

Since Conservation International (CI) launched its Tuna Initiative in 2015, the risks posed by climate change to tuna's contributions to the economies of Pacific Island countries, as well as the food security and livelihoods of Pacific Island people, are increasingly obvious.

With our partners, CI has invested in game-changing research and development activities to address these challenges. These investments are designed to sustain tuna fisheries, adapt to climate change, add value to tuna catches, and improve food security. They also help integrate tuna fisheries into ocean conservation and management approaches within the Pacific Island Forum Leaders' Framework for a Pacific Oceanscape.



1. Sustaining tuna fisheries

Recent assessments confirm that tropical Pacific tuna species are not overfished, and overfishing is not occurring. Nevertheless, important questions remain:

- Is the assumption correct that each tuna species forms a single stock? Or does each species consist of several self-replenishing populations?
- Will improved knowledge of the spatial structure of each tuna species provide a stronger foundation for stock assessments?
- Will information on stock structure improve the modelling needed to assess the effects of climate change on tuna distribution and abundance?

Alongside the Pacific Community (SPC) and other research and management organisations, CI is investing in identifying the sampling designs needed to apply the latest population genetic and biomarker technology to answer these important questions.

The answers to these questions are expected to assist tuna management agencies to:

- identify the stakeholders in each stock and help them to manage their shared resources co-operatively
- modify management arrangements where new coalitions of stakeholders harvest a stock
- implement adaptations to climate change with greater confidence.

2. Vulnerability to climate change

CI has assisted SPC to assess likely climate change driven shifts in tuna biomass within the jurisdictions of Pacific Island countries and territories (PICTs) and high seas areas. There are also implications for government revenue and fisheries management.

By 2050, the modelling forecasts:

- declines in tuna biomass in 8 of the 10 PICTs involved in purse-seine fishing (FSM, Marshall Islands, Palau, PNG, Nauru, Solomon Islands, Tokelau, Tuvalu), and increases in Cook Islands and Kiribati
- increases in tuna biomass in most high seas areas
- decreases in total fishing licence fees for all PICTs combined from \$465 m to \$403 m (based on 2016 values and existing management arrangements).

If future modelling confirms these trends it is untenable that PICTs will lose access to some of their existing tuna resources. PICTs have an extraordinary dependence on tuna for economic development and food security and contribute negligibly to greenhouse gas emissions.

PICTs will need to negotiate management arrangements that continue to give them jurisdiction over any tuna stocks that move from their waters into high seas areas.



3. Increasing the value of tuna

CI and partners are assisting Pacific Island countries to increase the value of tuna through alliances with the private sector, and through information exchanges between Pacific Island fisheries managers and Arctic Circle nations, particularly Iceland. Through these exchanges participants have experienced first-hand:

- the success of Iceland (now a global leader in fisheries management and value-adding) in harnessing the full value of its fisheries resources
- the potential to transform governance of Pacific Island tuna fisheries based on radical transparency
- value-added innovation through advances in technology, market development and new business models
- partnerships between industry, policymakers and science, resulting in an effective quota system delivering optimal harvests
- cooperation between the private sector and management agencies to create an environment for innovation and growth
- a coalition of strong island voices for adaptation to climate change and equitable management of ocean domains and associated rights, including jurisdiction of high seas fisheries.



4. Improving food security

In collaboration with SPC and WorldFish, CI is working with the Vanuatu Fisheries Department to increase the number of nearshore fish aggregating devices (FADs) to help coastal communities catch more tuna.

This initiative promises to reduce stress on coral reefs degraded by more frequent bleaching and ocean acidification by transferring some fishing effort to tuna.

The project has:

- deployed 35 FADs to help build national infrastructure for food security
- established a system for rapidly replacing FADs lost during cyclones
- modified the SPC 'Tails' application to collect data on all coastal fish species
- trained coastal communities in safe and effective FAD-fishing methods
- instituted collection of coastal fish catch data by volunteer community monitors
- assisted communities to store fish catches through training in post-harvest methods.

CI has also collaborated with SPC, the Fiji Locally Managed Marine Area Network and the Fiji Ministry of Fisheries to help coastal communities in Ra Province to fish around FADs.

5. Looking ahead

To reduce the risks climate change poses to the Regional Roadmap for Sustainable Pacific Fisheries, adaptations based on an improved understanding of stock structure and associated modelling are essential. CI is leading a proposal to the Green Climate Fund, with SPC and FFA as key partners, to support the adaptations needed at national and regional level.

To find out more, contact

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