

PROVIDING THE BEST SCIENTIFIC ADVICE ON TROPICAL TUNA BIOLOGY, FOR BETTER MANAGEMENT

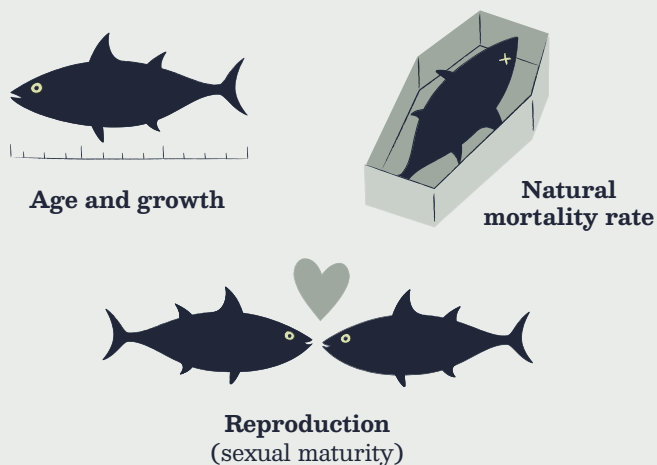
How to improve scientific advice for better tuna management?



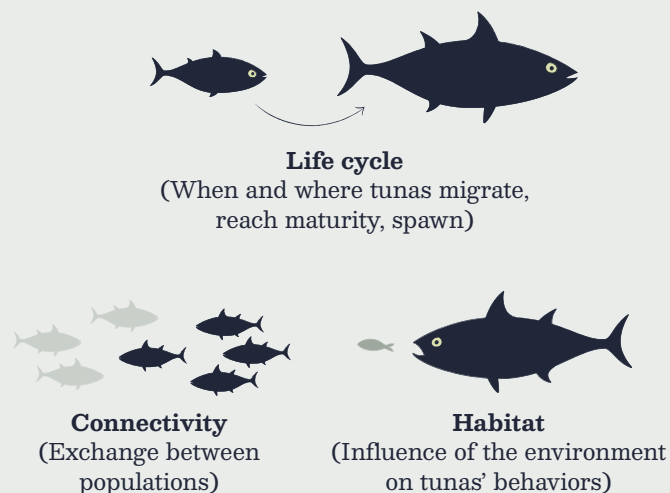
Which data do scientists collect?

Scientists need two types of data, which in conjunction with catch data from fishers, are used to evaluate stocks health.

Tuna biology



Tuna ecology



Co-funded by the
European Union



Presentation



Consortium



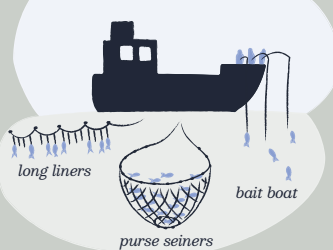
Partners

What is the sampling methodology?

Where and how do we collect the samples?

Collecting biological data on tuna is challenging and expensive, especially in certain fisheries. Our aim is to fill these data gaps by **sampling across all fisheries**, helping **improve stock assessments** and **support sustainable management**.

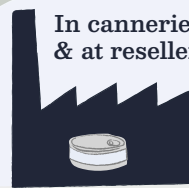
On board



In port



In canneries & at resellers



ITUNNES also uses **archived samples** from previous projects to increase availability and reduce duplication.

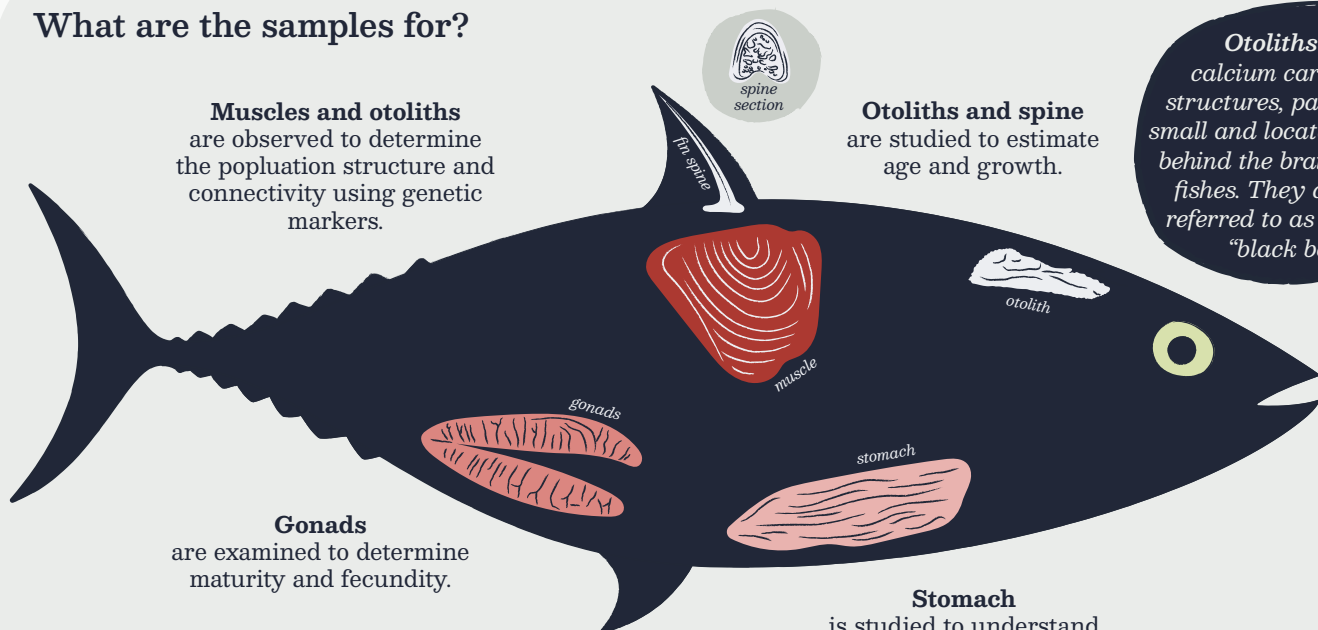
What are the samples for?

Muscles and otoliths are observed to determine the population structure and connectivity using genetic markers.

Gonads are examined to determine maturity and fecundity.

Otoliths and spine are studied to estimate age and growth.

Otoliths are calcium carbonate structures, particularly small and located directly behind the brain of bony fishes. They are often referred to as the fish's "black box".



Stomach is studied to understand feeding habits.

Questions and answers

1. Why sampling different tuna sizes?

Studying tuna at different ages, maturity and growth stages helps us better understand their entire life history.

2. Why do some fisheries lack data?

Some fishing boats are too small to carry observers, so data can only be collected when they land — which gives an incomplete picture. Also, there are so many boats and landing sites that it's hard to cover them all. Currently, most of our biological data comes from purse seine vessels, but others are also important and need to be included in the sampling strategy.

3. Why is it important to sample from different vessels and fisheries, as well as in different places?

Different fisheries catch different tuna sizes in different places. Collecting samples from all these fisheries provides a complete picture of tuna populations.

4. Why is sampling important to understand stock mass and health?

Like a poll, studying a small number of tuna helps us estimate the whole population. By looking at parameters like age, growth, and reproduction, along with catch data, scientists can figure out tuna biomass and how healthy they are.

ITUNNES plans to collect 1300 tuna samples



500
yellowfin



82%
on purse seiners



500
skipjack



18%
on longliners, baitboat
and other boats



300
bigeye