

MESM GROUP PROJECT PROPOSAL 2024-2025

Rancho Encinalito: Land & Biodiversity Conservation Through Sustainable Enterprise Advancement in Baja California Sur, Mexico

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Client: Rancho Encinalito Conservation Reserve, BCS, Mexico

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Themes: *Climate Change, Conservation Planning, Ecotourism, Environmental Policy, & Sustainable Development*

Project & Partners

The Rancho Encinalito Conservation Reserve (RECR) respectfully proposes a Bren School MESM 2024-25 Group Project to aid in the protection of Rancho Encinalito (RE), a privately owned ranch in Baja California Sur, Mexico. This project aims to enhance biodiversity conservation efforts and promote sustainable land use practices for the Arroyo San Antonio watershed and the adjacent Sierra de la Laguna Biosphere Reserve (SLBR). The area surrounding RE is composed of a matrix of privately owned cattle ranches who have shown substantial interest in also pursuing alternative revenue generation methods to cattle farming based on recent discussions with neighboring landowners regarding protection of RE. The project intends to aid in establishing a bi-national conservation venture that protects RE for perpetuity and aids in developing sustainable economic alternatives for the surrounding stakeholders to reduce the impact of livestock (cattle, sheep and goats) grazing and work towards creating a biological corridor for the flora and fauna of SLBR as climate change alters local temperature patterns.

The RECR is an international working group made up of partners, including the owner of RE, from Pronatura Noroeste, UC Santa Barbara, Alumbra Foundation, Union de Conservación Agua de la Sierra (UCAS) (Name of group that includes many of the ranches below), Terra Peninsular, Morton Arboretum, Centro de Investigaciones Biológicas del Noroeste (CIBNOR), N-Gen Sonoran Desert Researchers, UC Alianza-MX program, Comisión Nacional de Áreas Naturales Protegidas (CONANP) and resource specialists sponsored by RECR. This project will also collaborate with key stakeholders in the Sierra de la Laguna region: Rancho Las Mariposas, Rancho de San Antonio, Rancho los Aguajitos, Rancho El Pretecto, Rancho la Venta, Rancho La Enfermería, Rancho Ballena, and Rancho Verde.

Background

Rancho Encinalito sits near-adjacent to Sierra de la Laguna Biosphere Reserve (SLBR), a UNESCO protected reserve in Baja California Sur, Mexico. The area surrounding SLBR has been occupied by generations of Mexican “rancheros y vaqueros” (ranchers and cowboys) for more than 200 years.

Kathleen Mitchell and her late husband purchased the 950 acre RE in 2004 from cattle ranchers and have dedicated the past two decades to restoration of the property. RE is a remote, rugged forested terrain and its perimeter was fenced in 2007 to exclude livestock and allow recovery of the heavily over-grazed vegetation and denuded landscape present. Cattle farming has highly destructive implications towards

local species flourishing, soil quality, air and water pollution (Lai and Kumar 2020), but has generationally been the primary source of income for local farmers in this region due to the region's intermittent grasslands, remoteness, and lack of infrastructure or more traditional employment opportunities. Residents in the Sierra de La Laguna region are aware of the disruptions cattle grazing has caused and are open to a shift towards more sustainable agricultural practices while driving increased revenue in the local community.

Goals & Objectives

The goal of this proposed group project is to facilitate the protection of Rancho Encinalito and the surrounding ecosystem for perpetuity and identify feasible, sustainable economic alternatives to improve the economy and living conditions for local stakeholders.

Objectives (more details in "possible approaches" section):

1. Identify potential avenues for permanent protection of the land of RE properties. (ie: land trust, gift to non-profit, establish non-profit, UC reserve system, bi-national venture, etc.)
2. Select a "best-fit path" for protecting RE and connecting it to the biosphere reserve, and aid in implementation (within project timeline)
3. Identify feasible, sustainable economic alternatives to cattle ranching for the surrounding ranches (i.e. eco-tourism/earned-revenue options (primary foci), artisanal industries or cooperatives for commodities such as handicraft works, high-value dairy products, plant materials production including restoration materials for restoration of regional vegetation, etc.)
4. Provide a framework for converting from cattle ranching towards more sustainable business.

Implications & Significance

Rancho Encinalito and the surrounding ranches are nested within the headwaters of the San Antonio watershed and must be protected to ensure clean and accessible drinking water for many ranches and towns downstream. Over-grazing has diminished the growth of native vegetation throughout the area which harms many endemic flora and fauna species by inhibiting growth and reproduction of native plants, destroying habitat for wildlife and increasing erosion. These impacts of cattle ranching will compound with the impacts of climate change to significantly threaten climate-adapting biodiversity moving out of the SLBR. We anticipate that the Bren team will play a key role in proposing sustainable business alternatives and aid in the restoration of the local landscape. The development of conservation projects in this area will also augment research and educational participation/presence in the area which will work towards aiding local landowners in revenue generation, while working on protecting the site.

Equity

This project will focus on meeting the needs of primary stakeholders, Rancho Encinalito, and the surrounding ranch owners. Continual communication with landowners and local partners will be necessary in order to understand the community's needs and ensure they are met. This includes transparency in our analysis of potential sustainable business options and avenues for conservation by providing a thorough list of "pros and cons" of any and all potential avenues. Documents will be written in English and Spanish, printed and communicated verbally to ensure that all land owners understand the analyses we provide and to account for language barriers and potential illiteracy. It is vital to this project that the landowners surrounding RE have autonomy and liberty to decide if they do or do not want to

participate and their level of participation at any point in time.* (This has already been discussed with multiple of the surrounding landowners)

Available Data

1. Biological inventory of flora + fauna on site (provided by partners)
2. Records of other land protection projects in Baja California (provided by partners)
3. Policy requirements to create a bi-national project (public records)
4. Studies of sustainable business alternatives to cattle ranching (provided by partners)

Possible Approaches

Objective 1. Identify potential avenues for permanently protecting the land of RE.

1. Conduct literature analysis of similar cases protecting private land in region;
2. Review biological inventories and identify umbrella-type conservation approaches
3. Thoroughly review policy implications and obstacles of each potential avenue;
4. Interview key stakeholders (including neighboring rancho owners) to explore and better understand community and environmental needs;
5. Generate comprehensive proposal of avenues to permanent land protection;
6. Collaborate with partners and RE landowner to determine “best-fit” model.

Objective 2. Aid in facilitation of selected avenue for protecting Rancho Encinalito

1. Work with RE landowner and team to aid in the initial development of selected avenue;
2. Establish sustainable revenue generation model for Rancho Encinalito;
3. Develop plan for expansion of selected avenue(s) after BREN participation.

Objective 3. Framework for conversion from cattle ranching to sustainable enterprise ventures

1. Conduct literature analysis of potential sustainable economic alternatives to cattle ranching in Baja California and similar areas;
2. Collaborate with rancho owners to gauge receptiveness/openness towards economic alternatives and determine next steps and/or “missing needs;”
3. Outline steps that must be taken to achieve sustainable business goals;
4. Provide and facilitate connections for potential partners to aid in long-term success;

Deliverables

The proposed project, “Land & Biodiversity Conservation Through Sustainable Enterprise Advancement in Baja California, Mexico,” requires significant cross-collaboration across local, regional, and international stakeholders to aid in the realization of protective measures for RE. Appropriate measures to document this process includes developing progress reports, outlining advancements that are made in the protection of RE, and facilitation of sustainable economic alternatives for the ranchos around the property. These progress reports will include but are not limited to the following: Interview summaries with key stakeholders, ethnographic observations, barriers to proposed actions, and outlined next steps

In addition to the Bren School deliverables, this project will produce the following:

- Reporting identifying potential avenues for protecting RE including details of financial, political, laboral, social and environmental implications;
- Report outlining potential sustainable economic alternatives (revenue models) to cattle ranching, next steps; contacts and partners to promote long-term success of alternative measures;
- Community report/presentation to present collaboration efforts and adhere to community needs;
- Bilingual (English/Spanish) website for longterm information collation and outreach.

SUPPORTING MATERIALS

Budget

Other than the internships, it is not anticipated that the proposed project will require additional funding beyond the \$1,000 contributed by the Bren School.

Internship

RECR will be able to provide \$7,000 or more towards at least one internship for Bren student(s) in the Group Project during summer 2024. The client has stated that it will likely be able to support more student interns this summer, pending funding in the coming months. We anticipate internship support for three or more MSEM researchers for Summer 2024.

Works Cited

“Climate Change Impacts on Forests | US EPA.” *Environmental Protection Agency (EPA)*, 16 November 2023, <https://www.epa.gov/climateimpacts/climate-change-impacts-forests>.

Lai, L. and Kumar, S., 2020. A global meta-analysis of livestock grazing impacts on soil properties. *PLoS One*, 15(8), p.e0236638.

Mobley, George F. “Ranching.” *National Geographic Society*, <https://education.nationalgeographic.org/resource/ranching/#..>

“Sierra La Laguna Biosphere Reserve, Mexico.” *UNESCO*, <https://en.unesco.org/biosphere/lac/sierra-la-laguna>.

“Sierra La Laguna Biosphere Reserve, Mexico.” *UNESCO*, <https://en.unesco.org/biosphere/lac/sierra-la-laguna>.

“UC Alianza Awards Three Grants to UCSB.” *UCSB Global Engagement*, <https://globalengagement.ucsb.edu/uc-alianza-awards-three-grants-ucsb>.

Welcome, RIVRLab (Riparian InVasion Research Laboratory) | rivrlab.msi.ucsb.edu, <http://rivrlab.msi.ucsb.edu/>.

“What are biosphere reserves?” *UNESCO*, <https://www.unesco.org/en/mab/wnbr/about>.



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9 January 2024

To: Bren School MESM Group Project Committee
From: Kathleen Mitchell and Tom Dudley
Rancho Encinalito Conservation Reserve, BCS, Mexico

Dear Project Reviewers;

We are pleased, and exceptionally enthusiastic about the potential to sponsor a Bren MESM project evaluating the environmental and economic opportunities in developing Rancho Encinalito and the surrounding landscape as a bi-national research reserve to promote biodiversity protection and environmental education that can support the agrarian economy of the Arroyo San Antonio watershed. This proposed project follows from a 2023 evaluation of the potential for developing such a conservation reserve with financial support from the UC-Alianza-MX program at UC Riverside and the Fundación Innovaciones Alumbra in La Paz, BCS. This effort provided a preliminary assessment of the biodiversity, ecosystem health, restoration objectives and socioeconomics of the locale, and clearly indicated the potential benefits for natural resource sustainability and for the surrounding community in this area, which borders the Sierra de la Laguna Biosphere Reserve. The project has received positive review by directors of the UC Natural Reserve System as a valuable contribution to research and conservation for all the Californias, potentially aligned with a similar bi-national NRS station nearby at Bahía de Loreto, managed by UC Davis.

As owner (Mitchell), project initiator (Dudley) and the advisory group affiliated with the Rancho Encinalito program, we commit to supporting at minimum one internship for a Bren student, including existing funds (\$7,000) we have already dedicated to this project. It is highly likely that funds will be available to support a larger group of students, as we have a verbal commitment from Alumbra to provide additional financial resources to support this initiative as well as agreement from the International Community Foundation in National City, CA to include the Rancho Encinalito program in their portfolio of projects for directing donor funds for conservation in Mexico. Thus, we anticipate providing direct support for multiple summer

internships, as well as useful financial support during the academic year which could also be direct to the students, or if preferable be developed through UCSB and the Bren School.

A Bren student co-developing this MESM proposal, Samson Grunwald, has already visited the project site and met with the principals and advisory group of the Rancho Encinalito / Union de Conservación Agua de la Sierra working group, supported by our Alianza grant, to establish a solid relationship with the full client group. We would maintain close communication throughout the Bren project, providing information on property management issues, environmental assessment data, socioeconomic data (particularly data developed prior for the larger region by Alumbra), access to stakeholders, State and Federal agencies and personnel familiar with our initiative and the surrounding environs, and the many academic researchers who have already established a working relationship with the program. Thus, the internship(s) will have direct oversight by our collaborative group to ensure that objectives are well-defined, achievable, and will be of planning and implementation value for developing this unique program.

The guaranteed internship would be provided to a key student via discussion between our client group and the Bren student group, intended to identify the individual who would most benefit from the internship support, as well as taking a research angle that would be most valuable to develop during the summer pre-official program. But again, we are quite confident that sufficient resources would be available by summer 2024 to support additional student participation, including appropriate travel given the clear benefit of establishing direct familiarity with the locale and the full Rancho Encinalito project group.

Data and qualitative information will not require formal non-disclosure agreements, however owing to the complexity of the land use and planning issues involved in this international project, we will communicate with the Bren student group regarding which information may be a sensitive nature, and address related public information informally. The reason for caution is that our group is considering acquisition of adjoining lands to provide better access for researchers and the public, including for possible ecotourism-style access, so premature speculation on potential outcomes could inhibit community and stakeholder involvement. But again, we envision very close and consistent communications between our Rancho Encinalito team and the Bren students, so these concerns are minimal.

We look forward to a productive and internationally important program that could provide extraordinary opportunity for Bren students to participate in fundamental ways.

Sincerely,
Kathleen Mitchell

Tom Dudley