

TUFMAN2 ACE TUTORIAL

Steps to calculate your Annual Catch Estimates for industrial fisheries

V1.0

You will below a link to some useful video tutorials which will complement this guide

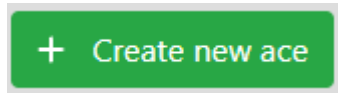
<https://tinyurl.com/TDWVIDEOTUTORIALS>

As of 2024, the creation of your ACEs is now entirely managed within TUFMAN2. A new menu option has been added for this purpose, the **ACE** menu.

Steps to calculate your ACEs

Creation of your ACE record under TUFMAN2: If your ACE record for the selected gear type doesn't exist yet:

- a. Click on the menu **ACE** -> **Annual Catches Estimation Reports**
- b. Click on the green button "**Create new ACE**"



- c. Enter the ACE **Year** (usually 1 year before the current one)
- d. Enter the **Gear** type
- e. **Save**

This should create your ACE record and should display the following ACE interface

▼ NU - Longline - 2023

- Instructions** | 1- National fleet | 2- Missing logsheets | 3- Vessel Composition | 4- Logsheets | 5- Observer | 6- Summaries | 7- Calculation methods | 8- Catch estimates

Step by step estimation method - Move through each step by running the report mentioned below and then generate each table on the following tabs

1- National fleet

Check your National Fleet vessel list
 Make sure all vessels in your fleet(s) appear in these reports and check on other vessels that should not be in your fleet(s)

[Go to tab](#)

2- Missing logsheets

Chase for missing logsheets
 Ensure ALL logsheets have been provided to you for the year studied. This should be achieved before you complete and submit your PART 1 report at the end of June

[Go to tab](#)

3- Vessel Composition

Go to the vessel composition tab and run the report by clicking on the "Run report" button. Fill-in your vessel count by size class

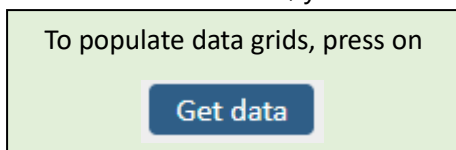
[Go to tab](#)

4- Logsheets

1 - Run the initial report by clicking on the "Run report" button
 2 - Modify the values as needed. The values modified will have another background color.
 3 - All values can be copied from the report to the submitted data by clicking on the "Arrow" button (it will overwrite all data)
 4 - It is possible to generate the report again to refresh the data
 5 - It is also possible to generate the report for another year by clicking on the "Den" button. It will clear all the data already entered

- Several tabs are displayed. While the **Instructions** tab explains what other tabs are about, you will have to go through each of them to fill in some information, before reaching the calculation of your **8-Catch estimates** (last tab)

For each of these tabs, you will need to click on "Get data" button to fill in data.



- **1-National fleet:** this tab will allow you to check your national fleet for each specific vessel gear type by clicking on **Get data**. Make sure all vessels in your fleet appear in these reports and check on other vessels that should not be in your fleet(s). Please let SPC staff know if this list is inaccurate or incomplete.

Complete list of vessels in your tuna fleet that were active during the year of interest. This should include any CHARTERED vessels.

- **2-Missing Logsheets:** this tab will enable you to identify missing logsheets. Ensure ALL logsheets have been provided for the year of interest. This should be achieved before you complete and submit your PART 1 report at the end of June. Reducing missing logsheet data under T2 will result in an increase in data coverage.. Higher data coverage will result in more precise ACEs. If you do not have VMS data available in TUFMAN 2 (i.e., non-FFA member country), then you will need to determine the actual number of trips conducted which can then be used in place of the VMS Trips in the tab **6-Summaries**.

Ensure ALL logsheets have been provided for the year of interest. This should be achieved before you complete and submit your PART 1 report by the end of June.

- **3-Vessel Composition:** this will enable reporting on the composition of your national fleet for the year of interest, by vessel size class (using gross registered tonnage (GRT)).
- **4-Logsheets:** this tab will assist with the calculation of logsheet-based retained & discard catch by species. Click on the **Get Data** button. This should populate the first data grid, which is the “working data grid”.
Once the working grid data have been reviewed and modified if necessary, press on the **Copy** button to publish the data into the second grid below, which is the “reported data grid”. Data from this grid will be used in the ACE calculation.

If there are some discrepancies between the working grid and the reported grid, the system will highlight the value in orange. This just shows that the reported grid might not have been copied with the latest working grid values.

- **5-Observer:** this tab is similar to the previous **Logsheets** tab and is used to calculate key species catches (retained and discarded) in the WCPFC Area, raised using total effort as estimated with VMS data. Click on **Get data** to first populate data in the working grid, then copy to the reported grid once you are satisfied with the values.

Given that we’re calculating average numbers in this tab, data from t-2/t-3 years could potentially be used in place of data from the year of interest (t-1), if there are very low numbers of observed trips in this year.
It is preferable to have representative data from years before t-1, as opposed to having no data or poor quality data from the year of interest (i.e., t-1).
[Here t represents the current year.]

- **6-Summaries:** this tab supports the calculation of total number of trips and days fishing for your national fleet during year t-1, using VMS and observer data.
Logbook coverage is also calculated here, taken from logbook coverage for yellowfin tuna (i.e., longline) and skipjack tuna (i.e., from purse seine and pole and line gears).

If VMS data are not integrated to TUFMAN2 for your country, the logbook coverage will have to be input manually. You will need to know how many trips in total have been made by your national fleet during year t-1, and how many trips have been recorded in T2 for year t-1. The ratio of entered trips/total trips will give you the logbook coverage to be manually entered here.

- **7-Calculation methods:** this form is of highest importance in the estimation of your annual catch. This is where you will need to choose one calculation method among several available, for calculating your ACEs.

Method explanations

Each method that we have provided has its own calculation and relies on specific data sources.

- PURSE SEINE

1. **Method #1:** Observer kgs/trip raised to total trips (retained & discarded)

Method #1 can be used either when the logsheet-based estimates are not precise (low coverage) or when dealing with bycatch species (including sharks), since these can be rare events and may not be well reported in logsheets.

This is the least preferred method.

2. **Method #2:** Observer kgs/days raised to total trips (retained & discarded)

This method #2 can be used either when the logsheet based estimates are not precise (low coverage) or when dealing with bycatch species (including sharks), since these are not usually well reported in logsheets.

This method #2 is usually preferred to method #1 which is based on overall observed number of trips (which is less precise than number of days).

3. **Method #3:** Logsheet trip estimates raised to total trips (retained only)

Method #3 is based on logsheet estimates. It is the preferred calculation method for target tuna species, especially when the logsheet coverage rate is close to 100%.

However, it can be replaced by method #2 (or #1 if necessary) when the logsheet coverage is too low (which would mean that the raising of logsheet data wouldn't be precise enough).

4. **Method #4:** Logsheet/Observer proportion of total tuna catch, applied to estimated observer tuna catch by species (retained only)

Applying the proportions of total logsheet catch/ total observed catch to the estimate calculated with method #2 (observer based)

The use of this proportion allows some kind of smoothing of the data.

This should only be used if there is sufficient observer coverage (>60%)

This method can be used as a replacement of method #3 for SKJ, YFT and BET.

5. **Method #5:** Logsheet estimate of discards, raised to total trips (discards only)

Method #5 can be used when you know that discards have been reported correctly and fully, for a specific species, in the logsheet data.

This method should only be used if the logsheet coverage is high (e.g. when coverage is >90%).

- **LONGLINE**

6. **Method #1:** Observer kgs/trip raised to total trips (retained & discarded)

Method #1 can be used either when the logsheet-based estimates are not precise (low coverage) or when dealing with bycatch species (including sharks), since these are not usually well reported in logsheets.

This is the least preferred method.

7. **Method #2:** Observer kgs/days raised to total trips (retained & discarded)

Method #2 can be used either when the logsheet-based estimates are not precise (low coverage) or when dealing with bycatch species (including sharks), since these are not usually well reported in logsheets.

Method #2 (Observer kgs/days raised to total trips) is usually preferred to method #1 which is based on overall observed number of trips (which is often less precise than number of days).

8. **Method #3:** Logsheet trip estimate raised to total trips (retained & discarded)

Method #3 is based on logsheet estimates. It is the preferred calculation method for target tuna species, especially when the logsheet coverage rate is close to 100%.

However, it can be replaced by method #2 (or #1) if the logsheet coverage is too low, as using the raised logsheet data in this case wouldn't be precise enough.

9. **Method #4:** Logsheet estimate of number of discards, using average fish weight from observer data, raised to total trips (discarded catch only)

Method #4 uses the observed average weight per fish species discarded, multiplied by the declared logsheet number of fish discarded (by species), then raised to the total number of trips.

This method can be useful when you know that the number of discards in logsheet is precise, but you don't have discarded weight information from logsheet data. Instead, average fish weight from observer data is used in the estimation.

10. **Method #5:** Observer unraised retained estimate (retained only)

This method uses observed retained catch. This should only be used when no alternative method can be applied (e.g., poor logsheet coverage, no indication of total fishing effort/days, etc.).

This is the last option when no other are methods are possible.

11. **Method #6:** Observer unraised discard estimate (discarded only)

This method uses observed discarded catch. This should only be used when no alternative method can be applied (e.g., poor logsheet coverage, poor observer coverage, no indication of total fishing effort/days, etc.).

This is the last option when no other methods are possible.

Recommended methods

Depending on the gear type and species, some methods are recommended by default:

a) Purse seine

1. BET/SKJ/YFT RETAINED tuna species: **Method #3** (logsheet trip estimate raised to total trips) is the recommended one. We think these common tuna species are usually properly reported within logbook data.
2. All other species (retained and discarded): **Method #2** is recommended: These species are more likely to be properly reported using the observer data, when observer coverage is good enough.

b) Longline

1. TUNA and BILLFISH RETAINED species: **Method #3** (logsheet trip estimate raised to total trips) is the recommended one. We think these common tuna species are usually properly reported within logbook data.
2. SHARKS RETAINED: the recommended method depends here on the observer trip coverage calculated in the **Summaries** tab. If this coverage is less than 20%, then **Method #3** is recommended. We consider in this case that the observer data is not representative enough and would possibly overestimate sharks. Therefore, we would use a logsheet based estimation here.
On the other hand, if the observer trip coverage is greater than 20%, we think the proportion of observer data would be enough to correctly estimate shark catch. Therefore, we would use in this case **Method #2**.
3. All other species (retained and discarded): **Method #2** is recommended: These species are more likely to be properly reported using the observer data, when observer coverage is good enough.

c) Pole and Line

1. All species (RETAINED and DISCARDED): **Method #3** (logsheet trip estimate raised to total trips) is the recommended one. Pole and line are rarely observed, therefore logsheet data is the only source of information here.

- **7-CATCH ESTIMATES** : this is the last tab of the ACE process, within which you will find a summary of your Annual Catch Estimates, calculated from the information in the previous tabs. You will find a retained and discarded ACE column, and a TOTAL column (retained + discarded).

You can add a specific comment if needed for the comprehension of your ACEs. If/when you are happy with these estimates, click on **Validate for review** button. This should close your ACEs for now, and notify SPC that your ACEs are ready to be reviewed.

2 cases:

1. SPC reviews and validates your ACEs. Your work is done.
2. SPC proposes some changes to your ACEs. This will re-open your ACEs, and you will receive an email asking you to check those few updates. To know which updates have been made, you can check the **Comments** field at the bottom of the page. Once you are ok with these changes, click on **Validate for review** button again. This should end your work.

- **9-EXTRA INFO: COMPLETING YOUR ESTIMATES:** If your Longline national fleet fishes in the following areas:
 - the Pacific Ocean beyond the WCPFC Area
 - the Pacific Ocean east of 150°W
 - Both north and south of the equator in the WCPFC Area

Then you will have to generate one or more of these additional reports:

- T2 report #3083: "LONGLINE catches by species in the NORTH/SOUTH Pacific OCEAN"
- T2 report #3084: "LONGLINE catches by species in the WCPO Area"
- T2 report #3085: "LONGLINE catches by species in the NORTH / SOUTH WCPFC Area"

