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## Capstone Projects

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Building All from the Small: Valuing Local Marine Conservation Projects in Peru.

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# **Building All From the Small: Valuing Local Marine Conservation Projects in Peru**



Photo by Analisa Freitas

## **A Capstone Project by Analisa Freitas**

Master of Advanced Studies in Marine Biodiversity & Conservation (2022-2023)

Center for Marine Biodiversity & Conservation


Scripps Institution of Oceanography at University of California at San Diego

# Capstone Advisory Committee Capstone Project Signature Form

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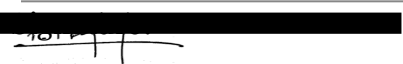
Founder of Beyond the Surface International and Co-Founder of Coast 2 Coast.

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# Introduction

To the outside world, Peru is most known as a destination for both cultural celebrations, outdoor adventures and an array of cuisine.<sup>1</sup> The third largest and developing country in South America, Peru is home to one of the oldest civilizations in the Americas as well as several world renowned geographical features, such as the Sacred Valley and Machu Picchu, Lake Titicaca, and the source of the Amazon river and the rainforest, to name a few. It is one of the top ten places in the world with the most megadiversity,<sup>2</sup> where more common and scientific knowledge has been developed about the terrestrial systems of Peru, and as such, terrestrial areas also tend to garner more funding and therefore, more capacity for all the logistics of conservation management.<sup>3</sup>

The ocean holds much of the Peruvian economy on its back. The country has one of the most productive seas in the world.<sup>4</sup> Including all Peruvian fisheries, the economic impact of the industry has been calculated at \$2.4 billion annually.<sup>5</sup> Additionally, it is the world's largest producer of guano<sup>6</sup> and the world's biggest exporter of animal meal and pellets (\$1.19B) and fish oil (\$365M).<sup>7</sup> With so much extraction comes a need for management that can ensure sustainability to the economy, the people involved in these industries, and the marine resources themselves. In this context, however, the reliance on natural resources to serve largely as powerful economic engines complicates the vision for marine science and conservation in the country.<sup>8</sup> Despite some recognition of the risks that “persistent depletion of natural capital”<sup>9</sup> pose to the environmental and socioeconomic stability and livelihood of its people, Peruvian environmental cabinets still go underfunded which not only increases challenges to carrying out conservation activities, but also leads to lack of support for continued enforcement of any mandated changes. This project aims to understand the experiences and challenges that Peruvian nationals currently face in pursuing conservation efforts at a local level. It evaluates the mechanisms in which these initiatives remain active, contributing to the growth of a

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<sup>1</sup> Nelson, Velvet. “Peru’s Image as a Culinary Destination.” *Journal of Cultural Geography*, vol. 33, no. 2, May 2016, pp. 208–28. DOI.org (Crossref), <https://doi.org/10.1080/08873631.2016.1153269>.

<sup>2</sup> Alova, Galina, José Carlos Orihuela, and Katia Karousakis. “Mainstreaming biodiversity and development in Peru: Insights and lessons learned.” (2018).

<sup>3</sup> Cutipa-Luque, Lilian Maritza, et al. “SITUACIÓN ACTUAL DE LAS ÁREAS MARINAS PROTEGIDAS EN EL PERÚ Y PROPUESTAS DE CONSERVACIÓN.” *Paideia XXI*, vol. 10, no. 2, Aug. 2020, pp. 573–612. *revistas.urp.edu.pe*, <https://doi.org/10.31381/paideia.v10i2.3446>.

<sup>4</sup> Ibid.

<sup>5</sup> Don’t Hold the Anchovies: Study Shows Peruvian Fish Worth More as Food than as Feed. 13 Nov. 2013, <https://science.ubc.ca/news/don%E2%80%99t-hold-anchovies-study-shows-peruvian-fish-worth-more-food-feed>.

<sup>6</sup> “Holy Crap! A Trip to the World’s Largest Guano-Producing Islands.” *Audubon*, 27 Apr. 2018, <https://www.audubon.org/news/holy-crap-trip-worlds-largest-guano-producing-islands>.

<sup>7</sup> “Peru (PER) Exports, Imports, and Trade Partners | OEC.” OEC - The Observatory of Economic Complexity, <https://oec.world/en/profile/country/per>.

<sup>8</sup> Alova, Galina, José Carlos Orihuela, and Katia Karousakis. “Mainstreaming biodiversity and development in Peru: Insights and lessons learned.” (2018).

<sup>9</sup> Ibid.



conservation ethic in the country, and how they can continue to sustain themselves as well as capacitate a new generation of Peruvian conservation leaders who can effectively continue building upon a legacy of conservation for the country.

*“Existence is fractal - the health of the cell is of the species and the planet.”  
– adrienne maree brown*

Emergent Strategy is a lens through which to understand the value of focusing on these local and regional efforts to conserve the coastal zone and waters, inclusive of its ecosystems, identities and communities. Developed by adrienne maree brown and originally intended for community organizers, it is a pathway to carry out transformative justice movements with the goal of “shifting material conditions”<sup>10</sup> in a way that “runs counter to the competitive, power-over, urgency culture of capitalism”<sup>11</sup> by relying on a set of interconnected elements and core principles. These concepts draw on models in nature that anyone can emulate and apply in the process of achieving their objectives. The “Element” and “Core Principle” that are most relevant in the context of this project are:

- How we are at the small scale is how we are at the large scale.
- Small is good, small is all. (The large is a reflection of the small.)

The value that Emergent Strategy places on small-scale actions stand in contrast to models and theories that proclaim the power of “scaling up,” such as this notable vision laid out by the World Bank:

“The ultimate goal of CDD [Community Driven Development] projects is to move from being ‘islands of excellence’ that serve and empower a handful of communities, to operating at a national scale, where all regions of the client country can benefit from the project’s approach. By ‘scaling up,’ the aim is to reach the greatest possible number of poor people, and to motivate and empower the greatest number of communities to take control of their own development.”<sup>12</sup>

Instead, Emergent Strategy and the “small is all” core principle speak to the importance of “critical, deep, and authentic connections”<sup>13</sup> which can be just as powerful on the cellular level as actions that seek to be massively applicable yet less deeply rooted on the ground. Brown states, “In a fractal conception, I am a cell-sized unit of the human organism, and I have to use my life to leverage a shift in the system by how I am, as much as with the things I do.”<sup>14</sup> She emphasizes that even these small functions are not only going to lead to system changes, but in fact are the foundational components of the large-scale change being sought. Using this framework, we can see the conservation

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<sup>10</sup> About – Emergent Strategy Ideation Institute. <https://esii.org/about/>.

<sup>11</sup> Ibid.

<sup>12</sup> Gillespie, Stuart. Scaling up community driven development: a synthesis of experience (English). Washington, D.C.: World Bank Group.

<http://documents.worldbank.org/curated/en/138591468321296730/Scaling-up-community-driven-development-a-synthesis-of-experience>

<sup>13</sup> Johnson, Ayana Elizabeth, and Katharine K. Wilkinson, editors. All We Can Save: Truth, Courage, & Solutions for the Climate Crisis. First edition, One World, 2020.

<sup>14</sup> Brown, Adrienne M., and Adrienne Maree Brown. Emergent Strategy: Shaping Change, Changing Worlds. Unabridged, AK Press, 2021.

leaders closest to the ground have the most opportunity to make significant contributions by being capacitated to remain in specific sites along Peru's coast.



## Background & Problem Statement

In exploring different types of capstone projects that could be carried out in Peru, I was not at a loss of interesting and timely topics. The Peru Current, or Humboldt Current, causes an incredible amount of biological productivity that have been described and relied upon since the time of Pre-Inca communities.<sup>15</sup> With an upcoming El Niño predicted to cause some of the most devastating impacts measured yet,<sup>16</sup> the country's waters and coastline are a fascinating space of investigation to understand both how past communities have managed their coastal resources and how they are interacting with them now. Despite this incredible nexus of activity occurring in the ocean, Peru still lacks a robust infrastructure for marine study and conservation, and in particular, protected areas that can serve as living laboratories for scientists and communities. Initially motivated by the need to protect guano production, a system of 33 islands and peninsulas along the coast is the standout National Protected Area (NPA) when it comes to the coast.<sup>17</sup> Only one NPA is an exclusively ocean-based (or marine) protected area, the Nasca Ridge National Reserve,<sup>18</sup> but it has been at the center of controversy amidst claims it exists to serve the fishing industry due to fishing allowances.<sup>19</sup> Additionally, a lack of Peruvian nationals trained in various aspects of marine science and protection has been previously noted, it has been previously attributed to a decrease in “the number of young scientists interested in systematics, taxonomy, and biogeography.”<sup>20</sup> Upon reviewing a list of Peruvian graduate programs (Masters of Science and Doctoral degrees) at 24 universities, both public and private, from 2005, there were 61 environmentally-centered programs.<sup>21</sup> Upon refreshing this list in 2023, there was an increase in the number of programs from 61 to 96, although two universities had a total of seven environmental programs that could not be verified as active. However, there was only one environmental law program, five in aquaculture, and two in ocean science (see Table 1), with the rest of the programs having no specific concentration on the ocean. While they might be able to obtain higher education in any of these now available programs, there may be less awareness about where they can employ these skills

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<sup>15</sup> Chavez, Francisco P., et al. “The Northern Humboldt Current System: Brief History, Present Status and a View towards the Future.” *Progress in Oceanography*, vol. 79, no. 2, Oct. 2008, pp. 95–105.

ScienceDirect, <https://doi.org/10.1016/j.pocean.2008.10.012>.

<sup>16</sup> Baisas, Laura. “An El Niño Is about to Make Our Planet Swelteringly Hot.” *Popular Science*, 17 May 2023, <https://www.popsci.com/environment/wmo-climate-change-el-nino-heat/>.

<sup>17</sup> Reserva Nacional Sistema de Islas, Islotes y Puntas Guaneras.

<https://www.gob.pe/institucion/sernanp/informes-publicaciones/1793027-reserva-nacional-sistema-de-islas-islotes-y-puntas-guaneras>.

<sup>18</sup> Cespedes, Cynthia. Conservation International Peru: Oceans Program, 2020 - 2025. 2020, [https://www.conservation.org/docs/default-source/peru/facsheet\\_oceanos\\_eng.pdf](https://www.conservation.org/docs/default-source/peru/facsheet_oceanos_eng.pdf).

<sup>19</sup> “No hay nada que celebrar: Reserva Nacional Dorsal de Nasca nace desprotegida.” *Oceana Peru*, <https://peru.oceana.org/comunicados/no-hay-nada-que-celebrar-reserva-nacional-dorsal-de-nasca-nace/>.

<sup>20</sup> Tarazona, Juan, et al. “Overview and Challenges of Marine Biodiversity Research in Peru / Una revisión y desafíos para la investigación en biodiversidad marina en Perú.” *Gayana* 67.2 (2003): 206-231. [https://www.researchgate.net/publication/291870926\\_Overview\\_and\\_challenges\\_of\\_marine\\_biodiversity\\_research\\_in\\_Peru](https://www.researchgate.net/publication/291870926_Overview_and_challenges_of_marine_biodiversity_research_in_Peru)

<sup>21</sup> Spreadsheet of Peruvian environmental graduate programs in 2005 provided by Dr. Patricia Majluf. Senior Scientist at Oceana Peru.

domestically, and a lack of stable employment where their skills will and can be monetarily valued, which may contribute to the decrease in interest.

University	Status	Location	Degree	2005	2023
Universidad Peruana Cayetano Heredia	Private	Lima	Master of Science	Gestión Ambiental	<del>Gestión Ambiental</del>
			Master of Science		Ciencias del Mar
			Master of Science	Biología de la Conservación (en proyecto)	<del>Biología de la Conservación (en proyecto)</del>
Universidad Nacional de Piura	Public	Piura	Master of Science	Ciencias del Mar	Ciencias del Mar
			Master of Science		Ingeniería Ambiental y Seguridad Ambiental
			Doctorate		Ciencias Ambientales

Table 1. Demographics of two universities with Marine Science graduate degrees highlighted in yellow. Programs grayed out are not currently active.

Peruvian nationals have a somewhat hidden history of local marine conservation to global audiences and potentially in-country as well. Due to this lack of awareness coupled with few opportunities to become academically specialized and then find stable work, it has been a challenging space to retain professionals in-country. A handful of the organizations or projects that I learned about or identified had been in existence for several decades but are lesser known to foreigners given their more regional locations outside of the city center, and potentially due to a lack of major press, virality on social media and digital platforms, in addition to oversight in inclusion on country-wide branding. Additionally, many niches in the field lack a stable or broad history of baseline information, due to a small number of specialists in the field. I was curious to learn more about this rich marine space, and the stakeholders on the ground dedicated to its conservation. My curiosity led me to two reports providing a big picture assessment of Peruvian marine conservation efforts which had been carried out during the last 20 years, one by the Peruvian government and the other by a US-based family grantmaking foundation. The assessments, *Overview and Challenges of Marine Biodiversity*

*Research in Peru*<sup>22</sup> published in 2003 and *A Marine Conservation Assessment in Peru*<sup>23</sup> in 2014, informed the bigger picture analysis confirming a lack of legal infrastructure, educational opportunities, and complex government roles to navigate, among many other challenges. The reports also highlighted areas that were growing resources and the potential for more comprehensive marine ecosystem research and advocacy in the country.

Although non-governmental organizations founded in the United States or other developed nations such as Italy or the United Kingdom have been involved in an array of environmental initiatives in Peru, their work still tends towards terrestrial efforts. Furthermore, while staff for their Peru programs are composed of Peruvian nationals who guide the priorities for the work in the country, offices for marine programs are often centered in the capital city of Lima, far from national parks and the coastal communities who are already acting as stewards and stakeholders in the work, or could be further developed as such. Peru's marine conservation sector, in particular the Peruvian-led and Peruvian-based (or "Peruvian-raised" or adapted) groups that make up often more region-specific and community-grounded marine efforts, could benefit from a strengthened infrastructure overall, fortified by a shared analysis of the its current seascape. Additionally, strategies to grow the base of Peruvian marine conservation leaders in the long-term and provide short-term actions that will galvanize further investment in the very valuable conservation projects are needed.

This project aims to understand the experiences that Peruvian nationals currently face while pursuing marine conservation careers at a local level and their journey to ensure their projects run continuously. It will fill a gap in formal information about the successes and challenges of this particular facet of the marine conservation sector, initiatives that have been created and raised by Peruvian nationals, including local efforts that have transitioned from internationally-led satellite projects to more of an independent project now adapted for and led by Peruvians. By using qualitative analysis of interviews with regional marine conservation leaders, I will evaluate the standout mechanisms employed by these initiatives that allows them to carry out their work, looking to evaluate the ways in which they remain "in business" and capacitate an upcoming generation of Peruvian conservation leaders. Despite their small scale or territory in which they work, these groups are major contributors to a growing conservation ethic in the country from a variety of stakeholders who can effectively continue building upon a legacy of marine conservation for the country.

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<sup>22</sup> Tarazona, Juan, et al. "Overview and Challenges of Marine Biodiversity Research in Peru / Una revisión y desafíos para la investigación en biodiversidad marina en Perú." *Gayana* 67.2 (2003): 206-231. [https://www.researchgate.net/publication/291870926\\_Overview\\_and\\_challenges\\_of\\_marine\\_biodiversity\\_research\\_in\\_Peru](https://www.researchgate.net/publication/291870926_Overview_and_challenges_of_marine_biodiversity_research_in_Peru)

<sup>23</sup> Donlan, Josh, et al. "A Marine Conservation Assessment in Peru, December 2014." A Report Prepared for The David and Lucile Packard Foundation & Fondation Ensemble, Advanced Conservation Strategies, Dec. 2014, <https://www.fondationensemble.org/wp-content/uploads/2015/02/ACS-Marine-Conservation-Assessment-of-Peru-final.pdf>

# Methods & Materials

## Literature Review

This project began with a search for any type of assessment of the marine conservation sector in Peru. I wanted to understand the overall picture of the various systems and actors that played some role that allows for conservation of marine environments on a national scale that could then affect local attitudes, opportunities, and efforts.

I located two reports that provided distinct analyses of what could purportedly allow for a thriving marine conservation sector. The 2003 report, *The assessments, Overview and Challenges of Marine Biodiversity Research in Peru*, honed in on the scientific community, and analyzed the type of baseline research done and pending, academic home bases, research centers and facilities, the many areas of study within marine conservation that were filled or had gaps, and particular scientists in each. The 2014 report, *A Marine Conservation Assessment in Peru*, took a holistic view of stakeholders and policy frameworks that move forward marine conservation efforts. While also touching on the academic opportunities to train marine scientists, the assessment included a description of how national government agencies, policies, non governmental actors, and marine extractive industries and workers interacted. This report also included research and information compiled from interviews with a set of these stakeholders, but did not include the perceptions of conservation leaders who had developed marine conservation initiatives at a grassroots, local or regional level.

I also sought out published articles that offered any mapping and analyses regarding funder investments over time in the country and any identified funders, but did not find any reports that summarized the streams of funding from private sources into local projects. I located a few analyses that related to funding for nationally protected areas in Peru, funding designated to protecting biodiversity overall in the country<sup>24</sup>, but these tended to center on terrestrial zones rather than marine areas, as well as a national focus instead of a regional one with an eye towards the strengthening of governmental agencies. However, this was informative to the larger context in which these groups must carry out their work.

## Parameters & Definitions

Given the gap in research generally on the local marine conservation sector, I had hoped to compile information on patterns in funding to these projects. However, I was not able to formally, systematically, or exhaustively examine their funding sources. I did note past or current funding sources when made readily available on their websites, which generally showed a lack of domestic funding sources. This is also why I

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<sup>24</sup> Lam, Nakamura, and Katia Sofia. Mapping the Funding Landscape for Biodiversity Conservation in Peru. University of Illinois at Urbana-Champaign, 19 July 2017. [www.ideals.illinois.edu](http://www.ideals.illinois.edu), <https://hdl.handle.net/2142/98419>.

determined that traveling to Peru to hold oral interviews with the leaders of local marine conservation efforts would be necessary in order to gather some primary information.

For this project, I defined “marine conservation efforts” broadly, looking not only to the biological side but also the social aspects of what it takes to carry out marine conservation. My goal was to cast a broad net in order to find projects that were perhaps less known to a foreign audience, but were very well known in the communities with which they were co-located. As such, I defined small, local “Peruvian-raised groups” as any effort that worked with communities on sites outside of the capital with paid and/or unpaid staff and/or volunteers, who are Peruvian nationals or residents, that could take any form or structure such as a physical center, a program housed within a university or another multi-issue organization (marine and terrestrial, for example), informal clubs (whether attached to a larger formal organization, university, or not), small sustainable or research-inclusive businesses, water sports, non governmental organizations, civic organizations, audiovisual storytellers, advocates and activists, or a collective. These groups carried out their marine conservation efforts in a myriad of ways, be it field work, research, camps for children, environmental talks at schools, film screenings, organizing with small scale fishermen, advocating for protected areas, youth development, and more. While I did include some groups that had started from outside countries but had been adapted to a local Peruvian context, usually with under 5 staff, I excluded any international, corporate non profit organization. I use “organization”, “project”, and “initiative” interchangeably following this definition throughout the rest of this proposal.

## Identification of Local Marine Conservation Actors

### Initial Context- and List-Building

In order to dig deeper, I first wanted to see the big picture of small marine conservation organizations and held a few pre-interviews or informational meetings (Appendix A). I first spoke with two grassroots organizations to explore working with them more individually, but when that was not feasible, I discussed the larger view that this project would take and they shared some general themes related to their persistence in working on the ground to help validate the project intention. I then sought to collect the names of as many Peruvian marine conservation projects as possible, so I checked the interview list from the 2014 *A Marine Conservation Assessment in Peru* report for current activity by the groups, and collected several other project names from my CAC members. I held two pre-interviews with the report company’s current staff to better understand the context in which they had developed the report and further think through the value-add of this project. They kindly shared with me some “lesser known” organizations from their past work and noted that much of the political and governmental assessment had not changed since 2014. I then asked several Peruvian contacts directly for their suggestions, from a researcher I connected with on Twitter, to another UC San Diego student, to other conservation-minded Peruvian friends who had done research projects in-country, but their knowledge of local projects was also limited.

## List-Growing & List-Narrowing

Using Google and Instagram as search engines, I began finding more small projects to add to the list. While I had been suggested to use Facebook to look for more projects, I did try a few times to use keywords in Facebook's search feature, to locate more, and I did not find much success with this method. With Instagram, their suggestion feature was very helpful to lean on, as after I would identify a group, it would suggest several others that were in the same niche. It was also very easy to navigate through the list of other groups they followed, which would reveal more projects. I could then switch to Google to search the name of the project and find a website or other digital footprints of their latest activity and contact information. LinkedIn was also a helpful tool in verifying projects and the people related to them. While that information was often general, I relied on several of my CAC members to provide information of specific staff or volunteer members of the projects. Once my travel dates to Peru were confirmed, I was then directly introduced via email (Appendix B) to some of these leaders in order to set up interviews.

## Interview Question Development

With acknowledgement of the gap in information about these local marine conservation sector in Peru, I wanted to gather as much information as possible. I landed on a semi-structured interview style in order to have a base of demographic and context-setting information that could serve as a tool to develop comfort and ease in conversation, and then move into more direct questions related to my research questions of "What are the challenges that local Peruvian marine conservation initiatives face while carrying out their objectives?" and "What is needed for local initiatives to sustain their current or past projects, and grow their capacity?" I intended to keep the questions as open-ended as possible and also encourage more of a conversational environment for the interviewee.<sup>25</sup> Given the difference in structure of each of the projects, I also required the flexibility of a semi-structured interview so that questions could be adapted to the relevant structure and experience of the interviewee. I developed a set of 23 questions that would guide my interviews (Appendix C).

## Site Visits, Interview Requests, and Meetings

Traveling to Peru to meet with marine conservation leaders in regional settings would allow for both the interviews to happen in a more personal setting and in the context of the dominant language, Spanish, but also would allow me to observe the different environments in which each of these groups were existing and developing. I planned to travel to each major region of the coast where hubs of these projects were located, from the northernmost area of Piura to the southern guano reserve of Punta San Juan. Reports of a Coastal El Niño had already been making the news months

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<sup>25</sup> Qu, Sandy Q., and John Dumay. "The Qualitative Research Interview." *Qualitative Research in Accounting & Management*, vol. 8, no. 3, Aug. 2011, pp. 238–64. DOI.org (Crossref), <https://doi.org/10.1108/11766091111162070>.



before this project was finalized,<sup>26</sup> and as the travel dates came closer, extreme flooding in the northern areas rendered these sites impossible to visit given the high likelihood of a very complicated, time-consuming, or simply impossible exit route. I was advised by a CAC member to avoid this region and another advised to offer the option of Zoom meetings for anyone unable to meet in person.

To more accurately obtain all information and effectively analyze the responses to interviews, I intended to hold them in Spanish, orally record them, and then convert them into written transcriptions. Each participant would be informed about the context, goals, and methodology of the project, and then asked for their consent to have their interviews audio recorded. This was laid out in email communications, as well as verbally described before the start of the scheduled interview (Appendix D). While I was transparent with consent, I was exempt from authorization from the Institutional Review Board. To record, I downloaded Voice Recorder - URecorder on my Android cell phone and Audio Recorder & Voice Recorder Pro on my PC laptop, and then set up the automatic record function on Zoom for the virtual interviews. To be aware of my time and the interviewees', I set the length of the interviews at anywhere from 30 minutes to 1 hour at most, given the semi-structured nature of the questions, and the amount of information the interviewee wanted to share.

### Interview Processing, Analysis, & Visualization

Once all interviews were completed, I used Sonix, an artificial intelligence based transcription software to automatically transcribe the audio files which I could then manually edit for accuracy and as pre-screening in preparation for later analysis and initial coding.<sup>27</sup> I planned for a verbatim style of transcribing. I chose Dedoose, a free cloud-based research and evaluation data analysis application (REDA)<sup>28</sup> to use an organizer and database for analysis of the final cleaned transcriptions. Given the commitment to verbatim translation, I opted for inductive and in vivo coding and thematic analysis.<sup>29</sup> In choosing Dedoose as a database, it also offered me the ability to transform the data immediately into several visualizations such as heat maps, word clouds, and charts. With respect to a dual audience of Spanish and English speakers, I also employed the use of DeepL translator as a way to toggle any interviews and codes between English and Spanish.

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<sup>26</sup> Carrington, Damian, and Damian Carrington Environment editor. "Warning of Unprecedented Heatwaves as El Niño Set to Return in 2023." *The Guardian*, 16 Jan. 2023. <https://www.theguardian.com/environment/2023/jan/16/return-of-el-nino-will-cause-off-the-chart-temperatu-re-rise-climate-crisis>.

<sup>27</sup> Kalpokaite, Neringa, and Ivana Radivojevic. "Demystifying Qualitative Data Analysis for Novice Qualitative Researchers." *The Qualitative Report*, Apr. 2019. DOI.org (Crossref), <https://doi.org/10.46743/2160-3715/2019.4120>.

<sup>28</sup> "What is Dedoose?" *Dedoose Learning Center*. <https://helpdesk.dedoose.com/hc/en-us/articles/12004035900557-What-is-Dedoose->

<sup>29</sup> Paine, Greg. "A Pattern-Generating Tool for Use in Semi-Structured Interviews." *The Qualitative Report*, Apr. 2015. DOI.org (Crossref), <https://doi.org/10.46743/2160-3715/2015.2123>.



# Findings & Discussion

## Sample Size

I initially set out to identify and speak with 10 marine conservation projects that were created and led by Peruvian nationals, but in the course of my online searches, personal outreach, pre-interviews, and travels, I was able to [build a directory of 65 different groups](#) (Appendix E) that were focused on specific regions along the coast, and were either “Peruvian-born” or adapted from international “parent organizations” to the Peruvian context, and were connected to the marine conservation sector by either preparing young people for the science tools needed to do marine research or by directly doing the marine research and conservation activities themselves. There were 16 that were a marine program, campaign, or subproject of a terrestrial-marine combination organization, 51 that were Peruvian born projects, and 10 that had international parent organizations but became local organizations adapted to the Peruvian context (Figure 1).

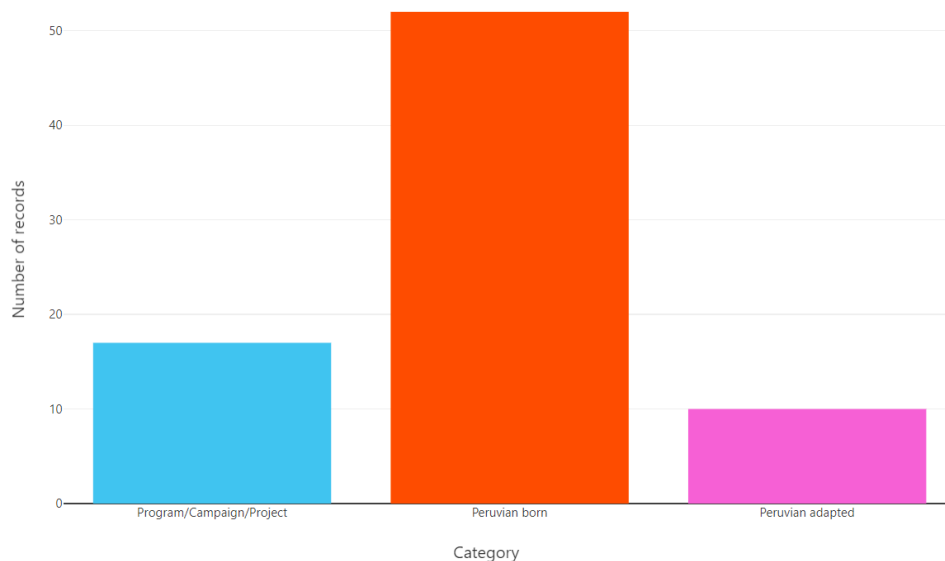


Figure 1. Bar graph of count of all identified initiatives by category.

From this list, I reached out and was directly introduced to 40 different initiatives, which resulted in interviews with 23 different leaders from 20 different projects (Appendix F). While allowing interviewees to remain anonymous can be seen as a way to produce more candid responses, all interviewees agreed to be named if their exact quotes were used, and all questions were well received.<sup>30</sup> Interviews were conducted from April 15 to May 12, 2023. There were five more leaders with whom I was also in conversation about scheduling an interview, but due to scheduling conflicts and the time constraints of the capstone deadline, I had to put these interviews on hold. Five

<sup>30</sup> Adams, William C. “Conducting Semi-Structured Interviews.” Handbook of Practical Program Evaluation, edited by Kathryn E. Newcomer et al., John Wiley & Sons, Inc., 2015, pp. 492–505. DOI.org (Crossref), <https://doi.org/10.1002/9781119171386.ch19>.

of the interviews took over an hour, ten of the interviews were carried out over Zoom, and one interview was sent via WhatsApp audio message. I recorded and uploaded a total of 19 hours, 28 minutes, and 53 seconds of interview audio, including the time it took to review the consent section. Because of the massive amount of audio for transcription, I switched to an intelligent style instead of a verbatim style to increase the speed of the work, given that one transcript could take several hours if cleaned to absolute precision.

## Demographics

Of the 23 interviewees, eight of them, or 35%, were biologists. Three were marine biologists specifically, and there were three sets of two professionals each in photographer, project manager, and student intern roles (Figure 2).

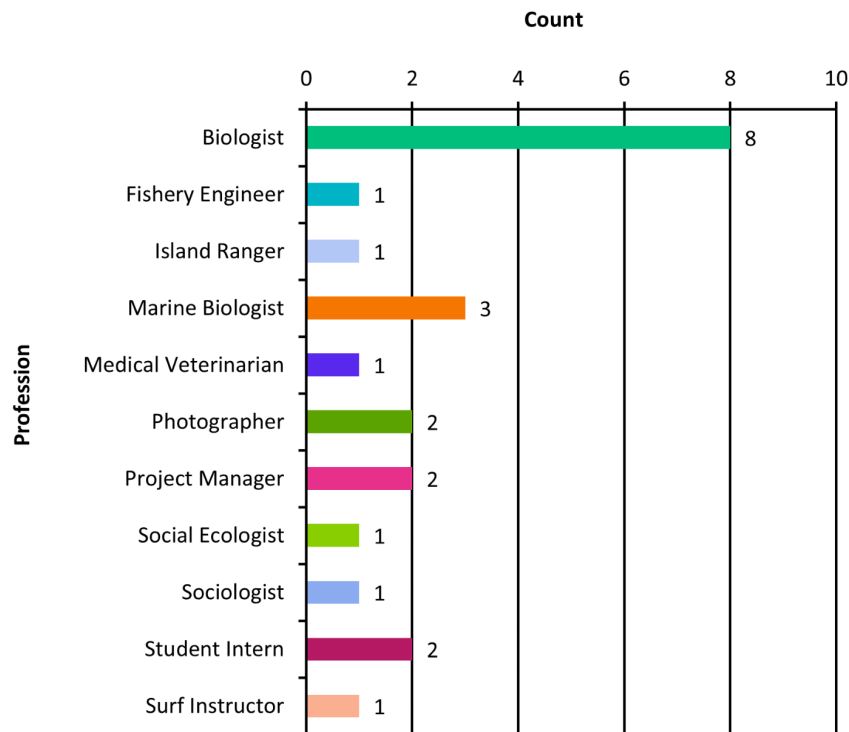


Figure 2. Bar graph of professions of interviewees.

Aside from the two interns, the ranger, and one of the biologists, the remaining 19 interviewees were directors of their respective projects, and their gender broke down into 61% male and 39% female (Figure 3).

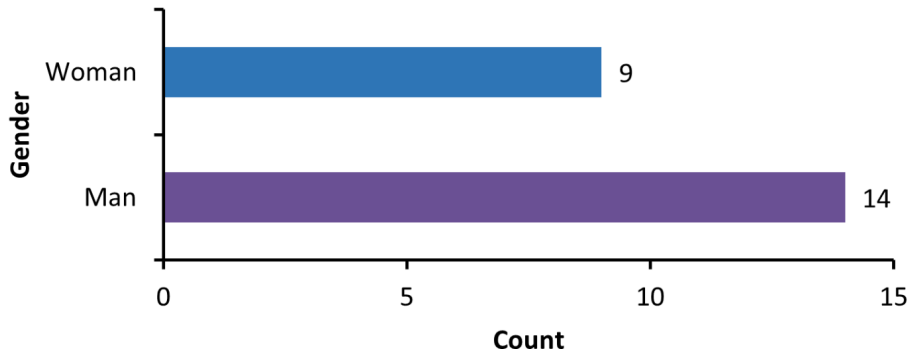


Figure 3. Bar graph of the number of interviews according to their gender.

When categorized by the age that the project had been in operation, 26% were between 10 to 15 years old, another 26% were between four and nine years old, 22% were between 40 to 45 years old, with the remaining 26% having anywhere from 16 to 39 years in operation. (Figure 4).

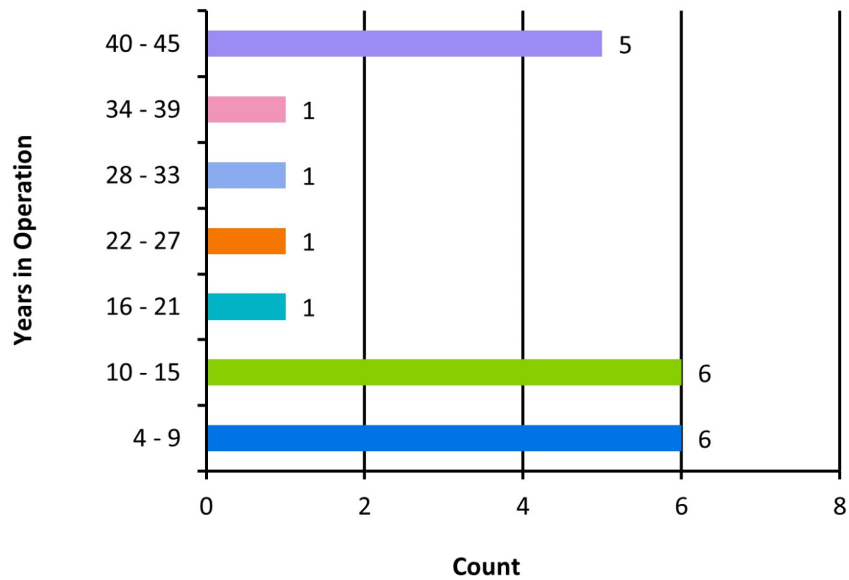


Figure 4. Bar graph of years in operation of projects of interviewees.

When categorized by where the organizations focused their work, on sea or on land, 16 of the local initiatives were marine focused only, and seven were both terrestrial and marine focused organizations (Figure 5).

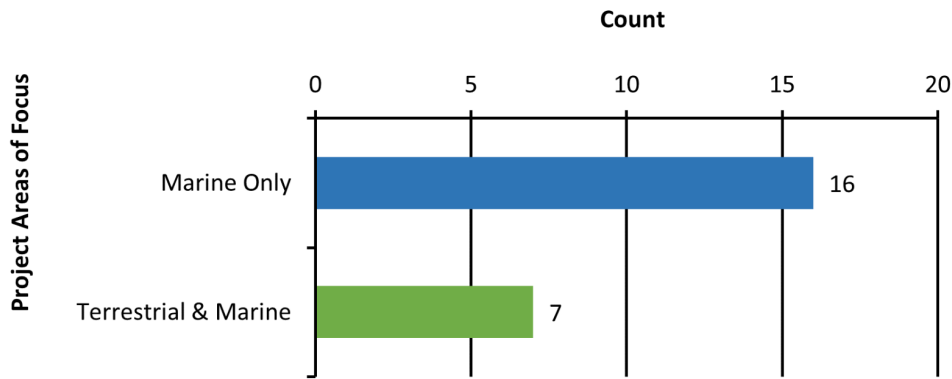


Figure 5. Bar graph of interviewees' projects' areas of focus.

The projects I spoke with came to marine conservation from varying angles, as visualized here. The activities by which they carried out their definitions of marine conservation tended to be in direct collaboration with or in service of a particular constituent base or stakeholder, grouped into fishermen, youth, and women. The encompassing strategy could be grouped into legal strategy and policy advocacy, monitoring and research, and volunteering and interning opportunities to build capacity for both people and data. The activities in between are the various tactics that these groups employ, organized by the strategy most used and constituents most served. Amongst the groups I spoke with, there was less of a programmatic emphasis on women's empowerment, as only three spoke directly to gender being a value or a core focus. Similarly, the majority of the projects interviewed did not have direct constant engagement with fishermen, or if they tried, were unsuccessful at maintaining it. Just five reported collaborating and building directly with fishermen successfully, to their definition. Only two reported policy advocacy as focus (Figure 6).

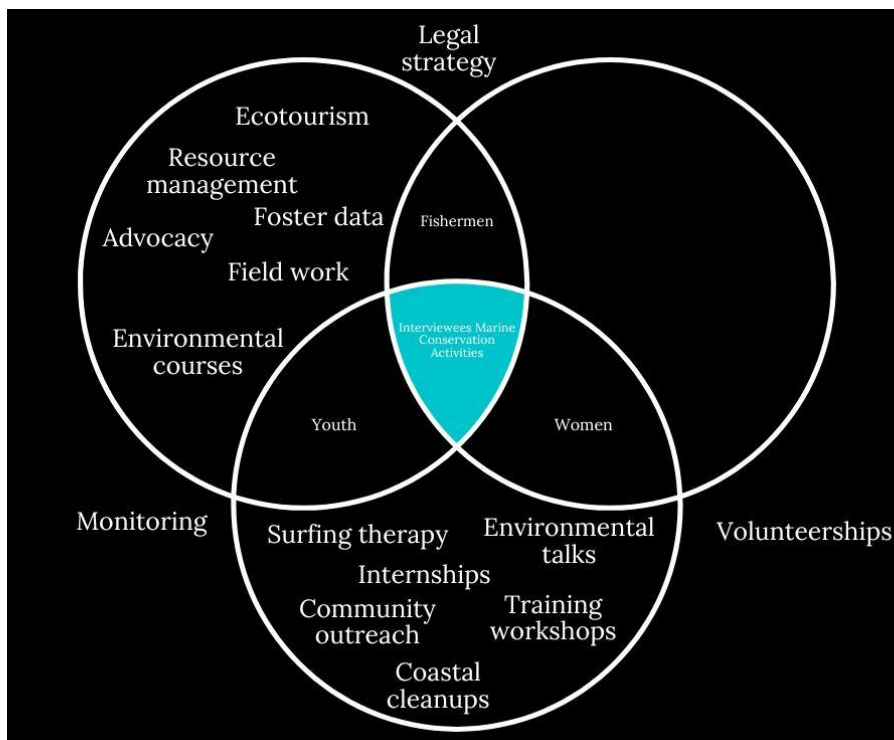


Figure 6. Venn diagram of interviewees overarching strategy, tactics, and constituents.

Other demographic and contextual information was captured and labeled in the Dedoose database, such as “conservation definitions”, “advice” for those wanting to enter the field and stay in Peru, “future vision” for opinions about the state of the waters in the coming years. Some of these topics may be touched on as the research questions related to challenges and needs are addressed.

## Challenges & Needs

In combing through the transcripts, at the forefront was always research question one (RQ1), “What are the challenges that local Peruvian marine conservation initiatives face while carrying out their objectives?”, and research question two (RQ2), “What is needed for local initiatives to sustain their current or past projects, and grow their capacity?” The research questions were entered into Dedoose, shown as the gray bar with the lime green color tag, and then a variety of subcategories and themes were organized into each research question as relevant, shown with the gray bars with the neon blue color tag (Figure 7). The numbers in front of each word signify the number of excerpts that are connected to each theme. The black arrowhead pointing to the right signifies that there are more subcodes under each theme that would appear in a dropdown menu. However, due to time constraints, these subcodes remain in Spanish, the original language of the interviews, and will not be displayed or discussed here.

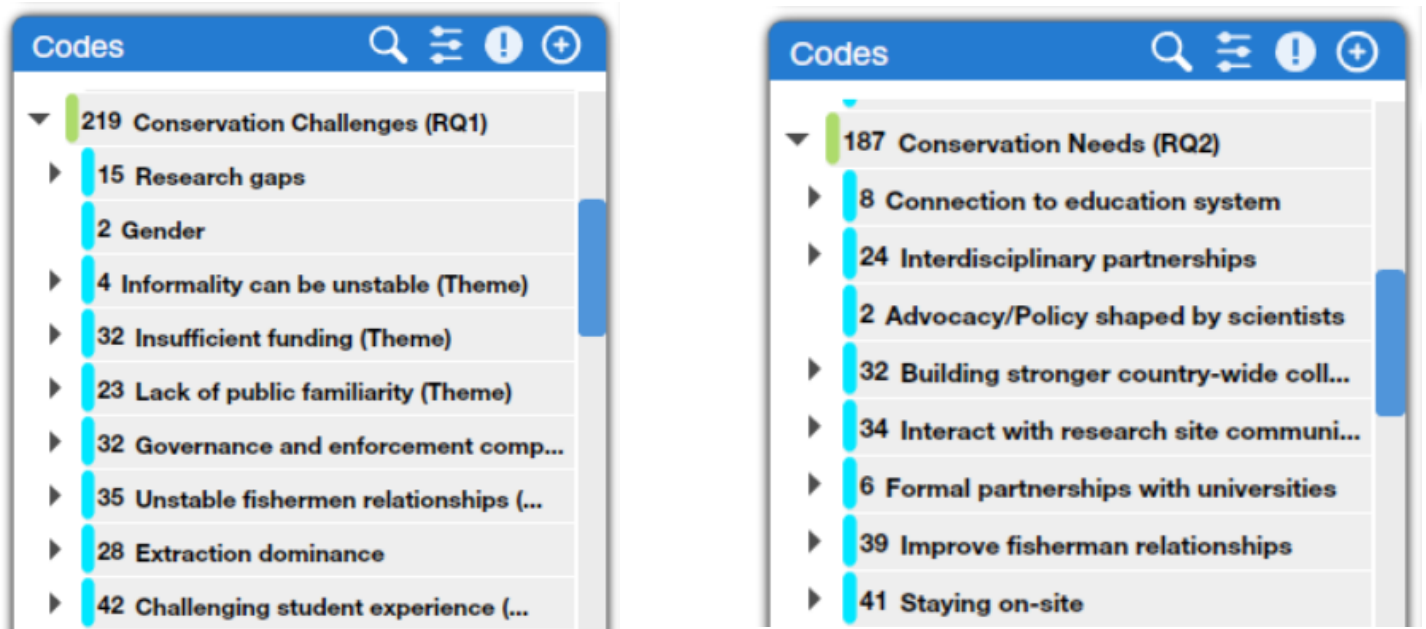


Figure 7. Screenshots of the Dedoose database, with unsorted codes and themes compiled under each research question, RQ1 and RQ2.

Because Dedoose cannot order the themes by the number of excerpts contained from the greatest to the smallest, I have pulled this information and reorganized it into a

table (see Table 2). The themes in the table are the most prevalent from the interviews analyzed. This will be referred to when discussing the most frequently discussed themes.

<b>RQ1: Challenges</b>	<b>RQ2: Needs</b>
Challenging student experience (42)	Staying on site (41)
Unstable fishermen relationships (35)	Improve fishermen relationships (39)
Insufficient funding (32)	Interact with research communities (34)
Governance and enforcement issues (32)	Build stronger connections with local projects (32)
Extraction dominance (28)	Interdisciplinary partnerships (24)
Lack of public familiarity (23)	

Table 2. Table of database codes and themes compiled for RQ1 and RQ2 pulled out of Dedoose and ordered by largest number to smallest number.

### A Deeper Dive Into Challenges

The themes that were developed in response to RQ1 came from word repetition and pulled from particular interview questions that directly asked interviewees about what both blocked and facilitated their project efforts.

The “challenging student experience” theme was characterized by an amalgamation of references to the educational system being a possible source of ease in pursuing marine conservation but instead not offering sufficient resources in a myriad of ways. They reported a lack of ocean education curriculum, particularly as relevant to ecosystems local to their education site. A lack of experiences not just for early academic education but tactical practices outside of the school was discussed, in the form of internships or volunteering opportunities. The accessibility of all of these experiences was also noted, with some discussions of the the connection between overarching poverty in the country as a blocker to pursuit of academia, inability to simply volunteer without compensation of some kind, and the general cost to attend private university or search for a higher education program outside of the country, particularly if the student needed to support their own family, and with a nod to the lack of sufficient funding to cover tuition and other costs of living during school, if available at all. This was seen as an overall blocker to building domestic professionals in the marine conservation sector that were well-trained, experienced, and would be able to stay in-country to pursue their research on a local level, which is why the theme encompassed many of these experiences.

“Unstable fishermen relationships” were developed from interview excerpts that often positioned fishermen as an outside factor and not a collaborative one in the pursuit of conservation. In defining conservation, interviewees would not discuss any

human element in their approach and then would later bring up local fishermen as either a part of or a barrier to achieving conservation goals and understanding how conservation would support the increase of their product (fish). There were reports of previous attempts to change behaviors of these actors but as unsuccessful or as a separate time-consuming project to arrive at success. Additionally, there were comments about how attempting to build new relationships with fishermen was tainted by past extractive encounters by previous organizations or researchers who would come to “extract” a particular piece of information and then leave without looking to solve any issues.

“Insufficient funding” was a broad theme, bringing together codes touching on experiences of different methods of fundraising such as crowdfunding platforms, creating donation programs such as adopt-a-species, applying for international grants, and looking for funds to cover any type of cost, such as a new building, not restricted to a particularly defined purpose.

The “government and enforcement issues” were largely similar across all interviews. This theme was developed to refer to the national and local environmental governmental departments and their capacities to support local conservation projects. The national governmental agencies were still responsible for setting the way for local issues to be addressed and yet, there were reports of inability to enforce regulations by region, a sense that these staff were either better funded and capacitated than them, were not present at all to help out despite the best intentions, as well as the confusing and complicated process to reach the correct responsible agency for addressing a number of ocean issues.

“Extraction dominance” was a theme developed to refer to how government agencies upheld and moved national interest towards viewing natural resources as unending sources of extraction and centered activity to support that first and foremost.

“Lack of public familiarity” referred to the general unawareness that the public had when it came to safe interactions with coastal areas and species, current local and national regulations related to these ecosystems, or simply the existence of the diversity of activities happening in their coastal surroundings.

Returning to the most dominant theme under the challenges developed from the interviews, this theme revealed a sense of isolation and frustration with the various stumbling blocks that students experience themselves as well as the conservation leaders confronted in the course of their work when interacting with communities who could otherwise support their efforts. The interviewees seemed to identify education as foundational to a pathway into a career of marine conservation. The assumption seemed to be that in order to carry out related research and have an appreciation for marine resources would then also lead to behavior change or that this could perhaps lead to a shift in how resources could be managed. It could be that if more students were educated on marine conservation issues, that this could perhaps lead to less difficulty in working with fishermen who might have a different relationship with their waste and the water, or that agencies might have staff that would develop programs to favor more



conservation activities or uphold enforcement. Additionally, it was interesting to examine how the lack of educational curriculum and funding geared towards marine conservation was a cause of would-be marine conservation leaders leaving the country completely and a source of the lack of specialists in any particular field. One interviewee stated, “The first option is to leave the country in order to further explore the subject [of marine conservation].” Another interviewee noted, “I haven't gotten to know other people who have been interested in sea lions outside of the program, because it's not very common in our country.” This speaks to the scarcity of formally trained professionals and a loss of expertise in the country's local issues. Even when students have opted into the marine biology career or some other related studies, these quotes and others in the database spoke to several issues. One issue highlighted that the path felt isolating and often deterred students from looking for or being able to find opportunities or affinity groups that could support their interests. One interviewee spoke to a slightly different aspect of the educational experience of studying marine conservation, more tied to what happens after education and how the investment in the sector could serve as a way to not only have expertise, but a profession. She noted this while also thinking through a way to produce more marine baseline data. “I believe that more institutions linked to the sea are needed, and not only in Lima, but also in the rest of the country. Because there is going to be manpower. I mean, there are students there who are preparing to graduate, but where are they going to go?” This interviewee noted an increase in the number of environmentally concentrated graduate programs and the students interested in choosing, given her work at a university, but that regardless, they would be faced with difficulty in their job search following their graduation within Peru. This speaks to the lack of a retention plan for this sector of professionals. Conversely, this same interviewee as well as another noted that if students left the country, they would like to see them build their expertise and professional networks so that they could return to the country with the tools needed to create the jobs or educational programs for themselves that they had hoped for in their home communities. However, this idea, potentially an individual strategy to address this challenge, maintains the status quo and does not ultimately address the lack of priority of conservation in the country as a whole.

When reviewing this challenge, it was inextricably linked to not only conservation outcomes but also social outcomes. Each theme had an effect on another theme so to squarely categorize them was difficult and also showed a root cause of the need for a reprioritization of conservation to be seen as viable. It also opened up another area of potential study, the educational journeys of Peruvian marine conservation professionals, whether living in the country or abroad, which could be interesting to pursue and offer further insights on the overlap of education and marine conservation at a local level.

### A Deeper Dive Into Needs

Themes developed relating to RQ2 were pulled from a variety of questions and more inferred through various statements made by interviewees in relation to their infrastructure, challenges, and musings about what would make their work easier.

The need of “staying on site” was noted by those who recounted the benefit of getting to know the lay of the land of a research or action site intimately, while also being highly aware of shifts in the status of any given element in the site. Those were less stationary in one place, but would come to visit the field, noted the importance of upkeep of relationships with fishermen and community members, and others noted past experiences of having on-site offices or stations themselves, or the desire to have them into the future to increase the community’s awareness of their presence and efforts.

The theme of “Improve fishermen relationships” was characterized by recognition of the personal knowledge produced by fishermen through the constant interaction with the water and species. Given interviewees also spoke about the fishermen as a demographic that was difficult to stay connected to or build understanding about the benefits of conservation, they sought for news to help build this bridge which would take trust, time, and dedicated, persistent people. In the

“Interact with research communities” theme, interviewees discussed the surrounding people in addition to the fishermen in a coastal community that could be funneled into the efforts of the marine conservation projects for reasons of increased education, added capacity, improved relationships between humans and other coastal species, and marine conservation as a potential job-creator, whether through tourism or through the organization directly.

For the theme of “Build stronger connections with local projects”, the excerpts focused on how the small marine conservation projects along the coast could be more of a community. This meant helping to welcome in younger, eager conservationists building their own efforts or attempting to add to what more senior scientists had been building, finding more ways to be more collective and transparent with data sharing, and being more proactive in working together, whether on events, coastal campaigns, or even working together to obtain joint funding.

Finally, under the “Interdisciplinary partnerships” theme, the related experiences were centered around questioning the accessibility of pure marine science and research. Interviewees were looking to explore how to include the social aspect of marine conservation into their work as a group and as sector, noting that there could be ways to both empower more people who cared about the ocean to take action to effectively advocate for and achieve its protection, but who may not have a marine science degree. Additionally, they noted a variety of other skills that could affect their work, such as an interest in gaining more press coverage for their work, ability to manage volunteers, and building out the job of social media.

These needs could be viewed as an interrelated web, similar to the challenges, and although not separately listed out, these needs were all linked by an underlying greater need for stable, sufficient, and unrestricted funding. Without national sources of funding and challenges in obtaining steady funding from international sources, these needs are intensified, and so this aspect bears mentioning with respect in particular to the needs question.

The dominant theme of “Staying on site” encompassed the interviewees’ goal of not only being in the field to be able capture more data, but to also effect change among the local community in which they worked. The need to include the human element in the ecology of the local area in which they were working was an important aspect in reaching conservation goals. When interviewees gave their “definitions of marine conservation,” briefly referred to earlier in the “Sample Size” section of the report, although some did, many interviewees did not include a mention to humans. Interestingly enough, this need spoke directly to that potential oversight. By including humans in marine conservation efforts, groups sought to correct this issue of accounting for the social aspects of the work and bringing balance to the distorted characterization of marine conservation to those outside of the sector, and people, in particular fishermen, to outsiders of this world as well. This theme did not speak just to fishermen as a part of the ecosystem on-site, but the broader community members as well, such as businesses, schools, and families. “Staying on site” would have an impact on how professionals in the marine conservation sector were perceived as well. Several interviewees noted the practical and ethical consequences of spending more time at local sites. In developing familiarity and ideally trusting relationships with these other pieces of the coastal area, information, knowledge, and resources could be made more accessible. Aside from this, showing a commitment to staying local could have an impact on a reportedly common perception of marine conservation professionals as appearing when convenient to them, without also thinking about what might be helpful to the community. It ultimately leads to a change in the way that marine conservation is defined and carried out so that efforts are more effective. If groups were able to be located more permanently in the sites of their work, it would be a literal fight against the over extraction of resources, but also the treatment of people in coastal communities as sites of extraction as well. One interviewee spoke about how the ability to work locally and aligning with an unexpected group of fishermen paved the path for increasing sustainability. He said, “We identified this problem [of non-management in the area], we talked with the artisanal fishermen who are here in the area, and we identified that there was a very articulated community, with a great desire to move forward. So we identified this social component that is key to sustainability.” For those who are already doing, this is a powerful value-add of small marine conservation projects generally. Similarly, another interviewee shared examples of what short- and long-term stays worked. He said, “We have seen many projects pass through and many groups have come here, other NGOs, even very large NGOs...and other large institutions here in Peru that have been here for a couple of years and then left. A two-year project, a one-year project and it is over...it takes a year or six months to plan and for people to get to know you. They start these activities and all of a sudden they're gone...So the strategy is to spend as much time with people as possible.” Lengthening of a timeline of a project, as well as increasing the physical presence of hubs would not only increase data collected or amount of information shared, but would beget a stronger connection to fishermen, as well an improved ability to foster trust and more directly benefit the broader communities connected to the coastal zones.

## Potential Strategies to Address Challenges & Needs

The challenges and needs that interviewees identified were directly and indirectly related to structural issues that can be navigated in part and yet not fully solved. These structural issues were seen in the high reports of challenges with the educational system at all levels, the funding dynamics, and the general feeling of lack of inaction by local and national authorities. Due to the identification of these systemic issues as root causes of the challenges and needs, this short list of strategies and action items does not attempt to solve issues at scale, such as restructuring of the education system or governmental agencies. Those problems should be principally resolved by the actors that have more power to do so, instead of shifting the responsibility to these communities alone. Regardless, this list does have a basis in the interviewees' own stories of successful strategies relayed during the interviews that have allowed for them to move through some of their challenges. It is intended to be more suitable to individuals and small organizations with items that are tangible, actionable, and could be carried out on a reasonable timeline in pursuit of incremental changes to support organizational growth and success.

### Facilitate more communication from communities

While all of these groups have at least once social media platform, building an organizational WhatsApp Communities space could be a more user friendly experience for both managers and participants, as well as a more personal and direct form of sending information, getting opinions, sharing media, and making asks. Given there is less algorithm and character spacing type of rules to think about, but that it can also reach over a thousand people, it could be easier for even a volunteer to manage.

### Increasing global small donor opportunities

While it can be a high effort process to develop physical items to sell and keep track of inventory, finding ways to plug the organization's name to people looking for causes to support is less involved. There are international platforms like Global Giving and Catchafire (although this may be more dependent on an organization's funders), and even [Proa](#) for Peru specifically.

### Strengthening network of colleagues

Ideally, identifying a funder or other convening body to coordinate an annual all-encompassing, big-tent event where updates are shared and goals are co-created could help unify this base of small initiatives. In the meantime, some form of digital space could be created particularly for the leaders of these projects. While online affinity groups already exist for more promotional and educational reasons, this could be a WhatsApp Community, a Slack, or a Discord in which information is more transparently

shared, general awareness is built of where each other's work is at, and coordinated around days like Biologist Day and World Ocean Day.

### Increasing organizational capacity via multidisciplinary efforts

As a trend throughout the interviews was the lack of formal partnerships with universities in any particular capacity, this could be an area to capitalize on. While students are still in one place at a university, even if they are not in the sciences, they might be more available to take on educational, communications-based, or general volunteer projects that serve their career path or are simply required of them. There could be universities that also have student affinity groups with social causes in mind and could serve as an automatic constituent base as well as potentially take on logistics of working with an organization. Although these efforts may be more one-off or short-term, it could still provide some type of technical support in terms of hands on deck, documentation of organizational history or activities, photography, fundraising, and more.

## Conclusion

Peruvian local initiatives can be key drivers in growing ground-up interest and influence in the sphere of marine conservation. Having chosen to stay in the country, despite the challenges in facing down systemic, deeply embedded, and long-standing resource extraction practices that go largely unchecked, the leaders of local projects have taken a stance that is not only reflective of their vision for turning the tide towards a greater balance towards protection of resources where they reside, but overall greater opportunities for the local people that lead to an increase in socioeconomic well-being. These groups should not be underestimated in their power to make change, but also, the way in which success is defined can be reexamined to better include and value the small and incremental changes they influence or information they produce. While larger, international non profits may often include a focus on national lobbying efforts as a cornerstone of their conservation strategy, that could be considered a swifter path towards effective marine conservation, these strategies will still need enforcement at the ground level. The smaller projects who stay in place, or whose leaders return to the same places seasonally, then provide one window into how the larger frameworks play out on the ground. They highlight information that desperately needs addressing, such as this intersection across the identified challenges and needs of working with fishermen. If valued for the proximity and sphere of influence that they have being close to this population, perhaps funders could look to better structure their monies to situate themselves as deeper collaborators and capacity-builders for the smaller marine conservation projects to allow them to increase their ability to tackle this issue in a non extractive way.

The projects focused on particular regions or within smaller communities are a microcosm of the trends happening at a larger level, and while prevalent in part as a volunteer force, they could be better financially supported to move past the barriers they encounter currently, address their needs, and retain the new generations of conservation leaders along the coast who are interested in carrying on the work in both traditionally scientific and multidisciplinary ways, as full-time professionals, who can then have the resources to respond to these issues and new ones that inevitably arise.

## Reflections and Skills & Lessons Learned

This capstone was a practice in developing a realistic project scope, carrying out qualitative research methods, using physical recording equipment, and learning a host of digital platforms. I set out on an ambitious project that I had envisioned as not just a report, but a strategy toolkit that would live on a website to be easily accessible to the Peruvian community broadly, but in particular, the local conservation leaders that might find some use for an outsider's perspective on strategies for increasing work efforts and revenue streams. However, the scope of the project grew substantially in size due to the amount of conservation initiatives identified, the number of people interviewed, and the time-consuming work of line-by-line analysis. Additionally, the project opened up my eyes and my mind to the possibility of more data to collect, more efficient ways of structuring my qualitative research questions and analysis, and other collaborators I might need to further research how international funding bodies interact with a local landscape like Peru.

I learned a big lesson in fully vetting the most fitting technological tools I would not only need but also be comfortable with using for this project. This ran the gamut from project management platforms, to recording accessories, to qualitative analysis software, to data visualization options. I had opted for building an Airtable tracker to keep everything in one place in a more organized fashion than separate files and lists, and for transparency for my CAC. This worked well at first, when the pace of the quarter was a little more contained but as I went traveling, it was more critical to have a tracking system that was mobile. Airtable is great because of its complexity in linking information to each other for automatic updates, but it is much more easily navigable on a desktop. Because of this, in the last month of the project, only one aspect of the tracker, the framework of what became the directory of projects, was the main table that was updated. That particular aspect worked extremely well, as it was also helpful in creating visualizations of the lists of data. UCSD also offers a free trial of the pro version of Airtable, so that made all of its capabilities available, so I would have loved to have known that before I set it up and had time to learn more of its functionalities.

In order to build the interview excerpt database and ensuing data visualizations, I went in blind. I spent time going through video walkthroughs and tutorials on several options of database builders (QDAMinerLite, Delve, Tableau, NVivo, Excel) before landing on Dedoose, which I still had to take time out to learn to navigate and manipulate. This was unfortunately something that my CAC did not have knowledge about, so they were not able to advise me on this issue. Instead, I went through eScholarship and searched for capstone projects that also used varying forms of survey questions and analysis in order to see how they interpreted the data and what programs



they used. It helped guide me toward Google Sheets and WordCloud.com, which I used in addition to Dedoose in the end for extra visualizations. I had assumed Dedoose would be a bit more automated, similar to an artificial intelligence application, but that was not the case. This lost me some time, as I had not factored in the amount of manual and tedious time it would take for me to properly organize the database. I later learned that UCSD offered a discount on MAXQDA, a qualitative data analysis software that is full-service, from questionnaire analysis to transcription to visualization. Using these tools were all in service of being able to build a true database of the interviews I held and visualize the learnings in a more organized way. Overall, this was a valuable takeaway.

Despite searching for options to transcribe the audio interviews since before I had even traveled, I also had an array of options in front of me (Microsoft 365, Google Document voice to text, Speak AI, and Adobe Premiere), given the challenge in finding a free to low-cost service that would have a high accuracy rate for Spanish audio. I brought this challenge to my CAC and thankfully, one of my members, Catalina, was able to request access for me to an artificial intelligence transcription program, Sonix, through the Aburto Lab. This had a slight learning curve as well, but it was a much lower barrier to entry as the design is very intuitive and tutorials are very quick and clear. I truly enjoyed this service and am so grateful to Catalina and the lab for making this happen. It is also so great to be able to then send the complete transcriptions to the interviewees for their own use. Relatedly, the easiest lift was finding the best English/Spanish translator to convert overarching quotes, codes, and themes into both languages. Google translate has improved greatly over the last decade, but can still be wonky. One of my cohort mates told me about DeepL, used often by the Human Ecology Lab, and known for improved accuracy. It worked exceptionally well. I am fluent in Spanish and English but am not used to toggling my brain so quickly between the two, given that I have used mostly English since returning to California from New York. That mental drain limited my capacities to maybe work as long as I wanted to on cleaning transcripts or pulling excerpts, but I learned so many new vocabulary words in Spanish to describe marine conservation work, which is a skill that I had hoped to be able to integrate somehow through my MAS MBC experience. Now, I consider that item checked off my wishlist.

The process of coding and categorizing interview transcripts into cohesive themes was an important practice in transparency and rigor in qualitative analysis practice. In theory and principle, I was very happy with the open-ended and semi-structured nature of my interview setup and interview questions. However, in practice, this proved to be an extremely unwieldy and time-consuming aspect of the project, particularly given that I doubled the intended sample size of interviewees from 10 to 20. Given the literature,<sup>31</sup>

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<sup>31</sup> Elliott, Victoria. "Thinking about the Coding Process in Qualitative Data Analysis." *The Qualitative Report*, Nov. 2018. DOI.org (Crossref), <https://doi.org/10.46743/2160-3715/2018.3560>.

this experience was not surprising but again, on the ground in Peru it was very hard to say no to more interviews, due to my thirst to understand as much as possible about the local marine conservation sector, have a diversity of interviewees, and desire to physically observe the environments in which leaders were carrying out their work, as well as collect stories about their progress that may not be fully captured elsewhere or academically published. I could have better developed a plan that worked backwards in terms of visualization, thinking through questions that would allow for particular measurements. I struggled through producing visualizations, as noted earlier due to expectations about the analysis software, but also due to the way in which I developed the questions, which could have included more traditional survey-type aspects such as a scale of responses. I also did not label my questions at the time of transcript clean up or during initial coding, so then I had to double-back and reassociate codes and excerpts to the related interview and research questions, which took time from writing and production of visuals and strategies, and ultimately the website deliverable. I had considered choosing a set of pre-codes instead of using inductive coding, but I did not want to confine responses with a set of codes that ultimately did not fit, but I could have looked for a framework under which to organize the codes more narrowly. This may have helped shorten the time frame of this aspect of the work as well as help produce other ways to visualize responses in an organized way. However, now I have more ideas about how to come to the interviewees for different styles of interviews to serve more communication, amplification, and archival purposes, as well as more analytical purposes in future progress on and iterations of this project.

One of the biggest areas of research that this project could benefit from would be a full assessment of how the funding world has and continues to engage with these local conservation projects. The asserted qualitative analysis of challenges and needs would be majorly complemented by fully laying bare the funders behind each of the interviewed projects (or more ambitiously, the entire directory of the local marine conservation projects in Peru), to put numbers behind the assets of each of the organizations, and to analyze any trends behind their lack of funding awarded. The seed of this analysis could have been supported by a more direct research question about past funding activity to build empirical evidence to gauge as well. This area is of great interest to me, as well as gaining a better understanding of the funding world in the United States and how it interacts with Peru on the topic of marine conservation specifically, particularly given that I did not locate any research already carried out in this niche.

## Bibliography

About – Emergent Strategy Ideation Institute. <https://esii.org/about/>.

Adams, William C. “Conducting Semi-Structured Interviews.” Handbook of Practical Program Evaluation, edited by Kathryn E. Newcomer et al., John Wiley & Sons, Inc., 2015, pp. 492–505. DOI.org (Crossref), <https://doi.org/10.1002/9781119171386.ch19>.

Baisas, Laura. “An El Niño Is About to Make Our Planet Swelteringly Hot.” Popular Science, 17 May 2023, <https://www.popsci.com/environment/wmo-climate-change-el-nino-heat/>.

Bajak, Aleszu. “What Should Peru Do to Improve Its Science?” Nature, vol. 576, no. 7787, Dec. 2019, pp. S65–S65. go.gale.com, <https://go.gale.com/ps/i.do?p=AONE&sw=w&issn=00280836&v=2.1&it=r&id=GALE%7CA649636847&sid=googleScholar&linkaccess=abs>.

Brown, Adrienne M. *Emergent Strategy: Shaping Change, Changing Worlds*. Unabridged, AK Press, 2021.

Carrington, Damian, and Damian Carrington Environment editor. “Warning of Unprecedented Heatwaves as El Niño Set to Return in 2023.” The Guardian, 16 Jan. 2023. The Guardian, <https://www.theguardian.com/environment/2023/jan/16/return-of-el-nino-will-cause-off-the-chart-temperature-rise-climate-crisis>.

Cespedes, Cynthia. Conservation International Peru: Oceans Program, 2020 - 2025. 2020, [https://www.conservation.org/docs/default-source/peru/facsheet\\_oceanos\\_eng.pdf](https://www.conservation.org/docs/default-source/peru/facsheet_oceanos_eng.pdf).

Chavez, Francisco P., et al. “The Northern Humboldt Current System: Brief History, Present Status and a View towards the Future.” Progress in Oceanography, vol. 79, no. 2, Oct. 2008, pp. 95–105. ScienceDirect, <https://doi.org/10.1016/j.pocean.2008.10.012>.

Climate Change Threatens One of World’s Biggest Fish Harvests. <https://www.science.org/content/article/climate-change-threatens-one-world-s-biggest-fish-harvests>.

Cutipa-Luque, Lilian Maritza, et al. “SITUACIÓN ACTUAL DE LAS ÁREAS MARINAS PROTEGIDAS EN EL PERÚ Y PROPUESTAS DE CONSERVACIÓN.” Paideia XXI, vol. 10, no. 2, Aug. 2020, pp. 573–612. Revistas.urp.edu.pe, <https://doi.org/10.31381/paideia.v10i2.3446>.

Donlan, Josh, et al. “A Marine Conservation Assessment in Peru, December 2014.” A Report Prepared for The David and Lucile Packard Foundation & Fondation Ensemble,

Advanced Conservation Strategies, Dec. 2014,  
<https://www.fondationensemble.org/wp-content/uploads/2015/02/ACS-Marine-Conservation-Assessment-of-Peru-final.pdf>

Don't Hold the Anchovies: Study Shows Peruvian Fish Worth More as Food than as Feed. 13 Nov. 2013,  
<https://science.ubc.ca/news/don%E2%80%99t-hold-anchovies-study-shows-peruvian-fish-worth-more-food-feed>.

Elliott, Victoria. "Thinking about the Coding Process in Qualitative Data Analysis." The Qualitative Report, Nov. 2018. DOI.org (Crossref),  
<https://doi.org/10.46743/2160-3715/2018.3560>.

"Holy Crap! A Trip to the World's Largest Guano-Producing Islands." Audubon, 27 Apr. 2018,  
<https://www.audubon.org/news/holy-crap-trip-worlds-largest-guano-producing-islands>.

IPSOS and Oceana Perú. *Los Principales Problemas del Mar Para Los Peruanos*, pp. 13, 16, 18. 13 Feb. 2023. Published in La Republica National Newspaper, Lima, Peru, 20 Mar. 2023.

Johnson, Ayana Elizabeth, and Katharine K. Wilkinson, editors. *All We Can Save: Truth, Courage, & Solutions for the Climate Crisis*. First edition, One World, 2020.

Kalpokaite, Neringa, and Ivana Radivojevic. "Demystifying Qualitative Data Analysis for Novice Qualitative Researchers." The Qualitative Report, Apr. 2019. DOI.org (Crossref),  
<https://doi.org/10.46743/2160-3715/2019.4120>.

Lam, Nakamura, and Katia Sofia. Mapping the Funding Landscape for Biodiversity Conservation in Peru. University of Illinois at Urbana-Champaign, 19 July 2017. [www.ideals.illinois.edu](http://www.ideals.illinois.edu), <https://hdl.handle.net/2142/98419>.

Nelson, Velvet. "Peru's Image as a Culinary Destination." *Journal of Cultural Geography*, vol. 33, no. 2, May 2016, pp. 208–28. DOI.org (Crossref),  
<https://doi.org/10.1080/08873631.2016.1153269>.

"No hay nada que celebrar: Reserva Nacional Dorsal de Nasca nace desprotegida." Oceana Peru,  
<https://peru.oceana.org/comunicados/no-hay-nada-que-celebrar-reserva-nacional-dorsal-de-nasca-nace/>.

Noss, Reed F. "Indicators for Monitoring Biodiversity: A Hierarchical Approach." *Conservation Biology*, vol. 4, no. 4, Dec. 1990, pp. 355–64. DOI.org (Crossref),  
<https://doi.org/10.1111/j.1523-1739.1990.tb00309.x>.

Paine, Greg. "A Pattern-Generating Tool for Use in Semi-Structured Interviews." The Qualitative Report, Apr. 2015. DOI.org (Crossref), <https://doi.org/10.46743/2160-3715/2015.2123>.

"Peru (PER) Exports, Imports, and Trade Partners | OEC." OEC - The Observatory of Economic Complexity, <https://oec.world/en/profile/country/per>.

Qu, Sandy Q., and John Dumay. "The Qualitative Research Interview." Qualitative Research in Accounting & Management, vol. 8, no. 3, Aug. 2011, pp. 238–64. DOI.org (Crossref), <https://doi.org/10.1108/1176609111162070>.

Reserva Nacional Sistema de Islas, Islotes y Puntas Guaneras. <https://www.gob.pe/institucion/sernanp/informes-publicaciones/1793027-reserva-nacional-sistema-de-islas-islotes-y-puntas-guaneras>.

Tarazona, Juan, et al. "Overview and Challenges of Marine Biodiversity Research in Peru / Una revisión y desafíos para la investigación en biodiversidad marina en Perú." Gayana 67.2 (2003): pp. 206-231.

Verdinelli, Susana, and Norma I. Scagnoli. "Data Display in Qualitative Research." International Journal of Qualitative Methods, vol. 12, no. 1, Feb. 2013, pp. 359–81. DOI.org (Crossref), <https://doi.org/10.1177/160940691301200117>.

## Appendices

### Appendix A: List of Informational Interviews to gather background and insight into Local Marine Conservation Initiatives in Peru

List is shown in alphabetical order.

1. Advanced Conservation Strategies
2. Beyond the Surface International
3. CEARE
  - a. Proyecto Huarmey

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### Appendix B: Interview Request for Introductions via Email, Spanish

Asunto: Entrevista - Mapeo + Toolkit iniciativas de conservación marina en Perú

Mi nombre es Analisa Freitas y soy estudiante de maestría en Scripps Institution of Oceanography. Estoy realizando mi maestría en biodiversidad y conservación marina. Para mi proyecto final, estoy investigando la situación actual del movimiento de conservación marina en Perú. En particular, investigaré cómo se han desarrollado los proyectos de conservación marina creados y guiados por peruanos (en vez de grupos con bases en el extranjero, por ej. EDF, WWF); con el fin de crear un toolkit de estrategias para aumentar el éxito en el sector.

Quisiera pedir su ayuda en mi proyecto con una entrevista oral grabada de 30 minutos hasta 60 minutos sobre los retos y éxitos en su trabajo en el sector. Voy hacer algunas preguntas respecto al crecimiento de proyectos peruanos en conservación marina como: ¿Cuáles estrategias han utilizado para alcanzar los objetivos? ¿Cuáles eran exitosas? ¿Cuáles no? ¿Cuáles son los retos de trabajar en el campo de la conservación marina? ¿Cómo reclutan más personas, sean estudiantes, voluntarios, etc.? ¿Qué tipo de fondos

buscan para mantener los proyectos? ¿Cómo impactan las fuentes del financiamiento al logro de los objetivos (por ej. de dónde provienen los fondos: industria, públicos, fundación)?

La información de la entrevista será utilizada para generar una base de datos. Algunas citas textuales de su entrevista podrían ser utilizados en mi toolkit final. Cada entrevistado puede escoger si se identifica por su nombre o queda como anónimo.

Estoy en Chicama el 16 al 19, en Marcona el 21 a 23, y en Lima desde el 24 hasta el 29 con disponibilidad a su conveniencia, que sea virtual o en persona. Si no tiene disponibilidad entre esas fechas, también voy a estar disponible durante el mes de mayo con un horario flexible solamente para entrevistas virtuales. Las entrevistas serán grabadas pero solamente por el audio y para el mismo propósito.

Por favor escríbeme un correo electrónico al [anfreitas@ucsd.edu](mailto:anfreitas@ucsd.edu) o vía WhatsApp al +17187083813.

Muchas gracias desde ya por su tiempo.

Analisa

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## Appendix C: Oral Interview Questions, Spanish

Q1: ¿Cuál es tu nombre y que hace la iniciativa de conservación marina con quien trabajas?

Q2: ¿Cuál es tu definición de conservación marina?

Q3: ¿Cómo se lleva a cabo esa definición de conservación marina por los proyectos de tu grupo?

Q4: ¿Cuál es tu rol en los proyectos?



Q5: ¿De qué forma es tu grupo? ¿Es ONG, colectivo, empresa, otra forma? ¿Cuál es el beneficio de tener la formación así? ¿Qué más hay de infraestructura?

Q6: ¿Cuál es la diferencia entre tu definición de conservación marina y la de otros en el sector?

Q7: ¿Cuáles son los retos de trabajar en el campo de la conservación marina en Perú?

Q8: ¿Que hace que el trabajo sea fácil?

Q9: ¿Cuáles estrategias han utilizado para alcanzar los objetivos que han definido? ¿Por qué crees que salen exitosas? ¿Cuál es una historia específica que ilustra la meta cumplida o el éxito?

Q10: ¿Cuáles son las estrategias que no funcionaban? ¿Por qué? ¿Puedes compartir una historia específica que demuestra lo que no salió bien?

Q11: ¿Qué tipo de fondos buscan para mantener los proyectos?

Q12: ¿Cómo impactan las fuentes del financiamiento al logro de los objetivos (por ej. de dónde provienen los fondos: industria, públicos, fundación)?

Q13: ¿Cuáles son las fuentes de inspiración para los proyectos? ¿De dónde vienen, o donde los buscan?

Q14: ¿Cuándo reclutan a más personas, sean estudiantes, voluntarios, socios, etc.? ¿De dónde vienen? ¿Cuál es el perfil de las personas reclutadas?

Q15: ¿Qué tal las universidades y centros de investigación para la conservación marina? ¿Cómo apoyan sus esfuerzos y objetivos, o cómo interactúan con Uds.?

Q16: ¿Cuáles consejos les darías a conservacionistas marinas del futuro para ayudarles a seguir su trabajo de sus sueños?

Q17: ¿Cómo se comunican los logros/tu progreso al público? ¿Cuáles son los propósitos?

Q18: ¿Cómo haces para que el público afuera del sector se interese más en el tema?

Q19: ¿Cómo se unen o se juntan todos los grupos de conservación marina alrededor de la misma causa o idea general? ¿Qué motivación tiene para hacer colaboraciones?

Q20: ¿Qué hace que la conservación marina aquí sea especial o única en comparación con otras partes del mundo? ¿Por qué se debe de valorar este sector/tipo de trabajo?

Q21: ¿Cómo visualizas el futuro de la conservación marina en Perú?

Q22: ¿Qué desea que sepa el mundo, o cualquiera fuera del mundo de conservación marina, sobre los objetivos que estás llevando a cabo, y las realidades de hacerlo?

Q23: ¿Tiene algún otro comentario sobre la situación actual de la conservación marina, o quizás algo que no te haya preguntado?

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## Appendix D: Request for Consent to Interview, Spanish

Quisiera llevar a cabo una entrevista oral grabada de 30 minutos hasta 60 minutos, dependiente de su disponibilidad, sobre los retos y éxitos en su trabajo en el sector conservación marina. La entrevista será grabada solo por audio por exactitud y precisión. La información de la entrevista será utilizada para generar una base de datos. Alguna información textuales de su entrevista podrían ser utilizados en mi toolkit final. En algunos casos, la información textual se podrá incluir como citas textuales en el trabajo final. Usted puede indicar si desea que salga su nombre, o si prefiere puede mantenerse en anonimato. Le pedimos que participe en un estudio de investigación. Su participación ha sido pedido para esta investigación por haber vinculado en actividades de conservación marina en el Perú. La participación en la investigación es completamente voluntaria. Puede negarse a participar o decidir retirarse en cualquier momento sin recibir sanciones ni perder los beneficios a los que de otro modo tendría derecho. Si está de acuerdo con todo descrito a Ud. oralmente y acepta participar de manera voluntaria, por favor diga que entiende la información descrita y está dispuesto a participar voluntariamente.

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## Appendix E: Directory of Local Marine Conservation Initiatives Identified in Peru

List here is shown in alphabetical order. It can also be viewed as a [gallery with contact & digital information via Airtable](#).

1. ACOREMA (Áreas Costeras y Recursos Marinos)

2. Agrupación P.U.M.A.S.
3. APECO (Asociación Peruana para la Conservación de la Naturaleza)
4. Avistando Perú
5. Beyond the Surface International
6. bioEdest
7. BIOMARINA
8. BMAP (Programa de Monitoreo y Evaluación de la Biodiversidad)
9. CEARE
  - a. Proyecto Huarmey
10. Clubes de Ciencia Perú
11. Coalición Tiburón Perú
12. Coast 2 Coast
13. ConCiencia Marina
14. ConservAcción
  - a. Detectives del mar
  - b. GRAM (Grupo de Rescate de Animales Marinos de Trujillo)
  - c. Proyecto Anzumo
15. Conservación Megaptera
16. CooperAcción - Solidarity Action for Development
17. CORBIDI Perú
  - a. CORBIDI Chiclayo
  - b. Playeras del Perú
18. CPAMS (Centro Peruano de Arqueología Marítima y Subacuática)
19. ecOceánica
  - a. Tiburón Ballena Perú
20. Econcientízate
21. Ecoplayas Perú
22. El Instituto Humboldt de Investigación Marina y Acuícola (IHMA)
23. ESCAES
24. Groundswell Huanchaco
25. Grupo Aves del Perú (GAP)
26. Grupo Medicina de Conservación
27. H2Océanos
28. Heroes del Planeta
29. Ictiofauna Marina del Perú
30. Ictiología Peruana
31. Isla Foca Tours
32. ITA Inkaterra Asociación Perú
33. Lobitos Limpio
34. Macroalgas marinas del Perú
35. Manos Azules

36. MarineGEO Smithsonian Conservation Biology Institute
37. Microplastic Fauna Peru
38. Misión Océano
39. Misión Raya
40. Natura Instituto Ambientalista
41. Observatorio Marino Costero Peruano
42. ORCA Perú
43. Pacífico Adventures
44. Peru Mobilid Project
45. Planeta Océano
46. Prodelphinus
47. Programa Punta San Juan
48. Proyecto Cetáceos
49. Proyecto Seahorse Perú
50. Puemape Planet
51. Qaya Cuero De Pescado Peruano
52. Red de Pesquería Artesanal Sostenible - Red PAS
53. REDES Sostenibilidad Pesquera
54. RedMarina Perú
55. REPU
56. Sea-Creative Lab
57. Seaumanoid
58. Share the Wave Peru
59. SOA Perú (Sustainable Ocean Alliance)
  - a. SOA - Perú Capítulo Ancash
  - b. SOA - Perú Capítulo Ica
  - c. SOA - Perú Capítulo Tacna
  - d. SOA - Perú Capítulo Tumbes
  - e. SOA Arequipa
  - f. SOA Moquegua
  - g. SOA Perú - Capítulo Lambayeque
  - h. SOA Piura
60. SPDA (Sociedad Peruana de Derecho Ambiental)
  - a. Conservamos por Naturaleza
    - i. HAZla por tu Ola
    - ii. HAZla por tu Playa
  - b. Gobernanza Marina
    - i. Wikipesca Perú
61. Terra Nuova Perú
62. The Living Oceans
63. UIEM - Grupo Aves Marinas

- 64. WAVES Lobitos
  - 65. WOMEN CAN DO PERU
- 

## Appendix F: List of Interviewed Local Marine Conservation Initiatives in Peru

List is shown in alphabetical order.

1. ACOREMA (Áreas Costeras y Recursos Marinos)
2. Beyond the Surface International
3. Clubes de Ciencia Perú
4. Coalición Tiburón Perú
5. Coast 2 Coast
6. ConCiencia Marina
7. ConservAcción
  - a. Detectives del mar
  - b. GRAM (Grupo de Rescate de Animales Marinos de Trujillo)
  - c. Proyecto Anzumo
8. CORBIDI Peru
  - a. CORBIDI Chiclayo
  - b. Playeras del Perú
9. ecOceánica
  - a. Tiburón Ballena Perú
10. Ecoplayas Perú
11. Groundswell Huanchaco
12. Lobitos Limpio
13. Pacífico Adventures
14. Peru Mobilid Project
15. Programa Punta San Juan
16. Proyecto Seahorse Perú
17. SOA Perú (Sustainable Ocean Alliance)
  - a. SOA - Perú Capítulo Ancash
  - b. SOA - Perú Capítulo Ica
  - c. SOA - Perú Capítulo Tacna
  - d. SOA - Perú Capítulo Tumbes
  - e. SOA Arequipa
  - f. SOA Moquegua

- g. SOA Perú - Capítulo Lambayeque
- h. SOA Piura
- 18. SPDA (Sociedad Peruana de Derecho Ambiental)
  - a. Conservamos por Naturaleza
    - i. HAZla por tu Ola
    - ii. HAZla por tu Playa
  - b. Gobernanza Marina
    - i. Wikipesca Perú
- 19. Terra Nuova Perú
- 20. The Living Oceans
- 21. WAVES Lobitos