



Artisanal Tuna Data Workshop
11th – 14th November 2013

Session 2 – Why collect artisanal tuna fishery data?





Session Overview

- Introduction: Data for government and stakeholders (Don)
- Data for resource assessment/management (Don)
- Data for socio-economic assessment (Michael)
- Data for food security, climate change assessment (Johann)
- Other important uses of artisanal data (Participants)





Data to inform Government decisions

Government objectives



Decisions/Actions to achieve objectives



Evaluation of performance



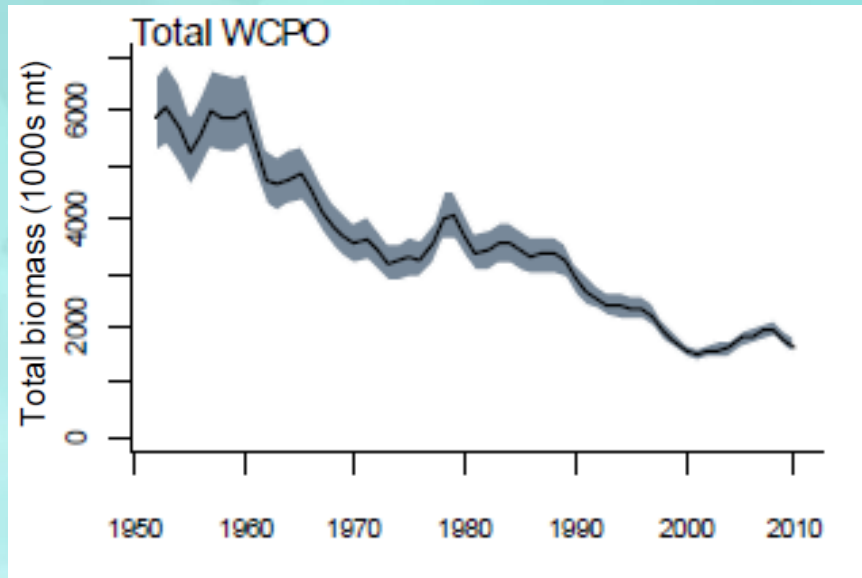
Data collection to inform decisions / actions and subsequent evaluation of performance against objectives





Common Objectives for Artisanal Fisheries

Sustainability



Food security





Common Objectives for Artisanal Fisheries

- **Socio-economics** – maximize income, participation, employment; equitable access; FAD monitoring (funds support)



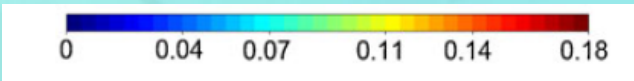
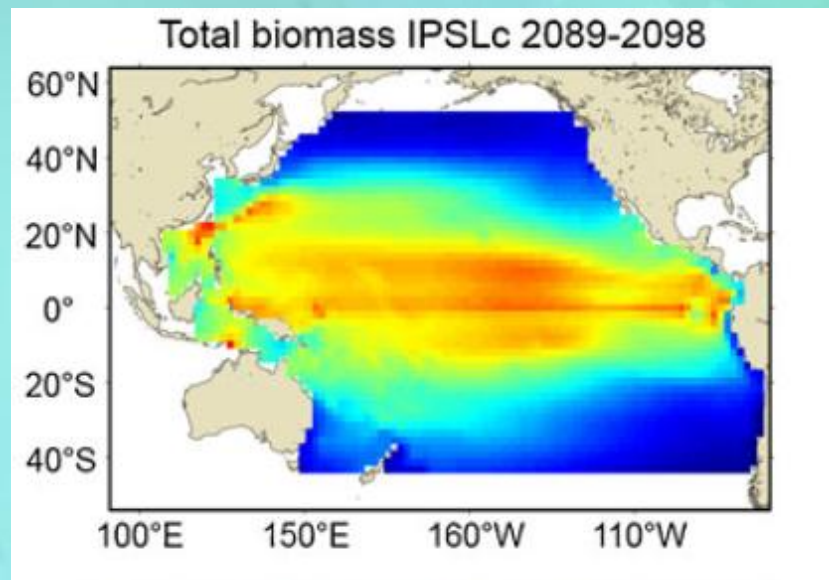
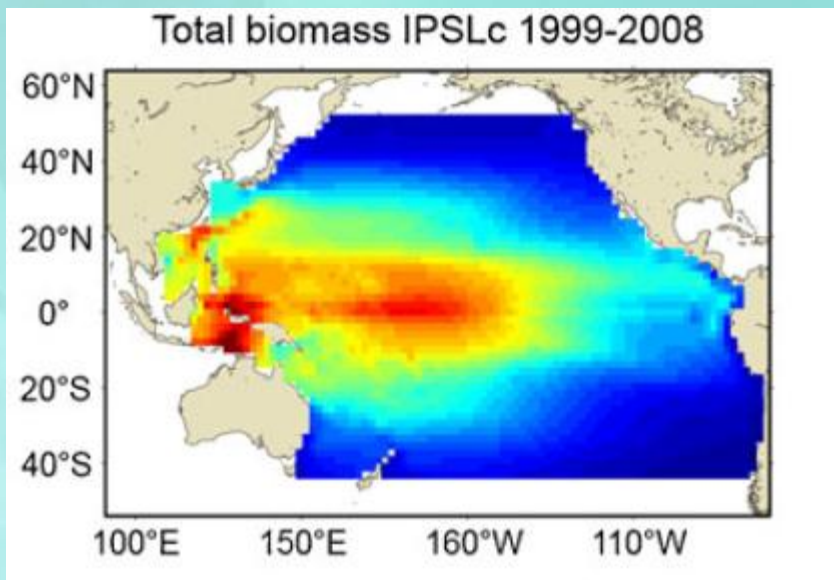
Source: M.Kronen; Fisheries Newsletter #138, 2012





Common Objectives for Artisanal Fisheries

Climate change – mitigate/minimise impacts of CC





Example: Link between objectives, decisions and data

Objective: Minimize interaction with commercial fishery

Problem: Artisanal fishers blame declining catch on commercial fishery

Government Questions: *Are* artisanal catch rates declining? If so, *why*? Regional stock decline? Local competition with commercial fishery? Oceanography?





Example: Consequences of no data

Scenario 1: No catch rate decline - government assumes there is and it's due to the commercial fishery – imposes exclusion zones; impacts employment, onshore processing, licensing revenue.

Scenario 2: Catch rates declining due to commercial fishing – government assumes they are not declining – impacts increase on artisanal fishery and communities (food, income etc)

Scenario 3: Catch rates declining due to seasonal oceanographic effect – Government assumes it's the commercial fishery – exclusions zones enacted to no effect (except on commercial)





Example: Conclusion

This is just one example of a situation where a lack of data from the fishery could result in the government making poor decisions that needlessly impacts upon either the commercial or artisanal fisheries

Data collection is critical to governments making good fisheries management decisions!





Data to inform and involve stakeholders

e.g. Fishery management plans/consultations

Day to day enquiries/decisions





Data collection for regional resource assessment/management processes

1. Tuna stock assessment



2. Data provision requirements



3. Resource allocation

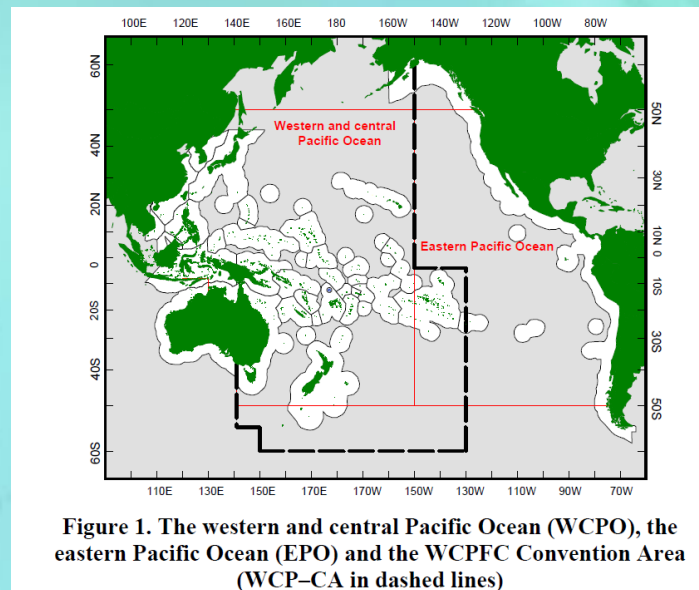


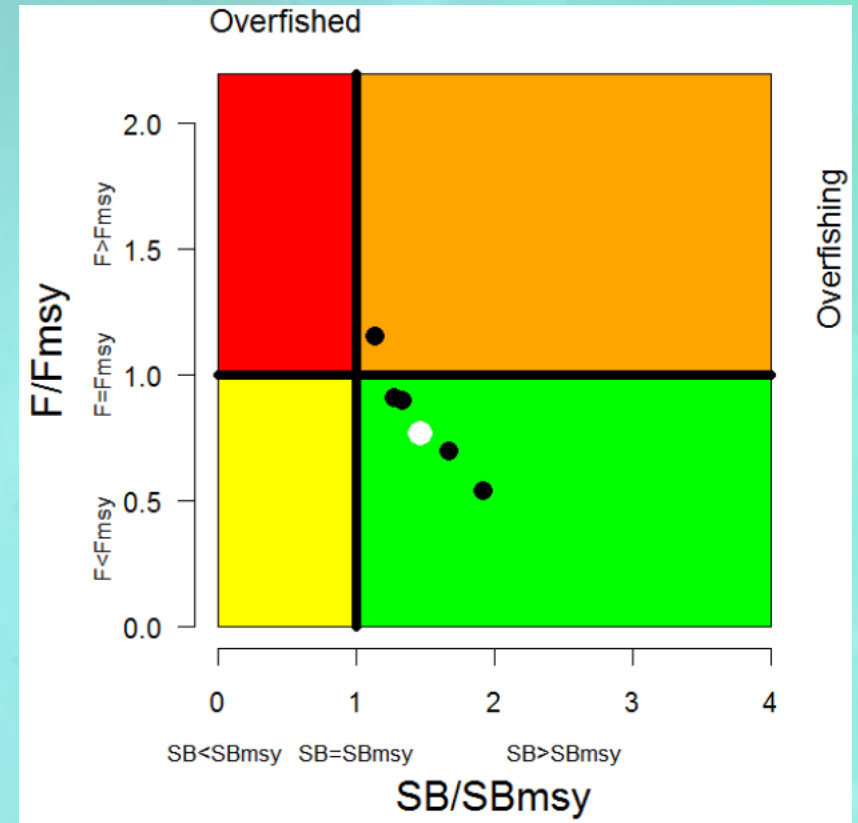
Figure 1. The western and central Pacific Ocean (WCPO), the eastern Pacific Ocean (EPO) and the WCPFC Convention Area (WCP-CA in dashed lines)





Stock assessment

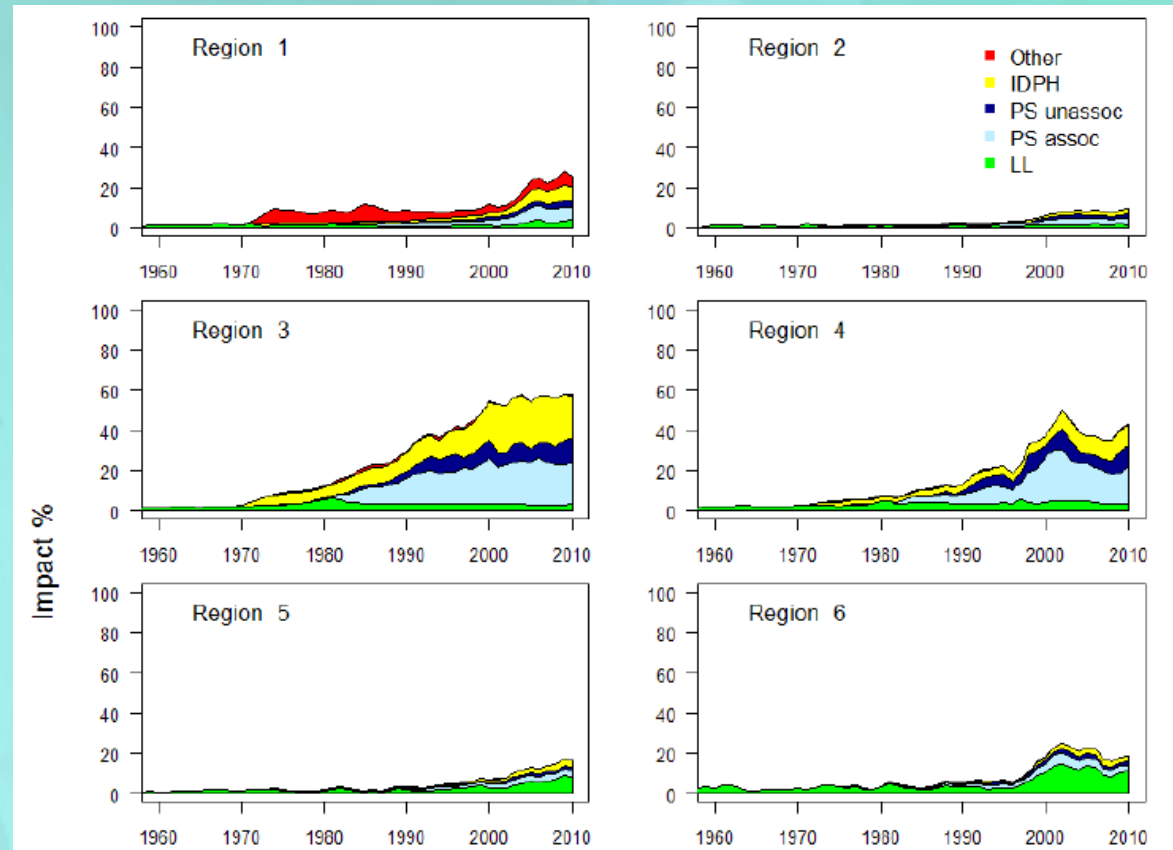
- Monitoring the status and health of tuna populations
- Determining if current catches are sustainable
- Determining which fisheries have the greatest impact
- Providing information to inform management measures





Stock assessment

- Scientists need catch, effort, and size data from each fishery to determine impacts
- Artisanal fisheries impacts (catches) are often assumed to be minor but without good data their actual level is unknown....



Ideally, artisanal data will be included in stock assessments





Data provision requirements

- According to the WCFPC Convention and the guidelines for the provision of scientific data to the Commission, catches by artisanal fleets taken in archipelagic waters and territorial seas can be provided voluntarily to the Commission, in the interests of providing data to the Commission throughout the range of the stocks
- WCPFC Guidelines for the provision of scientific data – Part I Report encourages countries to report on
 - Estimates of annual catches
 - The number of vessels active
 - Operational level catch and effort data
 - Size composition data





Data provision requirements

- Most PICTs countries are signatories to international fishery agreements (most especially the UN Fish Stocks Agreement) which requires signatories to apply the 'Precautionary Approach'.

The precautionary approach states that if an action or policy has a suspected risk of causing harm to the public or to the environment, in the absence of scientific consensus that the action or policy is harmful, the burden of proof that it is not harmful falls on those taking an action.

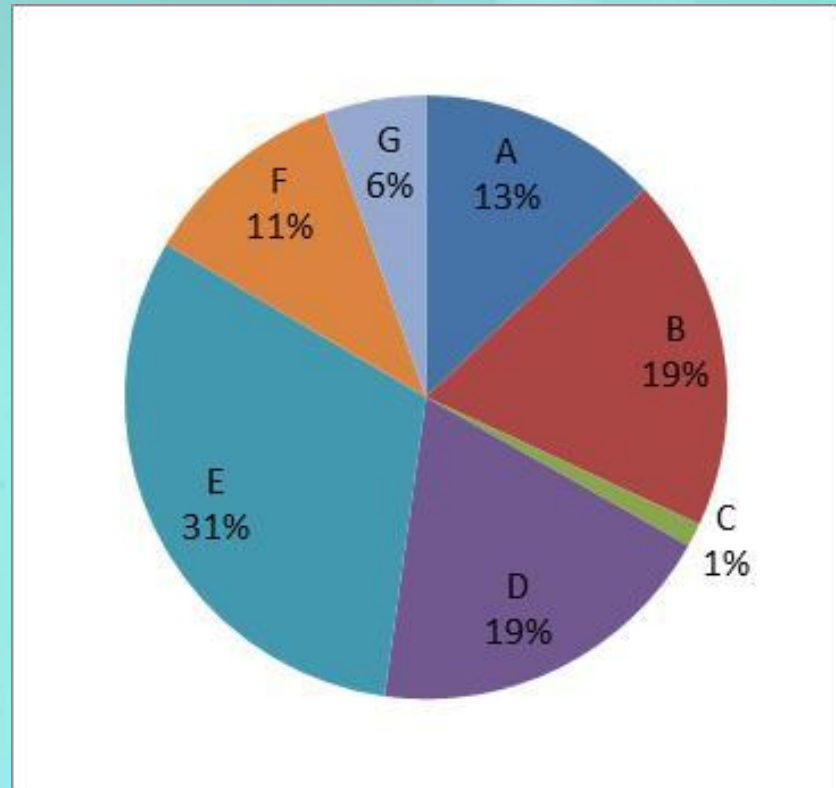
Through this requirements PICTs are encouraged to monitor their fisheries, including their artisanal tuna fishery.





Resource allocation

Catch and effort monitoring (to allow estimation of total catch and effort) in all tuna fisheries within EEZs, including artisanal, may assist future allocation claims in regional catch or effort allocation processes





Data collection for national processes

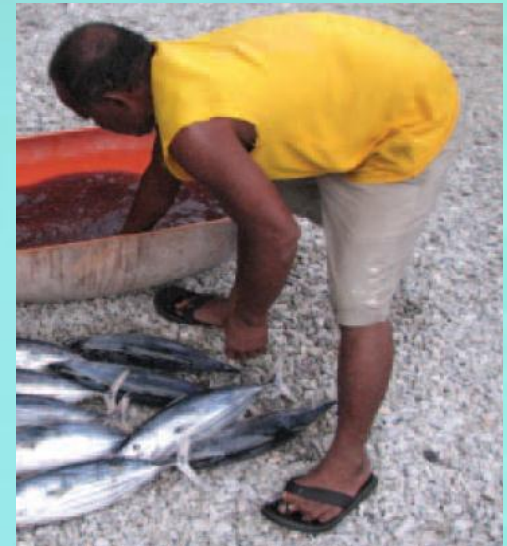
- **Scientific information for managers**
 - Total catch and effort estimation, TACs*, etc
 - Fishery interactions assessments/management
 - Local depletions monitoring
 - Monitoring/explaining environmental influences
- **Socio Economic information for government**
 - Catch value monitoring
 - Employment and participation
 - Monitoring value of FADs to communities (funding)
- **Information to support advice on food security and climate change**

What drives catches and catch rates?





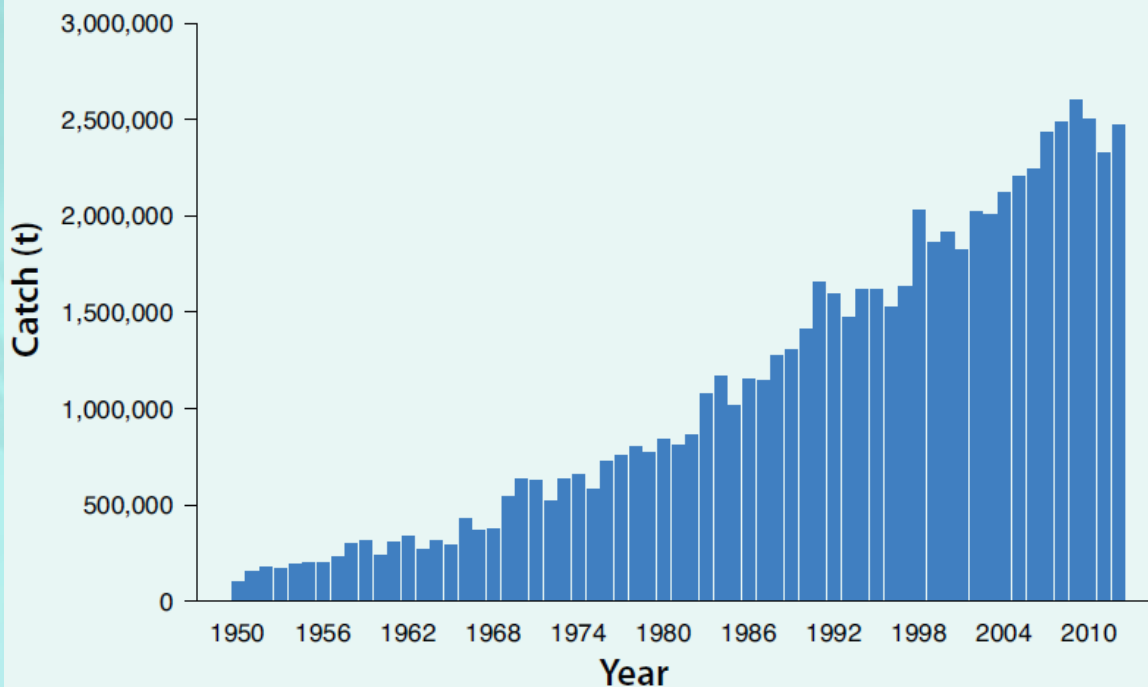
An example in focus: What drives changes in artisanal catches and catch rates?





Regional depletion of the tuna stocks?

Long-term (1950–2012) tuna catches in the western and central Pacific Ocean

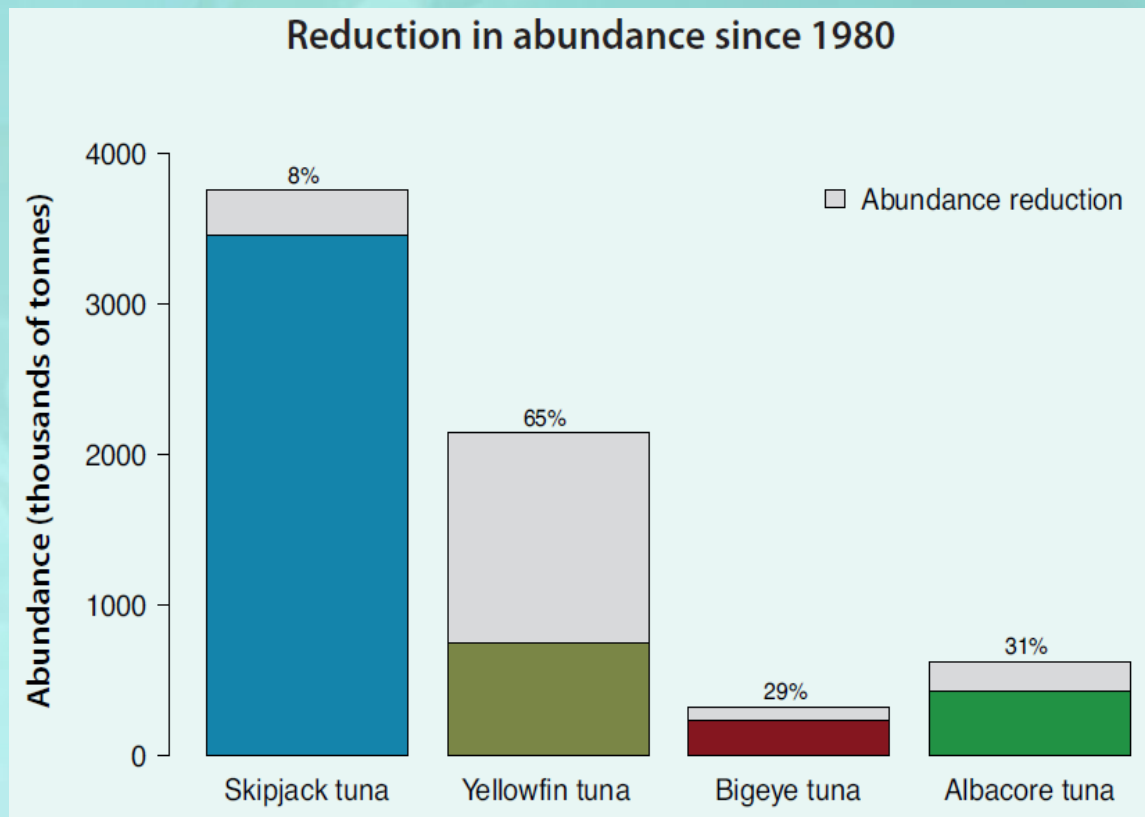


Industrial tuna catches increased over time to very high levels in WCPO





Regional depletion of the tuna stocks



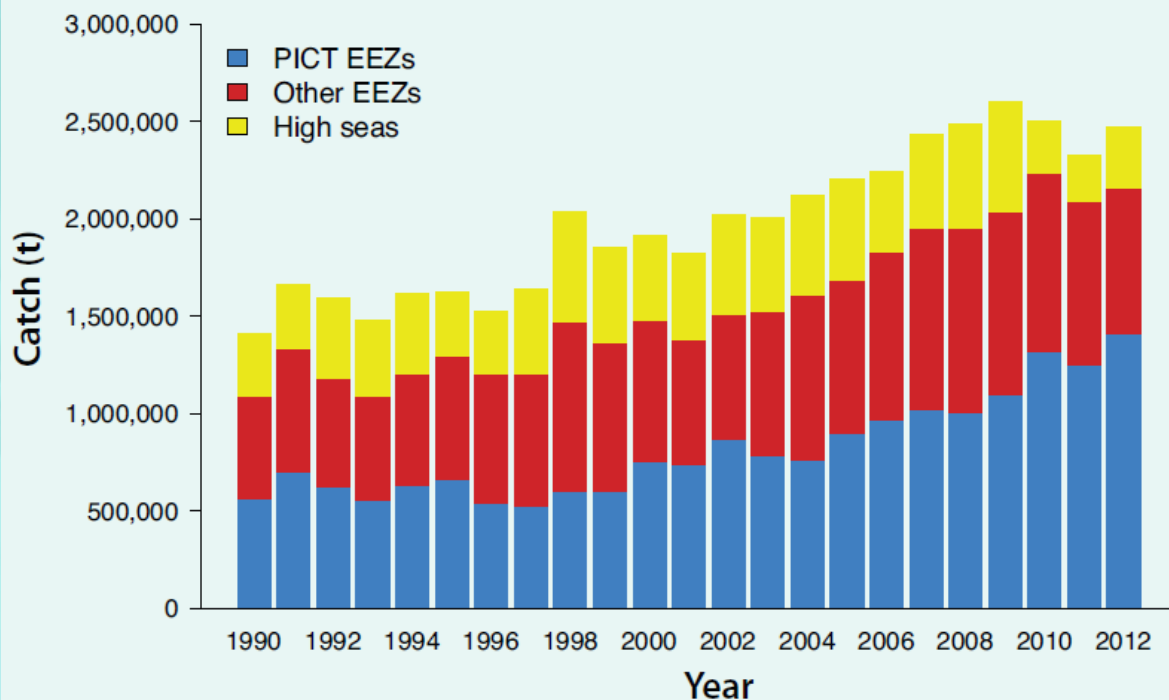
Key artisanal species (yellowfin and skipjack) have declined in biomass as a result of the regional industrial fisheries





Competition with commercial fisheries inside EEZ?

Recent (1990–2012) tuna catches in the western and central Pacific Ocean by area



150%
increase in
industrial
tuna catches
within PICT
EEZs

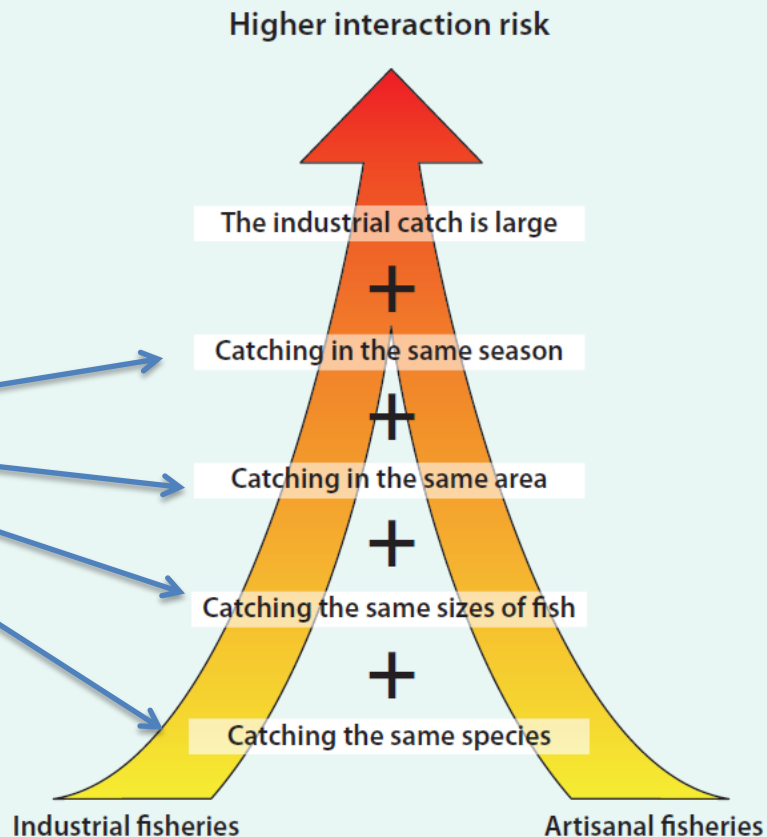




How do we know if there is a significant local interaction?

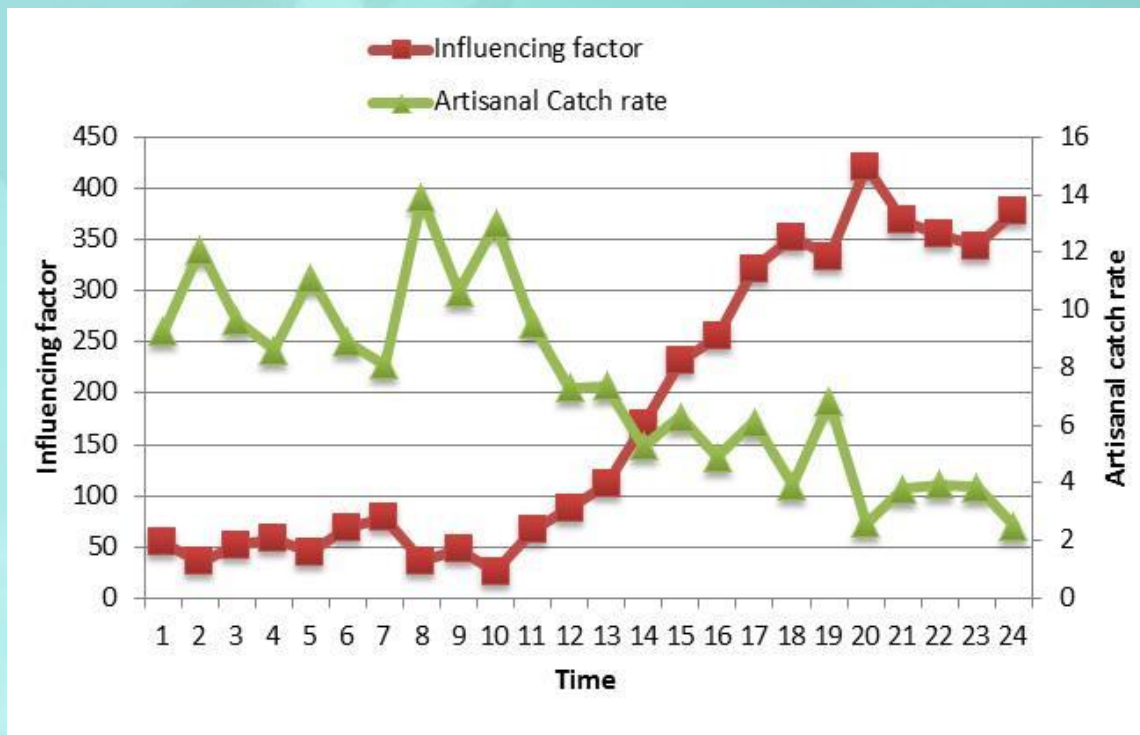
Artisanal fishery data collection required!

Important factors influencing the nature and extent of impacts from industrial fisheries on artisanal fisheries





What factors are driving artisanal catch and catch rates



Catch and effort data from artisanal fisheries can be modeled together with commercial fishing data and environmental data to assess what factors are causing changes in artisanal catch over time and identify catch and effort levels associated with local depletions.





Summary – Artisanal data for resource assessment and management?

- **Data for regional scientific and management processes**
 - Stock assessment
 - Data provision
 - Allocation processes
- **Data for national scientific and management decisions**
 - Fishery interactions assessments and management
 - Local depletions monitoring
 - Monitoring/explaining environmental influences





FINAL MESSAGE

Each person in this room has a very important job! The scientists and managers rely on data collection to ensure that they have the information they need to assess and manage the fishery. Without this data, managers are *more likely* to make uninformed decisions that might have consequences for the communities that rely on these fisheries.





END

