### Submitter

**Submitter Name**
Linda O'Hirok

**Submitter Email**
linda.ohirok@csuci.edu

### 1. Basic Details

<table>
<thead>
<tr>
<th>Activity Title</th>
<th>Date Funding Needed By</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESRM 463 Water Resources Management Owens Valley Field Trip March 8-10, 2019</td>
<td>December 31, 2019</td>
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</table>

**Activity/Event Date**
March 8-10, 2019

**Previously Funded?**
- No
- Yes

#### Previously Funded Proposal

<table>
<thead>
<tr>
<th>Semester/Year</th>
<th>Proposal # (if known)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2017</td>
<td>0859</td>
</tr>
</tbody>
</table>

**Report submitted for previously Funded Activity?**
- No
- Yes

**Please upload a copy of the report**
- [ira-859-ohirok-completed-report.pdf](file)
- [0758-owens-valley-field-trip 2016.pdf](file)

**Additional Report #1**
- [0758-owens-valley-field-trip 2016.pdf](file)

**Additional Report #2**
- [ira-758-report-video 2015.mp4](file)

**Additional Report #3**

**Additional Proposers**

**Academic Program(s)/Center Name(s)**
Environmental Science and Resource Management

Estimated total Course Fee revenue
$3700

Amount Requested from IRA
$1800
2. Brief Activity Description

Describe the activity and its relationships to the educational objectives of the students' program or major

**Brief Activity Description**

**DESCRIPTION OF THE ACTIVITY;**
The students in ESRM 463 Water Resources Management will participate in a four-day field trip (March 8-10, 2019) to the Owens Valley to explore the environmental and social impacts of the City of Los Angeles (LA DWP) extraction and transportation of water via the LA Aqueduct to that city. The trip will include visiting Owens Lake, the Owens Valley Visitor Center, Lower Owens Restoration Project (LORP), LA DWP Owens River Diversion, Alabama Gates, Southern California Edison Rush Creek Power Plant, June Mountain Overlook, Mono Lake and Visitor Center, Rush Creek Restoration, Paiute Reservation Restoration Pond, and Bristlecone Pine Forest.

In preparation for the field trip, students will read their textbook and watch the film Cadillac Desert about the history of the City of Los Angeles, its explosive population growth in the late 1800's, and need to secure reliable sources of water. The trip will include lectures on historical and current water and environmental issues in the City of Los Angeles and the Owens Valley, and discussions on policies, politics, conflicts, conflict resolution, the Public Trust Doctrine and the environment, science and climate change.

The guest presenters include Bill Deane and Lori Dermody, biologists from LA DWP, and Michael Prather, an Inyo County Water Commissioner, who will show us the Lower Owens River, diversion, and Alabama Gates, and speak about the history of Owens Valley and the controversies of dewatering and restoration. Larry Freilich from Inyo County Water Department and Steve Stotko from the Southern California Edison Rush Creek Power Plant will discuss energy, climate change, and the restoration of the Owens River. Bartshe Miller from the Mono Lake Committee, will give us a tour of Mono Lake and Rush Creek restoration and talk about the lowering of Mono Lake and its fragile ecosystem, the Public Trust Doctrine, and the California Supreme Court decision to protect Mono Lake. Hillary Behr, an AmeriCorp intern at the Bishop Paiute Tribe Reservation will show us the restoration pond to protect the endangered Owens Valley pup fish. Lastly, we will tour the ancient Bristlecone Pines and discuss how the 4000 year old trees provide us with historical evidence of climate change.

The class will receive a summary of the history of water exploitation in the Owens Valley. For example, in 1900, William Mulholland, Chief Engineer for the City of Los Angeles, identified the Owens River, which drains the Eastern Sierra Nevada Mountains, as a reliable source of water to support Los Angeles’ growing population. To secure the water rights, Los Angeles secretly purchased much of the land in the Owens Valley. In 1913, the City of Los Angeles completed the construction of the 223 mile, gravity-flow, Los Angeles Aqueduct that delivered Owens River water to Los Angeles. As the population continued to grow, Los Angeles mined the groundwater in the Owens Valley and constructed a second aqueduct to siphon water from the Mono Basin. The catastrophic environmental consequences of dewatering the Owens Valley and Mono Basin resulted in devastation of the Owens Lake ecosystem and significant lowering of Mono Lake. The viable agricultural community in the Owens Valley was effectively eliminated. To protect the Mono Lake ecosystem, the Mono Lake Committee brought suit against the City of Los Angeles. In 1983, the California Supreme Court enforced the Public Trust Doctrine over water resources and ruled that the state has an obligation to protect Mono Lake, which required reconsideration of past water allocation decisions. The City of Los Angeles had to provide water for the environment. After 100 years, the controversy is still unresolved and vigorously debated.

Students will visit critical water supply facilities (aqueduct and reservoirs) for the City of Los Angeles and restoration sites, and discuss factors affecting reliability, safety, quality, quantity, and cost of water resources with respect to mitigate environmental impacts.

3. Learning Outcomes and Relation of IRA to Course Offerings

All IRAs must be integrally related to the formal instructional offerings of the University and must be associated with scheduled credit courses.

1. Please list all classes that directly relate to the proposed activity.
2. For each class listed, describe in detail how exactly the IRA activity will be integrated with the class's activities, how often/ on what expected date(s), and to what extent
Learning Outcomes and Relation of IRA to Course Offerings

The field trip will address the goals and objectives of Water Resources Management. Students will present posters and provide demonstrations at the 5th Annual Water Symposium for Madrona Elementary School and Redwood Middle School in Thousand Oaks, to formulate connections between theory taught in the classroom and things seen and concepts covered during the field trip. Students will demonstrate that they understand the factors influencing water availability in the Southern California and particularly Los Angeles, understand the concepts and principles of water and watershed management, can specify and quantify the important components of water management systems, can define water management problems, can predict external effects, can identify possible causes, and propose and evaluate solutions from both environmental science and resource management perspectives. They will also articulate the process steps of environmental conflict resolution and how the conflicts span borders and a understanding of the role of language and dialogue in policy development. The Owens Valley field trip will provide students an opportunity to understand the objectives of the City of Los Angeles, as well as the politics/negotiations required to accomplish these goals, and negotiate water quantity and quality for their constituents and protect the environment.

I have learned that students are passionate and understand issues related to water. And they recognize that climate change and overpopulation need to be addressed to adequately conserve and equitably distribute this vital resource. In particular, the unprecedented drought we are currently experiencing requires that students understand these complicated issues.

4. Activity Assessment

Describe the assessment process and measures that the program will use to determine if it has attained its educational goals.

Please note that a report will be due at the end of the semester.

Description of Assessment Process

I will assess their learning by evaluating their posters and process demonstrations at the Water Symposium, as well as giving a written exam. I have been quite impressed by the application of concepts they had learned as well as their creativity towards water conservation. I have attached supporting documentation, reflections and video, from past Owens Valley field trip and Madrona Water Symposium.

5. Activity Budget

Please enclose a complete detailed budget of the entire activity. Indicate specific items that you are requesting IRA to fund.

You should use either the Regular Activity budget (for events on campus) or -- if your event involves any travel-- you MUST use the IRA Travel Budget Form.

You can download both of the IRA Excel Budget sheets at [http://www.csuci.edu/ira/application.htm](http://www.csuci.edu/ira/application.htm).

Activity Budget

O'Hirok ESRM 463 ira-travel-budget-form-ay18-19.xlsx

6. International Trips

If your event is an international trip submitted through the Center for International Affairs, you must include copies of:

1. Complete Center for International Affairs/ UNIV 392 proposal
2. The program budget as submitted to the Center for International Affairs (to ensure congruency between the two budgets)
3. as well as a copy of the course syllabus
Center for International Affairs Budget

Copy of Center for International Affairs Proposal

Course Syllabus

Certification

☐ I certify that students attending this trip are not previous or repeat attendees of a prior International UNIV 392 Trip

7. Sources of Activity Support

Please list the other sources of funding (including course fees), and exact expected amounts of additional support for the activity. Please indicate if there are no other sources of funding

Other Sources of Funding

Course fees will contribute $3700 to the total trip cost of $5500, $148 per student.

8. Promoting Participation

What is your intended audience and how do you intend to market this to your students?

ESRM 463, Water Resources Management, is a course designed particularly for students focusing on Resource Management in ESRM. The course, however, attracts students from across all disciplines. The Owens Valley Field Trip is a vital component of ESRM 463 in which students address factors influencing water availability in Southern California, develop an understanding of the concepts and principles of water and watershed management, can define water management problems and causes, both external and environmental, as well as political, and propose and evaluate solutions from both environmental science and resource management perspectives. They are also interested in developing environmental resolution skill sets and understanding the processes for successful mitigation. The Owens Valley trip gives students opportunity to evaluate a case study of Owens Valley and Mono Lake environmental impacts by talking to the people discussing and making decisions and observing the interactions among the different stakeholders. Students have opportunities to ask questions and gain a better understanding of the process they learn in class. When students first arrive to Owens Valley and meet the first set of stakeholders, Inyo County and the City of Los Angeles, the students often believe they understand the problems, compromises, and solutions. By the time they leave on the third day, many have completely changed their minds about the sincerity of the stakeholders and potential solutions for solving the water crisis.

In general, it has not been difficult to market a course in water resources because it is vital resource and we all need to understand how our futures will be affected by climate change and politics.

If this is an event that is off campus, how do you plan to bring back the benefit of this event to campus?

Many of the students who have taken ESRM 463 are members of the CSUCI Green Generation Club which addresses questions which address sustainability and conservation. These students are already environmental advocates and are interested in educating fellow students and the public about essential issues such as water resources. The final part of this IRA proposal requests funding for the Annual Madrona CSUCI Water Symposium where the ESRM 463 students demonstrate and educate elementary and middle school students about the importance and scarcity of water in Southern California. This gained interest and knowledge about water returns to campus but perhaps more importantly, it educates and influences people of all ages beyond our campus.

9. Sustainability

If appropriate, indicate how the content or delivery of the project promotes sustainability at CI.

Sustainability
As previously mentioned, many of the students who have taken ESRM 463 are members of the CSUCI Green Generation Club which addresses questions which that focus on sustainability and conservation. These students are already environmental advocates and are interested in educating fellow students and the public about essential issues such as water resources. Our students in part through the Green Generation, are the organizers of the annual Earth Day celebrations, the goal of which is to bring awareness of environmental issues to students and the community. Water is a key issue with respect to sustainability because it is scarce and at times wasted. Different stakeholders, agriculture, industry, communities, and the environment, need more than presently allotted to function at their maximum. Unfortunately, climate change forecasts that the southwest will become drier with more severe and prolonged droughts, and that precipitation will decrease 15-30% in the next 30 years in the Colorado River watershed as well as increasing populations make water the primary concern for sustainability. CSUCI is addressing those water concerns now.

10. Approval and Acknowledgement

Program Chair/Director

Anderson, Sean S

Dean

Adler, Mary

Conditions and Considerations

☐ Artist/Performer/Speaker Fees & Honoraria: On the Activity Budget, please indicate whether the vendor's price was set by you/CI Representative, or is a fee that was set by the vendor.

☐ Large Event: For a large event, consultation with the campus Event Coordinator's office at (805)437-8548 is required.

☐ Field Trip: Sponsor must comply with all policies found at: http://www.csuci.edu/rm/programs/academic-field-trip-guidelines-and-forms.htm. If approved, Identified Risks of Participation and Release Agreement must be submitted for each student to the Program Office (Public Folders-HR Forms).

☐ Involves Human Subject Data Collection for Public Dissemination -Requires IRB Approval: If Project Sponsor proposes to conduct research with human participants, the proposal may be subject to Institutional Review Board for the Protection of Human Subjects (IRB) review. All research that involves any type of interaction with human subjects - from simple surveys to complex biomedical procedures - must be reviewed and approved by the IRB prior to starting the research. Data for "Public Dissemination" indicates interviews/surveys that result in a journal/poster session/newsletter, etc.

☐ IT Requirements: If your activity has IT requirements, coordination with and approval from IT Administration is required.

☐ International Travel: Requires International Travel application be submitted to Center for International Affairs. Include copy of CIA budget and course syllabus in your IRA application. Must utilize the University's Foreign Travel Insurance Program (FTIP) and follow all International Travel Guidelines listed at: http://www.csuci.edu/rm/insurance/foreign-travel.htm

☐ Risk Management Consultation: Events that involve or engage students directly with a performer or artist (i.e. in a workshop or other than as a passive audience member) will require consultation with Risk Management. Requires proof of correspondence with Risk Management.

☐ Space/Facilities Services Requirements: Consultation and coordination with Facilities Services is required.

Acknowledgement

☑ I acknowledge that I have reviewed and accepted the Conditions and Considerations herein. Please check off boxes as appropriate.
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| Sean Anderson Oct 3 2018 | Marion Adler Oct 10 2018 |