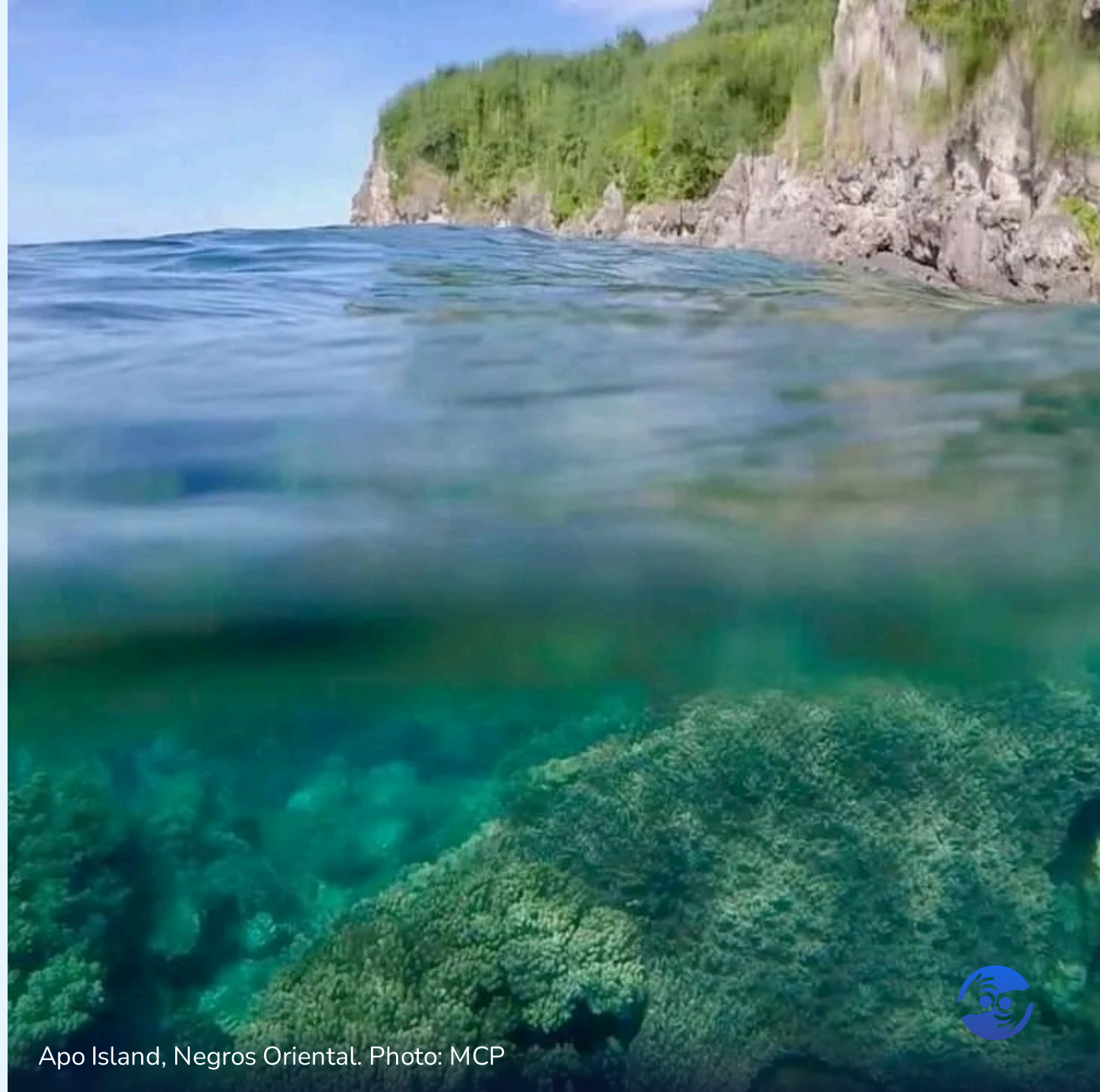


Fish, fishers and no-take zones:
lesson 2 of 3

The Apo Island story

How one island community
brought its reef back



Apo Island, Negros Oriental. Photo: MCP



From decline to sanctuary

1970s

Catches fall. Some fishers use destructive methods such as muro-ami and dynamite.

1979

Scientists from Silliman University suggest a sanctuary where all fishing is banned.

1982

The Apo community chooses 450 m of its reef as a no-take sanctuary.

Mid-1980s

A municipal ordinance makes the sanctuary official, run by elected islanders.

1994

Apo Island becomes a national Protected Landscape and Seascape, managed by a board that sets visitor fees.

2024

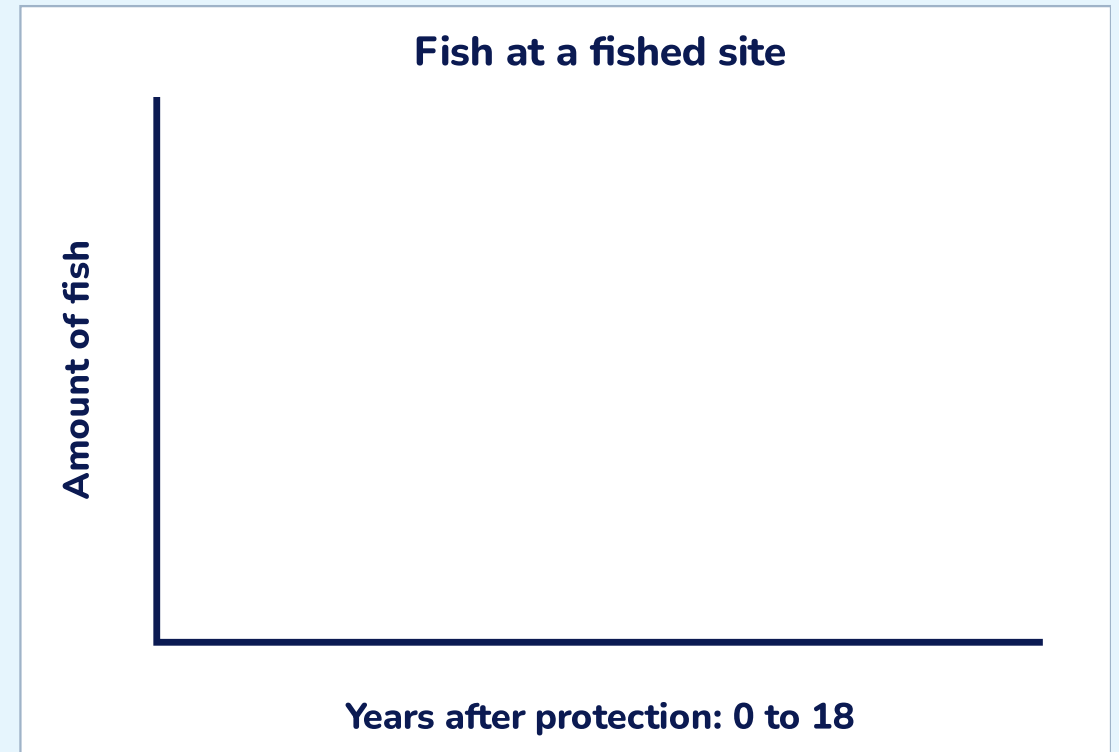
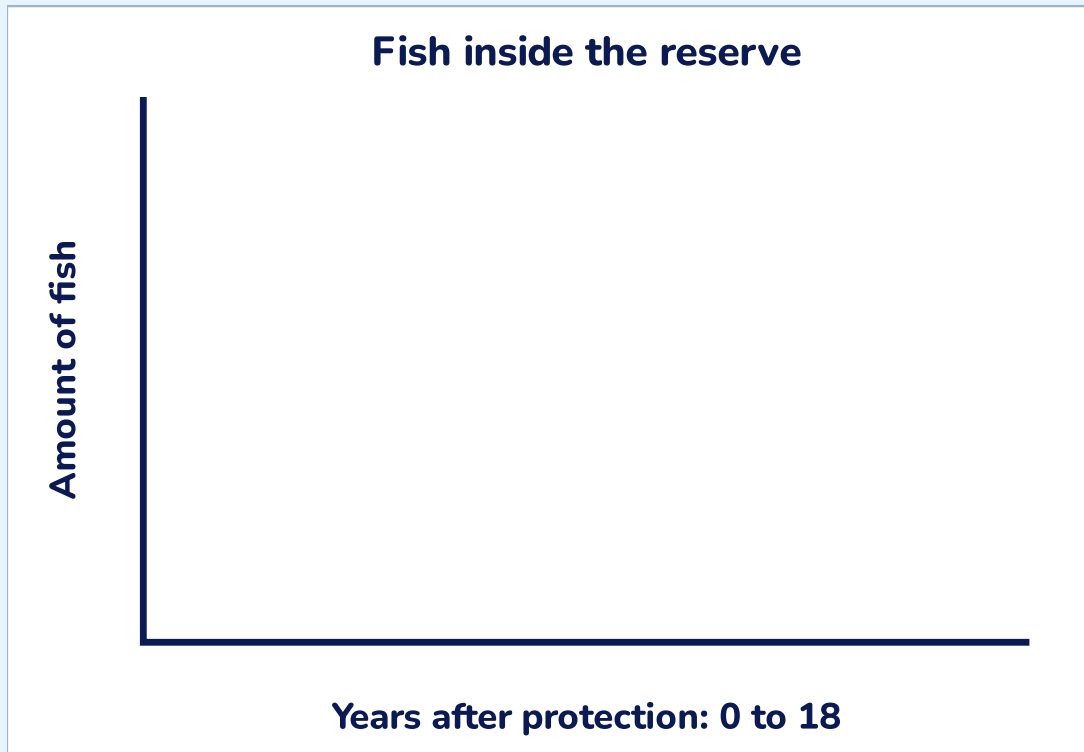
Scientists carry out the 42nd annual coral and fish survey at Apo Island.

How we know: Raymundo and White, Silliman Journal, 2004. Philstar, 2010. Silliman University, 2024.



Predict first

Sketch on your worksheet what you think happened to the fish inside the reserve, and at a fished site nearby, over the first 18 years.



What scientists found

3 times

as much surgeonfish and jack biomass inside the reserve after 18 years

no clear change

at a fished site over the same years

Catch rates were also higher near the reserve, a sign that some fish were spilling over its edges.

How we know: Russ and others, Ecological Applications, 2004



The twist: how much does spillover give back?

Spillover is real, but the scientists who studied Apo estimated that it added only a small share, probably much less than 10%, to the island's total catch.

The biggest benefits were inside the reserve: more and bigger fish, healthier coral and, later, visitors who pay to dive there.

**Does that make the reserve less worth it?
Why or why not?**



Green turtle at Apo Island. Photo: MCP



Why did Apo work?



The community owned it

Islanders chose the site and ran it themselves.



Science helped

Silliman University scientists, led by Dr Angel Alcala, showed fishers the evidence



Rules were enforced

The no-take rule was actually kept.



The law backed it

First a municipal ordinance, then national protection.



It pays

Visitor fees fund management, and tourism brings jobs.



It lasted

More than 40 years of protection and monitoring.



Five features of the best marine reserves

A study of 87 marine protected areas worldwide found fish recover far better where at least four of these five features are present. Score Apo Island on your worksheet.

No-take

No fishing at all is allowed inside

Enforced

Rules are actually patrolled and obeyed

Old

Protected for more than 10 years

Large

Bigger than 100 square kilometres

Isolated

Separated from fished areas by deep water or sand



NEOLI in numbers

5 times

more large-fish biomass in reserves with four or five features than in fished areas

14 times

more shark biomass

59%

of reserves had only one or two features, and were no different from fished sites



Apo Island today

Apo's success inspired hundreds of other community sanctuaries across the Philippines.

Today Apo Island is managed by its Protected Area Management Board, and MCP holds a seat on that board.



MCP survey divers. Photo: MCP



Talk about it

Apo's reserve is small. Why do you think it still worked?

What would you change to make Apo score 5 out of 5?

Could the Apo model work in your town? What would it need?

Next time: design your own sanctuary



Photos and sources

Photos: Apo Island, turtle and survey divers by MCP. All illustrations drawn for this lesson by Marine Conservation Philippines.

Sources:

- Raymundo, L.J. and White, A.T. (2004). Silliman Journal.
- Philstar (2010). Apo Island reef: paradise lost, regained, shared.
- Silliman University (2024). Alcala MPA marker.
- Russ, G.R. and others (2004). Ecological Applications.
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- Marine Conservation Philippines. Apo Island.

Full links are in the teacher reading. Free to use and share for education. Made by Marine Conservation Philippines. More free lessons: marineconservationphilippines.org/resources/teachers-resources/

