New Study Reveals Ocean Hotspots Critical for Protecting Tuna and Other Migratory Fish

New research highlights the importance of large-scale Marine Protected Areas designed to encompass critical ocean hotspots.

BRISBANE, QUEENSLAND, AUSTRALIA, November 6, 2025 /EINPresswire.com/ -- Scientists have discovered that even highly migratory species like tuna and other large pelagic fish consistently return to the same ocean hotspots to spawn year after year, highlighting critical areas that can be safeguarded from extractive practices through ocean management practices like the designation of Marine Protected Areas (MPAs), targeted fishing closures, and effective ecosystem-based fisheries management.

This study shows that the benefits of spawning in areas with optimal ocean conditions – including temperature, food availability, and currents – incentivize species to revisit these hotspots time and time again.

The research demystifies these hotspots across different species, showing that multiple pelagic fish species spawn in specific areas in the Pacific and the Indian Oceans. Conserving and effectively managing these “favorite” places is key for keeping populations healthy and resilient.

This new research highlights the importance of large-scale Marine Protected Areas designed to encompass critical hotspots. Marine Protected Areas could protect crucial spawning grounds for migratory species, creating a safe haven for them to reproduce and grow. This process leads to a surplus of fish that spills over into fishable areas outside the protected areas, increasing benefits to surrounding fisheries. By protecting these important areas, we can safeguard the future of migratory fish populations and other pelagic species, ensure healthier oceans, and support the long-term sustainability of fisheries and coastal communities.

The paper also explains that different pelagic fish have unique ways of spawning: some, like bluefin and albacore tuna, gather in certain places and seasons, while others, like yellowfin and skipjack, spawn more widely and year-round. In temperate regions, spawning tends to be more seasonal and concentrated. Many species often spawn together in areas where food is limited but conditions like warmer waters make it easier for eggs and larvae to survive. Knowing these spawning patterns can help guide decisions about fisheries management, marine spatial planning, and protected areas.

This paper was coauthored by the Center for Biodiversity and Conservation Science at the University of Queensland, the Environmental Markets Lab (emLab) at the University of California Santa Barbara, and the Waitt Institute, along with other international experts.

To read the full paper, visit https://www.nature.com/articles/s41467-025-63106-w.

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