

Land and Biodiversity Conservation Through Sustainable Enterprise Advancement in Baja California Sur, Mexico

A Group Project submitted in partial satisfaction of the requirements for the degree of Master of Environmental Science and Management

for the

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- Authored by: Julia Field Sadie Armstrong Samson Grunwald Shivank Jhanji Tatianna Suriel
- Committee in charge: Naomi Tague Tamma Carleton Jeffrey Hoelle Anne McEnany





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SIGNATURE PAGE

This Master's Group Project at the Bren School of Environmental Science & Management was conducted by the project team under the guidance of faculty advisor Dr. Naomi Tague. The report was reviewed by faculty at the University of California, Santa Barbara, and submitted to the Bren School for approval. It serves as partial fulfillment of the requirements for all team members to earn their Master of Environmental Science and Management (MESM) degree.

This Group Project is approved by:

Faculty Advisor, Naomi Tague, PhD

Student Authors:

Sadie Armstrong, MESM

Julia Field, MESM

Samson Grunwald, MESM

Shivank Jhanji, MESM

Tatianna Suriel, MESM

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LIST OF ACRONYMS

BCS Baja California Sur CPR Common Pool Resource ICF International Community Fund UCN Latere executed Development of Change
CPR Common Pool Resource ICF International Community Fund UICN Latera array monthl Paral, an Climate Change
ICF International Community Fund
UICN Later constants Density Changes
IUCIN Intergovernmental Panel on Climate Change
KPI Key Performance Indicators
LU Livestock Unit
SEO Search Engine Optimization
SLBR Sierra de la Laguna Biosphere Reserve
UCAS La Unión de Conservation Agua de la Sierra
UNESCO United Nations Educational, Scientific and Cultural Organization

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Albert Black-Goldin, Director of Communications and Marketing

Dr. Tamma Carleton, Assistant Professor, UC Berkeley Department of Agricultural & Resource Economics

Emily Cotter, Environmental Innovation Program Manager and Lecturer

Sadie Cwikiel, PhD Student Advisor

Dr. Alexandra Phillips, Assistant Teaching Professor

Beth Pitton-August, Director of Development

Dr. Naomi Tague, Professor

Patti Winans, Associate Director of Development

Unión de Conservación Agua de la Sierra (UCAS) Leadership

Dr. Tom Dudley, Riparian Ecologist & Research Biologist, Marine Science Institute at UCSB

Kathleen Mitchell, Owner, Rancho Encinalito

Dr. Sula Vanderplank, Botanist & Plant Ecologist, SUVA Research

Gerardo Marrón Mendez, Terrestrial Priority Ecosystems Expert, ProNatura Noroeste

Enrique Flores García, Field Technician, Rancho Encinalito

UCAS Ranches & Ranchers

Rancho Los Aguajitos: Homero Piñuelas Piñuelas (Owner), Magdalena Nereyda Cota Trasviña

Rancho Encinalito: Kathleen Mitchell (Owner), Humberto Trasvina Meza, Cristian Trasvina Meza

Rancho Las Mariposas:, Maria Georgina Piñeulas Piñuelas (Owner), Rubénn Serralde Hernández, Victor Ojeda Manriquez

Rancho El Pretexto: Eduardo Alonso Piñuelas Piñuelas (Owner)

Rancho La Venta: Bob Pudwil (Owner), Daniele Gualdoni Norma

External Advisors

Dr. Jeffrey Hoelle, Cultural Anthropologist & Professor, Anthropology Department at UCSB

Anne McEnany, Senior Program Officer, Alumbra Innovations Foundation / President & CEO, International Community Fund

Partners & Funding Sources

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ABSTRACT

Cattle ranching in the Sierra de la Laguna region of Baja California Sur, Mexico, faces significant economic, environmental, and cultural challenges that threaten its long-term viability. Recognizing the increasing strain of prolonged drought, overgrazing, and habitat loss in a region that hosts numerous endemic species and unique ecosystems, many ranchers in the region have expressed a desire to gradually transition away from traditional cattle ranching. Working in collaboration with La Unión de Conservación Agua de la Sierra (UCAS), a newly formed union of ranchers and landowners in the Sierra de la Laguna region, this project employed a multi-faceted approach to evaluating sustainable alternatives to cattle ranching in the region. With a focus on economic feasibility, environmental impact, and stakeholder engagement, we determined that current cattle stocking rates exceed sustainable limits, resulting in economic losses and ecological degradation. By combining client interviews, literature review and local cost-benefit analysis we found that a gradual transition towards ecotourism adoption may offer a path toward financial stability, land recovery, and biodiversity protection. We designed a marketing and donor outreach strategy to build long-term financial support for this transition, highlighting the need for a more cohesive digital presence, structured donortargeted communication, and diversified funding streams to expand piloted conservation initiatives. By supporting both cultural heritage and environmental stewardship, this approach allowed us to provide a roadmap for community-led conservation in arid regions. Our findings highlight the urgent need for adaptive land management strategies and the potential of ecotourism to restore ecosystems while sustaining rural livelihoods in the Sierra de la Laguna.

1. PROJECT DESCRIPTION AND SIGNIFICANCE

La Unión de Conservation Agua de la Sierra (UCAS) is a newly formed union of ranchers and landowners in the Sierra de la Laguna region of Baja California Sur focused on identifying sustainable economic pathways that align with long-term land and biodiversity conservation goals. In 1994, the Sierra de la Laguna region was designated as an UNESCO Biosphere Reserve, however much of the surrounding land in the region remains privately owned. Currently, the lands neighboring the Biosphere Reserve are actively occupied by local ranchers who engage in cattle grazing, firewood collection, and other forms of subsistence living.¹ Ranchers are among the least served individuals in the Baja California Sur region, often lacking infrastructure such as paved roads and electric grids, so these individuals rely heavily on ecological conditions for supporting business practices.² However, centuries of intensive cattle farming has begun to disrupt the region's ecosystems, including through overgrazing, soil compaction, and the introduction of nutrient imbalances, such as nitrogen enrichment, which can affect water quality and vegetation health.³ These impacts are contextdependent and may vary based on grazing intensity and management practices, but all are of concern to many of the UCAS ranch owners. Given the lack of infrastructure, declining land quality, and modern economic markets in the region of Baja California Sur, many UCAS ranch owners have expressed interest in pursuing new methods to generate and supplement their income, such as engaging with the region's increasing population and visitors through hosting ecotourism operations.



Figure 1. Project region within Baja California Sur

The Sierra de la Laguna region is home to some of the most important watersheds in the southern portion of Baja California Sur, Mexico, including the Arroyo San Antonio watershed. Comprising the highest rainfall in the entire state, Sierra de la Laguna receives an average of 650-700 mm of rainfall annually, serving as the primary water source that contributes to recharging the region's aquifers.⁴ The majority of UCAS member ranches are located within a key water-capture region, so preserving this limited resource is essential for their long-term subsistence and reliance on the land.

This project aims to equip UCAS with resources to preserve land, maintain cultural heritage, conserve biodiversity, and safeguard the surrounding watersheds. Through the evaluation of sustainable economic alternatives, particularly ecotourism, UCAS members will be provided with strategies aimed at reducing the impact of livestock grazing (e.g., cattle, sheep, goats) in the region while adapting to the impacts of climate change. This will facilitate the creation of a healthy biological corridor while ensuring continued

¹ Macfarlan et al., "Decision-Making under Climate Shocks and Economic Insecurity."

² "FAO. 2018. Nutrient Flows and Associated Environmental Impacts in Livestock Supply Chains: Guidelines for Assessment (Version 1). Livestock Environmental Assessment and Performance (LEAP) Partnership. Rome, FAO. 196 Pp."

³ "FAO. 2018. Nutrient Flows and Associated Environmental Impacts in Livestock Supply Chains: Guidelines for Assessment (Version 1). Livestock Environmental Assessment and Performance (LEAP) Partnership. Rome, FAO. 196 Pp."

⁴ Vanderplank et al., "RANCHO ENCINALITO: A BIODIVERSITY AND CONSERVATION EVALUATION."

economic prosperity and the protection of cultural heritage. Additionally, the project intends to develop targeted communication and marketing strategies for UCAS to raise charitable contributions as the early phases of the project will rely heavily on monetary donations to develop necessary infrastructure and ultimately support the piloting of ecotourism ventures. This strategy will position UCAS as an attractive partner for funders, collaborators, and stakeholders who are essential to financing the transition and scaling the project's impact. This strategy will position UCAS as an attractive partner for funders, collaborators, and stakeholders who are essential to financing the transition and scaling the project's impact.

By meeting these objectives, this project will provide local ranchers with practical strategies, financial models, and business resources to adopt practices that promote land and biodiversity conservation and economic resilience. Additionally, it will support UCAS by developing fundraising mechanisms and communication tools to enhance its financial sustainability and raise awareness about the importance of protecting the Sierra de la Laguna watersheds. Overall, these strategies will emphasize the critical role of sustainable practices in conserving the Sierra de la Laguna watersheds while creating economic opportunities for UCAS members, demonstrating the potential for long-term conservation and economic resilience.

2. OBJECTIVES

The main objectives of this project are to:

- 1. **Evaluate alternatives to cattle ranching** by analyzing the costs and risks of current ranching practices and exploring the viability of ecotourism as an alternative to support long-term conservation efforts and economic sustainability for UCAS members.
- 2. Develop a marketing strategy to build a donor base that will provide financial support for UCAS's transition to sustainable land management and long-term conservation efforts. By positioning UCAS's conservation initiatives as a vital long-term investment in protecting the Sierra de la Laguna watersheds and supporting sustainable livelihoods, the marketing strategy will highlight the importance of funding alternatives to cattle ranching. It will showcase the tangible benefits of UCAS's work, such as promoting biodiversity, maintaining cultural heritage, and fostering economic resilience, to attract consistent financial support essential for piloting and scaling ecotourism ventures and sustaining ongoing conservation efforts.

3. BACKGROUND

Cattle ranching in the Sierra de la Laguna region faces several economic, environmental, and cultural challenges that threaten its long-term viability. Two major sources of risk to small-scale livestock managers globally are environmental variability and economic insecurity.⁵ Understanding the historical context of land ownership, along with the current economic landscape and cultural significance of ranching, is essential to addressing its present-day challenges. Conservation initiatives like those at Rancho Encinalito and UCAS demonstrate how community-led efforts and sustainable practices, such as conservation fencing, can help protect ecosystems while supporting ranching livelihoods. Exploring alternative models, such as ecotourism, offers opportunities for economic diversification and resilience, benefiting both local communities and the environment. Lastly, a well-crafted marketing and communication strategy can be crucial in fostering awareness, engagement, and support for this transition, ensuring sustainable practices are effectively integrated into the ranching community.

I. Ejidos and Land Tenure in Baja California Sur: Historical Context

The ejido land tenure system, established after the Mexican Revolution, fundamentally shaped ranching in Baja California Sur by promoting communal land use over private ownership. Under this system, vast rangelands remained largely unfenced, allowing cattle to graze freely across shared landscapes.⁶ This open-range grazing persisted for much of the 20th century, reinforcing traditional livestock practices. However, the 1992 reforms to Article 27 of the Mexican Constitution introduced land privatization mechanisms, leading to a gradual shift from communal to individually owned parcels.⁷ This transition altered ranching patterns, with increasing land fragmentation and fenced boundaries replacing the historical practice of unrestricted grazing.⁸ In Baja California Sur, where ejido lands historically dominated the rural landscape, these reforms significantly influenced the spatial organization of ranching and access to grazing resources. While the ejido system and its reforms continue to shape land use today, open-range grazing remains a common practice in many areas, highlighting the complex and evolving nature of land tenure in the region.

II. Current Economic Landscape of Ranching & Land Use

The production of cattle for milk and meat on land surrounding the Sierra de la Laguna Biosphere Reserve (SLBR) has traditionally been marketed locally or used for subsistence by small ranches distributed along the Reserve.⁹ However, changing climate patterns and generational changes in attitudes toward ranching have led to ranchers seasonally moving away from their land to work in different industries. This is especially true for rural-poor populations residing in arid ecosystems and other marginal habitats where limited infrastructure development (e.g. irrigation), commercial institutions (e.g. markets), and/or government services (e.g. insurance) force individuals to rely on local ecological conditions to support livestock and/or crop production (e.g. dryland agriculture).¹⁰

⁵ Macfarlan et al., "Decision-Making under Climate Shocks and Economic Insecurity."

⁶ Perramond, "The Rise, Fall, and Reconfiguration of the Mexican 'Ejido.""

⁷ Assies, "Land Tenure and Tenure Regimes in Mexico."

⁸ Barnes, "The Evolution and Resilience of Community-Based Land Tenure in Rural Mexico."

⁹ Gámez, Ivanova, and Juárez, "Community Adaptation to Climate Change and Biodiversity Conservation in Natural Protected Areas."

¹⁰ Hansen et al., "Climate Risk Management and Rural Poverty Reduction."

Ranchers are under increasing pressure due to rising feed costs, fluctuating cattle prices, and diminishing land productivity. As water resources become scarcer, many ranchers rely on supplemental feed, especially during dry seasons, which adds significant costs to their operations.

The seriousness of drought consequences as well as knowledge gained about social capital, migration, and the importance of living closer to urban areas for water access, are critical traits identified in relation to migration patterns.¹¹ Previous research has identified the main coping and adapting strategies that smallholder rural households undertake during drought as changing farm practices, finding off-farm work, and migrating. Changing farm practices and finding off-farm work have been shown to be important survival mechanisms among smallholder farmers.¹² Additionally, market fluctuations can make cattle ranching an unstable source of income, making it difficult for ranchers to plan for the future. These financial pressures create uncertainty and limit opportunities for reinvestment in more sustainable practices. Avoiding land abandonment through support of adaptive and sustainable land management practices in this region is a long-term goal of this project.

III. CULTURAL CONSIDERATIONS

Culturally, cattle ranching is deeply embedded in the identity and traditions of local ranching families, some of whom have been raising cattle for generations. However, shifting economic realities and environmental pressures have prompted younger generations to explore alternative livelihoods and abandon the ranching lifestyle. While many still value the ranching lifestyle, they are increasingly open to supplementing their income with alternative economic activities. Still, there is understandable concern about switching to a different economic model and moving away from cattle ranching entirely. Many ranchers have expressed a preference for a hybrid model that integrates a new economic venture while maintaining some level of ranching activity. This approach allows them to preserve their traditions and connection to the land while diversifying their income streams. By blending both activities, ranchers can gradually shift towards sustainable practices without completely relinquishing their historical and cultural way of life.



Figure 2. Ranchero clothing from 19th century displayed at MuVaca Musuem, El Triunfo

Another concern is the potential sale of generational rights

to land and water. While not directly driven by climate change, the gradual sale of water rights to agroexporting companies—one of the region's largest industries—reflects the economic constraints faced by farmers, who often lack alternative opportunities or a long-term strategy for resource

¹¹ Haeffner, Baggio, and Galvin, "Investigating Environmental Migration and Other Rural Drought Adaptation Strategies in Baja California Sur, Mexico."

¹² Haeffner, Baggio, and Galvin.

management.¹³ This contributes to economic hardship and increased environmental challenges such as erosion, water scarcity, and soil pollution, especially as commercial agricultural expansion and production increase.¹⁴ Understanding the dynamics between socio-economic variability, regional adaptations to a changing climate, and agricultural strategies is important for the economic and social success of our project. Finding a way to balance tradition with new economic opportunities is crucial for ensuring that the ranching way of life can persist while adapting to modern challenges.

IV. ENVIRONMENTAL CHALLENGES & EMERGING OPPORTUNITIES

The Sierra de la Laguna comprises the only tropical ecosystem in the Baja peninsula and includes the driest tropical deciduous forest of Mexico and the only pine-oak forest of the state.¹⁵ Environmental degradation poses a major threat to the long-term sustainability of traditional ranching in this region as well as the survival of this unique, biodiverse ecosystem. As a result, balancing sustainable land use with conservation has become a critical priority, particularly given that the region's cattle densities often exceed sustainable thresholds. Mexico's national average livestock unit (LU) per hectare per year is highly variable depending on region, but for Baja California Sur, the sustainable carrying capacity is estimated at 0.2 LU per hectare per year.¹⁶ This means that each hectare of land can support only 0.2 cattle per year, or that 5 hectares of land are required to support one head of cattle per year without degrading the environment. However, the majority of ranches in the project region have at least one head of cattle per hectare.¹⁷ This stocking density of cattle has led to overgrazing which can cause soil erosion and a loss of vegetation, reducing the land's ability to retain water and support healthy pastures.¹⁸ In Baja California Sur's arid landscape, water availability is a key determinant of biodiversity. It forms the foundation of the region's complex food web-from small plants and insects to top predators that rely on abundant prey and direct access to water sources.¹⁹ However, habitat restrictions caused by climate change and subsistence living activities make species communities along the elevation gradient of the Sierra de la Laguna particularly vulnerable.

The loss of vegetation and declining water availability have had cascading effects on biodiversity in the Sierra de la Laguna, particularly for species dependent on riparian zones. The sharp climate gradients along these abrupt mountain slopes lead to the juxtaposition of floral and faunal elements from more than a dozen degrees latitude to the north and south.²⁰ More than 280 vascular plant species have been documented in the higher elevations of the range, 43 of which are endemic to the Sierra de la Laguna, meaning they are found nowhere else in the world. However, this biodiverse ecoregion is under threat, facing growing pressures from climate change, overgrazing, and water scarcity. For example, *Quercus brandegeei*, an endangered oak tree endemic to Baja California, has fewer than 1,000 individuals remaining. Despite one third of its range falling within the protected Sierra de la Laguna

¹³ Gámez, Ivanova, and Juárez, "Community Adaptation to Climate Change and Biodiversity Conservation in Natural Protected Areas."

¹⁴ Gámez, Ivanova, and Juárez.

¹⁵ Pío-León and Ortega-Rubio, "Sociocultural and Environmental Interactions Between People and Wild Edible Plants." ¹⁶ Ibarrola-Rivas and Nonhebel, "Does Mexico Have Enough Land to Fulfill Future Needs for the Consumption of

Animal Products?"

¹⁷ Client Interview.

¹⁸ Vanderplank et al., "RANCHO ENCINALITO: A BIODIVERSITY AND CONSERVATION EVALUATION."

¹⁹ Vanderplank et al.

²⁰ Luz et al., "Flora of the Woodlands of the Sierra de La Laguna, Baja California Sur, Mexico."

Biosphere Reserve, no regeneration has been observed in the past 100 years.²¹ Previous research has demonstrated that seedling and tree size noticeably diminishes as the distance from streams and creeks increases. This indicates that soil moisture is likely a limiting factor for growth.²² Overgrazing has further diminished native vegetation, inhibiting plant reproduction, destroying habitat for wildlife, increasing erosion, and threatening endemic flora and fauna.²³ Additionally, water scarcity in Baja California Sur is further exacerbated by overgrazing, which has led to deforestation, soil erosion, and reduced groundwater infiltration.



Increasing water demands from urbanization and tourism have

Figure 3. Flora & fauna found in Sierra de la Laguna region

intensified water scarcity in the region.²⁴ In terms of water resources, BCS is characterized by being a very arid state, with little availability of freshwater. The main source of water extraction are the aquifers in the lower floodplains of the basin, which are recharged after flooding and runoff caused by intense rains from tropical storms.²⁵ The low annual precipitation and the increase in the human population have caused the state to have a serious water shortage problem.²⁶ Rancho Encinalito and the other UCAS ranches are nested within the headwaters of the Arroyo San Bartolo watershed, which is cited as a key water capture region. However, deforestation and active soil erosion from overgrazing have also reduced the land's capacity to infiltrate water into groundwater reserves.²⁷ In addition to being the area with the highest rainfall in the state, the Sierra de la Laguna plays a crucial role in regulating the climate of the southern municipality of La Paz and the entire municipality of Los Cabos.²⁸

Overall, these socio-ecological systems face hydrological risks due to runoff, high evaporation rates, and climate change, which are exacerbated by livestock herbivory and water appropriation. Without intervention, continued land degradation could make ranching even less sustainable over time, leading to a decline in productivity and a shortage of water resources. This may ultimately force ranchers to expand grazing into new areas, perpetuating a cycle of environmental degradation.²⁹

²¹ Espinoza, "Understanding the Effect of Ranching on Quercus Brandegeei Recruitment in the Sierra La Laguna Biosphere Reserve."

²² Brett Russell Goforth, "Effects of Extreme Drought and Megafires on Sky Island Conifer Forests of the Peninsular Ranges, Southern California."

²³ Vanderplank et al., "RANCHO ENCINALITO: A BIODIVERSITY AND CONSERVATION EVALUATION."

²⁴ Graciano, Ángeles, and Gámez, "A Critical Geography Approach to Land and Water Use in the Tourism Economy in Los Cabos, Baja California Sur, Mexico."

²⁵ Martínez and Díaz, "Morfometry in San José del Cabo Hidrologic Basin, South Baja California, México."

²⁶ Vanderplank et al., "RANCHO ENCINALITO: A BIODIVERSITY AND CONSERVATION EVALUATION."

²⁷ Vanderplank et al.

²⁸ Vanderplank et al.

²⁹ Vanderplank et al.

A. Rancho Encinalito: Demonstrating the Success of Conservation Fencing

The area surrounding the Sierra de la Laguna Biosphere reserve has been occupied by generations of local *"rancheros y vaqueros"* (ranchers and cowboys) for over 200 years.³⁰ In 2004, Rancho Encinalito, a 950-acre parcel of land, was purchased by Kathleen Mitchell and her late husband Scott Mitchell directly from cattle ranchers. Over the past two decades, Kathleen and Scott dedicated their time to the restoration of the property, notably fencing the entire 950 acres in 2007 to prevent neighbors' free-range livestock from grazing the property in order to allow for recovery of the heavily over-grazed vegetation and denuded landscape.³¹ Studies show that strategic fencing around key watersheds and sensitive lands can significantly improve water quality by reducing cattle-driven fecal contamination, promoting the regrowth of endemic species, and preventing overgrazing.³² Partial fencing, which restricts livestock access to critical areas while allowing controlled grazing elsewhere, offers a balanced approach that supports both conservation and sustainable ranching.³³



Figure 4. View from Rancho Encinalito

In October 2023, Sula Vanderplank, PhD (Botanist/Plant Ecologist), Tom Dudley, PhD (Riparian Ecologist) and Kathleen Mitchell (owner of Rancho Encinalito) organized a group of 61 people (35 research participants, 8 government agency participants, and 18 community members) to participate in a bio-inventory survey on Rancho Encinalito where they sampled 3,000 m² and recorded a total of 4,614 observations of 792 different species.³⁴ These observations included 432 plants, 44 fungi, 60 birds, 19 mammals, 20 reptiles, three amphibians, 173 insects, 32 arachnids and six other species of arthropods.³⁵ Of the surveyed species, 34 (14 birds, three floras, 8 mammals) were found to be cataloged under some level of protection from the Mexican Government (NOM-059) or the IUCN Red List, falling under the categories of threatened, endangered, or under special protection.³⁶ 20 of the surveyed species (13 birds, 7 herpetofauna) were identified as being endemic to the region.³⁷ When comparing observations across Rancho Encinalito and the adjacent property that still participates in active ranching, Rancho Mariposa, the team found that species on Rancho Mariposa showed significantly

³⁰ Vanderplank et al.

³¹ Vanderplank et al.

³² Bragina et al., "Cattle Exclusion Using Fencing Reduces Escherichia Coli (E. Coli) Level in Stream Sediment Reservoirs in Northeast Ireland."

³³ Grudzinski, Fritz, and Dodds, "Does Riparian Fencing Protect Stream Water Quality in Cattle-Grazed Lands?"

³⁴ Vanderplank et al., "RANCHO ENCINALITO: A BIODIVERSITY AND CONSERVATION EVALUATION."

³⁵ Vanderplank et al.

³⁶ Vanderplank et al.

³⁷ Vanderplank et al.

more signs of environmental stress, including insect damage to tree trunks and branches, higher tree mortality, and physical injuries likely caused by trampling and overgrazing.³⁸

B. UCAS: Community-Led Conservation

UCAS is a local working group of cattle ranchers and property owners in Baja California Sur, Mexico, committed to integrating conservation into existing ranching practices. UCAS is focused on protecting the San Bartolo and Arroyo San Antonio watersheds, as well as the adjacent SLBR, by promoting sustainable land management. UCAS was formed as a direct outcome of the October 2023 bio-inventory at Rancho Encinalito, which highlighted the ecological impacts of different land-use practices. Founding members and partners include Rancho Mariposa, Rancho Aguajitos, Rancho Encinalito, and Rancho La Venta, with growing interest from Rancho La Ballena, Rancho Los Nogales, and Ejido San Bartolo. Of the 61 bio-inventory participants, 18 are current UCAS members.

After Rancho Encinalito demonstrated significant biodiversity recovery by restricting free-range grazing, UCAS members became increasingly interested in conserving their own land, which shares similar habitat and biodiversity. Its success served as an inspiration and a model for sustainable land use, showcasing how conservation efforts can restore degraded landscapes and protect the Sierra de la Laguna's watersheds and biodiversity. While several ranchers who participated in the bio-inventory expressed interest in adopting conservation-oriented practices, there were still significant concerns regarding long-term viability and financial sustainability. Overall, UCAS represents a collaborative effort to bridge conservation and ranching, demonstrating that sustainable land management can both protect critical ecosystems and support local livelihoods.

V. EXPLORING SUSTAINABLE ALTERNATIVES: ECOTOURISM AS A VIABLE MODEL

A critical component of this project involves exploring diverse funding avenues to promote conservation in the northern Sierra de la Laguna, specifically focused on three UCAS ranches: Rancho Encinalito, Rancho Mariposa and Rancho Los Aguajitos. Recognizing the vulnerability of smallholder farmers and pastoralists in the region, our team is dedicated to uncovering adaptive measures to mitigate risks and ensure sustainable land management practices.

Tourism is the largest economic driver in the region of Baja California Sur, and its growth presents an opportunity for ranchers to benefit from increasing visitor interest in nature, conservation, and traditional lifestyles.³⁹ As traditional cattle ranching faces increasing economic and environmental challenges, ecotourism presents a viable alternative that can provide sustainable income while preserving the land. Unlike ranching, which relies solely on fluctuating cattle markets and costly feed, ecotourism offers diversified revenue streams through opportunities that tap into a broader market, like guided tours, lodging, and cultural experiences that highlight the rich traditions and landscapes of Baja California Sur.

Agroforestry was also explored as an alternative income stream, but despite being promoted as a sustainable adaptive alternative globally, it faces significant challenges in Baja California Sur. The region's low annual rainfall and high evapotranspiration rates create water scarcity that makes tree-based agricultural systems unsustainable. Although the Sierra de la Laguna functions as a watershed

³⁸ Vanderplank et al.

³⁹ "Baja California Sur."

for the local region, its limited water availability cannot support the intensive water demands of agroforestry.⁴⁰ The shallow, rocky soils of the area, with low organic content, are unsuitable for the deep root systems of most tree species used in agroforestry. These soil constraints significantly limit the productivity and success of such systems.⁴¹ Additionally, the Sierra de la Laguna Biosphere Reserve harbors numerous endemic species and unique ecosystems. Agroforestry's potential to introduce non-native tree species poses a risk of disrupting these habitats, which are prioritized for conservation.⁴² Ultimately, ecotourism was selected as the primary alternative of focus for this project because of rancher and client interest. While this project focuses on ecotourism as the primary alternative to traditional cattle ranching, we recognize that other sustainable ranching practices—such as rotational grazing and water retention strategies—can contribute to improving land health and long-term productivity.

Three existing profitable ecotourism ventures in Baja California Sur—whale watching, mangrove reforestation, and bighorn sheep hunting—are led by communities of the El Vizcaíno Biosphere Reserve, setting powerful examples of how conservation can be central to community adaptation and welfare.⁴³ These initiatives demonstrate how ecotourism can serve as both an economic development strategy and a tool for biodiversity protection. Drawing from these models, our project evaluated ecotourism as the primary pathway for economic diversification and conservation within the study area. Tourism has recently increased substantially in Los Cabos, a major destination in BCS, from 3.3 million air arrivals in 2022 to 3.86 million in 2023 with high seasons peaking between November and April.⁴⁴ This growth underscores the importance of understanding seasonal patterns to effectively manage resources and infrastructure, ensuring sustainable tourism development in the region.

While there are not many authentic ranching experiences for tourists in the region, it is clear there is increasing demand as made evident by previous opportunities where UCAS ranchers hosted researchers, hiking groups, and educational tours. Additionally, the newly established MuVaca museum in El Triunfo, located just 40 minutes from Rancho Mariposa, is seeking collaborations with local ranches to offer visitors a deeper understanding of cattle ranching history and culture. Partnerships like this can provide an additional avenue for exposure and tourism growth, positioning ranchers to attract visitors who are already interested in the region's ranching heritage. Activities such as horseback tours, cattle branding demonstrations, and traditional cooking experiences can serve as both educational and entertaining attractions for tourists. These experiences provide guests with an authentic glimpse into ranching life while generating income for local families. By framing ranching as part of the ecotourism experience rather than something to be replaced, ranchers can take pride in their heritage while adapting to changing economic and environmental realities.

Community-led governance structures such as UCAS can play a crucial role in ensuring that the transition to ecotourism benefits all stakeholders. By involving ranchers in decision-making processes, these organizations can create policies and initiatives that align with the needs and values of the community. Local ranchers are more likely to support and participate in ecotourism efforts if they have a direct role in shaping its development. Additionally, governance structures can help coordinate

⁴⁰ León-de La Luz and Breceda, "Using Endemic Plant Species to Establish Critical Habitats in the Sierra de La Laguna Biosphere Reserve, Baja California Sur, Mexico."

⁴¹ Ortega-Rubio et al., "The Oak-Pine Forest without Squirrels: La Sierra de La Laguna, Baja California Sur."

 ⁴² Pío-León and Ortega-Rubio, "Sociocultural and Environmental Interactions Between People and Wild Edible Plants."
 ⁴³ Gámez, Ivanova, and Juárez, "Community Adaptation to Climate Change and Biodiversity Conservation in Natural Protected Areas."

⁴⁴ Sands, "The Numbers behind the Los Cabos Tourism Trends of 2024."

resource management, enforce environmental protections, and facilitate access to funding and training opportunities.

A. Benefits of Ecotourism: A Path to Environmental and Economic Resilience

Beyond financial benefits, ecotourism can play a key role in environmental restoration. By reducing grazing pressure, formerly degraded landscapes have a chance to recover, allowing native vegetation to regenerate.⁴⁵ This, in turn, improves soil stability, enhances biodiversity, and increases water retention, critical factors in maintaining the long-term health of the land.⁴⁶ This resurgence of native biodiversity can boost ecotourism activities like birdwatching, as visitors are drawn to areas rich in native flora and fauna. While the specific reduction in cattle grazing necessary to witness environmental benefits is unclear due to lack of data, an overall healthier landscape has the potential to attract more ecotourism, they can actively participate in conservation efforts, such as reforesting overgrazed areas and implementing water retention strategies, further strengthening the ecological benefits of this shift.

Additionally, conservation organizations and government agencies often provide grants, subsidies, or technical assistance for sustainable land management practices.⁴⁷ By adopting ecotourism as a primary or supplemental income source, ranchers may qualify for funding opportunities that support infrastructure development, habitat restoration, and wildlife conservation.⁴⁸ This alignment with conservation priorities can create mutually beneficial partnerships between ranchers and environmental organizations looking to invest in sustainable rural livelihoods.

Importantly, ecotourism is not an untested concept; successful models from arid and semi-arid regions worldwide demonstrate its feasibility.⁴⁹ In places where cattle ranching has historically dominated, communities that have transitioned to ecotourism have seen increased economic resilience and ecological recovery.⁵⁰ These case studies offer valuable lessons that can be adapted to the local context, providing a roadmap for ranchers interested in making the transition. By leveraging the natural beauty and cultural heritage of the region, ecotourism can provide a sustainable pathway forward, balancing economic needs with conservation while positioning Baja California Sur's ranching communities for long-term success in an evolving landscape.

VI. MARKETING & COMMUNICATION STRATEGY FOR SUSTAINABLE TRANSITION

While ecotourism presents a promising economic alternative for ranchers, successfully implementing this transition requires strategic outreach and engagement. A well-designed marketing and communication strategy can help build public awareness, attract funding, and position UCAS as a leader in sustainable conservation efforts in the Sierra de la Laguna. As part of our initial efforts to support UCAS's mission, we developed a website designed to serve as a hub for engagement and

⁴⁵ Teague and Kreuter, "Managing Grazing to Restore Soil Health, Ecosystem Function, and Ecosystem Services."

⁴⁶ Teague and Kreuter.

⁴⁷ "GEF Small Grants Program."

⁴⁸ "GEF Small Grants Program."

⁴⁹ Coutinho, Oliveira Neto, and Cavalcanti, "The Tourism in the Rural Zone as Instrument of Combat to the Degradation of the Lands in the Semi-Arid Northeastern."

⁵⁰ Hoogesteijn and Hoogesteijn, "CATTLE RANCHING AND BIODIVERSITY CONSERVATION AS ALLIES IN SOUTH AMERICA'S FLOODED SAVANNAS."

donor outreach. This website was created as a crucial component of a donation campaign-<u>Campaña</u> <u>Agua de la Sierra</u>- facilitated through the International Community Fund (ICF), aiming to increase visibility and support for the conservation work being done in the Sierra de la Laguna. However, we soon realized that in order to truly aid UCAS' mission and ensure the long-term sustainability of their work, it was necessary to develop a comprehensive market analysis. This will strengthen UCAS's capacity to address conservation issues in the Sierra de la Laguna, increase public support and outreach, and expand partnerships with other conservation groups in the area.

Our clients indicated that the primary source of funding for UCAS will come from public and private donor support and will be directed toward funding conservation initiatives in the Sierra de la Laguna. By providing a marketing strategy, the goal is to facilitate the transition from traditional cattle grazing to more sustainable practices (e.g., ecotourism operations), and ensure the long-term preservation of this critical region. The marketing strategy will focus on communicating the tangible benefits of these efforts, including enhanced water quality, soil restoration, habitat protection, and increased biodiversity, while showcasing the project's potential as a model for sustainable land stewardship in similar regions.

4. METHODS

This project employs a multi-faceted approach to evaluate sustainable alternatives to cattle ranching in Sierra de la Laguna, with a focus on economic feasibility, environmental impact, and stakeholder engagement. We begin by assessing current ranching practices and capturing informal knowledge from UCAS ranchers to establish a baseline for comparison. We conducted an economic analysis of ecotourism, incorporating both financial and non-monetary factors, to determine its viability as a sustainable business model. Additionally, we developed a comprehensive marketing and branding strategy to enhance UCAS's visibility and attract philanthropic support. This includes website development, content analysis, and strategic partnership-building. Our research further integrates insights from industry experts and conservation organizations to refine outreach strategies and ensure long-term sustainability. By combining economic evaluation, stakeholder engagement, and strategic marketing, this project provides a data-driven roadmap for transitioning to ecotourism while maintaining local livelihoods and conservation goals.

Below is a structured outline of the methodologies employed to achieve these objectives:

I. EVALUATE ALTERNATIVES TO CATTLE RANCHING

A. Informal Knowledge Capture from UCAS Ranchers

- i. **Objective**: Understand the long-term needs of ranchers by examining their current business practices, including day-to-day costs, labor requirements, and other operational factors.
- ii. **Approach**: Write and develop questions to ask client organization members regarding annual ranching expenses and priorities for running a business. Conduct in-depth interviews with select UCAS ranchers and facilitate acquisition of data from other UCAS members.

B. Evaluate Current Ranching Practices

- i. **Objective**: Set a baseline for which to compare proposed alternative business models and assess the potential for expected climate change impact to affect vulnerability of ranching practices.
- ii. **Approach**: Organize client estimates of costs and revenues in current ranching practices. Review literature regarding future climate models for Baja California Sur, changes in regional market prices, and climate change vulnerability in ranching practices. Using these similar studies, create a conceptual model for future ranching-related expenses in the region applicable to UCAS members, estimating changes in costs and revenues in the near future. As local data regarding costs and revenues were limited, values were supplemented with data from similar published research regarding rural ranching in BCS.

C. Identify Alternative Sustainable Business Practices to Cattle Ranching

i. **Objective**: Explore alternative business practices to ranching in the Sierra de la Laguna by identifying and evaluating potential alternatives and their feasibility of adoption.

ii. **Approach**: Analyse conversations with ranchers and local partners, review literature, and discuss alternatives with clients. From literature, identify regional economic drivers/trends in alternatives to cattle ranching and compare this with the notes from conversations with ranchers to identify one primary alternative to focus on for in-depth analysis. Based on preliminary analysis, ecotourism was selected as the alternative with the most potential.

D. Identify and Estimate Costs and Benefits Associated with Converting to Selected Sustainable Business Practice (Ecotourism)

- i. **Objective**: Identify all financial costs and benefits associated with adopting ecotourism as a potential practice for Ranchers.
- ii. **Approach**: Design potential tour itineraries and list all materials needed for those itineraries, list infrastructure needs, labor needs, and initial versus sustained costs. Identify potential profits and environmental benefits to Ranchers. Clearly acknowledge assumptions involved in this economic analysis.

E. Identify and Estimate Non-Monetary Costs and Benefits of Conversion

- i. **Objective**: Outline potential environmental and social (non-monetary) costs and benefits to complement monetary economic analysis results to allow clients to make a more informed decision.
- ii. **Approach**: Discuss the potential social implications of lifestyle transition from cattle ranching to ecotourism, the potential environmental costs and benefits in reference to changing climate patterns, and the additional factors that might impact feasibility of adopting the alternative and any risks involved.

II. DEVELOP MARKETING STRATEGY TO HELP BUILD A DONOR BASE

A. Develop Website (Preliminary Request from Clients)

- i. **Objective**: Use website to attract international attention, highlight the region's biodiversity and conservation efforts, and in turn act as a platform for international philanthropy
- **ii. Approach**: Disseminate information from Biodiversity Index Report in order to present select (non-sensitive) information in a cohesive location. Access professional photography to be used on websites and in future reports. Embed website with ICF's donation link for Campaña Agua de la Sierra fund.

B. Knowledge Capture from Experts

- i. **Objective:** Utilize insights from experts to refine and enhance UCAS's marketing and communication strategy, ensuring it aligns with best practices in conservation-focused engagement and outreach.
- ii. **Approach:** Collaborate with industry experts in environmental communications, development, and marketing to define a target audience, craft impactful messaging, and

establish a strategic marketing framework for UCAS and Campaña Agua de la Sierra. This collaboration will support the development of a robust brand identity that resonates with UCAS's conservation mission and speaks to potential donors and ecotourism clients.

C. Brand Identity

- i. **Objective**: Develop a clear brand identity that aligns with UCAS and Rancho Encinalito's conservation goals and appeals to the target audience.
- ii. **Approach**: Conduct interviews with stakeholders and team members to distill core values and unique attributes of UCAS and Rancho Encinalito. Use these insights to create brand messaging that resonates with audiences, ensuring alignment with organizational priorities for cohesive and effective marketing.

D. Develop Steps for Building Strategic Local Partnerships

- i. **Objective**: Establish strategic partnerships with local ecotourism operators and conservation-minded organizations to enhance UCAS's visibility, financial stability, and adoption of sustainable tourism practices.
- ii. **Approach**: Identify and evaluate potential local partners, including ecotourism operators and conservation-focused organizations, based on alignment with UCAS's mission and their ability to contribute to financial support, visibility, and sustainable tourism practices. Criteria for inclusion will include shared values, track record in sustainable initiatives, and complementary networks. Partnerships will be established through targeted outreach and engagement, ensuring mutual benefits that support UCAS's conservation and sustainability goals.

E. Conduct Content Analysis

- i. **Objective**: Analyze effective content strategies to determine which types resonate most with UCAS's audience.
- ii. **Approach**: Review and analyze successful case studies in conservation marketing, focusing on similar organizations. This analysis will reveal best practices in content creation, platform choice, and engagement tactics, offering guidance for UCAS's content strategy.
 - a) Organizations Analyzed:
 - (1) Pronatura Noroeste (Regional)
 - (2) Terra Peninsular (Regional)
 - (3) Next Generation Sonoran Desert Researchers (Regional)
 - (4) Rancho Cacachilas (Local)
 - (5) Vaquero (Cowboy) Museum of the Californias (Local)
 - (6) The Nature Conservancy (International)

- (7) World Wildlife Fund (International)
- (8) Conservation International (International)

F. Create a Recommendation Portfolio

- i. **Objective**: Provide actionable recommendations to improve digital presence and engagement with the target audience.
- ii. **Approach**: Develop a portfolio that includes website enhancements (e.g., SEO tools and donor engagement features), suggestions for optimal social media use, a sample content calendar, and guidance for sustainable content creation practices that support UCAS's long-term marketing goals.

G. Establish Methods for Measuring Market Success

- i. **Objective**: Define metrics and tools to evaluate the effectiveness of the marketing strategy.
- ii. **Approach**: Identify and establish relevant key performance indicators (KPIs) for website and social media performance, donor engagement, and audience growth. Provide recommendations for tools and methods to track and analyze these metrics, offering ongoing insights into the success of marketing efforts and adjustments needed to enhance outcomes.

5. RESULTS & DISCUSSION

To assess whether ecotourism can serve as a sustainable and profitable alternative to cattle ranching in the Sierra de la Laguna region, we first establish a baseline of current ranching practices, evaluating financial viability and environmental impacts under a business-as-usual scenario. We then analyze how climate change and economic trends may affect ranching costs and revenues, highlighting potential risks. Next, we explore ecotourism as an alternative, estimating investment needs, revenue potential, and governance strategies, including fencing and stocking rate reductions. Finally, we outline a marketing strategy to enhance visibility and attract funding.

I. EXPLORING ALTERNATIVES TO CATTLE RANCHING: AN ECONOMIC ANALYSIS OF ECOTOURISM AND BUSINESS-AS-USUAL PRACTICES

First part of our analysis evaluates the feasibility of transitioning from traditional cattle ranching towards the incorporation of ecotourism in the Sierra de la Laguna region. This assessment examined numerous unique scenarios, analyzing economic factors alongside environmental and cultural considerations. It also considered governance structures that could facilitate a sustainable shift from ranching to ecotourism while maintaining the cultural identity of the local ranching community.

A. Understanding Current Practices and Trends: Business-as-Usual Scenarios

i. Business-as-Usual (BAU) Cattle Ranching Assumptions

In order to understand current ranching practices and trends, we created possible pathways forward and compared them based on likely feasibility, the amount of third-party funding that would be necessary, potential income over time from alternative economic ventures, and environmental returns. To do so we conducted a simplified cost-benefit analysis where we assumed that current cattle ranching practices remain unchanged in the business-as-usual (BAU) scenario. The data on herd size and land area are based on two UCAS ranches: Rancho Los Aguajitos and Rancho Mariposa. Given significant variations between these ranches (e.g., cattle density differences), we averaged their figures to create a baseline representative of this range. This approach also applies to all aspects of the ecotourism investment and projected benefits, ensuring consistency in our analysis.

We acknowledge that this averaging approach may oversimplify differences between ranch operations. However, due to data limitations we decided that this approach along with supplementation from literature would allow for the creation of a range that is most widely applicable. This range of prices was then analyzed with respect to future climate trends in order to predict changes in costs and revenues to the UCAS ranchers. Additionally, future changes in market prices and related policy implications have the potential to impact the business-as-usual ranching assumptions, but based on current trends and information the calculated ranges are applicable for ranching practices in the Baja California Sur region.

ii. Estimated Baseline Costs and Revenues for Current Cattle Ranching

Utilizing information from the two partner ranches, Rancho Mariposa and Rancho Los Aguajitos, as

well as regional market data, the current annual costs and revenues were defined for all transactions directly related to cattle ranching.

For relevant annual expenses, the categories analyzed were water, supplemental feed, and veterinary needs including various medicines. Water was determined to cost between \$2,000 and \$2,800 USD annually per rancher (\$41,400-\$58,000 MXN), with trips to retrieve water occurring between 5 and 7 times per year. Supplemental feed including alfalfa and feed concentrate was calculated to cost each rancher between \$1,800 and \$3,000 USD per year (\$37,300-\$62,200 MXN), with this feed currently being purchased for 6 months out of the year. Finally, veterinary costs were expected to be between \$4,000 and \$6,000 USD annually per rancher (\$82,900-\$124,300 MXN).

Annual revenues include the price per kilogram of live and culled (slaughtered) cattle. Values for sale price per kilogram were provided both by our client as well as regional partners. For live cows weighing between 150 and 300 kilograms, the price per kilogram was between \$2.70 and \$2.84 USD (\$55-\$58 MXN per kg). For live cows weighing between 300 and 400 kilograms, the price per kilogram was between \$2.60 and \$2.79 USD (\$53-57 MXN per kg). Finally, culled cows weighing between 250 and 400 kilograms were priced at between \$1.18 and \$1.57 USD per kilogram (\$24-32 MXN per kg). Baseline costs and revenues are summarized below in Tables 1 and 2.

Table 1. Estimated Annual Expenses for Cattle	e Ranching - Summarizes key cost categories based on data
from Rancho Mariposa and Rancho Los Aguajitos	, with supplementation from regional market data.

Annual Expenses	Range of Cost in USD	Range of Cost in MXN
Water	\$2,000-\$2,800	\$41,400-\$58,000
Supplemental Feed	\$1,800-\$3,000	\$37,000-\$62,200
Veterinary Needs	\$4,000-\$6,000	\$82,900-\$124,300

Table 2 Estimated Annual Revenue from Cattle Sales – Provides an overview of live and culled cattle prices per kilogram, reflecting market rates.

Annual Revenue	Price per Kg in USD	Price per Kg in MXN
Live Cows (150-300 kg)	\$2.70-2.84	\$55-\$58
Live Cows (300-400 kg)	\$2.60-\$2.79	\$53-\$57
Culled Cows	\$1.18-\$1.57	\$24-32

There is a significant amount of uncertainty regarding the values provided and their ability to be applied on a regional scale, as the values represent only a select few ranchers in the Baja California Sur region. To supplement this, literature was used to chronicle similar studies in the region to augment our findings and create a range of possible cost and revenue values to which climate effects could be applied.

iii. Changes to Regional Climate and Resulting Impacts

Research published in 2017 in the journal *Environmental Modeling and Software* found that Baja California Sur experienced approximately 3 wet periods per year on average between 1975 and 2005.⁵¹ Relying on information from regional climate models, it was predicted that between 2020 and 2050 the number of wet periods in this region would decrease to between 0 and 2 annually.⁵² This research also found that the number of dry periods in the region was expected to increase dramatically, from an average of between 0 and 2 dry periods experienced per year between 1975 and 2005 to between 6 and 20 dry periods annually between 2020 and 2050.⁵³ We predict that the changing incidences of future wet and dry periods would require ranchers to purchase additional water and supplemental feed throughout the year, with the degrees to which dependent upon the extent of environmental change.

Additionally, increasing average temperatures are expected to perpetuate the prevalence and effects of heat stress on meat and milk producing cattle, distressing the animal thermal balance and decreasing overall productivity.⁵⁴ This may lead to overall decreased weight per head of cattle. Finally, research published by *Climate Risk Management* in 2021 found that two of the primary outcomes of qualitative and quantitative climate shocks on livestock production are decreased feed quality and increased livestock disease incidence.⁵⁵ This is expected to lead to increased veterinary expenses, but the degree to which depends on the prevalence of specific diseases and changing market prices for different medicines, which were determined to be outside of the scope of this project.

iv. Estimated Changes in Future Cost Due to Climate Change

Using expected changes in regional climate, ranges were calculated to represent predicted changes in annual expenses and revenues associated with cattle ranching practices. To calculate these changes, predicted changes in regional climate were applied to the ranges of cost and revenue values, accounting for any variation in acquisition or sale. First, annual spending on water is expected to increase by between 20% and 100% because of increased trips necessary to acquire water. The cost of supplemental feed may increase by between 30% and 230%. This large variation is due to the range of possible dry periods predicted for the region. Finally, veterinary expenses are expected to increase, but the degree to which depends on external factors described above that were determined to be outside of the project scope.

Revenue from both live and culled cattle is expected to decline due to factors such as reduced feed and water availability, heat stress, and the potential for increased disease. These conditions are likely to lead to a decrease in cattle weight, which, in turn, will lower revenue as prices are typically based on weight per kilogram.

In regard to risk, we recognize that direct climate impacts are difficult to predict, so potential inaccuracies in data could cause greater-than-expected fluctuations in ranching costs. To account for

⁵¹ Ashraf Vaghefi et al., "A Toolkit for Climate Change Analysis and Pattern Recognition for Extreme Weather Conditions – Case Study."

⁵² Ashraf Vaghefi et al.

⁵³ Ashraf Vaghefi et al.

⁵⁴ Theusme et al., "Climate Change Vulnerability of Confined Livestock Systems Predicted Using Bioclimatic Indexes in an Arid Region of México."

⁵⁵ Faisal et al., "Assessing Small Livestock Herders' Adaptation to Climate Variability and Its Impact on Livestock Losses and Poverty."

this, ranges were created for possible changes in costs and revenues, which can then be applied to current ranching practices to estimate change. Additionally, future policy changes such as providing subsidies for sustainable grazing practices could alter future cost projections. However, the estimations calculated are indicative of current trends based on relevant available data.

B. Economic Analysis of Ecotourism: Assessing Financial Viability

i. Financial and Economic Analysis Introduction

To assess the financial viability of transitioning from traditional cattle ranching to a mixed-use model incorporating ecotourism, an Excel spreadsheet (See Appendix 1) was created as a tool to compare the potential revenue from various scenarios. This spreadsheet estimates how current cattle ranching practices perform financially under different conditions and evaluates how revenue from cattle ranching would compare to potential earnings from ecotourism. The analysis accounts for multiple variables, including different levels of cattle reduction, costs/revenues from different tourism visitation scenarios, and current cattle ranching costs/revenues. It also factors in three fencing scenarios and three funding scenarios for developing tourism infrastructure. Given the uncertainties surrounding climate change-driven increases in ranching costs, fluctuating cattle prices, and unpredictable tourism demand, both low and high estimate scenarios were incorporated to assess the potential risks and rewards of shifting towards ecotourism. By examining these different financial pathways, the ranching/ecotourism spreadsheet provides insights into which strategies may offer the most sustainable and profitable outcomes for ranchers considering this transition. Below are in depth looks at each of the variables considered in this analysis.

ii. Investment Costs for Ecotourism Development

Based on discussions with the owners of Rancho Los Aguajitos and Rancho Mariposa, as well as input from our local partner Enrique Flores Garcia, we estimate that a total investment of \$52,428 is required to develop the necessary ecotourism infrastructure across both ranches. The estimated costs (See Appendix 2) were generated through conversations with the ranchers, detailing the specific infrastructure needs for hosting visitors. These estimates were supplemented by Enrique Flores Garcia's local expertise and reviewed by our team to confirm costs wherever possible. Although our team strived to obtain the most accurate estimates, it should be acknowledged that there is still uncertainty in the exact cost estimates.

Infrastructure Components include:

- Trail formation and maintenance
- Bench installation along trails
- Biodigester toilets
- Signage for visitor navigation
- Camping palapas
- Training courses (English, first-aid, flora/fauna identification)

- Starlink internet installation
- Solar panels (to meet visitor energy needs)
- Larger water storage containers
- Field guides (e.g., birding books, plant identification materials)
- Camping gear for rental

The following investment tiers were developed based on our team's assumptions about the most critical components needed to scale up tourism operations at Rancho Los Aguajitos and Rancho Mariposa. These tiers reflect a progressive approach to infrastructure development, starting with essential facilities and gradually incorporating elements that enhance the visitor experience and long-term operational capacity.

Table 3. Investment Tiers for Scaling Ecotourism Operations – Outlines three investment tiers for developing ecotourism at Rancho Los Aguajitos and Rancho Mariposa.

Investment Tier/Cost	Included Infrastructure
Basic Investment (~\$13,000)	Covers essential infrastructure for initial visitor hosting, including trail formation, benches, toilets, and signage. This tier establishes the foundation for ecotourism by providing the minimum necessary amenities for guests
Intermediate Investment (~\$30,000)	Builds upon the basic tier by adding training courses, Starlink internet, solar panels, water storage tanks, and wildlife observation gear. These additions improve visitor experience, enhance operational readiness, and provide necessary utilities to support expanded tourism activities.
Full Investment (~\$52,000)	Includes all previously mentioned elements, plus palapas (open structures made of wooden poles and a thatched roof) and camping gear, allowing for more comfortable overnight stays. This tier aims to maximize revenue potential by enabling multi-day tourism experiences.

iii. Fencing Investment

Stemming from the environmental successes of Rancho Encinalito fencing off their land, it is important to factor in different fencing scenarios into investment recommendations.⁵⁶ Traditionally, fencing has been used as a measure to coral or keep cattle in. The Rancho Encinaltio approach, however, utilized fencing to exclude cattle from entering their land, which allowed for a natural recovery of the land due to reduced grazing pressures.⁵⁷ Currently, most UCAS ranches have significantly more cattle per hectare than the suggested national sustainable head of cattle per hectare. For this reason, we have proposed that fencing be divided into multiple categories, rather than simply fencing everything off. Currently, ranches have very minimal to no fencing, allowing cattle to roam

 ⁵⁶ Vanderplank et al., "RANCHO ENCINALITO: A BIODIVERSITY AND CONSERVATION EVALUATION."
 ⁵⁷ Vanderplank et al.

around freely. This is the "business as usual" scenario. Second there is the "partial fencing" category that functions as an exclusionary fencing effort, targeting high value areas like river/stream beds or steep slopes subject to erosion, to exclude cattle from grazing those lands. The "full fencing" investment could function either way but requires ranchers to significantly reduce their herd size. If ranchers reduce their herd size to a sustainable level (1 head per 5 hectares), then fencing could be used to exclude wandering cattle and allow their cattle to sustainably graze their lands. If a rancher completely removed all their cattle, then the fence would function as a fully exclusionary mechanism. To estimate fencing costs, we consulted the owner of Rancho La Venta , Bob Pudwill. The current estimated cost per kilometer, including labor and materials, is \$4,108 USD (\$81,800 MXN). The total perimeter of both Los Aguajitos and Rancho Mariposa is 5.5 km, leading to an estimated full fencing cost of \$22,594 USD (\$450,00 MXN).

Table 4. Fencing Investment Scenarios – Provides different fencing investment options for Rancho Los Aguajitos and Rancho Mariposa.

Investment Type (USD)	Included Area
No Fencing (\$0.00)	None (Business as usual)
Partial Fencing (~\$11,300)	Exclusionary fencing for key conservation and erosion-risk areas (half the cost of full fencing)
Full Fencing (~22,600)	Encloses both ranches completely

iv. Revenue Estimates and Assumptions:

To assess the financial feasibility of ecotourism at Rancho Los Aguajitos and Rancho Mariposa, we developed cost estimates for daily operations per visitor. These estimates account for essential services such as staffing, food, and amenities, ensuring that each visitor receives a well-rounded experience. The following breakdown outlines the anticipated per-visitor expenses, with the assumption that most guests will visit in pairs, which slightly reduces costs per person when expenses are shared. It also works off the assumption that there will be around 5 or 6 days of client visits per month. The greater the amount of visitors per group/day, the higher the profit margin. For this reason, we are assuming no more than 2 visitors to provide conservative profit estimates and prevent false predictions of higher-than-expected revenues.

Table 5. Daily	Operational (Costs per	Visitor –	- Projects 1	per-visitor	costs for	onerating e	cotourism	activities
Table 5. Daily	operational	Costs per	131101	110,000	Jer visitor	0313 101	operating c	cotourism	activities.

Item or Service	Daily Operational Cost (USD)
Bilingual Translator	\$45
WiFi	\$10
Food	\$10/person
Miscellaneous	\$5

TOTAL (1 visitor)	\$70
TOTAL (2 visitors)*	\$80

*Costs for one client in a single day add up to \$70. Given all other costs are standardized, it is only an additional \$10 per person for food costs, meaning it is \$80 for 2 visitors. It should be noted that for the sake of this analysis, we assumed that visitors would nearly always arrive in groups of two or more as numerous local partners assured us that their tourism operations rarely receive single clients.

To estimate revenues, our team reviewed average pricing for tourism operations similar to that which the UCAS ranchers are attempting to realize. This included cultural tourism day visits, hiking tours, ranch visits and horseback riding tours. The average price for these excursions was between \$100 and \$110. As the UCAS ranches' ecotourism venture is only in its infancy and needs to grow, we estimated that clients' willingness to pay would be lower than if they were presented with the option of a wellestablished tourism activity. For this reason, we set the price at \$70 per person. This way there is a profit of \$70 for every group of 2 clients that visits the site. If a group of 4 clients were to visit the site, the profit would be \$180 after the \$100 cost of hosting. The profit margin significantly increases as the number of visitors increase in a given day, allowing for the ranchers to offer deals at their discretion for larger groups, to incentivize visitation. The spreadsheet (Appendix 1) functions under the assumption that visitors will always arrive in pairs, meaning that if there are only 10 visitors a month, that is 5 days of visitation at the ranches. Below is a table that illustrates the projected annual revenue of the ranches based on visitation rates.

 Table 6. Projected Annual Revenue (USD) Based on Monthly Visitor Estimates – Presents projected annual revenue, costs, and net profit for ecotourism ventures based on different visitor scenarios.

Visitors per Month	Annual Visitors	Annual Revenue (\$70 per visitor)	Annual Costs (\$80 per 2 visitors)	Net Annual Profit
10	120	\$8,400	\$4,800	\$3,600
20	240	\$16,800	\$9,600	\$7,200
30	360	\$25,200	\$14,400	\$10,800
40	480	\$33,600	\$19,200	\$14,400

It should be noted that there are a number of risks associated with the assumptions of revenues. Please review Table 7 below.

Table 7. Key Revenue Assumptions and Associated Risks – Outlines the primary assumptions used in estimating revenue for the ecotourism model along with potential risks that could impact financial outcomes.

Category	Revenue Assumptions	Associated Risks		
Visitation	• Assumes that all guests arrive in pairs (based on data from a	• Difficulty in attracting consistent visitor numbers, especially in the		

	nearby partner ranch).	initial years.
Pricing & Costs	 Pricing model aligns with similar hiking and cultural tourism experiences in the region. Larger groups could lead to cost efficiencies and potential discounts. 	 Potential underestimation of operational costs, which could reduce profit margins. Cost of Bilingual Translator assumes that they are available on call and only when needed
External Factors	N/A	• External economic conditions affecting tourist spending behavior.

v. Cattle Ranching Cost and Revenue Estimates

Annual costs of cattle ranching range from \$7,800 to \$11,800 USD, with an average cost of \$9,800 USD per year. Annual revenue from cattle sales is estimated at \$5,398 USD, based on a range of \$2,695 to \$8,100 USD per year. This indicated an annual net loss of revenue from cattle ranching of about \$4,400. It should be noted that our calculations were based on information from two ranches that provided estimates of their costs and number of cattle sold, however neither ranch has kept detailed logs of their costs and revenues so these numbers were generated off of their recollections of the previous year, through various conversations.

As it became clear that ranching appears to be financially unsustainable, our team looked at what would happen to ranching costs and revenues if herd size were to be reduced. See below for the estimated costs and revenues of ranching if herd size is reduced.

Table 8. Estimated Reduction Scenarios - Estimates projected cost and revenue reductions under different cattle ranching reduction scenarios. Estimates are based on reported annual costs and revenues from two ranches, which provided approximations.

Ranching Reduction %	Initial Costs (USD)	New Costs (SD)	Initial Revenues (USD)	New Revenues (USD)
25% Reduction	\$9,800	\$7,35 0	\$5,400	\$4,050
33% Reduction	\$9,800	\$6,5 00	\$5,400	\$3,600
50% Reduction	\$9,8 00	\$4,900	\$5,400	\$2,700
66% Reduction	\$9,800	\$3,300	\$5,400	\$1,800

As our initial findings indicated that current cattle revenues are lower than current costs, by reducing the percentage of cattle, ranchers saw lower margins of loss from cattle. Take the 25% reduction for example, the net revenues from cattle ranching are -\$3,300 (\$4,050-\$7,350) while the net revenues from a 66% reduction are -\$1,500 (\$1,800-\$3,300). This trend continues until it reaches zero cattle and

zero costs/revenues. Although this is the trend, it is likely that once herd size is reduced to a sustainable level, cattle will be able to naturally forage, rely less on supplemental feed, potentially grow to a healthier size and produce a higher profit margin per head.

C. Key Findings

i. Ranching Profitability is Declining, Making Diversification Necessary

The financial projections indicate that cattle ranching is estimated to be financially unsustainable, generating negative net revenues on an annual basis. Currently it is likely that ranchers supplement their cattle operations with that of their goats, sheep and other animals to allow for them to sustain the quantity of cattle they have. This means that any further increases in feed costs, drought conditions, or market fluctuations could increase costs past what ranchers make off their other animals to support their cattle. Given the rising costs of maintaining livestock, there is a clear need for diversification. An alternative income stream, such as ecotourism, can help to offset potential losses and ensure long-term financial stability as ranchers work to reduce their herd sizes.

ii. Current Cattle Numbers Exceed Sustainable Land Capacity

Cattle costs are not the only factor to consider when assessing the quantity of cattle each ranch hosts. As previously highlighted, the sustainable carrying capacity in BCS is estimated at 0.2 LU per hectare per year.⁵⁸ This means that each hectare of land can support only 0.2 cattle without degrading the environment. For multiple of the UCAS ranches, this means that significant reductions in cattle are needed to achieve a sustainable stocking rate of their lands.

Current ranch stocking rates:

- Rancho Los Aguajitos (180 hectares, 140 cattle):
 - Sustainable level = $0.2 \text{ LU} \times 180$ hectares = 36 cattle
 - Reduction needed: 104 cattle (74%)
- Rancho Mariposa (12 hectares, 80 cattle):
 - Sustainable level = $0.2 \text{ LU} \times 12$ hectares = 2-3 cattle
 - Reduction needed: 77-78 cattle (96%)

Both ranches significantly exceed sustainable livestock levels, suggesting that continued overgrazing will further degrade the land. This highlights the urgent need to reduce herd sizes while gradually shifting toward ecotourism and other sustainable practices.

iii. Partial Fencing with Moderate Cattle Reduction is the Most Cost-Effective Approach

⁵⁸ Ibarrola-Rivas and Nonhebel, "Does Mexico Have Enough Land to Fulfill Future Needs for the Consumption of Animal Products?"

A partial fencing strategy, where only key conservation areas are enclosed, is the most cost-effective approach as it works to combat erosion and allow for landscape regeneration, while still allowing some cattle to graze freely, minimizing the need for expensive supplemental feeding. Partial fencing at \$11,297 USD keeps investment costs manageable and allows for a more gradual reduction in cattle rather than an extreme, immediate cut. Concurrently, reducing cattle by 25-33% initially would be a sustainable middle ground, reducing ranching costs, and elevating pressure off the local flora. It is likely that ranchers will be open to a 25%-33% reduction in herd size as one of the ranchers mentioned he would be interested in exploring that option.

iv. Ecotourism is Likely More Profitable Than Cattle Ranching, but Has Inherent Risks

Ecotourism was estimated to produce more than ranching in every scenario. This is primarily due to the estimated net losses of cattle ranching. While Rancho La Venta, a nearby ecotourism ranch, receives 40 clients per month in the high season, we cannot assume with confidence that Rancho Aguajitos and Rancho Mariposa will receive 40 tourists per month consistently. However, it is likely they could attract 10-20 clients per month through word of mouth, connection with MuVaca, and through publication on Facebook. It has taken Rancho La Venta many years to achieve a reputation and consistent client base. It would likely take the same for these ranchos to achieve that level of visitation. Given these uncertainties, a sudden and complete transition to ecotourism would be financially risky.

D. Recommendations

i. Gradually Reduce Cattle to Sustainable Levels

- Immediate reduction of 25-33% to ease grazing pressure and lower ranchers' costs.
- Further reduction to 50% in one to two years' time if tourism revenue proves to be sustainable; further reduce herd size as tourism revenue grows.
- Ranchers should document their costs and revenues from cattle and other animals to formulate accurate estimates of their business. Continuously documenting their revenues from cattle will allow them to make more informed decisions and trust the numbers much more, because they are their own numbers.
- Rancho Los Aguajitos should aim for a long-term herd size of 36 cattle (down from 140).
- Rancho Mariposa should aim for 2-3 cattle (down from 80), shifting towards small livestock and ecotourism instead.

ii. Start with a Small-Scale Ecotourism Model and Expand Gradually

• Seek funding for the initial \$13,000 investment that will set the ranchers up for more comfortably hosting clients.

- If demand grows and there are more than 20 or 30 visitors per month, invest another \$17,000 to enhance the experience that the ranchers can offer clients and allow for them to expand their operations and rely less on cattle ranching.
- Save the remaining \$22,000 of the full \$52,000 investment tier until visitor demand is firmly established and there are 40+ visitors per month.
- Ranchers should monitor and document all their spending and earnings related to ecotourism to be able to look at their finances each year and determine if their operations are profitable.
- Ranchers should publicize their operations on Facebook and coordinate with MuVaca to organize tour groups. Also utilizing tourism websites and networks in La Paz and Los Barilles.

iii. Adopt Partial Fencing

- Partial fencing protects key conservation areas and addresses issues related to erosion and habitat degradation. It allows limited cattle grazing, not forcing complete reliance on supplemental feed if cattle are fully fenced in.
- Full fencing would require severe cattle reductions (75%-100%), which may not be financially viable in the short term without fully developed tourism revenue first.

iv. Monitor Climate Change Impacts on Ranching Costs

- If feed and water shortages worsen, consider further reducing cattle and focusing more resources on fewer animals to promote better health of individual animals.
- Document monthly costs of feed, quantity of feed per year, costs of water, and track fluctuations in expenses to adjust herd size and resource allocation accordingly.

II. DEVELOP MARKETING STRATEGY TO HELP BUILD A DONOR BASE

(Please see Appendix 3 for detailed <u>Marketing Strategy Report</u>)

The second part of our analysis highlights the key outcomes of our efforts to develop a comprehensive marketing strategy for UCAS and Rancho Encinalito. By focusing on building brand identity, fostering strategic partnerships, conducting a content analysis, and providing actionable recommendations including a sample portfolio, we have identified key insights that align with our clients' goals and priorities.

A. Brand Identity

i. Defining a Brand

- UCAS is a unique coalition of ranchers, conservationists, and researchers dedicated to protecting the Sierra de la Laguna—one of Baja California Sur's most ecologically significant yet overlooked regions. As a biodiversity hotspot, this area is home to a high concentration of endemic species, many of which are increasingly threatened by climate change and habitat degradation.
- Unlike traditional conservation organizations, UCAS is deeply rooted in the local ranching community, blending generations of land stewardship with conservation science. By working directly with those who know the land best, UCAS is pioneering this collaborative model of conservation in the region—one that honors cultural traditions, all while implementing sustainable solutions to protect ecosystems for future generations.

ii. Key Messaging

• *Example:* Dedicated to preserving the Agua de la Sierra region, UCAS is committed to exploring sustainable land use alternatives to traditional cattle ranching. By considering diverse conservation strategies, UCAS aims to protect local ecosystems and ensure long-term resilience for both the land and its communities.

B. Strategic Local Partnerships

i. How to Leverage Partnerships

• Utilize <u>Potential Partners Tracker Spreadsheet</u>: By utilizing the "Potential Partners Tracker" Spreadsheet, clients will be able to strategically develop and manage relationships with potential partners. This tool is designed to facilitate a comprehensive approach to partner engagement across multiple platforms. The following are the intended uses of this tool:

- a. Identify Key Partners
- b. Social Media Engagement
- c. Network Connections
- d. Cross-Sector Engagement
- e. Track Partnerships
- Objectives: Social Media Strategy: A well-rounded social media strategy goes beyond posting content—it requires active engagement and continuous evaluation to maximize impact. By leveraging strategic interactions with key partners and closely monitoring performance trends, organizations can expand their reach, strengthen donor connections, and refine their messaging for greater effectiveness. The following approaches are essential for optimizing social media engagement and driving long-term success:
- a. Engage with Key Partners
- b. Monitor Performance and Trends

C. Content Analysis

i. Key Trends

• The following figures illustrate key trends in social media performance across local, regional, and international environmental organizations analyzed. They compare engagement rates by organization type, examine posting frequency and its potential correlation with engagement, and analyze the balance between photos and reels. Additionally, they categorize post content (e.g., hashtags, people, landscapes, biodiversity, infographics, events) to highlight common themes and investigate whether higher posting frequency leads to increased engagement. Together, these insights provide a clearer understanding of effective content strategies and audience interaction patterns.


Average Engagement Rate by Organization Type

Organization

Figure 5. Average engagement rate by organization type. This bar chart illustrates engagement trends across organizations of different geographic scopes (local, regional, international), providing insight into how audience interaction may vary based on an organization's reach and scale. Engagement rate was calculated using the formula: (likes + comments) / followers × 100, providing a standardized measure of audience interaction relative to an organization's follower base.



Post Frequency Across Organizations

Post Frequency

Figure 6. Post Frequency Across Organizations. Categorized as daily, weekly, or sporadic, this bar chart illustrates posting consistency among organizations. This visualization helps identify common trends and explores potential correlations between post frequency and engagement levels.



Breakdown of Media Type Across Organizations

Figure 7. Breakdown of Media Type Across Organizations. This stacked bar graph shows the distribution of photos vs. reels for each organization. This graph highlights content format preferences and helps assess the balance between static and dynamic media in their social media strategy.



Engagement Rate vs. Post Frequency

Post Frequency (Posts/Week)

Figure 8. Engagement Rate vs. Post Frequency. This scatter plot displays the relationship between post frequency and engagement rate across organizations. Engagement rate is plotted on the y-axis, while post frequency is represented on the x-axis. This plot helps assess whether organizations that post more frequently achieve higher engagement or if other factors influence audience interaction.

ii. Key Content Strategies

- Leverage Engaging Visual Content
- Maximize Audience Interaction Through Strategic Posting
- Align Content with Audience Interests and Campaigns
- Utilize Data-Driven Insights for Content Optimization
- Strengthen Brand Identity Through Partnerships and Community Engagement

D. Recommendation Portfolio

Based on the content analysis and supporting literature, this section outlines strategic recommendations to optimize social media engagement. The analysis identifies Instagram and LinkedIn as the most effective platforms for UCAS, each serving distinct audience segments. Instagram excels at broad public engagement, fostering community interaction through visually compelling content, while LinkedIn offers a targeted approach to donor outreach and professional networking. By leveraging insights from high-performing posts and best practices across likemissioned organizations, these recommendations provide a framework for maximizing reach, engagement, and impact.

i. Website Suggestions

- Search Engine Optimization (SEO)
- Donor Buttons
- Impact Metrics & Transparency

ii. Social Media Suggestions

- Instagram
- Facebook
- LinkedIn
- Blog Posts

iii. Content Creation

- Long-term Marketing Strategy for UCAS
 - Phase 1: Foundation and Brand Identity

- Phase 2: Audience Engagement and Donor Outreach
- Phase 3: Expansion and Impact Measurement
- Suggested Marketing & Communications Budgets
 - Option A: General Approach
 - Option B: Donor Targeted Approach
- Sample Social Media Calendar
- Sample Posts

The marketing analysis for UCAS revealed several key strengths and areas for improvement. While UCAS has built a solid reputation for its conservation and community-based initiatives, its outreach efforts remain fragmented. The organization's digital presence lacks consistency in branding, storytelling, and engagement, which limits its ability to connect with potential donors and partners effectively. Social media activity is nonexistent, and the website does not fully leverage the impact of UCAS work to inspire action. A comparative analysis of similar organizations demonstrated that those with strong audience engagement strategies utilize high-quality visuals, impact-driven storytelling, and a structured donor communication plan to build long-term support. Additionally, research into funding trends emphasized the importance of diversifying revenue streams beyond traditional grants, including crowdfunding, corporate partnerships, and eco-tourism opportunities.

To address these findings, the recommendation portfolio presents a strategic approach aimed at strengthening UCAS's brand recognition and financial sustainability. Key recommendations include the development of a structured social media calendar, the use of compelling conservation impact stories, and an improved donor communication strategy. The portfolio also highlights the potential for strategic partnerships with environmentally conscious businesses and eco-tourism initiatives to create additional funding streams. A phased implementation plan is outlined to ensure that UCAS can systematically adopt these recommendations while maintaining operational efficiency.

E. Long-term Sustainability

To ensure the long-term sustainability of UCAS's digital marketing strategy, it is essential to maintain a consistent yet adaptable approach across platforms. By continuously refining content based on engagement analytics, UCAS can optimize its messaging to resonate with both donors and the broader public, supporting future ecotourism marketing efforts. Investing in evergreen content, such as educational blog posts, impact stories on social media, and SEO-driven resources, will provide lasting value while reducing the demand for constant content creation. Securing recurring donations through clear website calls to action, targeted LinkedIn campaigns, and ongoing donor stewardship will further enhance financial stability. By integrating these strategies, UCAS can create a sustainable digital presence that drives continued engagement and funding for specific conservation initiatives that will be essential for leveraging the cost benefits of UCAS's transition away from ranching-intensive practices.

6. CONCLUSION

I. CATTLE RANCHING AND ECOTOURISM

Our analysis indicates that a gradual transition, one that reduces cattle numbers to sustainable levels (0.2 LU/ha) while scaling up ecotourism through partial fencing and phased investments, offers the most viable path forward for the ranchers if they choose to adopt ecotourism. This balanced approach allows for financial sustainability, land regeneration, and adaptability to evolving market conditions and environmental changes, while ensuring that the transition remains financially feasible. Throughout this transition, it is essential to center cultural sensitivity by acknowledging the deep-rooted significance of ranching traditions in BCS; our recommendations are shaped by this context and aim to support a hybrid model that allows ranchers to preserve their way of life while gradually integrating ecotourism.

A sudden shift away from cattle ranching is not advisable, as ecotourism, while promising, is not a guaranteed source of income. There is a market for ecotourism, as evidenced by the success of nearby Rancho La Venta, which receives 40 visitors per month in the high season. However, it remains uncertain whether Rancho Los Aguajitos and Rancho Mariposa can consistently attract 20-40 visitors per month, particularly in the early stages of development. While a baseline estimate of 10-20 visitors per month is achievable, a more cautious and incremental approach is necessary to test demand before making substantial investments.

By starting small and scaling up gradually, the ranchers can retain some cattle income during the transition, which will act as a financial safety net while they evaluate the true revenue potential of ecotourism. Reducing cattle numbers by 25-33% initially, rather than an immediate drastic reduction, allows for a measured shift in land use. As ecotourism revenue grows and becomes more stable, further reductions up to 50% can be considered, ensuring that the land is able to regenerate naturally without creating excessive financial strain.

Additionally, choosing partial fencing over full enclosure will help keep costs manageable while allowing for some continued grazing, reducing reliance on expensive supplemental feed. Full fencing, while beneficial for conservation, would require cattle reductions of up to 90%, which is unlikely to be financially sustainable unless ecotourism demand is consistently high. Given the uncertainties in visitor numbers, it is critical to avoid excessive upfront investment in fencing and infrastructure until tourism demand is firmly established.

The broader goal of this transition is to enhance the resilience of ranching communities, ensuring they are less vulnerable to climate change, drought, and fluctuating cattle markets. By adopting conservation practices, such as rotational grazing, water retention structures, and ecosystem restoration, the land can recover, improving long-term productivity and biodiversity. We encourage our clients to further explore and integrate sustainable ranching practices alongside ecotourism, using this analysis as a foundation for building a diversified, resilient land management strategy.

In the long run, if climate change significantly increases the cost of cattle ranching, shifting toward a more ecotourism-focused model may become not just an option, but a necessity. However, the pace of this transition must be carefully managed to avoid economic hardship. By maintaining flexibility, monitoring tourism growth, and adapting based on real-world demand, the ranchers can build a

sustainable and profitable future, one that protects both their livelihoods and the land they depend on.

The principles of common-pool resource (CPR) management, as outlined by Elinor Ostrom,⁵⁹ may provide a viable framework for managing the transition from cattle ranching to ecotourism in the Sierra de la Laguna. Effective CPR governance has been successfully implemented in Mexico and other semi-arid regions worldwide, demonstrating how local communities can sustainably manage shared resources while balancing economic and environmental interests. One of the most relevant examples of CPR governance in Mexico is the ejido system, which grants communities collective land rights and management authority. Many ejidos successfully regulate forests, pastures, and water resources using internal governance structures, monitoring systems, and conflict resolution mechanisms, aligning with Ostrom's CPR principles.⁶⁰

One notable example is the Grazing-Free Reserves established in the Spiti Valley of the Trans-Himalayan region of India. Overgrazing by livestock had led to the depletion of rangelands, adversely affecting both domestic animals and native wildlife. To address this, a community-based conservation initiative was launched, creating designated grazing-free areas.⁶¹ This approach allowed vegetation to regenerate, improving forage availability and supporting biodiversity. The success of this initiative hinged on community involvement in decision-making, monitoring, and enforcement of grazing regulations, aligning with Ostrom's principles of collective action and local governance.

Applying CPR governance principles to ecotourism development in Sierra de la Laguna requires establishing clearly defined and agreed upon boundaries for conservation areas, ecotourism zones, and designated grazing lands. For CPR-based ecotourism governance to be effective, local participation in decision-making is also critical. UCAS can be instrumental in designing a commonly agreed upon set of rules amongst the ranchers and coming up with an enforcement mechanism. Before applying the CPR governance principles in the context of ranching in BCS, further research is warranted to understand the successes and failures of such governance from across the world.

II. MARKETING STRATEGY

The findings suggest that a targeted marketing strategy can significantly enhance UCAS's ability to attract funding and expand its influence. By prioritizing consistent storytelling and audience engagement, UCAS can build stronger relationships with donors, grant organizations, and community stakeholders. The use of visually compelling content, such as short-form videos and success stories from conservation efforts, can create a more emotional connection with potential supporters, ultimately driving higher engagement and funding contributions. Additionally, adopting a structured donor communication strategy—including personalized outreach, transparent impact reporting, and recurring donation options—can enhance donor retention and trust.

Beyond digital engagement, diversifying funding sources will be critical for UCAS's long-term resilience. Establishing partnerships with sustainable businesses and integrating eco-tourism into its revenue model can provide financial stability while reinforcing the organization's conservation mission. However, successful implementation of these strategies will require continuous performance

⁵⁹ Ostrom et al., "Revisiting the Commons: Local Lessons, Global Challenges."

⁶⁰ Nigel Key et al., "Social and Environmental Consequences of the Mexican Reforms: Common Pool Resources in the Ejido Sector."

^{61 &}quot;Grazing Free Reserves."

tracking, audience analytics, and adaptability to emerging trends. Future efforts should focus on refining outreach strategies based on engagement data, experimenting with new funding models, and exploring opportunities for cross-sector collaborations using the partners tracker. By proactively addressing these areas, UCAS can position itself as a leading force in Baja California Sur's conservation community.

7. PROJECT CHALLENGES

Determining the project scope involved navigating multiple challenges, particularly balancing conservation goals with the economic realities of traditional ranching practices. Conflicting interests among stakeholders (e.g., desire to implement conservation vs. continue cattle ranching) made it difficult to align priorities, while data acquisition posed significant limitations. Existing information was often restricted to a small number of ranches and varied widely, with estimates on key factors—such as cattle headcount, feed costs, and land area—ranging considerably. Additionally, uncertainties in climate trends, tourism visitation, and seasonal variability added complexity to cost-benefit analyses, requiring key assumptions to be made. Initially, the scope of the project was too broad and ambitious, requiring a reassessment of what could realistically be accomplished within the project timeline.

Further, conducting informal knowledge capture with UCAS members required careful attention to cultural and language barriers, ensuring sensitivity when engaging diverse populations and being sure not to over promise project outcomes. Establishing a cohesive brand identity across multiple stakeholders presented another challenge, particularly given the informal nature of UCAS as a new establishment. Without 501(c)(3) or LLC status, developing a plan to secure donations was logistically difficult, requiring creative solutions to attract and manage funding. Despite these obstacles, the project identified strategic approaches to address these gaps, laying the groundwork for future conservation and sustainable land management initiatives for UCAS members.

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APPENDIX 1

	Percent Cattle Reduction	0%	0%	25%	25%	33%	33%	50%	50%	66%	66%	75%	75%	90%	90%
	Cost/Renvenue Range	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
10 Clients per Month	Costs (Ranching)	(\$16,500)	(\$7,800)	(\$12,360)	(\$5,850)	(\$11,040)	(\$5,230)	(\$8,240)	(\$3,900)	(\$5,610)	(\$2,650)	(\$4,125)	(\$1,950)	(\$1,650)	(\$780)
	Revenues (Ranching)	\$5,380	\$6,390	\$4,040	\$4,790	\$3,590	\$4,260	\$2,690	\$3,200	\$1,830	\$2,170	\$1,350	\$1,600	\$540	\$640
	Costs (Tourism)	\$0	\$0	(\$4,800)	(\$4,800)	(\$4,800)	(\$4,800)	(\$4,800)	(\$4,800)	(\$4,800)	(\$4,800)	(\$4,800)	(\$4,800)	(\$4,800)	(\$4,800)
	Revenues (Tourism)	\$0	\$0	\$8,400	\$8,400	\$8,400	\$8,400	\$8,400	\$8,400	\$8,400	\$8,400	\$8,400	\$8,400	\$8,400	\$8,400
	Net Costs/Revenues	(\$11,120)	(\$1,410)	(\$4,720)	\$2,540	(\$3,850)	\$2,630	(\$1,950)	\$2,900	(\$180)	\$3,120	\$825	\$3,250	\$2,490	\$3,460
20 Clients per Month	Cost/Renvenue Range	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
	Costs (Ranching)	(\$16,500)	(\$7,800)	(\$12,360)	(\$5,850)	(\$11,040)	(\$5,230)	(\$8,240)	(\$3,900)	(\$5,610)	(\$2,650)	(\$4,125)	(\$1,950)	(\$1,650)	(\$780)
	Revenues (Ranching)	\$5,380	\$6,390	\$4,040	\$4,790	\$3,590	\$4,260	\$2,690	\$3,200	\$1,830	\$2,170	\$1,350	\$1,600	\$540	\$640
	Costs (Tourism)	\$0	\$0	(\$9,600)	(\$9,600)	(\$9,600)	(\$9,600)	(\$9,600)	(\$9,600)	(\$9,600)	(\$9,600)	(\$9,600)	(\$9,600)	(\$9,600)	(\$9,600)
	Revenues (Tourism)	\$0	\$0	\$16,800	\$16,800	\$16,800	\$16,800	\$16,800	\$16,800	\$16,800	\$16,800	\$16,800	\$16,800	\$16,800	\$16,800
	Net Costs/Revenues	(\$11,120)	(\$1,410)	(\$1,120)	\$6,140	(\$250)	\$6,230	\$1,650	\$6,500	\$3,420	\$6,720	\$4,425	\$6,850	\$6,090	\$7,060
30 Clients per Month	Cost/Renvenue Range	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
	Costs (Ranching)	(\$16,500)	(\$7,800)	(\$12,360)	(\$5,850)	(\$11,040)	(\$5,230)	(\$8,240)	(\$3,900)	(\$5,610)	(\$2,650)	(\$4,125)	(\$1,950)	(\$1,650)	(\$780)
	Revenues (Ranching)	\$5,380	\$6,390	\$4,040	\$4,790	\$3,590	\$4,260	\$2,690	\$3,200	\$1,830	\$2,170	\$1,350	\$1,600	\$540	\$640
	Costs (Tourism)	\$0	\$0	(\$14,400)	(\$14,400)	(\$14,400)	(\$14,400)	(\$14,400)	(\$14,400)	(\$14,400)	(\$14,400)	(\$14,400)	(\$14,400)	(\$14,400)	(\$14,400)
	Revenues (Tourism)	\$0	\$0	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200
	Net Costs/Revenues	(\$11,120)	(\$1,410)	\$2,480	\$9,740	\$3,350	\$9,830	\$5,250	\$10,100	\$7,020	\$10,320	\$8,025	\$10,450	\$9,690	\$10,660
40 Clients per Month															
	Cost/Renvenue Range	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
	Costs (Ranching)	(\$16,500)	(\$7,800)	(\$12,360)	(\$5,850)	(\$11,040)	(\$5,230)	(\$8,240)	(\$3,900)	(\$5,610)	(\$2,650)	(\$4,125)	(\$1,950)	(\$1,650)	(\$780)
	Revenues (Ranching)	\$5,380	\$6,390	\$4,040	\$4,790	\$3,590	\$4,260	\$2,690	\$3,200	\$1,830	\$2,170	\$1,350	\$1,600	\$540	\$640
	Costs (Tourism)	\$0	\$0	(\$19,200)	(\$19,200)	(\$19,200)	(\$19,200)	(\$19,200)	(\$19,200)	(\$19,200)	(\$19,200)	(\$19,200)	(\$19,200)	(\$19,200)	(\$19,200)
	Revenues (Tourism)	\$0	\$0	\$33,600	\$33,600	\$33,600	\$33,600	\$33,600	\$33,600	\$33,600	\$33,600	\$33,600	\$33,600	\$33,600	\$33,600
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Estimated Costs and Revenues of Transitioning from Cattle Ranching to Ecotourism

Note: this spreadsheet was used internally to explore different ranching and tourism scenarios and therefore has its limitations if looked at as a standalone document and without consulting our team.

APPENDIX 2

Estimated Investment Costs for Ecotourism Development

Category	Item or Service	Unit of Measure	Number of Units Needed	Base Cost in USD			
Trail Formation	Includes labor payment for a brigade of 10 people carrying out rehabilitation activities, trail cleaning, widening.	Kilometer	5	\$1,960.78			
Tail Formation	Placement of handrails in inclined areas, steps, whitewashing of stones placed at approximately 10 meters from each other for signage.	Kilometer	5	\$245.10			
Benches	Adaptation and installation of wooden benches and/or materials from the region for resting of hikers.	Bench	6	\$441.18			
Toilets	Biodigester-type bathroom. There is a model used in a neighboring ranch that is practical and easy to maintain.	Toilet	2	\$7,843.14			
Signage	Design, printing and installation of signs with directions and advertisements out on the main roadway to assist clients in arriving.	Sign	10	\$2,450.98			
Camping Palapas	Install Palapas (one per ranch), per recommendation of UCAS members. These would serve as a space for meals, meetings, cultural activities, and set up tents.	Palapa	2	\$19,607.84			
Courses	English course for guides and workers	People	4	\$294.12			
	First aid course for remote areas	Event	1	\$2,205.88			
	Flora and Fauna observation courses	Event	1	\$2,205.88			
Internet	Starlink WiFi installation	Dish	2	\$745.00			
Solar Panels	Installation and commissioning of a solar power system to provide electrical energy for visitors.	Panels	2	\$9,345.79			
Additional water usage	An increase of water usage per month is to be expected. A water tank of 2500 liters per ranch is enough to supply up to 50 visitors a month and is stored for other uses. Homero calculated that each water tank will take about two to three days to produce.	Tank	4	\$1,960.78			
Wildlife Observation	Plant Guide	Item	2	\$222.94			
Equipment	Binoculars	Item	12	\$1,104.71			
	First aid course	Item	2	\$58.82			
	Bird guide	Item	2	\$78.24			
	Camping Cot	Item	10	\$833.33			
Comping Coor	10-person tent	Item	1	\$245.10			
Camping Gear	4-person tent	Item	3	\$88.24			
	Sleeping bag	Item	10	\$490.20			
TOTAL							

Basic Investment (~\$13,000) - <mark>Yellow</mark> Intermediate Investment (~\$30,000) - <u>Green</u> Full Investment (~\$52,000) - <u>Blue</u>

APPENDIX 3

MARKETING STRATEGY





Approach

Master of Environmental Science & Management students at the Bren School at the University of California, Santa Barbara, working with Rancho Encinalito and UCAS, are dedicated to advancing sustainable land management and conservation solutions through a targeted marketing strategy that supports sustainable alternatives to cattle ranching. The goal is to attract investors and philanthropic support to help the community transition to sustainable livelihoods, ensuring both environmental and economic resilience. Our team combines research and expertise in ecotourism, conservation, business, marketing, communications, and climate resilience. The goal is to ensure long-term support for conservation goals and economic sustainability in Baja California Sur, Mexico. We strive to equip our clients with marketing tools necessary to gain needed financial and community support for long-term environmental preservation and sustainable livelihoods.

Priorities & Goals

I. Define Clear Target Audience and Messaging.

Establish a strategic marketing framework that clearly identifies UCAS's target donor base and ecotourism clientele. Develop messaging that aligns with UCAS's conservation goals. This includes building a compelling brand identity that resonates with all partners involved in conservation efforts.

II. Develop Tools to Enhance Visibility and Engagement.

Provide tools for implementing effective strategies, including search engine optimization tools and analytics-driven content development, aimed at improving website functionality and social media presence. Create tailored content that enhances donor engagement and broadens visibility, ensuring that UCAS's mission is effectively communicated to the intended audiences for sustained growth.

To achieve these goals, we leveraged literature and expertise from knowledgeable experts. Thank you to the following individuals for their industry expertise in advising our marketing and communications, development, and research efforts.

Albert Black-Goldin

Director of Communications and Marketing, Bren School of Environmental Science & Management at University of California, Santa Barbara

Emily Cotter

Environmental Innovation Program Manager and Lecturer, Bren School of Environmental Science & Management at University of California, Santa Barbara

Alex Phillips

Assistant Teaching Professor in Environmental Communications, Bren School of Environmental Science & Management at University of California, Santa Barbara

Beth Pitton-August

Director of Development, Bren School of Environmental Science & Management at University of California, Santa Barbara

Patti Winans

Associate Director of Development, Bren School of Environmental Science & Management at University of California, Santa Barbara

Background

UCAS is dedicated to adapting cattle ranching operations to aid in the protection of the Sierra de la Laguna region that includes critical watersheds and biodiversity. As part of our initial efforts to support UCAS's mission, we developed a website designed to serve as a hub for engagement and donor outreach. This website was created as a crucial component of a donation campaign–<u>Campaña Agua de la Sierra</u>– facilitated through the International Community Fund (ICF), aiming to increase visibility and support for the conservation work being done in the Sierra de la Laguna. However, we soon realized that in order to truly aid UCAS' mission and ensure the long-term sustainability of their work, it was necessary to develop a comprehensive market analysis. This will strengthen UCAS's capacity to address conservation issues in the Sierra de la Laguna, increase public support and outreach, and expand partnerships with other conservation groups in the area.

Additionally, this analysis can help strengthen future fundraising efforts, allowing us to refine UCAS's outreach strategy, target the right audiences, and develop a more effective approach to securing ongoing support from both local and international donors. To achieve this, we need to identify a target audience, create awareness, and develop and manage those relationships. Marketing professionals use principles from psychology, sociology, and graphic design to create a clearly defined message for the target audience, with the message preceding the call to action (Silk, 2006). The ideal target audience includes decision-makers and influencers who can ultimately fulfill the call to action.

To develop a clear, defined message for UCAS, we need to answer the questions of why, who, and what. According to the *Workbook for Marketing Conservation Services*, phase one of any conservation marketing campaign is determining critical issues. Time and resources may not allow all critical issues to be addressed, so prioritization is essential (NACD, 1994). Selecting the most important issue first and developing a marketing plan around it defines the "why" of UCAS: why it is important to conserve this ecosystem and what issues are being tackled by taking action. Conservation problems often stem from human activities, so solutions require modifying, ceasing, or replacing those activities, with public support and action being essential (Wright et al., 2015). Identifying the issues being addressed helps determine the "who."

To develop an effective marketing strategy for UCAS and Rancho Encinalito, it is essential to first define key conservation challenges. The Sierra de la Laguna faces threats such as watershed degradation, biodiversity loss, and unsustainable land use practices. Addressing these issues requires community engagement, sustainable land management, and securing financial support from conservation partners and donors.

A brand identity clarifies an organization's purpose (e.g., "we who are") and distinguishes itself (NACD, 1994). For UCAS and Rancho Encinalito, this means positioning themselves as defenders of the Sierra de la Laguna's ecological integrity and community resources. Understanding their audience is key: while local community members play a direct role, external stakeholders—such as donors concerned with water security or conservation groups focused on

species protection—also contribute to the broader conservation effort. Many potential supporters value biodiversity but lack the time or capacity for direct involvement, instead contributing financially to organizations that act on their behalf (Smith et al., 2010).

To attract and retain these supporters, it is crucial to communicate the tangible and intangible value of conservation efforts. Donors often seek measurable impacts, such as improved water quality, habitat restoration, or sustainable ranching practices. Research suggests that framing conservation efforts in terms of Return on Investment (ROI) can help align stakeholder priorities and demonstrate the broader benefits of conservation (Boyd, 2013). However, conservation value extends beyond financial metrics—it also includes non-market benefits like ecosystem resilience, community capacity-building, and cultural preservation. By understanding these priorities, UCAS and Rancho Encinalito can shape their marketing strategy to highlight key impact metrics and effectively engage their audience.

Defining Our Scope

STRATEGIC FOCUS

This report outlines key focus areas for developing a comprehensive marketing strategy. By concentrating on building brand identity, fostering strategic partnerships, conducting content analysis, providing actionable recommendations, and defining methods to measure market success, we aim to create insights that align with our clients' goals and priorities. Each focus area will guide efforts to build a robust framework for enhancing visibility, engagement, and support for UCAS and Rancho Encinalito.

- I. **Brand Identity.** Establish a clear and compelling brand identity that resonates with the target audience and reflects the missions of UCAS and Rancho Encinalito. Aligning marketing strategies with organizational priorities is essential to ensure cohesive messaging and effective resource allocation.
- **II. Strategic Local Partnerships.** Develop strategies for leveraging partnerships to create mutual benefits, enhance outreach, and expand marketing efforts. This includes identifying potential partner organizations that can support UCAS's marketing initiatives to promote visibility and sustainable conservation efforts.
- III. Content Analysis. Conduct an analysis of social media content from related organizations to identify effective content strategies that resonate with the target audience and promote engagement. Analyzing successful marketing case studies will provide valuable insights and best practices that can inform UCAS's strategy.

- IV. Recommendation Portfolio. Recommendations include improving the existing Campaña Agua de la Sierra website, implementing search engine optimization tools, and optimizing donation buttons (a clickable link on a website that allows users to easily contribute funds to support a cause or organization) to facilitate contributions. This portfolio will propose strategies for key social media platforms, provide a sample content calendar, and outline a long-term strategy for content creation to ensure sustainable growth and effective resource allocation.
- V. Measuring Market Success. Define specific metrics to assess the effectiveness of marketing strategies. Guidance will be provided on selecting and defining appropriate key performance indicators (KPIs), along with recommendations for tools and methods to analyze website traffic, social media user behavior, and key measures of fundraising success (e..g, fundraised dollars, donor engagement).

EXCLUSIONS

It is important to define the scope of our work, including what frameworks will not be included in the following marketing strategy. By clarifying these boundaries, we can focus our efforts on providing strategic guidance and actionable recommendations that empower our clients to manage their marketing initiatives effectively. This approach ensures a clear understanding of our role and the recommendations we will provide to support their goals.

- I. Develop New Social Media Accounts. We will not create or manage new social media accounts (e.g., Instagram or Facebook) for UCAS or Rancho Encinalito. Instead, we will provide guidance on how to effectively utilize existing platforms and develop the strategy for new account setup.
- **II. Implement a Full-Service Marketing Campaign.** We will not execute a comprehensive marketing campaign but will offer strategic insights and recommendations to empower clients to manage their marketing efforts independently.
- **III. Create Content for Social Media.** We will not produce specific social media content but will advise on best practices and content strategies to enhance engagement and provide sample materials.

- IV. Directly Engage with Donors. We will not manage donor relations or outreach but will help our clients develop a strategy for engaging with potential donors and increase donor traffic on marketing platforms.
- V. Long Term Website Development. We will not continue to develop new website content; our focus will be on optimizing the current site and providing recommendations for improvements and search engine optimization.
- VI. Manage Ecotourism Operations. We will not oversee or manage any ecotourism initiatives; instead, we will provide recommendations for how to attract and engage ecotourism clientele.
- VII. Conduct Long Term Monitoring and Evaluation. We will not provide ongoing monitoring or evaluation of marketing efforts (e.g., tracking key performance indicators or analytics), but will suggest metrics for clients to track their progress independently.

Brand Identity

DEFINING YOUR BRAND

- I. UCAS is a unique coalition of ranchers, conservationists, and researchers dedicated to protecting the Sierra de la Laguna—one of Baja California Sur's most ecologically significant yet overlooked regions. As a biodiversity hotspot, this area is home to a high concentration of endemic species, many of which are increasingly threatened by climate change and habitat degradation.
- II. Unlike traditional conservation organizations, UCAS is deeply rooted in the local ranching community, blending generations of land stewardship with conservation science. By working directly with those who know the land best, UCAS is pioneering this collaborative model of conservation in the region—one that honors cultural traditions, all while implementing sustainable solutions to protect ecosystems for future generations.

CONNECTING PRIORITIES & GOALS

Our priorities center around **land stewardship**, **biodiversity conservation**, **and community resilience**. UCAS works to restore degraded landscapes, protect critical wildlife habitats, and develop sustainable land-use practices that benefit both people and nature. Through

collaborative efforts with ranchers, researchers, and conservation organizations, the UCAS brand aims to:

- Develop Ecotourism as a Sustainable Revenue Stream: Develop ecotourism opportunities—such as guided nature tours, research-based tourism, and artisanal crafts—to reduce reliance on cattle ranching while promoting conservation and environmental education.
- II. **Preserve Endemic Species & Ecosystems**: Protect the unique flora and fauna of the Sierra de la Laguna through habitat conservation, research, and monitoring initiatives.
- III. **Promote Sustainable Ranching & Land Use**: Support regenerative grazing, reforestation, and water conservation efforts that balance traditional livelihoods with environmental protection.
- IV. **Mitigate Climate Change Impacts**: Address threats such as drought, wildfires, and shifting ecosystems by implementing adaptive land management strategies.
- V. **Foster Community Engagement & Education**: Empower local ranchers and residents with the tools and knowledge to be active stewards of their land.

UCAS is redefining conservation in Baja California Sur—not as a separate effort, but as a shared responsibility between those who have lived on and cared for this land for generations.

KEY MESSAGES

The following key messages highlight UCAS's strategic priorities, from expanding ecotourism opportunities to strengthening its online presence and fostering long-term conservation partnerships.

- Dedicated to preserving the Agua de la Sierra region, UCAS is committed to exploring sustainable land use alternatives to traditional cattle ranching. By considering diverse conservation strategies, UCAS aims to protect local ecosystems and ensure long-term resilience for both the land and its communities.
- While UCAS is in the early stages of ecotourism exploration, there is strong potential to create meaningful experiences that connect visitors with the region's unique landscapes and culture. Future plans aim to engage conservation-minded visitors in ways that benefit both UCAS's conservation goals and the local economy.

- UCAS aims to broaden its **online presence**. This effort will make it easier for conservation advocates to connect with UCAS's mission, supporting initiatives that align with the ecological and cultural preservation of Agua la Sierra.
- UCAS envisions a conservation model that combines sustainable practices, local knowledge, and community collaboration. Through donor support and ongoing partnerships, UCAS hopes to create a foundation for conservation that balances ecological health with local economic needs.

Strategic Local Partnerships

KEY PARTNERS

Strategic local and regional partnerships play a crucial role in promoting sustainable conservation efforts, protecting biodiversity, and fostering environmental stewardship across various ecosystems. The organizations listed here, from local groups like Pronatura Noroeste and Terra Peninsular to international leaders like The Nature Conservancy and World Wildlife Fund, are united in their mission to safeguard natural resources and create lasting positive impacts on both the environment and local communities, like UCAS. Their collaborative efforts, supported through a variety of social platforms, serve to amplify the message of conservation and promote shared values across borders.

LOCAL & REGIONAL

I. Pronatura Noroeste

- A. **Mission**: Conservation of the flora, fauna, and priority ecosystems of Northwest Mexico, to promote the development of society in harmony with nature.
- B. **Vision**: In our Vision, terrestrial, coastal and marine ecosystems, fisheries and communities are healthy, resilient and thriving in Northwest Mexico.
- C. Social Platforms: Instagram, Twitter, Facebook, YouTube, Newsletter, LinkedIn

II. Terra Peninsular

- A. **Mission**: The natural resources of the Baja California peninsula are protected and managed for sustainable uses that are compatible with ecological processes.
- B. **Vision**: To conserve and protect the natural ecosystems and wildlife of the Baja California peninsula.
- C. Social Platforms: Instagram, Facebook, YouTube, Blog, Magazine: Midterranews, Newsletter, LinkedIn

III. Next Generation Sonoran Desert Researchers (N Gen)

A. About: The Next Generation Sonoran Desert Researchers is a network of individuals committed to the rich social and ecological landscape that spans the mainland Sonoran Desert, the Baja California Peninsula, the Gulf of California, and the US-Mexico borderlands. This interdisciplinary network addresses the research and conservation challenges of our time within this multinational region. Dedicated to the spirit of the Sonoran Desert, N-Gen (1) catalyzes research and biocultural collaboration, (2) develops capacity for innovative transdisciplinary action, and (3) influences decision makers in both countries to promote a conservation ethic that matches the grandeur of the landscape.

B. Social Platforms: Instagram, Twitter, Facebook, LinkedIn

IV. Rancho Cacachilas

- A. **Mission**: As a responsible steward of its landholdings, *Rancho Cacachilas* carefully manages and quantifies diverse assets, and develops activities as long-term economic projects.
- B. Vision: Rancho Cacachilas' values are deeply rooted in our awareness that what we do potentially affects the lives of many people, as well as our surrounding environment. We intend to leave a legacy that honors and protects the earth while benefiting current and future generations.
- C. Values: Successful communities, social and environmental responsibility, valuelearning, highest ethical standards, collaboration
- D. Social Platforms: Instagram, Facebook, YouTube, Tripadvisor, Newsletter

V. Vaquero (Cowboy) Museum of the Californias (MUVACA)

- A. About: This bilingual, bicultural, multimedia museum tells vital stories of the origins of vaquero and ranchero culture in the Californias. Your visit to MUVACA—the Cowboy Museum of the Californias—will reveal that many of the founding vaquero families of the Californias are linked to Baja California Sur.
- B. Social Platforms: Instagram, Facebook, Tripadvisor

INTERNATIONAL

- I. <u>The Nature Conservancy</u>
 - A. **Mission**: The mission of The Nature Conservancy is to conserve the lands and waters on which all life depends.
 - B. Vision: Our vision is a world where the diversity of life thrives, and people act to conserve nature for its own sake and its ability to fulfill our needs and enrich our lives.
 - C. Social Platforms: Facebook, Instagram, Twitter, YouTube, TikTok, LinkedIn
- II. World Wildlife Fund

- A. **Mission**: The mission of World Wildlife Fund is to conserve nature and reduce the most pressing threats to the diversity of life on Earth.
- B. Vision: Our vision is to build a future in which people live in harmony with nature.
- C. Social Platforms: Facebook, Instagram, Twitter, YouTube, Magazine, Linkedin

III. Conservation International

- A. **Mission**: Building upon a strong foundation of science, partnership and field demonstration, Conservation International empowers societies to responsibly and sustainably care for nature, our global biodiversity, for the well-being of humanity.
- B. **Vision**: We imagine a healthy, prosperous world in which societies are forever committed to caring for and valuing nature, for the long-term benefit of people and all life on Earth.
- C. Social Platforms: Instagram, Facebook, Twitter, YouTube, Blog, LinkedIn

HOW TO LEVERAGE PARTNERSHIPS

I. Utilize Potential Partners Tracker Spreadsheet

By utilizing the "Potential Partners Tracker" Spreadsheet, UCAS will be able to strategically develop and manage relationships with potential partners. This tool is designed to facilitate a comprehensive approach to partner engagement across multiple platforms. The following are the intended uses of this tool:

- A. **Identify Key Partners:** Track and identify potential partners across social media platforms to align with organizations that share similar missions or target audiences.
- B. **Social Media Engagement:** Determine a partner's following on Instagram to assess reach and audience demographics, helping to prioritize high-impact connections.
- C. **Network Connections:** Utilize LinkedIn to explore network connections, enabling a deeper understanding of professional relationships and potential collaboration opportunities.

- D. **Cross-Sector Engagement:** Understand inter- and cross-sector engagement to identify opportunities for synergies and collaboration across various sectors (e.g., nonprofit, government, private sector).
- E. **Track Partnerships:** Monitor the status and progress of ongoing partnerships, ensuring regular follow-up and engagement to maximize relationship building and potential for long-term collaboration.

This tool empowers clients to make informed decisions about partner outreach and engagement and contribute to a growing list, ultimately leading to stronger connections and more effective partnerships that align with organizational goals.

II. Objectives: Social Media Strategy

A well-rounded social media strategy goes beyond posting content—it requires active engagement and continuous evaluation to maximize impact. The following approaches are essential for optimizing social media engagement and driving long-term success.

- A. **Engage with Key Partners:** Actively engage with identified partners by liking, commenting, and sharing their content to foster visibility and strengthen relationships. Tagging relevant organizations in posts and stories can enhance collaboration and encourage cross-promotion. Additionally, direct outreach through Direct Messages (DMs) or LinkedIn messages can facilitate more personalized connections.
- B. **Monitor Performance and Trends:** Regularly track engagement metrics, such as follower growth, post interactions, and referral traffic from partner organizations. Analyzing trends in content performance—both within the organization and among key partners—will help refine strategies for increasing reach and donor engagement. By staying updated on successful campaigns and industry best practices, clients can adapt their approach to maximize impact.

Content Analysis

OVERVIEW

Based on an analysis conducted across seven environmental and historical organizations (five local and regional organizations, three international organizations), we identified the following social media strategies. The analysis examined organization's Instagram and LinkedIn profiles, focusing on qualitative metrics such as post characteristics, captions, hashtags, and content themes, as well as quantitative metrics like follower, like, and comment engagement. These organizations were selected to compare strategies at different scales, assessing how local, regional, and international groups engage their audiences. Understanding these differences helps us tailor our approach—learning from local organizations to expand reach and attract global donors. Their target audiences align closely with ours, and their donor bases represent a valuable opportunity to attract support for advancing our own conservation goals.

METHODS

Evaluating Instagram and LinkedIn post characteristics included analyzing types of photos (e.g., people, landscapes, infographics, events), videos (e.g., scenery, testimonials, interviews), and captions that were categorized by style (e.g., informative, narrative, question-driven, call-to-action). Additional elements like contests, giveaways, and theme days (e.g., Earth Day, World Nature Conservation Day), specific hashtag use, tagging practices (e.g., tagging individuals, organizations, or locations), and content themes (e.g., conservation, success stories, community involvement) were also recorded.

Quantitative metrics were measured through counts of average likes, comments, followers, and overall engagement rate (likes + comments / followers * 100) and then analyzed by applying descriptive statistics to identify trends and patterns in engagement. Correlation analysis was conducted to explore the relationships between different post characteristics (e.g., media type, caption style, hashtag use) and engagement levels. Post frequency, "follows for followers" strategies, and the characteristics of the highest-performing posts were also evaluated. The analysis highlights effective practices and strategies to engage target audiences via social content.

ORGANIZATIONS ANALYZED

- I. Pronatura Noroeste (Regional)
- II. Terra Peninsular (Regional)
- III. Next Generation Sonoran Desert Researchers (Regional)
- IV. Rancho Cacachilas (Local)
- V. Vaquero (Cowboy) Museum of the Californias (Local)

- VI. The Nature Conservancy (International)
- VII. World Wildlife Fund (International)
- VIII. Conservation International (International)

RESULTS

ENGAGEMENT & PERFORMANCE ANALYSIS

The following figures illustrate social media performance and activity across local, regional, and international environmental organizations analyzed. They compare engagement rates by organization type, examine posting frequency and its potential correlation with engagement, and analyze the balance between photos and reels. Additionally, they categorize post content (e.g., hashtags, people, landscapes, biodiversity, infographics, events) to highlight common themes and investigate whether higher posting frequency leads to increased engagement. Together, these insights provide a clearer understanding of effective content strategies and audience interaction patterns.



Average Engagement Rate by Organization Type

Organization

Figure 1. Average engagement rate by organization type. This bar chart illustrates engagement trends across organizations of different geographic scopes (local, regional, international), providing insight into how audience interaction may vary based on an organization's reach and scale. Engagement rate was calculated using the formula: (likes + comments) / followers × 100, providing a standardized measure of audience interaction relative to an organization's follower base.

Post Frequency Across Organizations



Post Frequency

Figure 2. Post Frequency Across Organizations. Categorized as daily, weekly, or sporadic, this bar chart illustrates posting consistency among organizations. This visualization helps identify common trends and explores potential correlations between post frequency and engagement levels.



Breakdown of Media Type Across Organizations

Organization

Figure 3. Breakdown of Media Type Across Organizations. This stacked bar graph shows the distribution of photos vs. reels for each organization. This graph highlights content format preferences and helps assess the balance between static and dynamic media in their social media strategy.



Content Category Breakdown Across Organizations





Engagement Rate vs. Post Frequency

Post Frequency (Posts/Week)

Figure 5. Engagement Rate vs. Post Frequency. This scatter plot displays the relationship between post frequency and engagement rate across organizations. Engagement rate is plotted on the y-axis, while post frequency is represented on the x-axis. This plot helps assess whether organizations that post more frequently achieve higher engagement or if other factors influence audience interaction.

Hashtag Usage Analysis



Figure 6. Hashtag Usage Analysis. This word cloud visualizes the most frequently used hashtags across all eight organizations analyzed. Larger words indicate higher usage frequency, highlighting common trends and overlaps.

KEY CONTENT STRATEGIES

I. Leverage Engaging Visual Content

High-performing posts consistently feature dynamic visuals, such as close-up wildlife footage, immersive landscape shots, and action-oriented videos. Posts that incorporate original audio or short-form videos (e.g., Reels) tend to drive higher engagement. Organizations that balance their content between photos and videos appear to maintain stronger audience retention.

II. Maximize Audience Interaction Through Strategic Posting

Engagement rates vary across organizations, but a consistent posting schedule correlates with stronger audience engagement. Organizations that post regularly— whether daily or weekly—tend to sustain higher interaction levels. However, posting too frequently, such as multiple times a day, can lead to loss of engagement if there is not already a significant follower base. Additionally, tagging partners, using popular or high-searched hashtags, and crafting concise, action-driven captions (with emojis, links or calls to action) enhance visibility and encourage audience participation.

III. Align Content with Audience Interests and Campaigns

The most effective posts connect with followers through storytelling, education, or campaign-driven messaging. Posts featuring people, biodiversity, and conservation themes tend to resonate strongly. Additionally, leveraging event-driven content (e.g.,

Earth Day, fundraising campaigns) and ecotourism promotions fosters engagement, particularly when paired with direct audience involvement opportunities such as donations, bookings, or social shares.

IV. Utilize Data-Driven Insights for Content Optimization

Organizations that track engagement metrics—such as likes, comments, and shares can refine their approach by identifying what resonates most with their audience. Comparing hashtag effectiveness, monitoring post frequency, and analyzing content themes across high-performing posts can guide strategic improvements. It is suggested to track engagement metrics to continuously improve social media engagement overtime.

V. Strengthen Brand Identity Through Partnerships and Community Engagement Posts that highlight collaborations with other organizations or showcase communitydriven conservation efforts tend to perform well. Engaging with partners through crosspromotions, shared campaigns, and interactive content (e.g., Q&A sessions, live videos) enhances credibility and broadens reach. Be sure to tag your partners or utilize collaboration features.

EFFECTIVE CONTENT IN ACTION

I. Pronatura Noroeste: Biodiversity Conservation & Support Reel



pronaturanoroeste En el paraíso terrenal de la ADVC La Papalota, en Marismas Nacionales, apoyamos al resguardo de los jaguares que aquí, juegan y se aparean exitosamente

Celebremos al jaguar al apoyar su conservación.

https://pronatura-noroeste.org/bitacora-conservacionmanglar/ November 29, 2024 · See translation

Post Insights: This post effectively leverages engaging wildlife footage and a strategic partnership tag to enhance visibility. The concise, action-oriented caption reinforces conservation messaging and encourages audience engagement through a direct support link.

*Translation: In the earthly paradise of the ADVC La Papalota, in Marismas Nacionales, we support the protection of the jaguars that play and made successfully here

Let's celebrate the Jaguar by supporting its conservation.

II. Rancho Cacachilas: Scenic View & Adventure Photo ranchocacachilas



♥ 183 0 1 ♥ 7

ranchocacachilas A Desde los vestigios mineros hasta las alturas del Sky Trail, cada paso te lleva a explorar el corazón de nuestra Sierra, guiado por expertos que comparten historias, secretos y conocimiento.

Al final del camino, te espera un festín de sabores con comida del Rancho a tu mesa y delicias artesanales como queso de cabra y miel.

¡Caminatas disponibles todos los días! Reserva tu experiencia ahora enviándonos un DM.

#senderismo #HikingBajaSur #ecoturismo

November 19, 2024 \cdot See translation

III. Conservation International: Endemic Species Reel

Post Insights: This post effectively promotes ecotourism experiences by showcasing scenic landscape shots and hiking adventures, capturing the natural beauty of the Sierra. Additionally, the mention of traditional Rancho cuisine and artisanal products, such as honey goat cheese, adds a cultural and sensory appeal. The post encourages immediate action by highlighting walk-in availability and providing a direct call to action through DMs, making booking easy and accessible.

*Translation: A From the mining ruins to the heights of the Sky Trail, every step leads you to explore the heart of our Sierra, guided by experts who share stories, secrets and knowledge.

At the end of the road, a feast of flavors awaits with Rancho food delivered to your table and artisanal delights like honey goat cheese.

Walk ins available every day! Book your experience now by sending us a DM.



♡ 3,639 () 16 🛛 592

conservationorg Trudging through swamps, lagoons and rivers, climbing mountains to cloud forests, and crossing farm fields, Conservation International scientists recorded an abundance of species in Peru's Alto Mayo landscape.

They were left stunned with their findings. More than 2,000 species, 27 of which are new to science, were living alongside and abundance of human settlements.

They had proved something completely unexpected: Small patches of healthy forests can support a wealth of species - when protection and ecosystem management are done correctly. Which is exactly what @CI_Peru has been working to do in the Alto Mayo for the last 15 years.

December 20, 2024

Post Insights: This post captivates audiences with an adventurous narrative, highlighting the challenges and excitement of field research. The storytelling, paired with striking visuals effectively builds curiosity by revealing an extraordinary discovery: over 2,000 species, including 27 new to science.. By emphasizing the success of conservation efforts in maintaining biodiversity, the post reinforces the organization's commitment to sustainable ecosystem management.

Recommendation Portfolio

OVERVIEW

Based on the content analysis and supporting literature, this section outlines strategic recommendations to optimize social media engagement. The analysis identifies Instagram and LinkedIn as the most effective platforms for UCAS, each serving distinct audience segments. Instagram excels at broad public engagement, fostering community interaction through visually compelling content, while LinkedIn offers a targeted approach to donor outreach and professional networking. By leveraging insights from high-performing posts and best practices across like-missioned organizations, these recommendations provide a framework for maximizing reach, engagement, and impact.

WEBSITE SUGGESTIONS

I. Search Engine Optimization (SEO)

Enhancing Search Engine Optimization (SEO) will improve UCAS's online visibility and attract more visitors to the website. Strategies include using Google Analytics or Google Search Console to optimize page titles and meta descriptions, incorporate relevant keywords related to conservation efforts, and ensuring a clear, mobile-friendly site (Black-Goldin, 2024). Regularly publishing blog content with conservation stories and project updates can also boost search rankings by contributing new, relevant keywords and titles.

II. Donor Buttons

Donor buttons are a strategy used to boost the number of website visitors to take a desired action—in this case, make a donation. Conversions refers to turning passive visitors into active supporters by making the donation process easier, more appealing, and more accessible. Prominent and strategically placed donor buttons can streamline the donation process and increase conversions. These should be easily accessible on the homepage, donation pages, and relevant campaign sections. Clear calls to action, such as "Support Our Work" or "Donate Now," can enhance engagement. Additionally, integrating multiple payment options and recurring donation features or quantifying where donor dollars will go can encourage long-term contributions.

III. Impact Metrics & Transparency

Providing clear impact metrics and transparent reporting on conservation efforts can help build trust with donors and supporters. A dedicated section showcasing key achievements, project updates, and real-time progress tracking (e.g., coverage of fencing installed, endemic species protected, communities engaged) can strengthen credibility. Visual elements like infographics, progress bars, and interactive reports can make this information more engaging. Transparency in funding allocation—showing how donations are used—can further encourage trust and increase donor retention.

SOCIAL MEDIA SUGGESTIONS

I. Instagram

Instagram should be leveraged for broad audience engagement, storytelling, and visual impact. Prioritizing high-quality photos and videos—especially Reels featuring wildlife, conservation work, and behind-the-scenes footage—can boost reach and engagement. Consistent use of relevant hashtags and collaborations with partner organizations can further expand visibility. Interactive features like polls, quizzes, and Q&A stickers in Stories can drive audience participation, while call-to-action captions directing users to donation links or volunteer opportunities can enhance conversions.

II. Facebook

While less effective for overall marketing, Facebook remains valuable for community-building and event promotion. Long-form storytelling, educational posts, and live videos can engage both local supporters and international audiences. Facebook Groups focused on conservation topics can help foster discussions and advocacy. Posting event pages, fundraiser campaigns, and user-generated content can strengthen engagement. Paid advertising campaigns targeting key demographics—such as potential donors, eco-tourists, or volunteers—can further amplify reach.

III. LinkedIn

LinkedIn is an essential platform for connecting with donors, corporate partners, and conservation professionals. Posts should highlight institutional achievements, partnerships, research findings, and funding opportunities. Sharing thought leadership content, such as articles on conservation strategies or sustainability trends or original blog posts, can position UCAS as an industry leader. Engaging with donors and corporate sponsors through direct messaging, networking events, and professional groups can enhance credibility and funding opportunities.

IV. Blog Posts

A dedicated blog, integrated into the existing website (such as through Squarespace's built-in blogging feature), can serve as a hub for in-depth storytelling, project updates, and thought leadership in conservation. Articles should cover success stories, expert insights, and behind-the-scenes looks at conservation efforts. SEO-optimized blog posts with relevant keywords can increase website traffic and improve search rankings. Incorporating multimedia elements such as videos, infographics, and interactive maps can make content more engaging. Additionally, cross-promoting blog posts on social media can drive further audience engagement and visibility.
CONTENT CREATION

I. Long Term Marketing Strategy for UCAS

UCAS aims to establish itself as a leading conservation organization in the Sierra de la Laguna by building a strong digital presence, increasing donor engagement, and expanding public awareness of its initiatives. This long-term strategy is structured into three key phases:

- I. Foundation & Brand Identity
- II. Audience Engagement & Donor Outreach
- III. Expansion & Impact Measurement

Phase 1: Foundation & Brand Identity (0-6 Months)

The first phase focuses on strengthening UCAS's online presence and developing a clear, compelling brand identity. Website optimization will be a priority, incorporating SEO best practices (see Squarespace's SEO Checklist), dedicated project pages, and strategically placed donor buttons can encourage contributions. A blog will be integrated into the existing website to feature conservation stories, researcher interviews, and project successes, with content cross-promoted on social media for broader engagement. On social media, a structured posting schedule will be implemented across Instagram, LinkedIn, and Facebook, using high-quality visuals and interactive content to engage the audience.

Phase 2: Audience Engagement & Donor Outreach (6-12 Months)

The second phase will focus on expanding UCAS's reach and cultivating relationships with donors and stakeholders. Instagram and Facebook can be leveraged for visual storytelling, with engaging Reels, live videos, and interactive stories showcasing conservation efforts of UCAS. Collaborations with conservation influencers and partner organizations will help amplify UCAS's reach. Initial paid advertising campaigns could be introduced to expand the follower base and drive engagement.

On LinkedIn, UCAS should highlight its unique role as a leading conservation organization in Baja California Sur, specifically in the Sierra de la Laguna—an area rich in endemic species and under significant threat. By sharing in-depth research, conservation efforts, and funding opportunities, UCAS will foster awareness and engagement with its critical work in protecting this unique ecosystem. Direct engagement with corporate sponsors, grant-giving institutions, and conservation professionals will be prioritized through networking events and targeted outreach. Fundraising efforts will be refined by launching specific donor campaigns, establishing corporate sponsorship tiers, and ensuring transparency in financial impact reporting.

Phase 3: Expansion & Impact Measurement (12-24 Months)

The final phase will focus on scaling marketing efforts while assessing impact and refining strategies. Digital marketing initiatives will include A/B testing, which compares two content versions by changing one variable (e.g., caption or media type) to see which performs better based on engagement metrics (<u>See Harvard Business Review's Refresher on A/B Testing</u>). Other efforts will include expanding influencer collaborations and using analytics tools, such as Google Analytics and Google Search Console, for data-driven content optimization.

Impact tracking and transparent reporting will be central to this phase. Real-time conservation achievements, including project milestones and ecological successes, will be shared through infographics, videos, and annual progress reports. Donor retention strategies will be enhanced through personalized engagement (e.g., customized updates, personal thank you messages, special invitations) and clear demonstrations of how contributions drive tangible conservation outcomes. Regular evaluations of marketing effectiveness will ensure ongoing improvements and adaptations.

By following this strategic framework, UCAS will steadily build a recognizable and influential presence in conservation, driving increased awareness, donor support, and long-term ecological impact in the Sierra de la Laguna.

II. Suggested Marketing & Communications Budgets

Once donor targets are established, it's important to align your marketing budget to meet those goals. The following budget scenarios outline different strategies for UCAS's social media and digital engagement efforts, specifically detailing allocations for content creation, paid promotions, and platform optimization. Each approach offers a distinct path to strengthening UCAS's digital presence based on its outreach and fundraising priorities. By tying the budget to your donor targets, each expenditure is directly linked to strategies that will help drive donations and support for your cause. This ensures that every dollar spent is contributing to the achievement of your fundraising goals while optimizing the impact of your marketing activities.

Option A: General Approach

This budget takes a balanced strategy, investing in a mix of Instagram, Facebook, LinkedIn, and website improvements to enhance overall visibility and engagement. It prioritizes organic content creation, moderate paid promotions, and community engagement to build a broad audience, including the general public, conservation supporters, and potential donors.

Category	Basic (Low Investment)	Growth (Moderate Investment)	High-Impact (Full Investment)	
Content Creation	Use organic content via in-house photos & crowd sourcing.	Mix of in-house & freelance photography, video, and design.	Professional videography, photography, and graphic design.	
Editing Software	Free or low-cost tools (e.g., Canva, iMovie).	Adobe Creative Suite subscription (Photoshop, Premiere Pro).	Advanced video editing tools, premium templates stock content.	
Paid Advertising	\$100/month for Instagram & Facebook boosts.	\$300–\$500/month for targeted ads across Instagram, Facebook & LinkedIn.	\$1,000+/month for multi- platform paid campaigns with A/B testing.	
Social Media Management Tools	Free scheduling tools (Meta Business Suite).	Paid management tools like Hootsuite or Buffer Pro (~\$50/month).	Enterprise-level analytics & scheduling (~\$150+/month).	
Personnel & Training	Intern or volunteer-led management.	Part-time social media manager (~\$1,000/month).	Full-time social media manager (~\$3,000/month) & community manager.	
Influencer & Partnership Collaborations	Organic collaborations & reposting.	Small influencer partnerships (~\$200– \$500 per post).	Paid partnerships with eco-influencers (~\$1,000+ per post).	
Website & SEO Optimization	Basic SEO via free tools (e.g., Google Search Console).	SEO expert consultation (~\$500 one-time) & optimized blog posts.	Ongoing SEO services (~\$1,500+/month) with Google Ads budget.	
Total Cost Estimate	~\$500–\$1,000/month	~\$1,500–\$3,000/ month	~\$5,000–\$10,000/ month	

Option B: Donor-Targeted Approach

This budget emphasizes LinkedIn, storytelling content, website optimization, and paid advertising targeting high-net-worth individuals and grant-giving institutions.

Category	Basic (Low Investment)	Growth (Moderate Investment)	High-Impact (Full Investment)
Linkedin Strategy	Weekly organic LinkedIn posts; repurposing Instagram content.	Professional LinkedIn posts with donor-focused storytelling, testimonials & case studies.	Paid LinkedIn ads (\$500– \$1,000/month) targeting potential donors & corporate sponsors.
Storytelling &	In-house storytelling	Professional short-form	High-quality mini-

Video Content	posts; free tools (e.g., Canva/iMovie).	donor impact videos (\$500–\$1,500/project).	documentaries featuring donor impact stories (\$5,000+ per video).	
Website Optimization for Donors	Basic donor button placement & free SEO tools.	Conversion-focused landing page for donations, impact reports, and donor testimonials (~\$500–\$1,000).	Full donor journey redesign, premium SEO, targeted Google Ads (~\$3,000/month).	
Paid Advertising	Boost posts on Facebook/Instagram for awareness (\$100/month).	Targeted LinkedIn & Google Ads for donor outreach (\$500– \$1,000/month)	Full-scale advertising targeting corporate sponsors & philanthropy networks (\$5,000+/month).	
Social Media Management Tools	Free tools (e.g., Meta Business Suite, LinkedIn scheduling).	Paid management tools like Hootsuite or Buffer Pro with analytics to track donor engagement (~\$50/month).	Enterprise analytics or donor tracking & engagement reports (e.g., Sprout Social, ~\$200+/month).	
Personnel & Outreach	Volunteer/intern-led engagement.	Part-time donor engagement specialist (\$1,500/month).	Full-time fundraising communications manager (\$5,000+/month).	
Total Cost Estimate	~\$500–\$1,500/month	~\$3,000–\$5,000/ month	~\$10,000+/month	

III. Sample Social Media Calendar

Developed for UCAS, this sample 30-day social media calendar with 2-3 posts per week contains a diverse mix of storytelling, donor engagement, and educational content across Instagram, Facebook, LinkedIn, and Blog Posts.

UCAS: 30-Day Social Media Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 Instagram/ Facebook: Wildlife Feature (Photo). Highlight a species UCAS is working to protect.	2	3 Instagram Reel: Conservation Storytelling. Feature a field team member sharing a short clip on a recent conservation success.	4
5 LinkedIn : Industry Insight. Share a post on a key conservation trend with expert commentary.	6	7	8	9 Facebook/ Instagram : Behind-the- Scenes. Show a project in progress with a detailed caption.	10	11 LinkedIn/ Blog : Describe recent event successes such as Bioinventory Collaboration

12	13 Instagram/ Facebook: Fundraising Call to Action. Short video explaining a specific funding need with a donation link.	14	15 Instagram/ Facebook: Community Feature. Spotlight a local partner or volunteer with a personal story.	16	17	18 LinkedIn : Donor Spotlight. Recognize a key donor and their impact on conservation.
19	20 Instagram/ Facebook: Infographic. Post a visually engaging fact about biodiversity or endemic species.	21	22	23 Instagram/ Facebook: Throwback Success Story. Before-and-after visuals of conservation "win" at Rancho Encinalito.	24	25 LinkedIn : Partnership Highlight. Feature a partnership and collaboration.
26	27	28 Instagram Reel: Day in the Field. Show a field team member's daily routine ranching or in conservation.	29	30 Blog Post & Instagram: Highlight traditional ranching practices and recent sustainable land management.		

UCAS: Relevant Themes Days & Events Across Months

January

- International Environmental Education Day
- International Reducing CO2 Emissions Day

February

• World Wetlands Day

March

- World Wildlife Day
- International Day of Action for Rivers
- World Water Day

April

- Earth Day
- Arbor Day

May

- International Biodiversity Day
- Endangered Species Day

• International Migratory Bird Day

June

- World Environment Day
- World Oceans Day
- Nature Photography Day
- World Day to Combat Desertification
 & Drought

July

- World Nature Protection Day
- Plastic Free July

August

 International Day of the World's Indigenous Peoples

September

- International Day of Clean Alr
- World Cleanup Day
- World Environmental Health Day

• World Rivers Day

October

- World Animal Day
- World Habitat Day
- International Day of Climate Action

November

National Day of Conservation

(Mexico)

• Giving Tuesday

December

• World Soil Day

IV. Sample Posts

A. People



4,955 likes

👤 🌿 Stewards of the Sierra 🜿 👤

UCAS is a coalition of ranchers, conservationists, and researchers working to protect the Sierra de la Laguna. For generations, people here have lived alongside this unique landscape, and their knowledge and stewardship are key to its future. Through sustainable ranching, habitat restoration, and conservation efforts, they are ensuring this land remains healthy for generations to come. Swipe to meet the people behind the work. #UCAS #SierraDeLaLaguna #ConservationLeadership #LandStewardship

B. Landscape



$\heartsuit \bigcirc \checkmark \blacksquare$

4,955 likes

📥 🐎 Where Forests Touch the Sky 🐎 📥

High above the desert, Rancho Encinalito is a Sky Island-a breathtaking mosaic of canyons, oak woodlands, and towering pines. 🐇 🛦 Here, dry jungles give way to misty forests, home to ancient Quercus brandegeei and sweeping mountain views. Swipe through to explore this hidden world where the mountains meet the sky. 🔵 ו #Skylsland #SierraDeLaLaguna #BajaSur #WildLandscapes #UCASConservation

C. Biodiversity



4,955 likes

🌿 🔆 Biodiversity in the Sierra de la Laguna 🧎 🌿 From the elusive Trumpet Bat (Choeronycteris mexicana) gliding through the night to the curious Northern Cacomixtle (Bassariscus astutus) and the rare sighting of a Louisiana Waterthrush (Parkesia motacilla), our region is teeming with life! 🟄 🐾 🕄

With 792 species recorded, including 432 plants, 173 insects, and 60 birds, the Sierra de la Laguna is a true biodiversity hotspot-one that we are working to protect. 🌎 💙

Swipe through to see just a few of the incredible species that call this place home! → #UCAS

#ConservationInAction #BajaBiodiversity #WildlifeOfMexico

D. Infographic



4,955 likes

E. Event or Theme Day



This #GivingTuesday, support conservation where it matters most! 🌿 💙 UCAS is working with local communities, scientists, and ranchers to protect the incredible biodiversity of Baja California Sur. From habitat restoration to wildlife research, every donation helps preserve this unique landscape for future generations. Give today and be a part of the solution! 📀 券 #SupportConservation #UCAS #GivingTuesday #ProtectBaja

F. Memes or Comedy



#WildlifeMatters #NatureAtWork

G. Advertisement or Donation Request



4,955 likes

This #GivingTuesday, support conservation where it matters most! № ♥ UCAS is working with local communities, scientists, and ranchers to protect the incredible biodiversity of Baja California Sur. From habitat restoration to wildlife research, every donation helps preserve this unique landscape for future generations. Give today and be a part of the solution! ● #SupportConservation #UCAS #GivingTuesday #ProtectBaja

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