
CATALIZING THE CREATION OF THE FIRST HIGH SEAS PROTECTED AREAS

Annual Report – December 2021



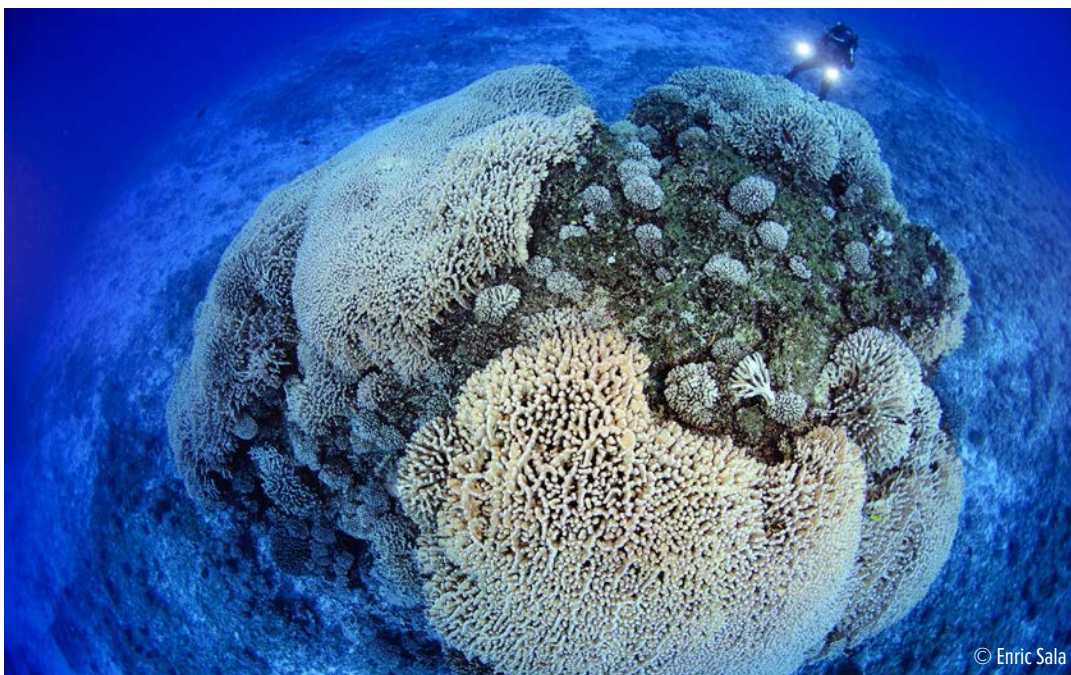
The Coral Reefs of the High Seas Coalition is a global alliance of multidisciplinary partners that aims to protect coral reefs in areas beyond national jurisdiction, commonly known as the high seas.

We bring together science, policy, and strategic communication to inspire international awareness and action. Specifically, we:

1. Convene a focused coalition of scientists, explorers, policy advocates, and communicators who share our conservation goals, but that previously worked in isolation from each other;
2. Conduct targeted scientific explorations to generate the knowledge that is necessary to guide policy recommendations; and
3. Leverage science to influence policymakers to protect the high seas.

This report summarizes major accomplishments of the Coral Reefs of the High Seas Coalition in 2021, and previews activities planned for 2022.

The report provides brief summaries of the major milestones, but also includes links to additional documents for those who are interested in more details. Please do not hesitate to reach out to dwagner@conservation.org if you have any questions or would like to learn more.



OUR GEOGRAPHIC FOCUS AREA THE SALAS Y GÓMEZ & NAZCA RIDGES

The Salas y Gómez and Nazca ridges are two underwater mountain chains, which include over 110 seamounts that stretch across over 2,900 kilometers in the southeastern Pacific. Ecosystems in this region are isolated by the Atacama Trench and the Humboldt Current, an isolation that has produced a unique biodiversity that is marked by one of the highest levels of marine endemism on Earth. For many groups of organisms nearly half of the species are endemic to the region and found nowhere else on our planet. This region also provides important habitats and ecological stepping stones for whales, turtles, corals, and a multitude of other important species, including 82 threatened or endangered species. Recent explorations have documented one of the deepest light-dependent coral reefs on Earth, as well as numerous species that are new to science. Not only is this region a biodiversity hotspot, it is also culturally significant with an exceptionally rich history of human seafaring that goes back over 1,000 years.

Waters surrounding the Salas y Gómez and Nazca ridges are mostly located on the high seas, with smaller portions located in the national waters of Chile and Peru. While Chile and Peru recently established marine protected areas in this region, over 73% of the Salas y Gómez and Nazca ridges are located on the high seas, where they are unprotected and under threat from climate change, plastic pollution, overfishing, and deep-sea mining. Importantly, fishing and other activities are still at low levels in this region, so there is a time-sensitive opportunity to protect its unique natural and cultural resources before they are degraded. Over this past year, the Coalition has produced numerous [science articles, videos, StoryMaps and other materials that summarize why this region is one of the most important areas to protect globally.](#)



SCIENCE & EXPLORATION

Science underpins all of our work, which is particularly important since [coral reefs were virtually unknown on the high seas prior to our work](#). Too many policymakers believe that the high seas are devoid of life, lack important ecosystems, or do not provide essential benefits to humanity. Our approach is to dispel this myth and inspire leaders to protect the high seas by documenting coral reefs in these remote ocean areas. Coral reefs are some of the most biodiverse and productive ecosystems on Earth, yet their presence on the high seas was only recently documented. We are using these foundational ecosystems, and the multitude of charismatic species they contain, to catalyze global change.

This year, we published nine science articles in high-impact scientific journals, including studies documenting the fragile and unique fauna along the Salas y Gómez & Nazca ridges, its cultural significance, and practical guidance on how a high seas marine protected area should be designed and managed in this region.

Thanks to our partners we also had the rare opportunity to explore never-before surveyed high seas seamounts in the Central Pacific during an expedition aboard Schmidt Ocean Institute's research vessel *Falkor*, and are planning a scientific expedition to the Salas y Gómez Ridge in March 2022.

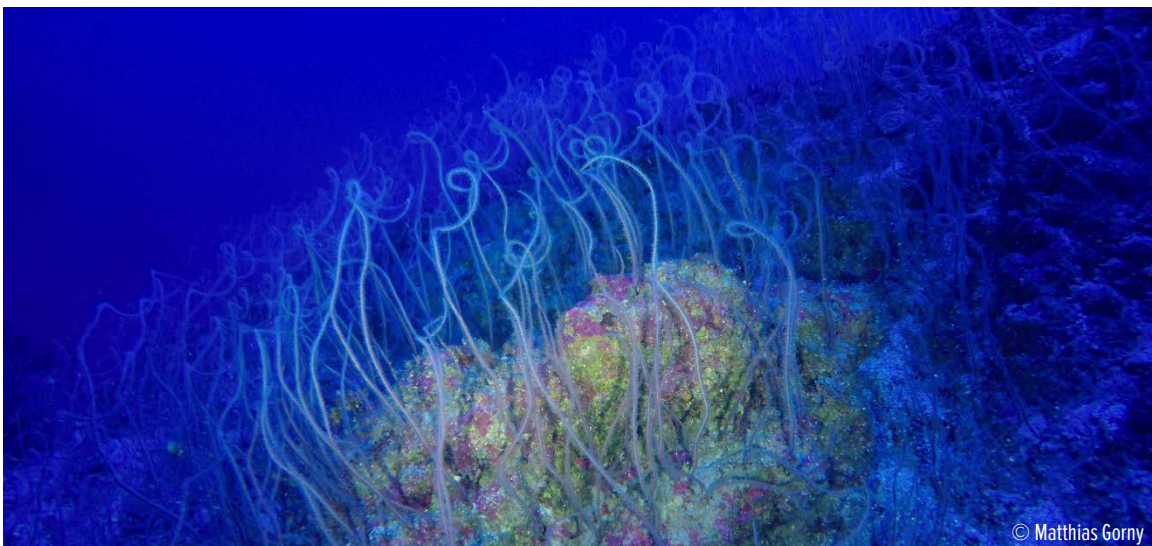


Publications

- In February, the peer-reviewed scientific journal *Marine Policy* published [our study that provides the scientific rationale and policy recommendations on how to protect one of the most special places on the high seas – the Salas y Gómez and Nazca ridges](#). The article summarized information from close to 250 studies that have been conducted in this region, as well as over 10 years of fishing and vessel traffic data. This was a highly collaborative project that included contributions from 27 leading experts in 20 institutions, and 8 countries.
- In February, the peer-reviewed scientific journal *Aquatic Conservation: Marine and Freshwater Ecosystems* published [a special issue on the ecology and management of remote ocean areas](#), which included a dozen science articles that are highly relevant to our efforts to protect the Salas y Gómez and Nazca ridges. This special issue was edited by our partners at the Millennium Nucleus Center of Ecology and Sustainable Management of Oceanic Islands.
- In March, the peer-reviewed scientific journal *Nature Scientific Reports* published the [first-ever article describing deep seamount communities in the Nazca Desventuradas Marine Park](#) located on the southern end of the Nazca Ridge. The study documented 118 marine organisms from depths of 50-370 meters, and highlighted that these deep-water environments are still pristine.



- In May, the peer-reviewed scientific journal *Frontiers of Marine Science* published [our article summarizing information on marine genetic resources, scientific research and equitable benefit sharing as it relates to the High Seas Treaty](#). These are some of the most complex topics of the treaty, with most of the text still under negotiation. Co-authored by 17 leading experts in 9 countries, the study provides practical guidance on how these topics should be incorporated into the High Seas Treaty.
- In June, the peer-reviewed scientific journal *Plos One* published [our study describing the unique deep-sea biodiversity of the Salas y Gomez & Nazca ridges](#). This study is the first-ever to survey the deep-sea fauna on both ends of these ridges and recorded over 120 species, many of which are extremely fragile or not known to exist anywhere else on Earth, underscoring the importance of protecting this unique region using the best available conservation measures.
- In September, the peer-reviewed scientific journal *PeerJ* published [our study that models the spatial distribution of fragile deep-water corals and sponges along the Salas y Gómez & Nazca ridges](#). The models show that habitat-forming corals and sponges, which are priorities for various organizations with mandates to regulate activities on the high seas, are widespread across the Salas y Gómez and Nazca ridges, adding to the mounting scientific evidence to protect this unique region.
- In October, the peer-reviewed scientific journal *Mitochondrial DNA Part B* published [our study describing the complete mitochondrial genomes of two deep-water corals from the Salas y Gómez Ridge](#). These corals belong to a group that is well known for medicinal purposes. Thus, this study has important implications for future biomedical research, highlighting that research of these remote ocean areas is not only important to document its critical importance to nature, but could also benefit human health.



- In October, [our study published that reviews numerous global datasets to show that the Salas y Gómez & Nazca ridges are one of the most special places to protect globally](#). The study was published as part of a ESRI book that highlights case studies using global information system technology in support of conservation and resource management.
- In November, the peer-reviewed scientific journal *Frontiers of Marine Science* published [our article that describes for the first time black coral gardens found at depths between 50-330 meters on the Salas y Gómez Ridge](#). These gardens included some of the densest aggregations reported for these types of corals anywhere on Earth, and were shown to provide critical habitat for a wide variety of fishes and invertebrates, including many species found only in this region.
- In December, the peer-reviewed scientific journal *Marine Policy* published [our study that summarizes information on the maritime heritage and cultural significance of the Salas y Gomez & Nazca ridges](#). This is the first study to synthesize such information for a high seas region, and highlights that the Salas y Gomez & Nazca ridges are not only worthy of protection for their biodiversity, but also their exceptionally rich history of human seafaring and cultural significance. Besides summarizing information on the 1,000-year old human history of the ridges, the study also provides recommendations on how this information should be integrated into the design and eventual management of a protected area.



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Expeditions

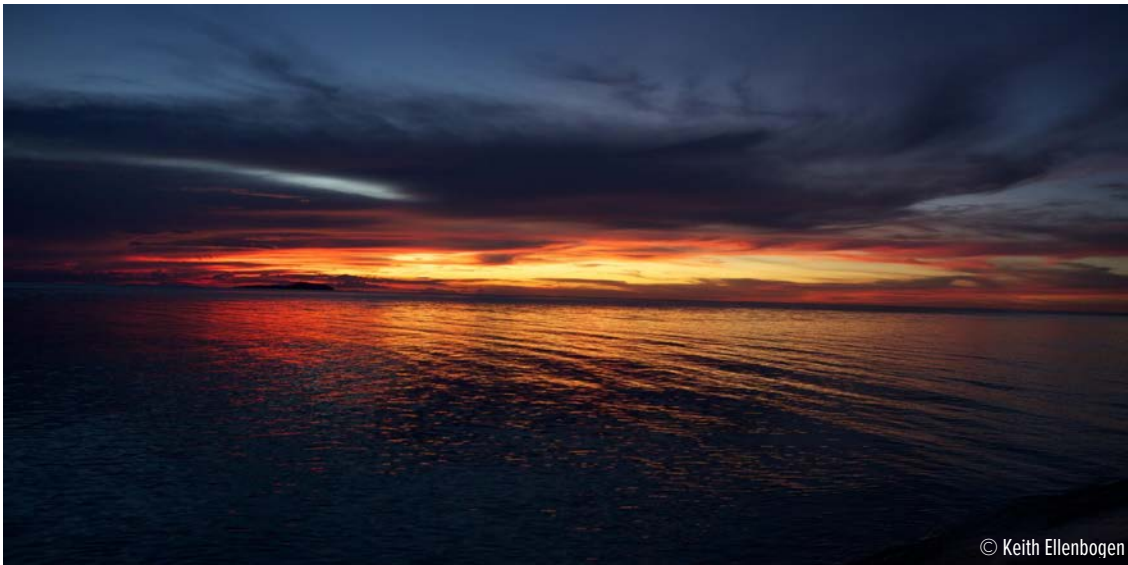
- In June, we had the rare opportunity to explore five never-before-surveyed seamounts in high seas waters of the Central Pacific during an expedition aboard Schmidt Ocean Institute's vessel *Falkor*. We documented several dense patches of deep-sea corals and sponges, including some that were not known to occur in this region. We are in the process of analyzing all the video data from the expedition in collaboration with partners at Boston University.
- Planning is underway for an expedition that will explore seamounts on the Salas y Gómez Ridge using mixed-gas technical SCUBA and remotely operated vehicles. The expedition will mobilize from Easter Island and is tentatively planned for March 2022 (COVID permitting).



POLICY ENGAGEMENT

As a result of the COVID pandemic, negotiations for the United Nations agreement that would provide the legal mechanism to create marine protected areas on the high seas have been postponed until March 2022. While there is still uncertainty about when the High Seas Treaty will be finalized, we are pursuing alternative mechanisms for creating de-facto protected areas by working through organizations that regulate fishing on the high seas. Furthermore, we are actively presenting our proposal for a high seas marine protected area to influential organizations involved in the High Seas Treaty negotiations.

- In September, we supported the Chilean Government to present [a proposal to the Scientific Committee of the South Pacific Regional Fishery Management Organization \(SPRFMO\) for the Salas y Gómez & Nazca ridges](#). Consensus was reached to develop a work plan with the intent of determining what additional conservation measures are warranted in this region. Led by our partners of the Deep Sea Conservation Coalition, we are continuing to support Chile's proposal so this work can be presented to the SPRFMO commission for a vote soon.
- In September, we participated in several events at the World Conservation Congress, where in collaboration with many of our partners we got two motions passed which are critical for high seas conservation. These include a [motion to finalize the high seas treaty as early as possible](#), and a [motion to issue a moratorium on seabed mining](#).



STRATEGIC COMMUNICATIONS

While our work is deeply rooted in science, we recognize that this information needs to be communicated strategically to key decision-makers to promote action. We are continuing to develop communication products that not only raise awareness about high seas coral reefs, but also inspire policymakers to protect these pivotal ecosystems.

- In April, we launched our [Coral Reefs of the High Seas Coalition website](#) with information, videos, photos, and other resources relating to our work. Since its inception the website has garnered views from over 5,000 unique users.
- We produced four new films this year, which were showcased at the World Conservation Congress and various other venues. These include films on [the importance of a High Seas Treaty](#), [the natural significance of the Salas y Gomez & Nazca ridges](#), [the cultural significance of the ridges](#), and [how this region should be protected](#).

- Our work has been featured by numerous influential media outlets, particularly for the South American region where our science and policy efforts are currently targeted. These include feature stories in [El Mercurio](#), [El Comercio](#), [Mongabay](#), [La Tercera](#), [EcoWatch](#), [Mundo Acuicola](#), [Conservation News](#), [Eurek Alert](#), [China Dialogue Ocean](#), and [Honolulu Civil Beat](#), among many others.
- We have also amplified our science and policy work through newsletter articles and blogs published by many of our partners, including feature stories on the websites of the [High Seas Alliance](#), [Deep Ocean Stewardship Initiative](#), [Oceana Chile](#), [Marine Conservation Institute](#), [Global Ocean Biodiversity Initiative](#), [Conservation International](#), [Paris Peace Forum](#), [Safety4sea](#), [Middlebury Institute of International Studies at Monterey](#), and others.
- We developed two Story Maps on the [importance of protecting the Salas y Gómez & Nazca ridges](#) and the [maritime cultural heritage of the region](#). The former of these was selected as one of the [top 50 Story Maps on ocean conservation by ESRI](#).
- We developed new factsheets highlighting the [natural](#) and [cultural significance of the Salas y Gomez & Nazca ridges](#). Like all [our media assets](#), these are available [in English, Spanish & French](#).
- In January we presented our work on the Salas y Gomez & Nazca ridges at a workshop held for the Permanent Commission of the South Pacific. This commission is a regional alliance between the governments of Chile, Peru, Ecuador, and Colombia that aims to foster collaboration in marine policy and conservation, including collaborations on the high seas.



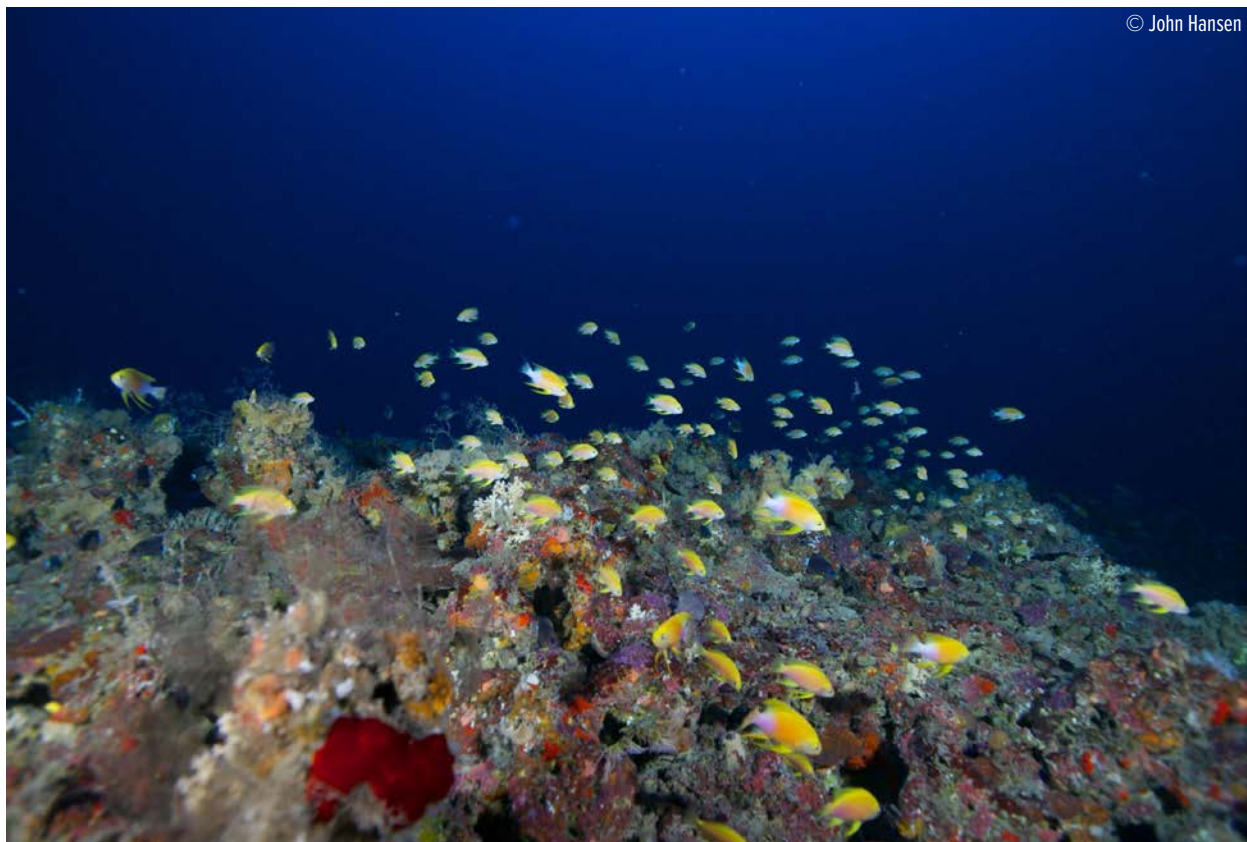
- In July, we presented our work at the Global Dialogue for Biodiversity Law and Governance. This virtual conference brought together policy makers, NGOs, industry and academics from across the world to explore transformative ideas addressing global biodiversity loss.
- In July, we presented our work at the ESRI Annual Conference, the largest gathering of geographic information system technology professionals and spatial information data users on Earth.
- In September, we presented our work at the International Deep-Sea Biology Symposium. Held every three years, the symposium is the largest gathering of deep-sea researchers and resource managers.
- In November, we presented our work on the Salas y Gomez & Nazca ridges during a High Seas Alliance workshop held for journalists in Latin America. Besides providing the media with key messages about this region, the workshop will also help shape the media narrative during the upcoming High Seas Treaty negotiations.
- In November, we presented our project at the [Paris Peace Forum](#), an annual gathering of world leaders and heads of governments, international organizations, civil society, and the private sector. Our project was selected as one of top forum projects that are most likely to have a scale-up impact. As a result, we will receive customized support and mentorship from the Paris Peace Forum over the next year.



AND FINALLY, COALITION BUILDING & COORDINATION

Two years ago, the Coral Reefs of the High Seas Coalition was just an idea. Today, it is a group of dedicated professionals and organizations who meet regularly to share information, ideas, and resources. Based on shared purpose and trust, over 100 committed individuals with vast expertise in ocean science, policy, law and communications, representing 25 international organizations, are creating a pathway for high seas marine protected areas.

- This year we started to have a presence on social media platforms [Twitter](#) and [YouTube](#). We kindly ask all our members to follow these accounts and amplify our content.
- In February, the coalition held its second annual meeting to review coalition progress to date and plan strategic activities for 2021. The virtual event was attended by 35 coalition members from 9 countries, all of whom reaffirmed their commitments to the coalition.
- We are planning our third annual meeting to review progress to date and plan strategic activities for 2022. The meeting will be held virtually on January 19-20, 2022.



CONCLUSIONS & NEXT STEPS

Although the timing of forthcoming fieldwork and international policy meetings could still change due to the COVID pandemic, we are forging ahead and continuing to pursue the protection of invaluable and awe-inspiring high seas areas. Over the next year, we will undertake the following key activities designed to support the establishment of the first marine protected areas that would protect coral reefs on the high seas.

- Conduct an expedition to explore seamounts of the Salas y Gomez Ridge and use that information to raise the profile of this region with key decision makers during the High Seas Treaty Negotiations and meetings of the South Pacific Regional Fishery Management Organization.
- Garner additional support for protecting the Salas y Gómez & Nazca ridges from decision makers in key countries, by presenting the proposal to delegates, as well as publishing science articles and media stories.
- Develop the scientific rationale and policy recommendations for protecting high seas coral reefs surrounding the Emperor Seamounts. Named after revered Japanese rulers, the Emperor Seamounts consist of over 80 seamounts stretching between the Hawaiian Islands and the Kamchatka Trench.

Our work, both globally, and specific to the Salas y Gómez & Nazca ridges, represent critical steps towards establishing legal protections on the high seas, none of which would have been possible without the invaluable support by all of our partners.

