

NEREUS PROGRAM



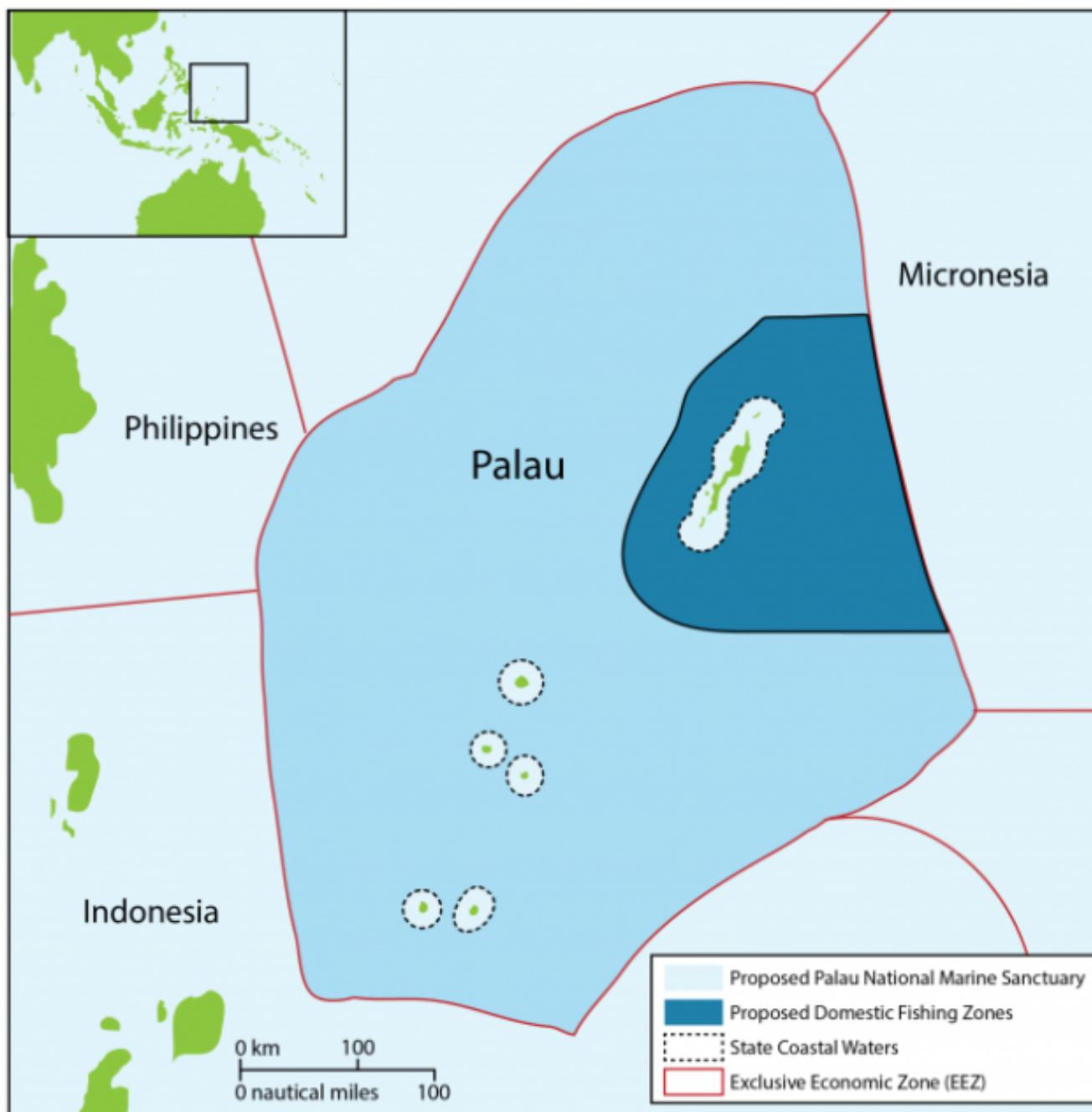
September 21, 2017 | Climate Change, Fisheries

Reducing tourist consumption of reef fish is critical for Palau's ocean sustainability, finds a [new Nippon Foundation-UBC Nereus Program study](#) published today in *Marine Policy*.

While climate change is expected to lead to sharp declines in Palau's reefs, the best tourism management strategy includes a more than 70 per cent reduction in reef fish consumption by visitors. These findings are highly relevant for sustainable development in small island developing states under climate change.

"Palau's reefs and the fish communities they host are incredibly beautiful and recognized worldwide as a top diving destination," says lead author [Colette Wabnitz](#), Nippon Foundation-UBC Nereus Program Research Associate, University of British Columbia. "Tourist numbers can reach nine times the local population and most come to enjoy the ocean. This puts enormous pressure on local marine resources that are central to local communities' culture and livelihoods."

Palau, an archipelago of 700 islands in the South Pacific, is heavily dependent on tourism. Many studies have focused on damage that tourists cause reefs physically – from stepping on coral to interacting with wildlife – but this is the first to look at the effects of eating the same fish that tourists are looking at through their dive masks.



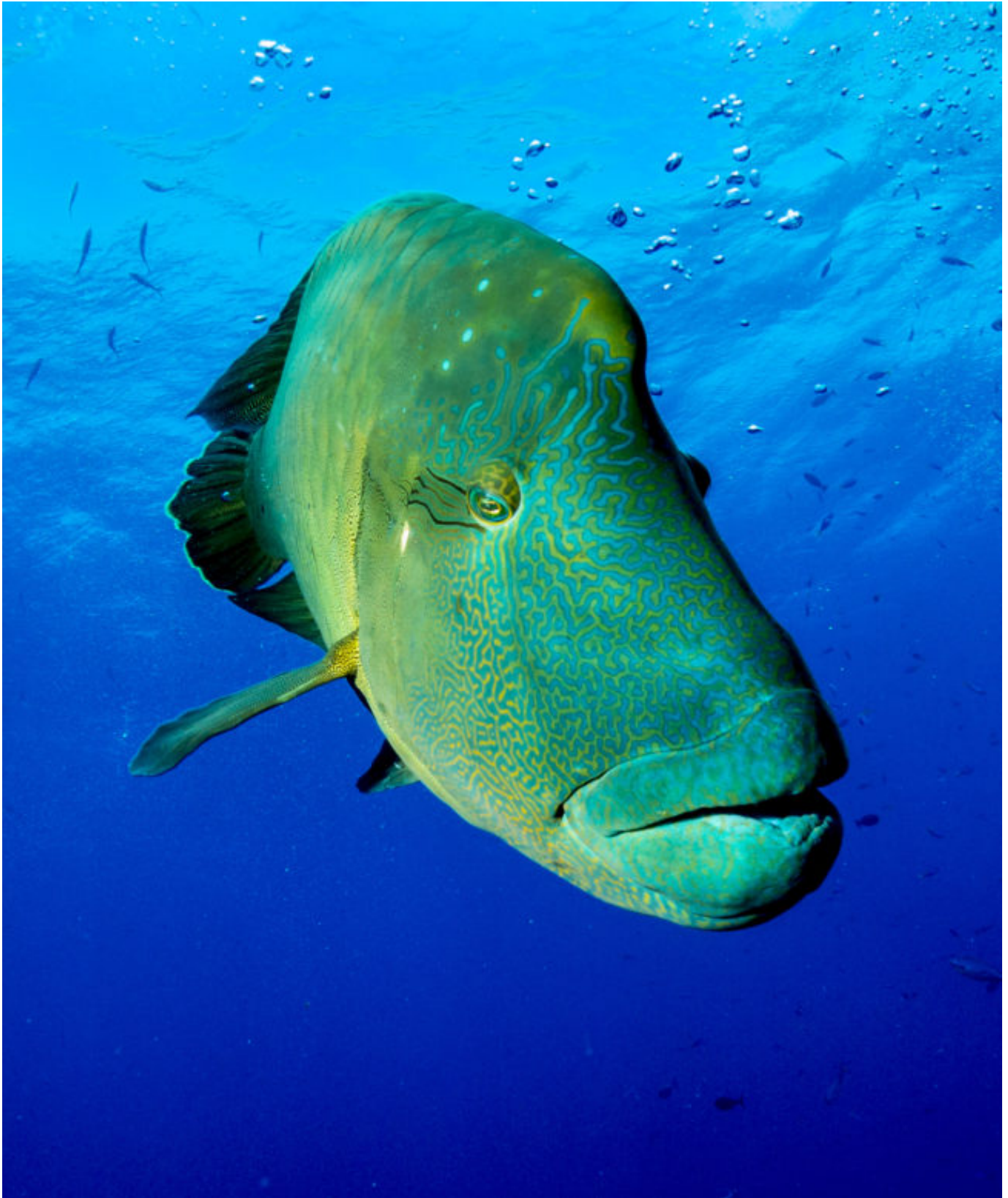
Map of the proposed National Marine Sanctuary in Palau. Image by Lindsay Lafreniere

The authors developed a social-ecological computer model to explore policy scenarios involving tourism, climate change, marine conservation, and local food security. Fish consumption emerged as playing an important role in future ecosystem declines.

The authors found that the health of reefs can be better maintained by shifting seafood consumption to open water fish, such as sustainably-harvested tuna, instead of reef fishes such as grouper, snapper, and parrotfish.

“Dining habits are removing important fish species from local reefs, and it’s ironic that viewing these fish is the reason people come in the first place. This is an important step

that can be taken now, rather than a future adaptation to climate change,” says co-author [Andrés Cisneros-Montemayor](#), Nippon Foundation-UBC Nereus Program Manager, University of British Columbia. “Sustainable tourism, especially ecotourism, shouldn't threaten the food security of local people or their environment.”



Tourists diving in Palau are eager to see Napoleon wrasse – these unique fish can reach up to two meters in length.
Image by Peter Mumby

The study's recommendations, which align with the current proposal of developing an offshore national fishery as part of the recently designated National Marine Sanctuary, may allow Palau to protect reef systems and the industries that rely on them, as well as traditional local lifestyles intimately linked to catching and eating seafood.

"The ocean is central to Palau's life and customs; their seafood consumption must be maintained sustainably," says co-author [Yoshitaka Ota](#), Nippon Foundation-UBC Nereus Program Director of Policy, University of Washington. "The most important thing is for the people of Palau to keep engaging with the ocean, eating good fish, catching fish sustainably and protecting their way of life, *tekoi ra belau* – as they say in Palau. We are hoping that this study will be used for current Pacific Island Nation policy to address what they can do right now and for the future."

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This work was supported by the Nippon Foundation. Additional co-author is Quentin Hanich, Nereus Program Principal Investigator at the Australian National Centre for Ocean Resources and Security (ANCORS), at the University of Wollongong.

Interviews available in English, Spanish, Japanese, and French.

About the Nippon Foundation-Nereus Program

The Nereus Program, a collaboration between the Nippon Foundation and the University of British Columbia, has engaged in innovative, interdisciplinary ocean research since its inception in 2011. The program is currently a global partnership of sixteen leading marine science institutes with the aim of undertaking research that advances our comprehensive understandings of the global ocean systems across the natural and social sciences, from oceanography and marine ecology to fisheries economics and impacts on coastal communities. Visit nereusprogram.org for more information.

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