

What are the benefits of Marine Protected Areas?



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Abstract

You have probably heard that the ocean is in trouble. One reason is that we are catching too many fish, which is bad for the fish and the environment. But there is a cool solution to that problem called Marine Protected Areas (MPAs). These are special zones in the ocean where fishing is limited. This gives fish a chance to grow and thrive! But

some people argue that they are not helpful and make it hard for fisheries. So are there any benefits of MPAs? To find out, we reviewed 81 articles from 37 countries. It turned out that MPAs not only help fish but also fisheries. Near most MPAs, fishermen catch more and find bigger fish. Moreover, MPAs make a lot of money through tourism!

Introduction

Do you like eating fish? Fish is a good source of protein and other essential nutrients. But most fish populations are struggling. This is because we have been catching too many fish! And as more people are born, we'll need more food. If we don't change how we catch fish, we just might run out. One option is to focus on making fishing sustainable in the long run.

Not only are we facing a problem with food, but we are also in a **biodiversity** crisis. This means that many different kinds of animals and plants are in danger of disappearing. **Overfishing** is causing big changes in ocean ecosystems. It's also threatening some species with extinction. This makes it harder for oceans to provide food, store carbon, and support economies.

To help fix these problems, some countries have created **Marine Protected Areas (MPAs)**. MPAs are special parts of the ocean where people limit or ban fishing to protect marine life. They help fish populations recover and grow. This ensures there are enough fish for the future. But some people are not sure if MPAs help with fishing and the economy. Others think that fishing rules could be better than creating MPAs. So, what are the benefits of MPAs?



Fishing is the primary form of wild food harvesting but we need to support fish populations to ensure there is enough fish for the future.

Image: Photo by [Nicola Welner](#) on [Unsplash](#)

Methods

We searched for studies on the effects of MPAs on fisheries and/or tourism. We also consulted a global email list about MPAs that has about 12,000 subscribers. From

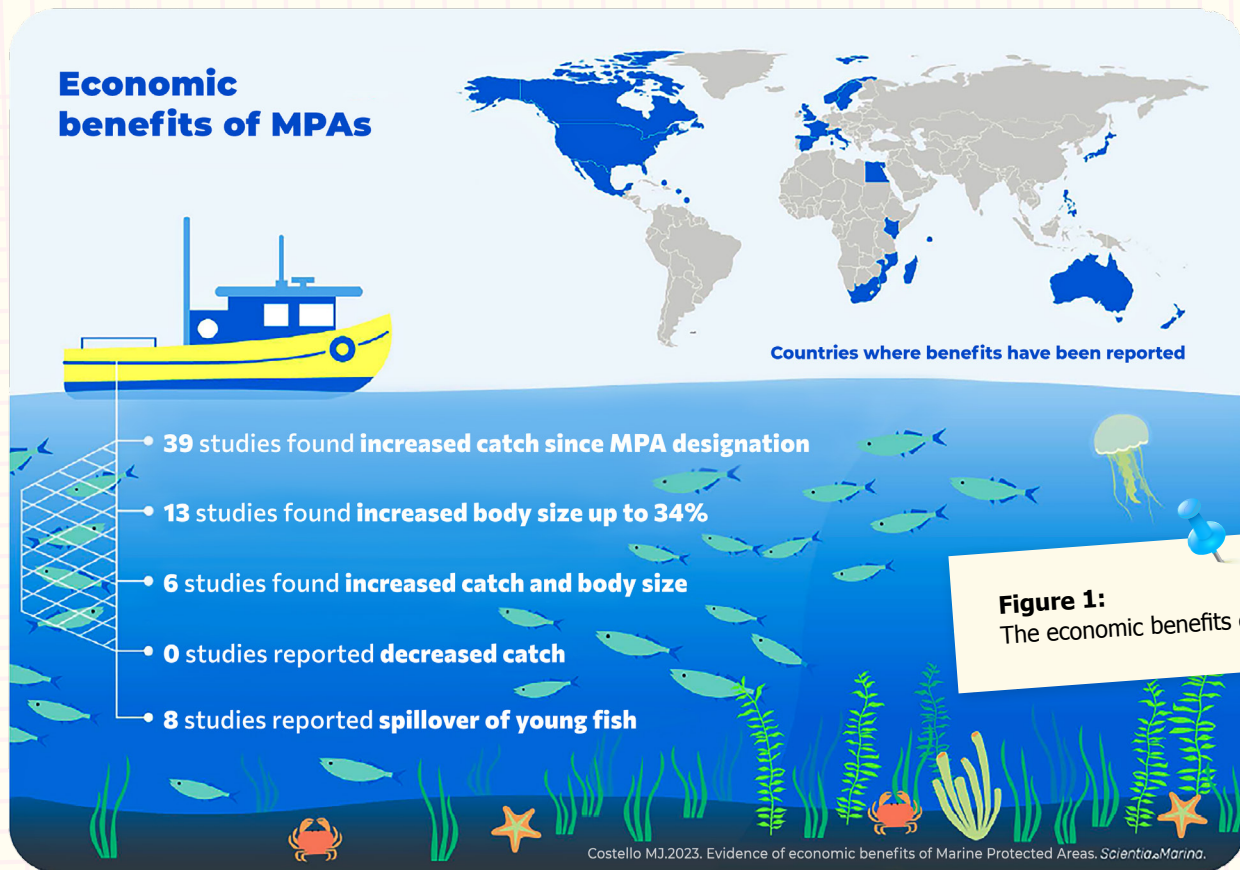
these findings, we found 81 publications from 37 countries. We reviewed 51 MPAs in total. We wanted to find out how MPAs can help both fish and people.

Results

We found that 46 of the 51 MPAs (that's 90%) showed benefits to nearby fisheries (Fig. 1). All but four of these MPAs were fully protected, with no fishing allowed. The fish catch outside the MPAs was bigger in 76% of cases. Plus, no studies reported a decreased catch. The size of the fish also increased outside the MPAs in 25% of cases. Some studies reported that fish moved from the protected areas to nearby fishing spots. Fisheries near MPAs had catches up to 40 times higher than fisheries far away did. Two studies did not find clear benefits. Fishery benefits from MPAs that

allowed some fishing were rare. This supports previous studies that showed partly protected MPAs do not result in ecological recovery.

We found 31 examples in 24 countries of MPAs benefiting tourism, mostly in tropical areas. They generated millions and sometimes billions of dollars each year. This occurred through fees, transport, and accommodation. For example, the Great Barrier Reef in Australia made \$6.4 billion from tourism! Shark diving in Palau brought in \$18 million annually, while shark fishing only made \$10,800.



Discussion

So, are MPAs helpful? The evidence shows that they provide economic benefits through both fishing and tourism. Critics have some doubts, though. They argue that MPAs might not always help fisheries. But our review of the evidence shows the opposite!

Fish move from protected areas to nearby areas where people fish. It's like earning interest on bank savings – fish breed and grow, then spread out to other places. This is called the **spillover effect**. So even though one area might have no fishing, nearby places can end up with more fish. Also, tourism in MPAs can bring in a lot of money to local economies. People pay to visit these beautiful, protected areas so they can see coral reefs, fish, and other sea creatures up close.

MPAs are a win-win for people and Nature. Despite some short-term challenges, the long-term benefits are clear. **They lead to increased fish catch, larger fish sizes, and economic gains from tourism. They protect sea life and help people who rely on the ocean for their jobs.** Sadly, most MPAs do not aim to protect wildlife from being killed by people. In those that do, some are not enforced and are called "paper parks". This means they exist on maps but don't have enough support to protect the sea life inside them. If they were really protected, they could do an even better job of protecting fish and helping fishing communities.

Conclusion

The ocean is vast and beautiful. It's also very important! Not only does it provide food, but it also helps to regulate the climate. And it supports 240,000 species. Learn more about the ocean and how you can help protect it. Remember

to eat **sustainable** seafood. This means people caught or farmed it in a way that protects the ocean and fish populations. You can also support organizations that work to protect marine life.

Glossary of Key Terms

Biodiversity - the variety of life within and between species, and the variety of ecosystems.

Fishery - the population of one or more fish species caught for commercial or recreational purposes. The area fished may vary during a year and between years, but is always larger than even the largest MPA.

Marine Protected Area (MPA) - a geographically defined part of the ocean that is designated and managed to achieve specific long-term biodiversity conservation objectives.

Overfishing - when people catch so many fish from the ocean that the population declines below natural levels. This loss of fish will also affect other sea animals, both those who eat them or which are eaten by them, leading to changes in the ecosystem.

Spillover effect - when fish and other sea animals become abundant enough to move from protected areas where there is no fishing to nearby areas where fishing is allowed, helping to increase the number of fish available to catch.

Sustainable - a practice that allows people to coexist with Nature over long periods of time. Ecologically sustainable practices ensure there is a balance between economic growth, environmental care, and social well-being.

Acknowledgement:

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Check your understanding

1 Why are fish populations struggling in the ocean?

2 How do MPAs help fish populations and nearby fisheries?

3 Imagine you are a fisherman. How might your catch change if there is an MPA nearby?

4 What improvements could be made to existing MPAs to ensure they are more effective in protecting marine life and supporting local economies?

5 Find out where your nearest MPA is. Find data about its benefits and create a poster to present your findings.

REFERENCES

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The Conversation: Marine protected areas safeguard more than ecology – they bring economic benefits to fisheries and tourism

<https://theconversation.com/marine-protected-areas-safeguard-more-than-ecology-they-bring-economic-benefits-to-fisheries-and-tourism-225337>

NOAA: Marine protected areas

<https://marineprotectedareas.noaa.gov/>