



Instructionally Related Activities Report Form

SPONSOR: CLARE STEELE

DEPARTMENT: ESRM

ACTIVITY TITLE: CONSERVATION BIOLOGY FIELD TRIP TO SANTA CRUZ

DATE (S) OF ACTIVITY: OCTOBER 13TH, 2018

Please submit via email to the IRA Coordinator along with any supporting documentation at david.daniels@csuci.edu within 30 days after the activity. Thank you for your commitment to engaging our students!

A. ADDRESS THE FOLLOWING QUESTIONS:

- (1) PROVIDE A DESCRIPTION OF THE ACTIVITY;
 - (2) HOW DID THE ACTIVITY RELATE TO A COURSE(S) AND/OR LEARNING OBJECTIVES?
 - (3) WHAT DO YOU SEE AS THE STRENGTHS OF THE ACTIVITY?
 - (4) WHAT WOULD YOU SAY ARE/WERE THE ACTIVITY'S WEAKNESSES?
 - (5) HOW WOULD YOU IMPROVE THIS ACTIVITY FOR NEXT TIME?
 - (6) WHAT DID YOU LEARN FROM THE PROCESS?
 - (7) WHAT ARE STUDENT RESPONSES TO THE ACTIVITY? ATTACH STUDENT EVALUATIONS OR ASSESSMENTS (IN ACCORDANCE WITH FERPA RESTRICTIONS YOU MUST REMOVE ALL PERSONALLY IDENTIFIABLE STUDENT INFORMATION)
 - 8) GIVE A SUMMARY OF EXPENSES FOR THE ACTIVITY.
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B. ATTENDEE LIST- SUPPORTING DOCUMENT:

In addition to the report form, *in a separate document*, attach to your email a list of attendees complete with each student major and grade level. This for IRA Committee reference only and will not be published on the IRA website. Include your name and the title of your IRA activity on the document.

C. IMAGES FROM ACTIVITY:

Finally, attach to your email up to 6 images demonstrating student participation (under 2 MB total) with captions/titles. Please attach these photos in .JPEG format directly to email. Thank you!

(1) PROVIDE A DESCRIPTION OF THE ACTIVITY:

STUDENTS ENROLLED IN CONSERVATION BIOLOGY (BIO/ESRM 313) PARTICIPATED IN A 1 DAY EXCURSION TO PRISONER'S HARBOR ON SANTA CRUZ ISLAND. THE VISIT TO THE ISLAND PROVIDED MANY OPPORTUNITIES FOR LEARNING AND DISCUSSION OF CONSERVATION AND ECOLOGICAL PRINCIPLES. THE GROUP TRAVELLED ALONG THE PELICAN BAY TRAIL ACCOMPANIED BY TWO NATURALISTS WHO GREATLY ENHANCED DISCUSSION OF CONSERVATION AND RESTORATION OCCURRING ON THE ISLAND.

(2) HOW DID THE ACTIVITY RELATE TO A COURSE(S) AND/OR LEARNING OBJECTIVES?

SANTA CRUS ISLAND AND THE CHANNEL ISLANDS NATIONAL PARK AND NATIONAL MARINE SANCTUARY PROVIDE AN AMAZING LIVING CLASSROOM TO EXPLORE MANY OF THE PRINCIPLES OF CONSERVATION BIOLOGY. THEY PROVIDE UNPARALLED ILLUSTRATIONS OF MANY OF THE TOPICS THAT WE LEARNED ABOUT THROUGHOUT THE SEMESTER, AND STUDENT UNDERSTANDING OF THE MATERIAL WAS GREATLY ENHANCED BY SEEING THESE PRINCIPLES 'IN ACTION'. DISCUSSIONS AND EXERCISES THAT CONDUCTED DURING OUR VISIT TO THE RESEARCH STATION ALIGNED WITH MANY OF OUR EXISTING CLASS MODULES, INCLUDING THE FOLLOWING: BIODIVERSITY; LANDSCAPE ECOLOGY; ISLAND BIOGEOGRAPHY; INVASIVE SPECIES; PROTECTED AREAS AND MPAS; MONITORING AND MITIGATION; SPECIES AND ECOSYSTEM MANAGEMENT.

(3) WHAT DO YOU SEE AS THE STRENGTHS OF THE ACTIVITY?

THE STUDENTS WERE DIVIDED INTO TWO GROUPS OF ABOUT 22, EACH WITH A DEDICATED NATURALIST WHICH MADE THE EXPERIENCE MORE ENGAGING AND PERSONALIZED. THE ISLAND VISIT PROVIDED INCREDIBLE OPPORTUNITIES FOR EXPERIENTIAL LEARNING. PARTICULARLY APPLICABLE TO THIS COURSE IS THE ANCIENT AND MODERN LAND-USE IMPACTS AND CONSERVATION HISTORY OF THE CHUMASH, RANCHING AND NPS PERIODS. ACCESS TO A VARIETY OF ECOSYSTEMS IN A RELATIVELY SMALL AREA ENABLES A VARIETY OF LEARNING & RESEARCH OPPORTUNITIES. WE INTRODUCED A CONSERVATION STORYTELLING AND PHOTOGRAPHY EXERCISE TO THE STUDENTS THAT WAS LATER EXPANDED INTO A CLASS DISCUSSION BLOG.

(4) WHAT WOULD YOU SAY ARE/WERE THE ACTIVITY'S WEAKNESSES?

ON-ISLAND TRAVEL IS LIMITED BY WALKING DISTANCE TO SITES, THUS OPPORTUNITY TO EXPLORE MORE DISTANT SITES IS LIMITED. LIMITED TIME AND ADVERSE WEATHER ON THE ISLAND CONFINED OUR ACTIVITY TO THE MORE HEAVILY IMPACTED RANCH AREA. THE PELICAN BAY HIKE IS SOMEWHAT CHALLENGING, ALTHOUGH WE WERE ABLE TO TAILOR THE DIFFICULTY TO THE PARTICIPANTS INVOLVED SOMEWHAT.

(5) HOW WOULD YOU IMPROVE THIS ACTIVITY FOR NEXT TIME?



PLAN ON SHOWING STUDENTS NPS VIDEOS ON CONSERVATION STORIES OF SANTA CRUZ. IN THE FUTURE MAY BRING SMALLER GROUPS ON MULTIPLE OCCASIONS AS CLASS SIZES HAVE GROWN SO MUCH.

(6) WHAT DID YOU LEARN FROM THE PROCESS?

IMMERSION IN THIS LEARNING ENVIRONMENT ENCOURAGES STUDENTS TO MAKE CONNECTIONS BETWEEN CONSERVATION TOPICS DISCUSSED IN THE CLASSROOM AND TO UNDERSTAND REAL-WORLD IMPLICATIONS FOR CONSERVATION AND MANAGEMENT IN CALIFORNIA ISLAND ECOSYSTEMS. ACTIVITIES ON THIS TRIP THAT WERE PARTICULARLY BENEFICIAL INVOLVED DISCUSSIONS OF BALANCING MANAGEMENT FOR RECREATION AND HABITAT RESTORATION, OBSERVING THE IMPACT OF INVASIVE SPECIES IN THE HEAVILY IMPACTED VISITOR AREA AND EXAMINING WILDLIFE CONFLICTS.

(7) WHAT ARE STUDENT RESPONSES TO THE ACTIVITY? ATTACH STUDENT EVALUATIONS OR ASSESSMENTS (IN ACCORDANCE WITH FERPA RESTRICTIONS YOU MUST REMOVE ALL PERSONALLY IDENTIFIABLE STUDENT INFORMATION)

PLEASE SEE ATTACHED: STUDENT IRA REFLECTIONS 2018 F.DOCX

8) GIVE A SUMMARY OF EXPENSES FOR THE ACTIVITY.

GRANT PROVIDED TRANSPORTATION EXPENSES TO SANTA CRUZ ISLAND FOR 44 STUDENTS & 1 FACULTY.

COSTS FOR DAY TRIP TRANSPORTATION ON ISLAND PACKERS TO PRISONER'S HARBOR 45 x \$59 = \$2655. \$1896 WAS AWARDED FROM IRA, THE REMAINDER WAS PAID VIA COURSE FEES.

B. ON SEPARATE DOCUMENT, PLEASE ATTACH ATTENDEE LIST (PERSONALLY IDENTIFIABLE INFO REMOVED)

SEE ATTACHED

C. PLEASE INCLUDE UP TO 6 IMAGES AS ATTACHMENTS TO YOUR EMAIL SUBMISSION

SEE ATTACHED

| ESRM /BIO 313 CONSERVATION BIOLOGY FIELD TRIP TO SANTA CRUZ ISLAND #1032 | | |
|--|--|--------|
| Clare Steele | Faculty | |
| Abara,Steve Apelado | Undergraduate Ext (Credit) - UG Extension (Credit) | Senior |
| Adkins,Zachary Christopher | Undergraduate - BS: ESRM, Resource Management | Senior |
| Alessi,Joshua Preston | Undergraduate - BS: ESRM, Resource Management | Senior |
| Arredondo,Jorge Raymundo | Undergraduate - BS: Biology | Senior |
| Aylard,Alex Andrew | Undergraduate - BS: ESRM, Environmental Sci | Junior |
| Battenfield,Tanner Jake | Undergraduate - BS: Biology | Senior |
| Cabanza,Russel Mesia | Undergraduate - BS: Biology | Senior |
| Cavanagh,Rachael Sequoyah | Undergraduate - BS: Environ Sci Resource Mgmt | Junior |
| DaSilva,Julianna | Undergraduate - BS: ESRM, Environmental Sci | Senior |
| De Haro,Mauricio | Undergraduate - BS: ESRM, Resource Management | Senior |
| Ellis,Renae Louise | Undergraduate - BA: Biology | Senior |
| Erwin,Jessica Marie | Undergraduate - BS: Biology | Junior |
| Farfan,Carolina | Undergraduate - BA: Biology | Senior |
| Fisher,Baily Anne | Undergraduate - BS: Biology | Senior |
| Forrest,Joseph Leroy | Undergraduate - BS: ESRM, Resource Management | Senior |
| Gamez,Leonardo | Undergraduate - BA: Biology | Senior |
| Garcia,Alejandra | Undergraduate - BS: Biology | Senior |
| Garcia,Paulina Viviany | Undergraduate - Undeclared | Junior |
| Gonzalez,Valeria | Undergraduate - BS: Environ Sci Resource Mgmt | Senior |
| Hager,Avarie Christine | Undergraduate - BS: ESRM, Environmental Sci | Junior |
| Halaka,John | Undergraduate - BS: Health Science | Senior |
| Harris,Sierra Ryan | Undergraduate - BS: ESRM, Resource Management | Senior |
| Hershberger, Matthew Thomas | Undergraduate - BS: ESRM, Resource Management | Senior |
| James,Monica Marina Demetry | Undergraduate - BS: ESRM, Resource Management | Senior |
| Kim,Aaron Myung Chul | Undergraduate - BA: Biology | Junior |
| Lasiloo,Patricia Ann | Undergraduate - BS: Biology | Senior |
| Lerma,Micaela Bianca | Undergraduate - BS: ESRM, Resource Management | Senior |
| Luna,John Anthony | Undergraduate - BS: ESRM, Resource Management | Senior |
| Medina,Stephen Adam | Undergraduate - BS: ESRM, Resource Management | Senior |
| Melgarejo,Joshua Kenneth | Undergraduate - BA: Biology | Junior |
| Mesler,Sarah Pauline | Undergraduate - BS: Biology | Junior |
| Meza,Abraham | Undergraduate - BS: Biology | Senior |
| Morales,David Alejandro | Undergraduate - BS: Biology | Junior |
| Morgan, Colton Duane | Undergraduate - BS: ESRM, Resource Management | Senior |
| Moskalyk,Oleh | Undergraduate - BS: Biology | Senior |
| Noriega,Lisa Ann | Undergraduate - BS: ESRM, Resource Management | Senior |
| Pineda,Brianda Sigmond | Undergraduate - BS: Biology | Senior |

| | | |
|-----------------------------------|---|--------|
| Sandoval,Maria Guadalupe | Undergraduate - BS: Biology | Senior |
| Santos, Walker Grant | Undergraduate BS: ESRM, Resource Management | Senior |
| Shepherd,Emily Elaine | Undergraduate - BS: Biology | Senior |
| Shirhall,Jennifer Lynn | Undergraduate - BS: ESRM, Resource Management | Senior |
| Velasco,Sophia Elizabeth | Undergraduate - BA: Biology | Senior |
| Wells,Matthew William Harrison | Undergraduate - BS: Environ Sci Resource Mgmt | Senior |
| Williams,Rachel LeeAnn | Undergraduate - BS: ESRM, Resource Management | Senior |
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ESRM / BIO 313 CONSERVATION BIOLOGY FIELD TRIP TO SANTA CRUZ ISLAND

Relating the activity to concepts and conservation stories:

JF - The restoration of the largest coastal wetlands on the Channel Islands is a triumph for conservation biology. Not only will this provide protection for the fragile coast on Santa Cruz it also created a habitat in which native plants and animals can flourish. Although influenced by humans it is based on conservation not destruction. This grove of Santa Cruz Island Ironwoods (*Lyonothamnus floribundus ssp. Aspleniifolius*) appears to have not been influenced by the presence of humans. This tree species has no close genetic relatives and as such is an important subject in conservation biology.

LG - This is what nature looks like when humans don't disturb the area. Lots of trees growing and preserving themselves in a natural environment. It is nice to see what a natural place looks like because now a days it is hard to find such sites because of human impacts to wilderness areas. The conservation of the oaks has helped preserve the place where the endemic bird, Island Scrub Jay, likes to breed. Many trees died because of a disease but are beginning to regrow.

JA - Santa Cruz island was part of a conservatory effort to save the island foxes and revitalize the natural communities of the island. To do so, feral sheep and pigs were removed, and golden eagles were captured and relocated to the mainland. It was one of the fastest and most successful endangered species recovery programs in the country. The Ironwood Trees of Santa Cruz island are a relic of species that were once abundant on the mainland but became extinct. It tends to grow on rocky slopes as seen in the above picture. It is endemic to the channel islands, where it grows in the chaparral and oak woodlands of the rocky coastal canyons.

RE - This is Santa Cruz Island, it has no obvious traces of human contact because of the hard work of the conservation team. There is a boat port that is hidden, which makes the island appear to be uninhabited by humans. This fox is native and only can be seen on the six of the

eight Channel Islands. It is protected by the conservation biologists. They were reintroduced in 1999 from near extinction, replacing the golden eagles.

JA - Santa Cruz island was part of a conservatory effort to save the island foxes and revitalize the natural communities of the island. To do so, feral sheep and pigs were removed, and golden eagles were captured and relocated to the mainland. It was one of the fastest and most successful endangered species recovery programs in the country.

PL - The Channel Island fox is an endemic species found on Santa Cruz Island. This plant provides food in the form of berries for the fox. The Island fox is the largest land vertebrate. Endemic species are key to conservation as they are important for genetic variation. The Island Scrub Jay is another endemic species on Santa Cruz island. Due to the lack of predators on the island, The Island Scrub Jay grows to a larger size than its relatives on the mainland.

LN - After 150 years of degradation caused by ranching and farming, 60 acres of wetland habitat were revived on Santa Cruz Island after a 1 million dollar project went underway in 2011. These restored wetlands are key to the survival of species like the Island scrub jay and Island fox. An island is like a time capsule - a glimpse into history, nearly pristine. Wilderness on an island, when left unaltered by the touch of man, can transport one into the past more accurately than any book or spoken word ever could.

JS - This was my first time seeing an island fox, so I was particularly excited about it. The island fox was endangered due to a chain of events that begins with humans using DDT, which eliminated bald eagles from the Channel Island chain. This opened the door for new, larger predator, the golden eagle, which are just big enough to predate foxes. Once the fox was listed on the ESA, its recovery plan called for the capture of golden eagles to allow for reintroduction of bald eagles. The Island fox is the fastest and most successful endangered species recovery to date.

MS - One of the endemic plant species on the Santa Cruz (Prisoners) island that caught my attention was the Island Manzanita (common name)/ *Arctostaphylos tomentosa* ssp. *Insulicola* (scientific name). The plant is only found in the Island and nowhere else, which makes it even more interesting. The fruiting resembles tiny apples, that's why the common name is Manzanita meaning small apple in Spanish.

WS - Looking over Prisoners Cove on Santa Cruz Island it can be seen that the land has been restored to a natural looking state by removing invasive species and reintroducing native species, with the efforts from the Parks services and the Nature Conservancy.

MW - The Nature Conservancy land, which is managed in a way that no humans really interact with the area. There is native vegetation all around with sweeping views of the hills and the ocean. Places like this need to be managed to continue to protect their unique value. Keeping human interaction to just footprints and small trails help preserve the areas natural ecosystem. In stark contrast to how we manage places like Catalina Island which are completely developed and arguably miss managed. While this spot is not an MPA (Marine Protected Area), MPA's provide a unique opportunity to relieve marine habitats from the effects of human interaction. While the island is indeed beautiful it is not just the land that needs protection but the waters around the island which have a host of unique species and serve as an important habitat for marine species.

