

# By Connecting Marine Protected Areas, Policymakers Can Improve Ocean Health

'Conservation corridors' reverse biodiversity loss, support coastal communities, and build climate resilience

### **Overview**

The ocean, home to nearly a quarter of the world's known species, is essential to all life on Earth. Our seas dictate global weather, feed countless people, sustain coastal and Indigenous communities, and generate billions of dollars in economic activity.

Unfortunately, harmful activities and a changing climate are increasingly threatening ocean health. For example, science shows global shifts in marine species distribution due to warming waters, rising ocean acidity due to excess carbon dioxide, and a sharp increase in plastic pollution. Further, over a third of marine mammals and nearly a third of sharks and reef-forming corals are threatened with extinction.

However, there's a proven way to address these threats: Research shows that large, fully protected marine areas are vital to conserving biodiversity, reducing the impacts of industrial activities, and providing marine life a better chance to adapt to the changing ocean.<sup>1</sup> Marine protected areas (MPAs) can also help replenish fish populations, benefit neighboring ecosystems, safeguard predators, maintain ecosystem stability, and preserve cultures deeply tied to the sea.<sup>2</sup> So it's good news that, over the past decade, many nations have established large-scale, fully protected MPAs.

But, although these efforts have made a positive difference, global marine biodiversity continues to decline at an alarming rate.<sup>3</sup> Therefore, conservationists—together with local communities, Indigenous peoples, scientists, and government officials—are exploring ways to enhance MPA effectiveness.

# Recognizing the importance of interconnectivity

Pew Bertarelli Ocean Legacy, a partnership between Swiss philanthropist, entrepreneur, and ocean advocate Dona Bertarelli and The Pew Charitable Trusts, works to preserve and improve ocean health by supporting the creation and effective management of MPAs. This work encompasses securing long-term financing, fostering transparent regional governance, supporting scientific collaboration, building local capacity, and engaging communities. These efforts also seek to connect MPAs to each other—through protected corridors—as part of comprehensive regional conservation strategies.

The partnership's specific approach to supporting ecological connectivity varies across its focal regions the eastern tropical Pacific, Mediterranean, Southern Ocean, and western Pacific Ocean—but in all cases includes advocating for science-based policies that strengthen MPA networks and address key threats.

This regional approach reflects the interconnected nature of ocean systems that transcend national boundaries. Marine species migrate across thousands of miles of ocean to feed and breed, with international fishing fleets operating along those paths and multiple regulatory bodies—each with its own mandate—sharing jurisdiction over the same waters. The ocean is a complex latticework of biological and human interactions that demands holistic, regional conservation solutions.

Ideally, those solutions should collectively result in a constellation of large MPAs connected by corridors of effective conservation measures (including in fisheries management), both of which are underpinned by regional collaboration, equitable management, and multilateral governance. This would allow marine conservation to account for more variables in the long term: interactions between fisheries and MPAs, a changing climate, equity considerations, economic and cultural needs, and emerging technological innovations.

Marine scientists overwhelmingly agree that regional networks of large and effective MPAs alongside of ecosystem-based fisheries management and science-based restrictions on damaging industrial activity are essential for protecting biodiversity, sustaining local people, and building resilience against climate change. Policy, however, hasn't yet caught up to the science that's showing the benefits of such MPA connectivity.<sup>4</sup>

### Advancing science-based marine conservation

With ocean health declining faster now than at any other time in human history, national and international policymakers must act now to protect more of the ocean.<sup>5</sup> Currently, just 8% of the global ocean is protected within MPAs, and less than half of that total is safeguarded by highly or fully protected MPAs.<sup>6</sup> A growing number of Indigenous peoples, nongovernmental organizations (NGOs), and government leaders have called for highly protecting at least 30% of the ocean by 2030—the "30 by 30" target that many scientists say humanity must achieve to secure the planet's long-term health.<sup>7</sup>

Since 2006, Pew Bertarelli Ocean Legacy and its partners have supported the establishment or expansion of more than 20 MPAs. Many of those MPAs have been implemented and, collectively, account for almost 90% of the global ocean safeguarded within highly or fully protected areas. (See Table 1.)

#### Table 1 Implemented MPAs Supported by Pew Bertarelli Ocean Legacy and Partners

These areas collectively account for almost 90% of the world's fully or highly protected waters

Global rank of highly/fully protected MPAs, by size	Site (year of designation and expansion)	Total MPA area in square kilometers (square miles)	Fully/highly protected area implemented in square kilometers (square miles)	Percent of fully/highly protected waters implemented globally
1	Ross Sea region MPA (2016)	2,041,330 (788,163)	1,931,766 (745,966)	18.0%
2	Papahānaumokuākea Marine National Monument (2006; 2016)	1,508,931 (582,603)	1,508,721 (582,521)	14.0%
3	Pacific Islands Heritage Marine National Monument (2009; 2014)	1,271,375 (490,881)	1,265,728 (488,701)	12.0%
4	Pitcairn Islands Marine Reserve (2016)	836,096 (322,817)	836,092 (322,815)	7.7%
5	Tristan da Cunha Marine Protection Zone (2020)	757,368 (292,420)	698,369 (269,622)	6.5%
6	Palau National Marine Sanctuary (2015)	593,855 (229,420)	477,148 (184,237)	4.4%
7	Cocos (Keeling) Islands Marine Park (2022)	467,047 (180,328)	465,845 (179,863)	4.3%
8	Macquarie Island Marine Park (2023)	475,465 (183,578)	445,316 (171,938)	4.1%
9	Ascension Island MPA (2019)	446,005 (172,204)	443,571 (171,283)	4.1%
10	South Georgia and the South Sandwich Islands (2019)	1,234,750 (476,741)	307,487 (118,722)	2.8%
11	Christmas Island Marine Park (2022)	277,015 (106,955)	273,186 (105,478)	2.5%
12	Marianas Trench Marine National Monument (2009)	247,091 (95,403)	204,685 (79,029)	1.9%
13	Revillagigedo Archipelago National Park (2017)	148,644 (57, 392)	148,644 (57,392)	1.4%
15	Natural Park of the Coral Sea (2018; 2023)	1,288,618 (497,539)	135,916 (52,477)	1.3%
18	French Southern and Antarctic Lands (2022)	1,680,536 (648,868)	125,786 (48,566)	1.1%
30	Hermandad Marine Reserve (2021)	59,626 (23,021)	30,057 (11,605)	0.3%
Total		13,333,752 (5,148,202)	9,298,317 (3,590,088)	86.4%

Sources: Analysis based on Elizabeth P. Pike et al., "Ocean Protection Quality Is Lagging Behind Quantity: Applying a Scientific Framework to Assess Real Marine Protected Area Progress Against the 30 by 30 Target," 2024; Marine Conservation Institute, "Marine Protection Atlas," 2025

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### Marine Conservation Supported by Pew Bertarelli Ocean Legacy and Partners

Strong management and effective safeguards benefit nature and people



# Conclusion

Over the past decade many nations have established large-scale, highly or fully protected MPAs that prohibit activities, such as industrial fishing, that science shows are harmful to ocean health. These efforts have helped to safeguard millions of square kilometers of ocean and have brought the global community closer to reaching the 30 by 30 marine conservation goal.

Despite this progress, marine biodiversity continues to decline at an alarming rate, which means governments, Indigenous peoples, local communities, NGOs, scientists, and other stakeholders must urgently accelerate protection efforts and develop innovative approaches to enhance MPA effectiveness. This should include linking protected areas with conservation corridors to give marine life and habitat the best chance of recovering and thriving far into the future.

Through regional collaboration and ambitious action, policymakers, conservationists, and coastal communities can work together to secure a healthy, biodiverse ocean that benefits both nature and people worldwide.

# Endnotes

- 1 Graham J. Edgar et al., "Global Conservation Outcomes Depend on Marine Protected Areas With Five Key Features," Nature 506, no. 7487 (2014): 216-20, https://doi.org/10.1038/nature13022. Camille Mellin et al., "Marine Protected Areas Increase Resilience Among Coral Reef Communities," *Ecology Letters* 19, no. 6 (2016): 629-37, https://onlinelibrary.wiley.com/doi/10.1111/ele.12598. Gretta T. Pecl et al., "Biodiversity Redistribution Under Climate Change: Impacts on Ecosystems and Human Well-Being," *Science* 355, no. 6332 (2017): eaai9214, https://www.science.org/doi/abs/10.1126/science.aai9214.
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**Pew Bertarelli Ocean Legacy:** The Pew Charitable Trusts and Dona Bertarelli created Pew Bertarelli Ocean Legacy with the shared goal of establishing the first generation of ecologically significant, large, and effective marine protected areas (MPAs) around the world. Today, the partnership also seeks to connect MPAs and help conserve key migratory species and entire marine ecosystems. These efforts build on more than a decade of work by Pew and Dona Bertarelli to create large-scale, highly or fully protected MPAs. Together, they have helped to obtain designations or commitments to safeguard more than 13 million square kilometers (5 million square miles) of ocean by working with communities, local leaders, philanthropic partners, Indigenous groups, government officials, and scientists.