



Pacific
Community
Communauté
du Pacifique

Case study

Coastal fisheries data: Ikasavea

Ikasavea: evolved to capture data from a wide variety of coastal fisheries



Photo Shedrawi George



Photo Shedrawi George



Photo Shedrawi George



Photo Shedrawi George



Photo Shedrawi George



Photo Shedrawi George

Photo Shedrawi George



Photo Shedrawi George



Markets



Landing

Market and Landing surveys

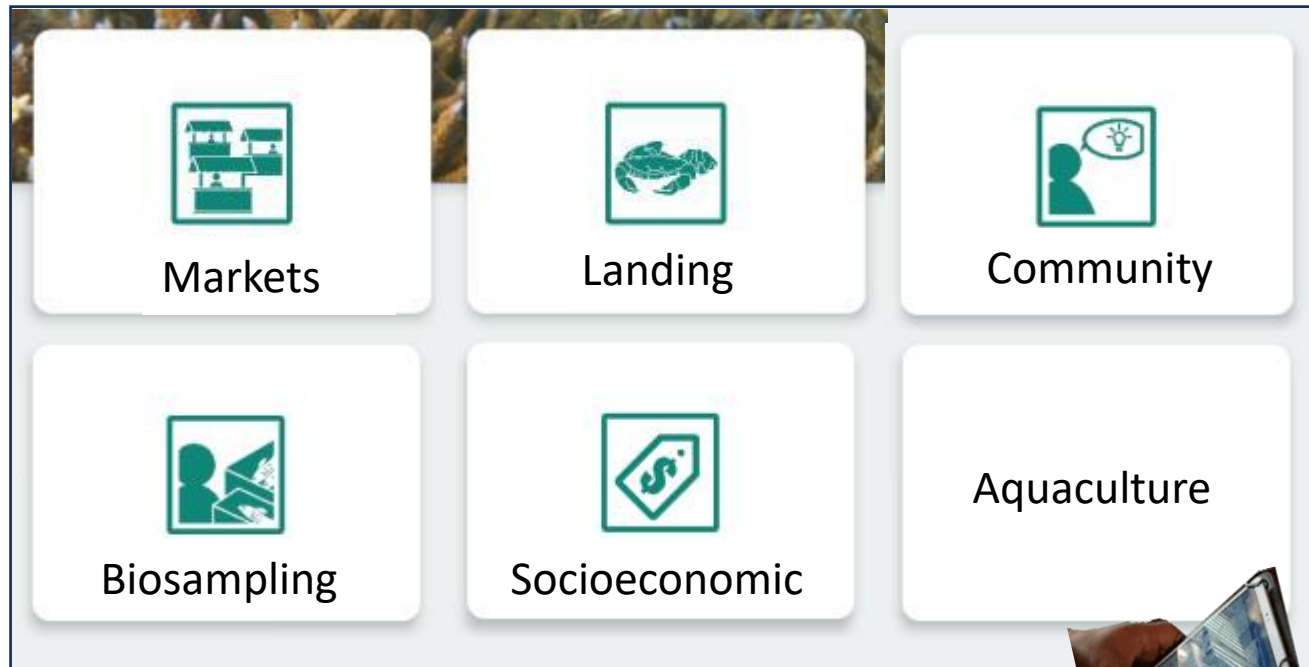
- Market and Landing surveys use a modified methodology from
 - SPC 2016. Creel and market surveys: A manual for Pacific Island fisheries officers.

Creel and market surveys:

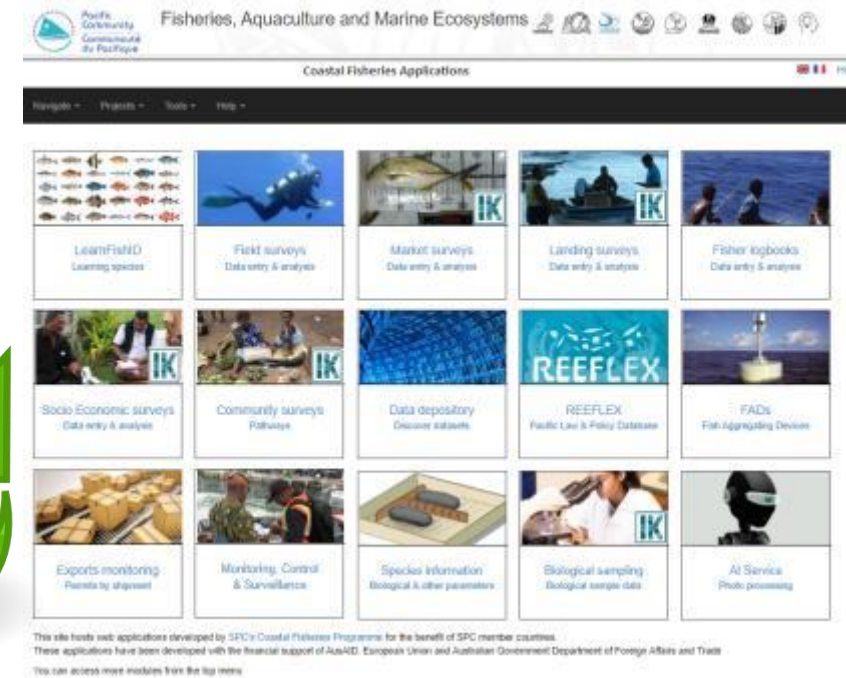


A manual for Pacific Island
fisheries officers

Ikasavea: Built in tandem with CFAP website



Sync



Offline data entry on tablet

Catch data from various sources

Other modules

Online web portal

Ikasavea: AI functions to support fisheries officers

Bundle No :

Product type *

Species : **Euthynnus affinis**

Search species :

Previously recorded :

Sex: In berry


Maturity:

Fork length :

Weight :

Price :

Comments :




2932AEB2D83.jpg

Fish on measuring board - Board model SPC 03

Species : **Euthynnus affinis** last number is zero based on 1000001

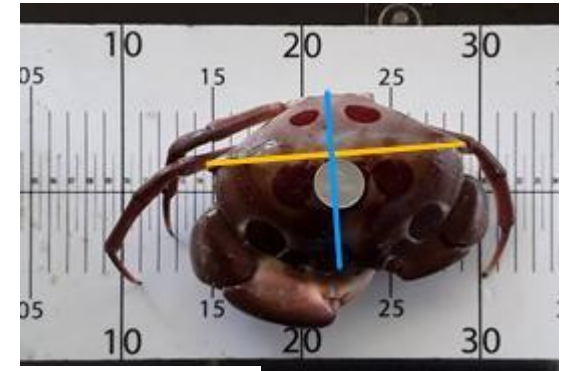
Search species :

Previously recorded :

Suggested → **Euthynnus affinis (54.3)**

Length : Deleted: 29.7

Weight : Deleted: 475

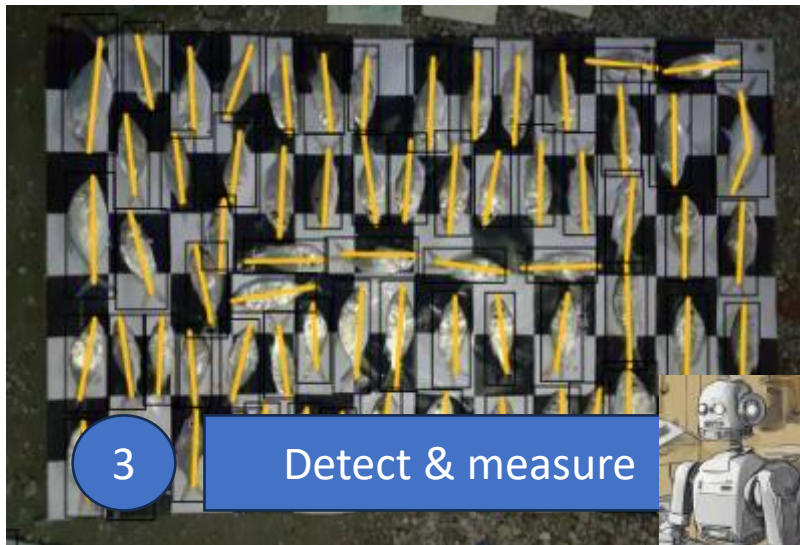
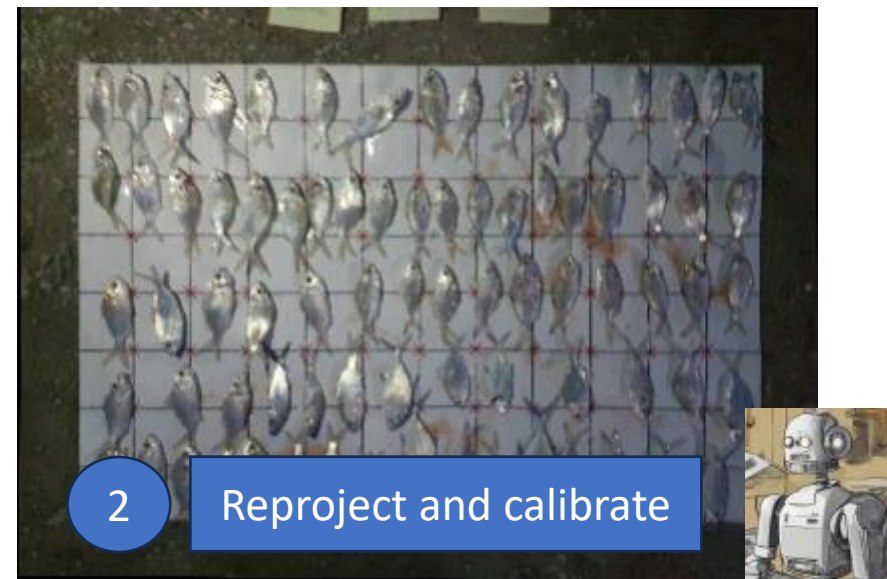
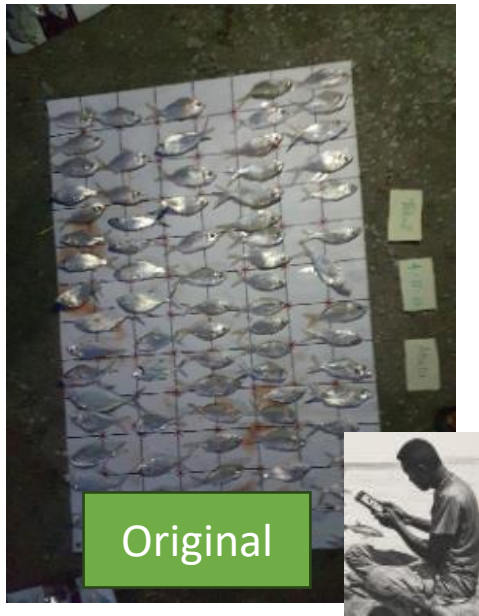
Manual measurements and bundles

Photos of specimens on measuring board and scale



Photos of fish and invertebrate catches from a range of sources using a variety of tailored methods

Integrated - AI processing of uploaded photos



Fishes on mat - Mat model Pathway 12x8

Fishes on mat - Fork length (mm)

Nb of measurements: 1 2 3

Measurement: Single line Path

Species :

Suggested :

Previously recorded :

Product type :

Fork length:

Specimen No :

Comments :

More than 181,000 photos analysed



Increase in survey effort and catch data collected by fisheries authorities and partners

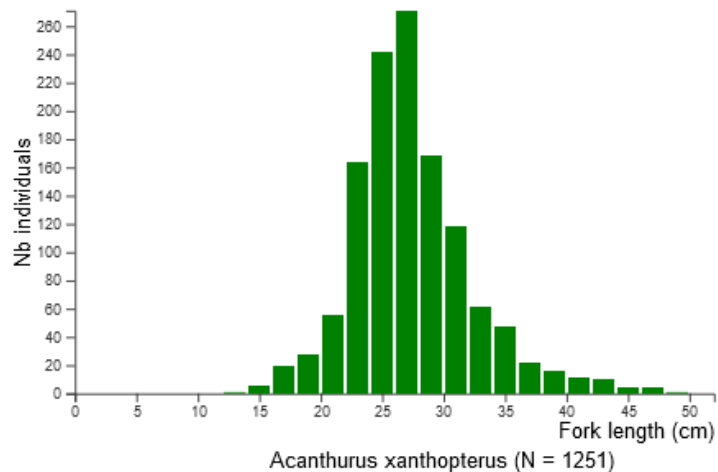
	<u>2022</u>	<u>2023</u>
Market stalls	4982	10248
Fishing trips (landing and community)	1873	2388
Fish & invertebrate measurements	176024	224900



Around 960 species of fishes and invertebrates identified...

Data extraction and reporting

- Predefined queries with filters
- Export in various formats (XLSX, CSV, JSON) for analysis with other tools (Shiny apps, TNC FishKit, iMarine gateway, etc.)
- API to automate data extractions
- Tables and plots



Authority(ies) : Survey(s) :

Report :

Species :

Include ID columns

Market measurements

The query returns measurements for individual species from market surveys.

Analysis of this data with TNC FishKit

Catch measurements are useful for fisheries management and can be analyzed with TNC FishKit tools such as the [Size limit builder](#) to explore size limits tradeoffs between fishing yield and fish population health or the [Stock Health Tracker](#) to understand your catch, and what it means for the long-term health of your fishery.

These tools require life history for the species you want to analyze but are already available from the FishKit public repository for a number of common species.



Available data

We know a lot more than before but...

Data analysis for management

A regional workshop will be held in July 2024

- Stock assessment methods for data-poor fisheries
- Length-based assessments (e.g., LBSPR)
- Management strategies based on available data
- Management Strategy Evaluation

SOCIOECONOMIC FISHERIES SURVEYS IN PACIFIC ISLANDS: A MANUAL FOR THE COLLECTION OF A MINIMUM DATASET

Socio-economic surveys



Socio-economic

Several countries conduct regular socio-economic surveys using the methodology from

- Kronen M., Stacey N., Holland P., Magron F., Power M. c2007. Socioeconomic fisheries surveys in Pacific Islands : a manual for the collection of a minimum dataset.
- Extra reports added for data cleaning
- Ikasavea module ready for use for next round of surveys



Biosampling

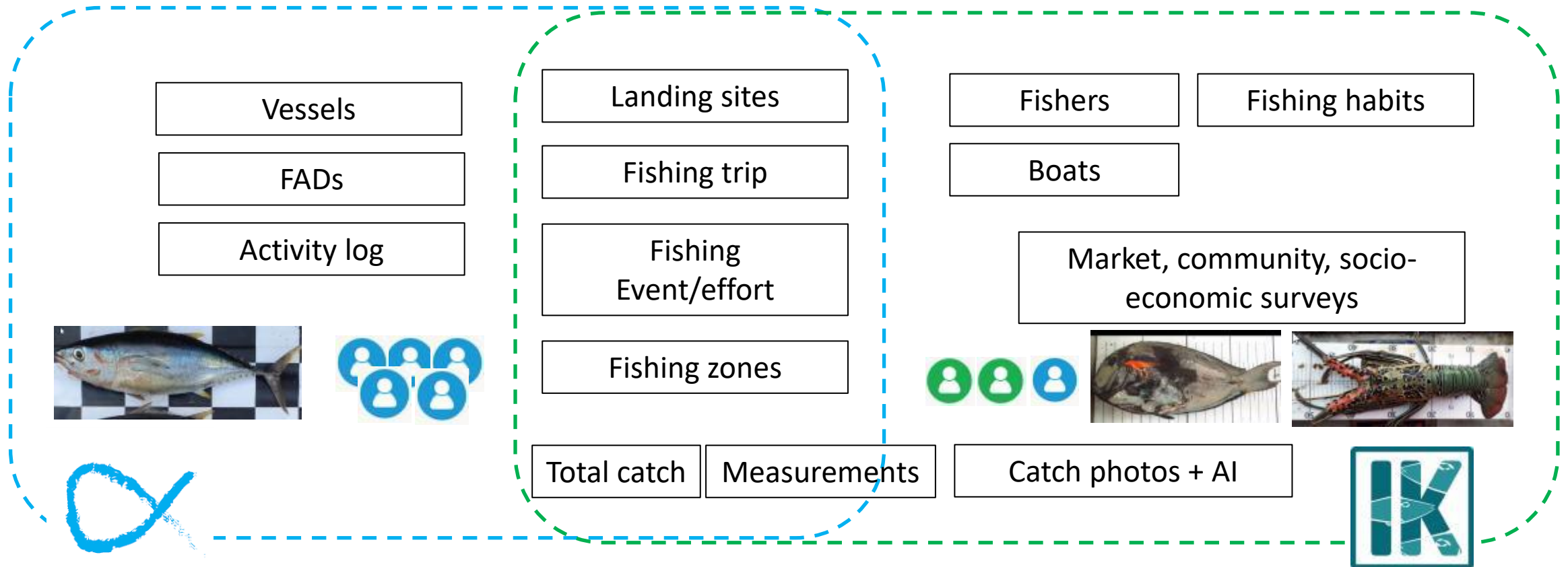
Bio-sampling

New module for data collected during bio-sampling work

- Fishing context (fisher, fishing method, fishing area etc.)
- Measurements of the sampled specimens (width, length, weight, gonad weight...)
- Tissues collected (otoliths, muscle tissue, gonads, gastric mills,...)
- Import of legacy data (8123 sampled specimens)
- Ready for use for next round of bio-sampling

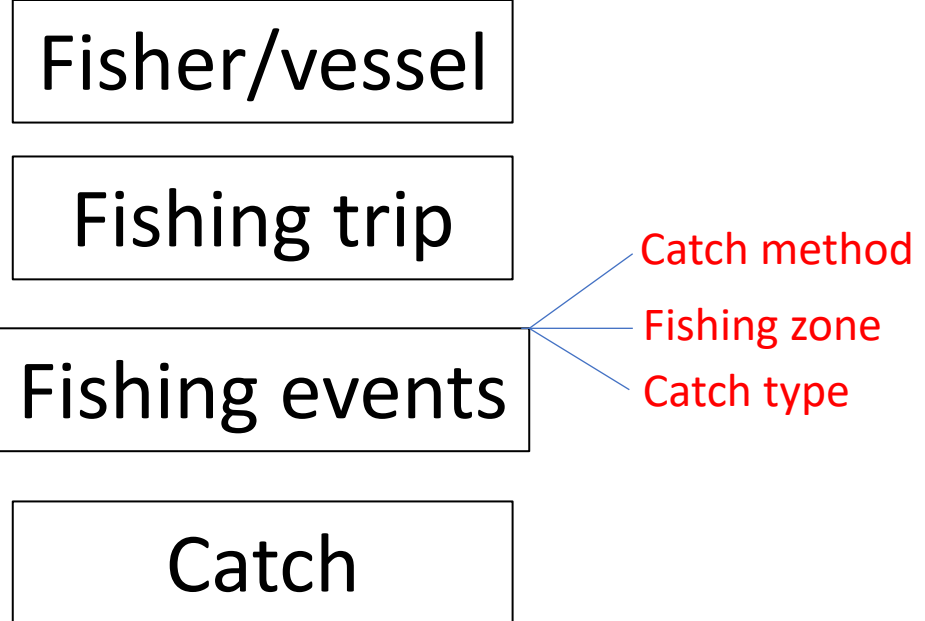


TAILS/Ikasavea rationalization for landing surveys



TAILS/Ikasavea rationalisation for landing surveys

- Similar data collection as trip/events/catch
- Some extra fields & tables on both apps (costs, boat details, ...)
- TAILS tailored for total catch per trip of pelagic species (but can include other species)
- Ikasavea tailored for measurement(s) of individual fishes & invertebrates and includes total catch)
- Ikasavea CPUE per “event” tagged to fisher
- TAILS CPUE per “event” tagged to vessel
- Use of photos for measurements & species ID in Ikasavea



A merge of TAILS & Ikasavea is proposed:
see the next session and WP7

