodging (1 room x 1 night x \$149/night x 2= **\$298**) cumulative costs per diem (4x 2 days x \$55/day x 2= **\$880**) **for a total of \$1,464**. We will also travel to farms throughout Tulare, Kern, Santa Barbara, San Luis Obispo County. Cumulative mileage for these four counties (1 car x 1075 mi round-trip x \$0.54/m.= **\$580**) and cumulative cost per diem (2 x 1 days \$55/day= \$110 x 4 counties= **\$440**) **for a total of \$1,020**.

Warren J. Baker Endowment

for Excellence in Project-Based Learning

Robert D. Koob Endowment *for Student Success*

PROPOSAL BUDGET

Student Applicant(s): Olivia Surnow, Ariana Brandao, Stacey Olson, Elizabeth Jacobs	
Faculty Advisor: Dawn Neill	
Project Title: The Real Food Challenge: Establishing Baseline Information and Assessing the Feasibility and Impact of Implementation	Requested Endowment Funding
Travel <i>subtotal</i>	\$4,423
Travel: In-state	\$4,423
Travel: Out-of-state	\$0
Travel: International	\$0
Operating Expenses <i>subtotal</i>	\$ 574
Non-computer Supplies & Materials	\$10
Computer Supplies & Materials	\$0
Software/Software Licenses	\$0
Printing/Duplication	\$10
Postage/Shipping	\$0
Registration	\$474
Membership Dues & Subscriptions	\$78
Multimedia Services	\$0
Advertising	\$0
Journal Publication Costs	\$0
Contractual Services <i>subtotal</i>	\$0
Contracted Services	\$0
Equipment Rental/Lease Agreements	\$0
Service/Maintenance Agreements	\$0
TOTAL	\$4,997

January 31, 2016

Michael D. Miller

Office of the Provost & Executive Vice President for Academic Affairs

Dear Mr. Miller,

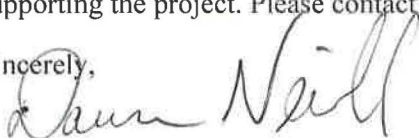
It is with great enthusiasm that I recommend this project for funding. The proposed research is an ambitious, student-led, interdisciplinary learn-by-doing team project that will contribute to Cal Poly's capabilities surrounding sustainable food practices. The project relies on existing food purchasing data provided by the Cal Poly Office of Sustainability, as well as several types of publically available data, to assess the environmental and social impacts of produce purchases within a framework of the Real Food Challenge. The project is expected to provide important baseline analyses that will not only inform current and future sustainability policy at Cal Poly and the CSU broadly, but also serve as a valuable baseline against which future gains can be measured. Results should contribute to student learning and to campus initiative around sustainability. The project will result in a team-based senior project, a conference presentation, a CSU student research competition presentation, and two student-authored, peer-reviewed publications.

Ariana, Elizabeth, Olivia, and Stacey are undergraduate students with diverse research skills and interests. They have all taken courses in Nutritional and/or Medical Anthropology and Geographic Information Systems. Additionally, Elizabeth is currently completing a prestigious internship at ESRI, a large GIS company in California; Stacey is currently a GIS intern in San Luis Obispo. Ariana has a well-developed background in food justice, research methods, and has worked with the Cal Poly Real Food Collaborative. Together, they bring a wide variety of collaborative expertise to the proposed research.

Dr. Marilyn Tseng (Kinesiology) and Dr. Dawn Neill (Social Sciences) will supervise the proposed research. Dr. Tseng and I will provide the students with three months of Cal Poly produce purchasing data. We will oversee additional data collection from publically available sources (e.g. CDC, USDA) that will facilitate a variety of geospatial and statistical analyses. Dr. Neill will oversee qualitative and quantitative data collection from Cal Poly community members. All data will be collected in accordance with approval from the Cal Poly IRB. Dr. Neill will conduct weekly meetings with the student research team overseeing all data management, analysis, write-up, and submission of manuscripts for peer review.

The proposed research presents a remarkable opportunity to engage four Cal Poly students in an impactful, data-driven project that contributes to the Cal Poly mission by highlighting our flagship learn-by-doing pedagogy and by contributing to campus food sustainability initiatives. I highly recommend supporting the project. Please contact me if there is more I can provide regarding the proposed research.

Sincerely,



Dawn Neill
dbneill@calpoly.edu

January 31, 2016

Michael D. Miller
Office of the Provost & Executive Vice President for Academic Affairs

Dear Mr. Miller:

I am delighted to write a letter to support this team's application to explore the feasibility of implementing the Real Food Challenge at Cal Poly. In October 2014, the California State University system informally endorsed the RFC but has yet to outline steps towards meeting the challenge. At Cal Poly, information on our current status in relation to RFC goals has not been consolidated, nor have any means been developed to track progress in meeting RFC goals. This team's proposed project is a critical first step towards addressing these knowledge gaps and has the potential to position Cal Poly among the leaders in the CSU system in this respect.

Besides the importance of the topic, also remarkable about this application are the students on the team. Each joined the effort with the same level of enthusiasm, but the interest manifests in a different way for each student – leading to a project with a uniquely diverse range of perspectives. Their interests include geospatial methods as well as environmental sustainability, health disparities, and social movements. All four students on the team, without exception, came with a strong interest to engage in a hands-on, Learn-by-Doing project with a tangible outcome and the potential to make a difference in their local environment.

I am pleased to serve as one of their faculty advisors, along with Dr. Dawn Neill. I have conducted research in public health nutrition for the past 20 years and can offer guidance at various stages throughout the project. I believe the team will be able to complete the project within the timeline specified, and I am hopeful that they will all have a chance to present their work in at least two conferences and two peer-reviewed publications. Their work will also be disseminated locally to form the basis for continued monitoring of Cal Poly's progress towards reaching the goals specified in the RFC.

In summary, I offer my fullest support for this application, and I look forward to working with this highly motivated team of student researchers.

Sincerely,



Marilyn Tseng, PhD
Research Professor, Kinesiology Department