STUDENT SUCCESS FEE – ACADEMIC RELATED PROGRAMS
APPLICATION FOR FUNDING

Student Success Fee academically related program funding is provided on an annual basis to programs or organizations to fund initiatives that have the potential to be high impact student learning opportunities. Each proposal must be submitted by a lead student and will need to be supported by a faculty, staff, organization adviser or campus administrator.

Typed forms should be submitted to your College Dean’s Office by 4pm September 24, 2014.

Project/Proposal Name:

Five Thousand Years of Human Impacts on Intertidal Ecology

Student Contact Name:  
Breana Campbell

Student E-mail Address

campbe13@rohan.sdsu.edu

College  
Arts and Letters

SDSU Student ID:  
810173488

Funding Amount Requested  
$5,425.19

Before submitting application to your College Dean’s Office, please have your sponsoring faculty or staff member review the project/application. Applications will not be considered without signature.

Approved by (print name & E-mail):

Signature: __________________________

Sponsoring Faculty / Staff / Organization Adviser

Describe the proposed project / event (max of 2500 characters)

Historical ecology is broadly defined as the use of paleobiological, archaeological, and historical data to trace ecosystem changes through deep time. This theoretical approach has been used to broaden our understanding of long-term ecological change, human-environmental interactions over the longue durée, and to provide context for conservation (Redman 1999). An important ecosystem for management is rocky intertidal habitats, which are frequently used by humans for recreational and subsistence harvesting (Smith et al. 2008). Intertidal species, such as California mussel (Californianus mytilus), black abalone (Haliothis cracheroidi) and red abalone (Haliothis rufescens), have long been a prime target for human foraging, and are especially vulnerable to overexploitation. Research also suggests that these species will be critically impacted by climatic challenges in the near future.

Archaeological records offer one method for testing the health and structure of rocky intertidal species against the deep history of human harvesting and natural climate change. The Northern Channel Islands are an excellent laboratory for measuring the health of intertidal species against thousands of years of human harvesting and climate change. Hundreds of radiocarbon dated shell midden sites (human refuse piles) contain millions of fragmented shells, gathered from adjacent rocky intertidal habitats. In addition, a high resolution climatic record of sea-surface temperatures (SST) from the Santa Barbara Basin is available (Kennett 2005) offering a detailed record of paleoclimatic changes. Combined, these offer historical ecologists the ability to decipher the effects of human harvesting against natural SST fluctuations through time.

Our proposed research will collect data on both prehistoric and modern intertidal species located on the Northern Channel Islands. Graduate and undergraduate students will analyze variation in species’ size through time at locations near modern marine protected areas. Size changes identified over thousands of years, the result of both human harvesting pressure and natural climatic change (Roy et al. 2003), will be compared to modern size data collected within marine protected areas. Using average size as a proxy for the health of these resources through time, a deep historical baseline can be developed for evaluating the health of modern rocky intertidal systems.
How many students will be involved in the project? Who is the intended audience? What is the benefit to your organization/major and to your college and/or university? (max of 580 characters)

The proposed project will involve four graduate and four undergraduate students, and provide unique research opportunities in archaeology and historical ecology. This innovative research will provide graduate students with the opportunity to work in leadership roles mentoring undergraduates. In addition, undergraduate students will gain an understanding of research methods, critical thinking, and practical applications of anthropological theory. This project will also contribute to current and future research conducted by the Anthropology department.

What will make your project/event a success (can include project goals and objectives)? (max of 580 characters)

Participation in this project will enhance the student learning experience by providing opportunities to work in a collaborative research environment. Goals for the project include student training in archaeological field and laboratory methods, fostering student research for presentation at conferences, including the Student Research Symposium, and contributing information to modern environmental management practices. A successful project will involve the publication of research findings in a peer reviewed journal and the presentation of results at academic conferences.

Time-table for implementation -- must occur between January 21, 2015 and May 30, 2015 (max of 480 characters)

Fieldwork will be conducted January 24 through January 31, 2015 on Santa Cruz Island. Santa Rosa Island fieldwork will be conducted March 28 through April 4, 2015. Laboratory analysis of the data collected will take place throughout the Spring 2015 semester. May 2015 will be used for students to prepare their research poster(s) for the 2016 Student Research Symposium.

ITEMIZED BUDGET - For each item select type of expense, provide description and cost

<table>
<thead>
<tr>
<th>Type of expense</th>
<th>Description - (60 characters or less)</th>
<th>Cost in dollars</th>
</tr>
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<tbody>
<tr>
<td>Student Travel</td>
<td>Round trip travel costs for four people to Santa Rosa Island</td>
<td>$1,400.94</td>
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<tr>
<td>Student Travel</td>
<td>Round trip travel costs for four people to Santa Cruz Island</td>
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<td>Supplies &amp; Services</td>
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<td>Supplies &amp; Services</td>
<td>Digital calipers (4)</td>
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<td>Supplies &amp; Services</td>
<td>Action packers (4) for transport of archaeological materials</td>
<td>$159.96</td>
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Academically Related Funding – Final report

College  Arts and Letters
Name of Project  5,000 Years of Human Impacts on Intertidal Resources
Student in Charge of Project  Breana Campbell
Amount of Funding Received  $5425.00

Estimate the number of students who participated, attended or were impacted by the (your) event.
at least 7 students: 4 graduate and 3 undergrads

Did you complete your Student Success Fee Academically Related Project?
Yes  No

If not, (please describe details):

If yes, please respond to the following questions.

1. How did this project meet the objectives stated in your original proposal?

Our project had several objectives: to collect size data for intertidal shellfish, to engage graduate and undergraduates in research, and to present our results at conferences. To fulfill the first objective, four graduate students conducted field surveys on the Channel Islands. During those trips we collected size data from 9 archaeological sites for California mussels, black abalones, and wavy-top turbanis. These data were then analyzed by graduate students and undergraduates and were used to train both graduate and undergraduate students to analyze and interpret the results. Results from our research trips have been presented at several conferences including the Student Research Symposium (March 2015), the Associated Graduate Students of Anthropology Symposium (April 2015), and will be presented at the Society of Ethnobiology conference (May 2015).

2. How did this project relate to your academic studies, major, and professional/personal development?

This project afforded me the opportunity to design and coordinate two research trips to the Channel Islands this included coordinating travel, collecting the necessary permits, and managing a budget. Additionally, three graduate students and I were able to attend several academic conferences (the Society for American Archaeology, Society for Ethnobiology, Associated Graduate Students of Anthropology Symposium, the Student Research Symposium) where we presented our data and discussed our results with other professionals and academics. Furthermore, these results will contribute to three graduate theses.

3. From your perspective, what were the most rewarding aspects of the project?
The most rewarding aspect of this project was our trips to the Channel Islands. We accomplished several goals and fine-tuned our skills as archaeologists, preparing ourselves for professional or academic work. Additionally, during our field surveys, we located what appears to be one of the earliest archaeological sites on the east end of Santa Rosa Island.

4. From your perspective, what were the most challenging aspects of the project?

The most challenging aspect of this project was completing all of the tasks within the allotted timeframe. Because the funds were not available to us until the first day of the Spring semester and only until the final day of the semester, it was difficult to coordinate our research trips. Fieldwork had to be conducted during the semester and we were forced to miss several of our classes. In addition, our advisor, Dr. Braje, was required to accompany us during this fieldwork. Archaeological research permits can only be granted to the research advisor and all fieldwork must be directed by a MA or PhD level archaeologist. As such, Dr. Braje had to work around his busy teaching and service schedule.

5. Do you have any suggestions on how to improve the SSF proposal funding process?

The biggest improvement that can be made to the SSF program would be the repayment process. I submitted receipts in early February and was not repaid until the beginning of April. I was told this was the result of understaffing which is understandable. However, because students are paying for these activities in advance and then being reimbursed, this is something that should be improved. Additionally, making the funds available through the academic year would help students to fulfill all of their project goals. The vast majority of fieldwork is typically conducted during the summer or winter breaks. Finally, expenses for necessary, required supervision (advisors) should be allowed under the SSF. In many cases, research cannot be conducted without accompaniment by faculty advisors due to research permit restrictions.

6. Do you have any “words of wisdom” for student who will apply for an award in future years?

The best advice I can pass along to students applying for future SSF funding is to create a project proposal that works to engage both graduate and undergraduate students. It was rewarding for us to be able to engage with students and teach them historical ecological methods for understanding human impacts on the environment.