

# Annual Catch Estimates

Reviewing the work

# Summary

- What are ACEs
- Requirements & area covered
- Purpose of ACEs
- ACE T2 interface & guidelines
- ACE tables (WCPFC web site)

Download material from  
[tinyurl.com/TDW2024](https://tinyurl.com/TDW2024)

# Annual Catch Estimates

What are they ?

## Total catches (Mt)

- by species
- for your national fleets
- covering a calendar year

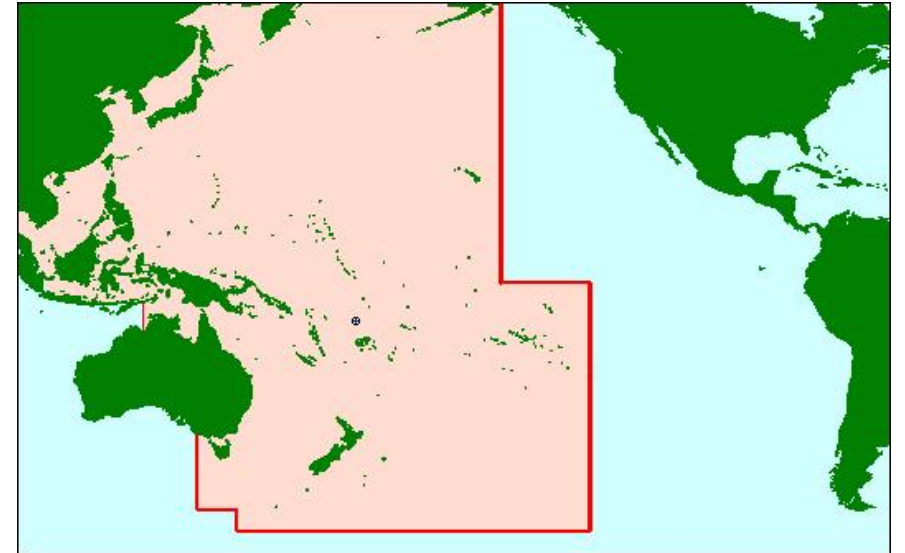
 WCPFC reporting obligation

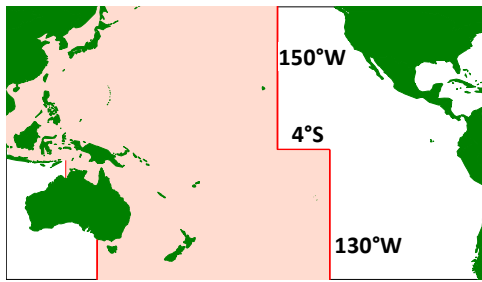
# Annual Catch Estimates

## WCPFC Essential Requirements (obligations)

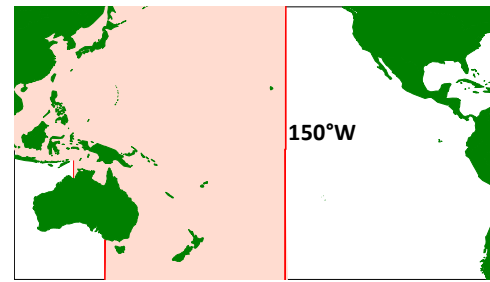
[tinyurl.com/WCPFC-requirements](https://tinyurl.com/WCPFC-requirements)

- Annual **catch** by **GEAR** and **SPECIES**
- No. of **ACTIVE Vessels** by size class
- Calendar Year
- **WCPFC CONVENTION AREA**
- **NATIONAL FLEET**
- The deadline **30th APRIL**
- Indication on how they were determined
- Estimates of **DISCARDS** required as well

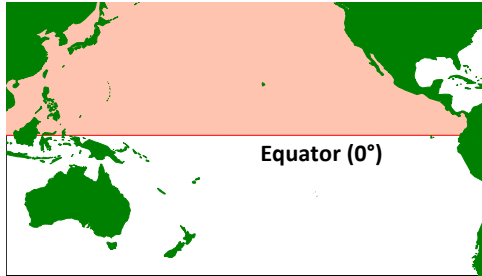




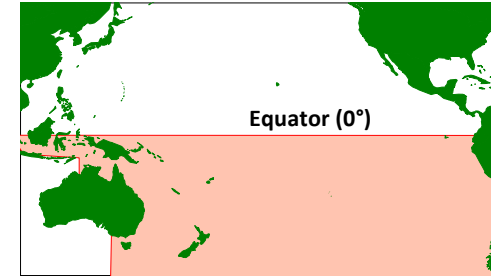
WCPFC Convention Area



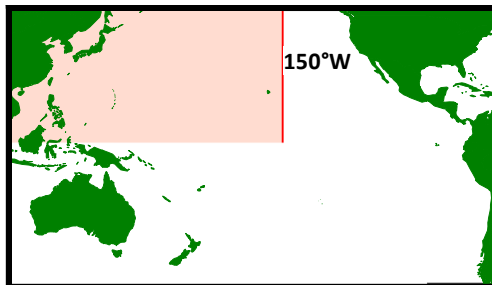
Western and Central Pacific Ocean (WCPO)



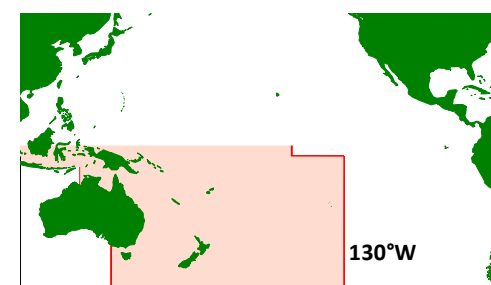
North Pacific Ocean



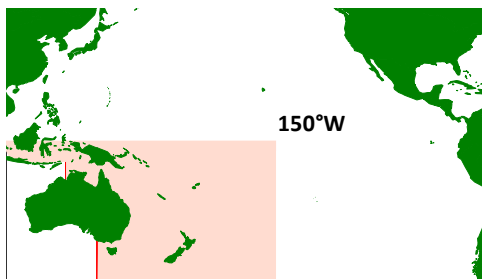
South Pacific Ocean



WCPFC Convention Area, north of the equator



WCPFC Convention Area, south of the equator



WCPO, south of the equator

Annual catch estimates  
must be provided for the  
**other areas** in some cases.

# Annual Catch Estimates

## Purpose

- Concise representation of **actual catch** (total removals)
- Snapshot comparison between years, fleets, gears, fisheries, etc. => indication of the **trends** over time
- Indication of level data collected in the tuna fishery
- Used to produce economic indicators (value of catch)
- Production of
  - ✓ WCPFC Tuna Fishery Yearbook
  - ✓ ACE Tables

# Example 1

## LONGLINE: NEW CALEDONIA

Table 15. Number of vessels active and catches (tonnes) for New Caledonian longliners

YEAR	VESSELS ACTIVE	ALBACORE		BIGEYE		YELLOWFIN		BLUE MARLIN		BLACK MARLIN		STRIPED MARLIN		SWORDFISH		BLUE SHARK	SILKY SHARK	OCEANIC WHITETIP	MAKO SHARK	OTHER	TOTAL
		CATCH	%	CATCH	%	CATCH	%	CATCH	%	CATCH	%	CATCH	%	CATCH	%	CATCH	CATCH	CATCH	CATCH	CATCH	CATCH
1983	1	12	21	1	2	9	16	8	14	3	5	21	38	2	4	...	...	...	...	...	56
1984	2	112	59	10	5	28	15	10	5	2	1	23	12	6	3	...	...	...	...	...	191
1985	3	131	33	17	4	133	33	19	5	24	6	71	18	6	1	...	...	...	...	...	401
1986	2	179	35	19	4	169	33	11	2	39	8	85	16	14	3	...	...	...	...	...	516
1987	3	563	42	37	3	502	37	30	2	95	7	100	7	17	1	...	...	...	...	...	1,344
1988	4	584	47	20	2	488	39	15	1	76	6	63	5	5	0	...	...	...	...	...	1,251
1989	4	566	51	27	2	278	25	24	2	82	7	123	11	7	1	...	...	...	...	...	1,107
1990	7	1,053	52	60	3	617	31	18	1	88	4	168	8	13	1	...	...	...	...	...	2,017
1991	6	909	53	60	3	567	33	9	1	91	5	75	4	15	1	...	...	...	...	...	1,726
1992	4	692	56	27	2	373	30	15	1	43	3	71	6	9	1	...	...	...	...	...	1,230
1993	4	755	54	106	8	433	31	15	1	48	3	40	3	9	1	...	...	...	...	...	1,406
1994	7	840	52	78	5	437	27	22	1	52	3	193	12	8	0	...	...	...	...	...	1,630
1995	8	332	23	103	7	839	59	14	1	31	2	89	6	10	1	...	...	...	...	...	1,418
1996	8	414	31	233	17	554	41	11	1	25	2	101	7	10	1	...	...	...	...	...	1,348
1997	9	277	26	234	22	466	43	8	1	23	2	60	6	9	1	...	...	...	...	...	1,077
1998	11	860	49	498	28	185	10	9	1	33	2	159	9	26	1	...	...	...	...	...	1,770
1999	13	690	39	553	31	373	21	15	1	37	2	91	5	17	1	...	...	...	...	...	1,776
2000	14	895	46	517	27	250	13	60	3	27	1	160	8	40	2	...	...	...	...	...	1,949
2001	18	1,020	50	128	6	570	28	62	3	28	1	165	8	41	2	...	...	...	36	...	2,050
2002	25	1,165	51	189	8	572	25	70	3	31	1	185	8	46	2	...	...	...	20	...	2,278
2003	28	1,111	46	142	6	754	32	73	3	33	1	193	8	48	2	...	...	...	38	...	2,392
2004	27	1,468	58	90	4	631	25	79	3	...	...	211	8	17	1	...	...	...	34	...	2,530
2005	23	1,590	70	76	3	448	20	21	1	28	1	74	3	12	1	...	...	...	26	...	2,275
2006	21	1,358	71	35	2	414	22	9	0	24	1	54	3	10	1	...	...	...	14	...	1,918
2007	23	1,324	69	53	3	393	21	11	1	35	2	63	3	19	1	...	...	...	13	...	1,911
2008	23	1,506	69	63	3	424	20	8	0	39	2	103	5	15	1	...	...	...	14	...	2,172
2009	21	1,649	69	51	2	487	21	9	0	34	1	71	3	7	0	26	8	3	29	...	2,374
2010	18	1,939	72	44	2	505	19	10	0	42	2	65	2	8	0	56	10	0	28	...	2,708
2011	19	1,736	66	41	2	585	22	23	1	55	2	76	3	10	0	48	8	2	38	...	2,623
2012	19	1,715	67	49	2	573	22	...	...	66	3	57	2	10	0	48	8	2	38	...	2,565
2013	17	1,732	71	51	2	531	22	...	...	53	2	51	2	9	0	19	1	...	4	...	2,451
2014	17	1,630	61	58	2	741	28	23	1	40	1	60	2	14	1	91	1	6	18	...	2,682
2015	17	1,583	53	63	2	852	28	21	1	35	1	58	2	9	0	325	6	2	33	6	2,993
2016	17	1,747	70	74	3	482	19	15	1	30	1	69	3	8	0	16	10	1	1	58	2,511
2017	16	1,734	66	48	2	559	21	34	1	65	2	77	3	22	1	7	10	3	7	42	2,608
2018	18	1,752	72	46	2	467	19	13	1	28	1	52	2	8	0	6	2	3	24	16	2,417
2019	19	2,011	65	40	1	678	22	15	0	29	1	84	3	24	1	102	22	46	7	22	3,080
2020	19	1,897	71	51	2	512	19	10	0	33	1	81	3	9	0	49	2	2	0	8	2,654

WCPFC  
TUNA  
FISHERIES  
YEARBOOK

# Example 2

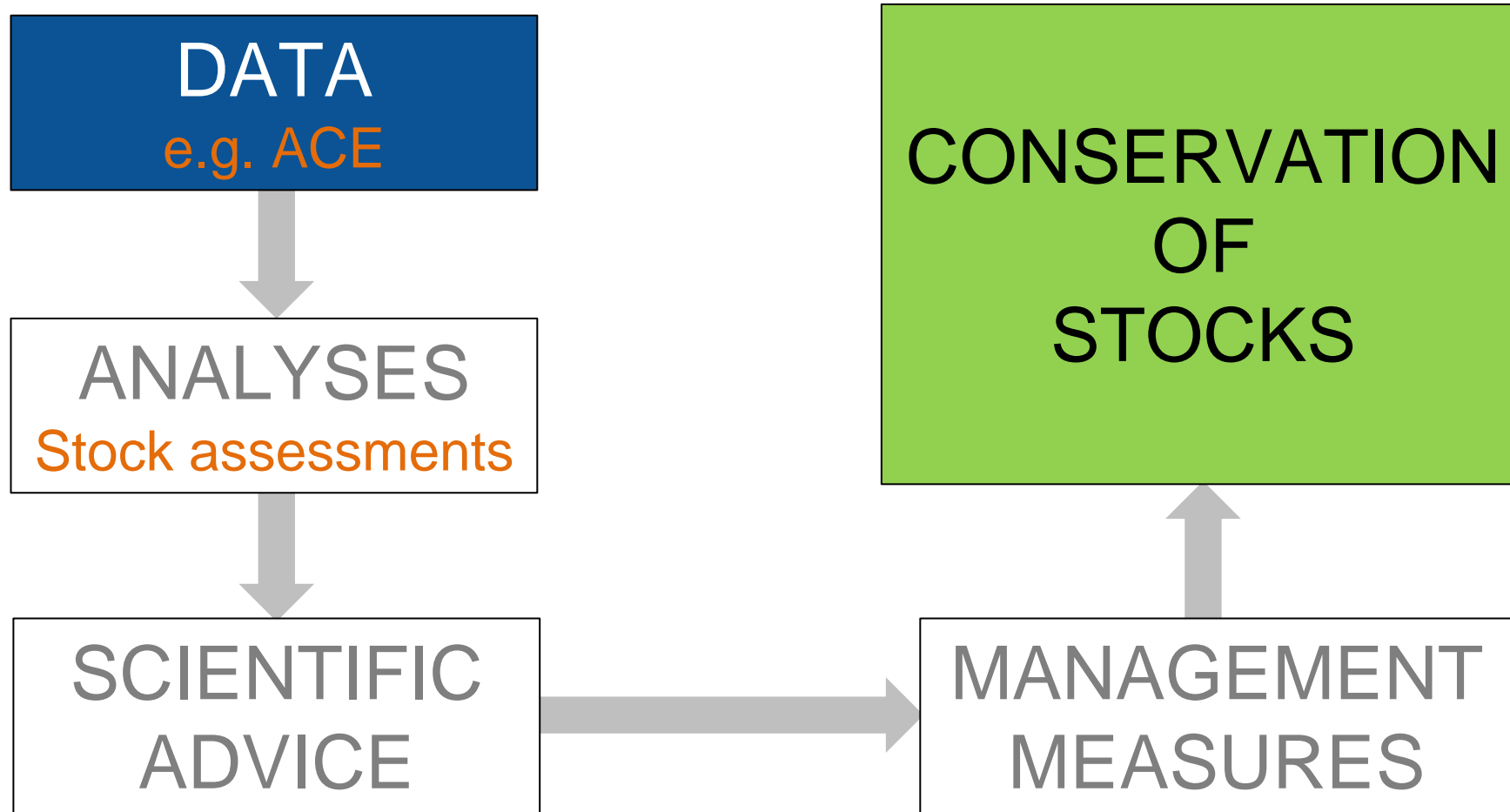
WCPFC  
ACE  
TABLES

	A	B	C	D	E	F	G	H	I	J	K
1	WCPFC Key Species	2016		2017		2018		2019		2020	
2		MT	%	MT	%	MT	%	MT	%	MT	%
3	ALBACORE	1,747	70%	1,734	66%	1,752	72%	2,011	65%	1,897	71%
4	BIGEYE TUNA	74	3%	48	2%	46	2%	40	1%	51	2%
5	PACIFIC BLUEFIN TUNA	0	0%	1	0%	1	0%	1	0%	0	0%
6	SKIPJACK TUNA	58	2%	41	2%	15	1%	21	1%	8	0%
7	YELLOWFIN TUNA	482	19%	559	21%	467	19%	678	22%	512	19%
8	BLACK MARLIN	30	1%	65	2%	28	1%	29	1%	33	1%
9	BLUE MARLIN	15	1%	34	1%	13	1%	15	0%	10	0%
10	STRIPED MARLIN	69	3%	77	3%	52	2%	84	3%	81	3%
11	SWORDFISH	8	0%	22	1%	8	0%	24	1%	9	0%
12	BLUE SHARK	16	1%	7	0%	6	0%	102	3%	49	2%
13	SILKY SHARK	10	0%	10	0%	2	0%	22	1%	2	0%
14	HAMMERHEAD SHARKS	0	0%	0	0%	1	0%	0	0%	0	0%
15	MAKO SHARKS	1	0%	7	0%	24	1%	7	0%	0	0%
16	OCEANIC WHITETIP SHARK	1	0%	3	0%	3	0%	46	1%	2	0%
17	PORBEABLE / SALMON SHARK	0	0%	0	0%	0	0%	0	0%	0	0%
18	WHALE SHARK	0	0%	0	0%	0	0%	0	0%	0	0%
19	THRESHER SHARKS	0	0%	0	0%	0	0%	0	0%	1	0%
20	Total	2,511		2,608		2,418		3,080		2,655	



# Annual Catch Estimates

## Big picture



# How do you estimate catch ?

- Workshop presentations / live demo
- ACE guidelines (*tutorial*)
- [TDW video tutorials channel](#)
- SPC assistance whenever needed

Download material from  
**[tinyurl.com/TDW2024](https://tinyurl.com/TDW2024)**

# ACE guidelines / tutorial

## TUFMAN2 ACE TUTORIAL

Steps to calculate your Annual Catch Estimates for industrial [fisheries](#)



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](#)

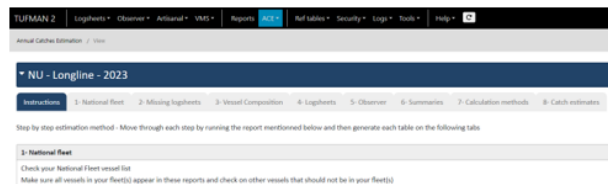
Creation of your ACE record under TUFMAN2: If your ACE record for the selected gear type doesn't exist [yet](#)

- Click on the menu ACE->Annual Catches Estimation Reports
- Click on the green button "Create new [Ace](#)"

[+ Create new ace](#)

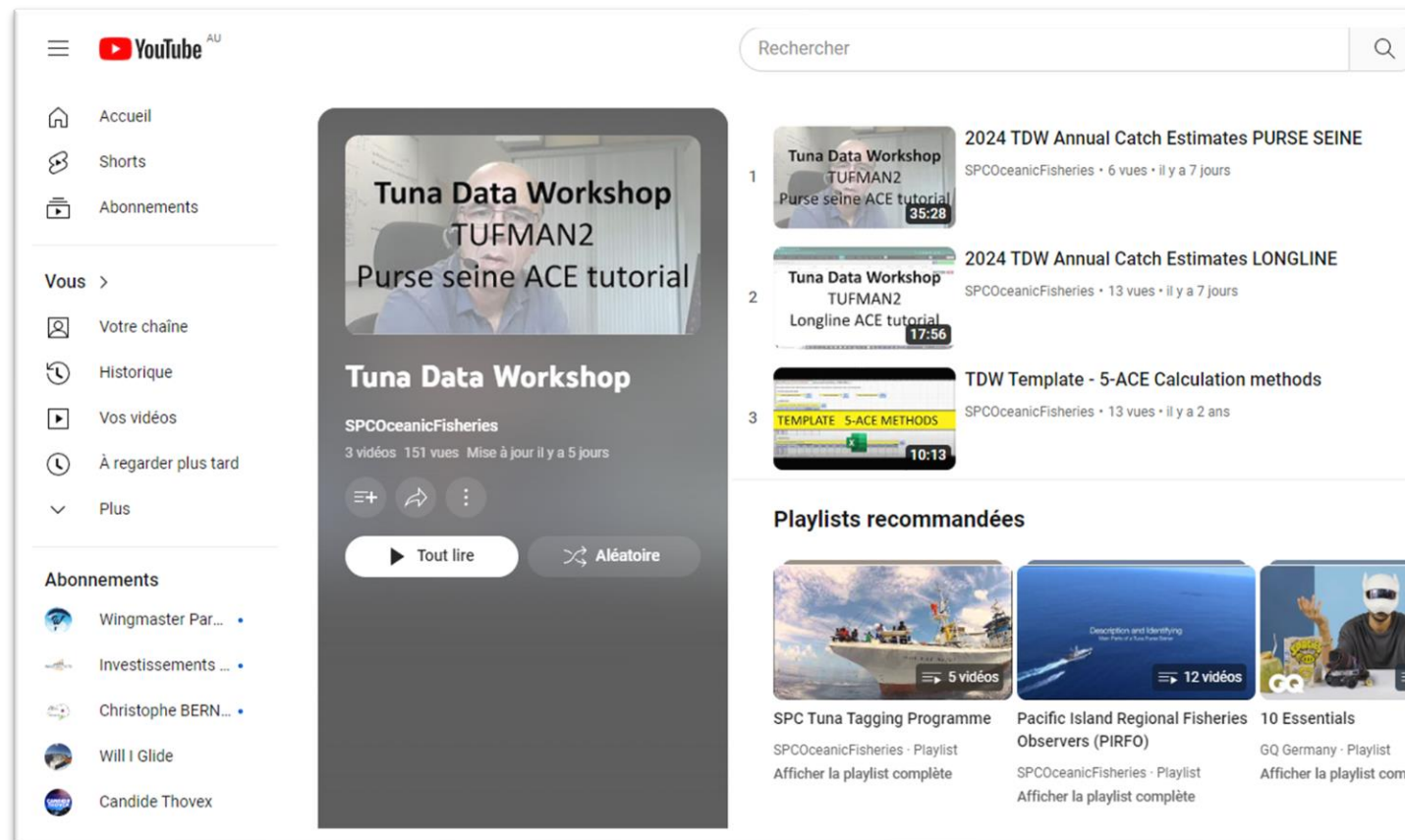
- Enter the ACE year (usually 1 year before the current one)
- Enter the Gear type
- Save

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



Download tutorial from  
[tinyurl.com/TDW2024](https://tinyurl.com/TDW2024)

[tinyurl.com/TDWVIDEOTUTORIALS](https://tinyurl.com/TDWVIDEOTUTORIALS)



The screenshot shows the YouTube channel page for SPCOceanicFisheries. The main video is titled "Tuna Data Workshop TUFMAN2 Purse seine ACE tutorial" with a duration of 35:28. Below the video are options for "Tout lire" and "Aléatoire". To the right, there are three recommended videos:

- 1. "2024 TDW Annual Catch Estimates PURSE SEINE" by SPCOceanicFisheries, 6 vues, il y a 7 jours. Duration: 35:28.
- 2. "2024 TDW Annual Catch Estimates LONGLINE" by SPCOceanicFisheries, 13 vues, il y a 7 jours. Duration: 17:56.
- 3. "TDW Template - 5-ACE Calculation methods" by SPCOceanicFisheries, 13 vues, il y a 2 ans. Duration: 10:13.

Below the videos is a section for "Playlists recommandées" with three playlists:

- "SPC Tuna Tagging Programme" by SPCOceanicFisheries, 5 vidéos. Afficher la playlist complète.
- "Pacific Island Regional Fisheries Observers (PIRFO)" by SPCOceanicFisheries, 12 vidéos. Afficher la playlist complète.
- "10 Essentials" by GQ Germany, 10 vidéos. Afficher la playlist complète.

The left sidebar shows navigation options: Accueil, Shorts, Abonnements, and a list of subscriptions including Wingmaster Par..., Investissements..., Christophe BERN..., Will I Glide, and Candide Thovex.

# TUFMAN2 new ACE interface

Browser address bar: spc.int/ofp/tufman2\_test/data/AceReport/d19f4818-6d39-bc7f-d55f-3a116b17fd54/PreAce

Navigation menu: TUFMAN 2 | Logsheets | Observer | EM | Port | Artisanal | Cannery | VMS | Tagging | Training | Reports | ACE | Ref tables | Security | Logs | Tools | Help

User info: emmanuel@spc.int | 25 Mar 2024, 11:16 | HIVE

Annual Catches Estimation / View | Annual Catches Estimation Reports

## CK - Longline - 2023

Instructions | 1- National fleet | 2- Missing logsheets | 3- Vessel Composition | 4- Logsheets | 5- Observer | 6- Summaries | 7- Calculation methods | 8- Catch estimates | 9- Extra info

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 "Get data" button. Fill-in your vessel count by size class

[Go to tab](#)

### 4- Logsheets

- 1 - Run the initial report by clicking on the "Get data" button
- 2 - Modify the values as needed. The values modified will have another background color.
- 3 - All values can be copied from the computed data to the reported 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

[Save](#)

[Save & exit](#)

[Cancel](#)

Drop attachment here

#### Actions

#### Info

System src	Tufman2
Country src	CK
Entry	emmanuel@spc.int
Last edit	20 Mar 2024 10:17 by emmanuel@spc.int
Visible in	OPF, CK
Valid in	CK

#### Warnings and errors

Summary
No Rows To Show

# TUFMAN2 new ACE interface

## Work ahead of TDW

Instructions **1- National fleet** 2- Missing logsheets

### National fleet

Check your National Fleet vessel list

Previous

**National fleet:** Reported data grid generated on 20 Mar 2024 0

[Open Tufman report](#)

Vessel name
KEMA
TOAMOANA 1
GRACE 1

Instructions 1- National fleet **2- Missing logsheets** 3-

### Missing logsheets

Chase for missing logsheets

Previous

**Missing logsheets:** Reported data grid generated on 20 Mar 2024

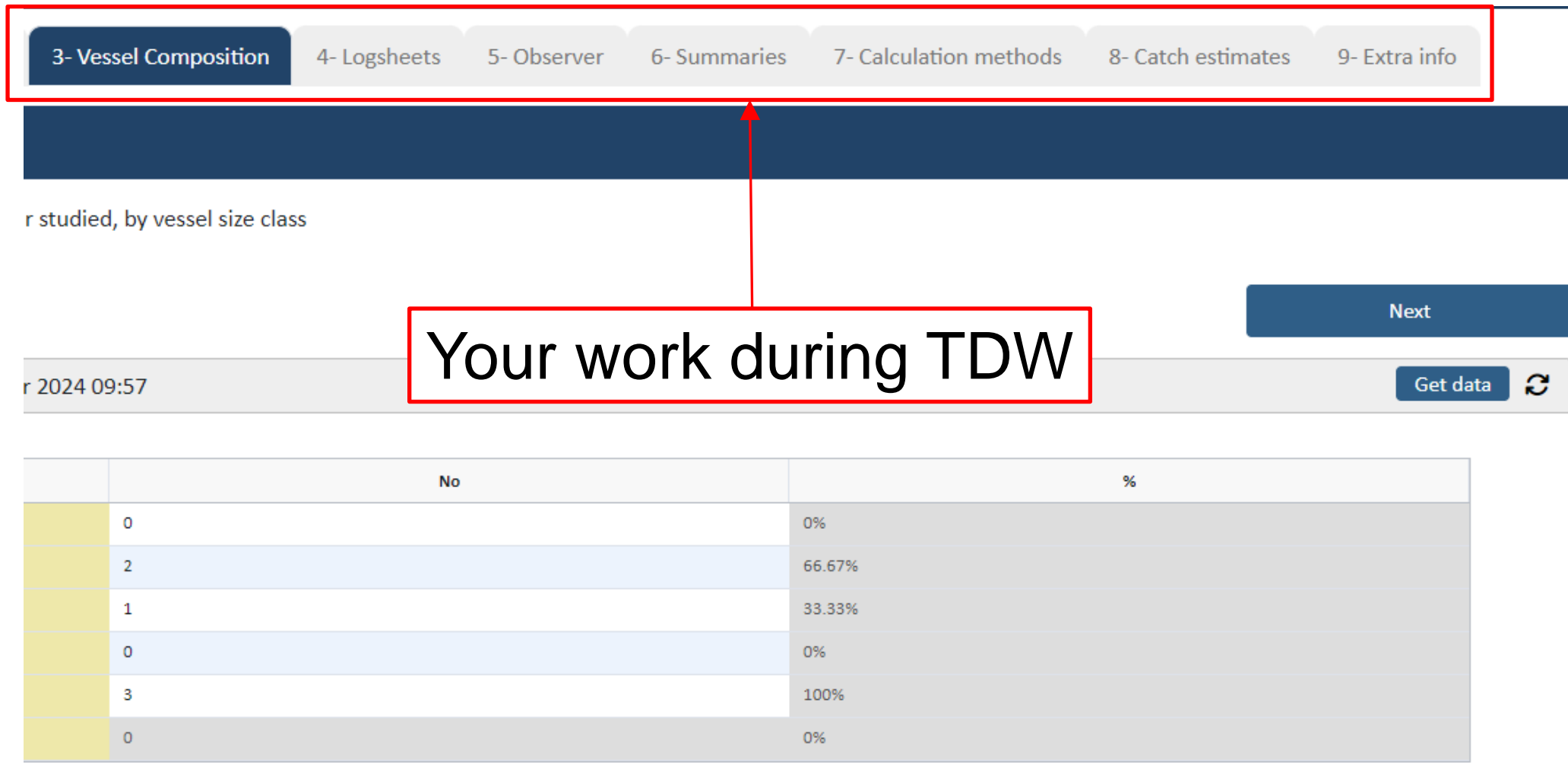
[Open Tufman report](#)

Vessel name	IRCS	UVI
TOAMOANA 1		
TOAMOANA 1		
TOAMOANA 1		

Work ahead of TDW

# TUFMAN2 new ACE interface

## Work during TDW



The screenshot displays the TUFMAN2 ACE interface. At the top, a navigation menu is highlighted with a red box, containing the following items: 3- Vessel Composition, 4- Logsheets, 5- Observer, 6- Summaries, 7- Calculation methods, 8- Catch estimates, and 9- Extra info. Below the menu, a dark blue bar contains the text "r studied, by vessel size class". To the right of this bar is a "Next" button. Below the bar, a red box highlights the text "Your work during TDW". To the right of this box is a "Get data" button with a refresh icon. Below the buttons, a table displays data for vessel size classes. The table has two columns: "No" and "%".

	No	%
	0	0%
	2	66.67%
	1	33.33%
	0	0%
	3	100%
	0	0%

# ACE Calculation Methods

## Longline Observer Low coverage & SHARKS

- Low observer coverage -> over estimation of SHARKS
- Threshold for low coverage -> 20%
- Under 20% coverage -> LOGSHEET data used to estimate SHARK catch
- Over 20% -> Observer raised data used



# ACE Calculation Methods

## Longline Observer Low coverage & SHARKS

Instructions 1- National fleet 2- Missing logsheets 3- Vessel Composition 4- Logsheets 5- Observer 6- Summaries

### Summaries

Longline observer coverage for part 1 reports. This is to allow countries to report against the 5% observer coverage requirement on longline vess

<b>Method #1</b>	observer kgs/TRIP raised to total trips
<b>Method #2</b>	observer kgs/DAY raised to total trips
<b>Method #3</b>	Logsheet trip estimate raised to total trips
<b>Method #4</b>	Method #2 estimate of tuna catch by species, applied to the Logsheet estimate of total tuna catch
<b>Method #5</b>	Logsheet estimate of discards, raised to total trips

Previous

Summaries: Reported data

[Open Tufman report](#)

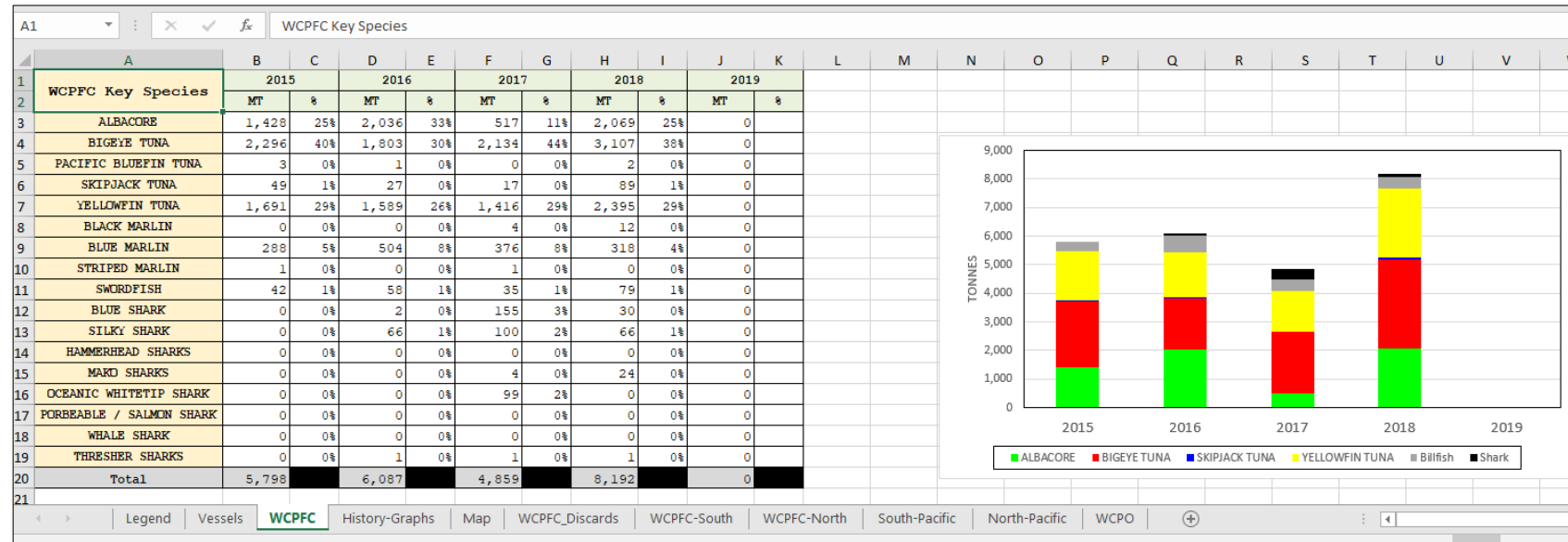
- Total trips
- Total fishing days
- Observer trips
- Observer fishing days
- Observer (TRIPS) cov %
- Observer (DAYS) cov %
- Logbook cov %

### Retained: Reported data grid

Category	Species	Method 1 ⓘ	Method 2 ⓘ	Method 3 ⓘ	Method 5 ⓘ	Recommended method	Selected method	Estimate
1. TUN	ALB	0	0	2189.3	0	3	Method 3 - Logsheet trip estimate raised to total trips	2189.3
1. TUN	BET	0	0	875.44	0	3	Method 3 - Logsheet trip estimate raised to total trips	875.44
1. TUN	PBF	0	0	0.8	0	3	Method 3 - Logsheet trip estimate raised to total trips	0.8
1. TUN	SKJ	0	0	48.91	0	3	Method 3 - Logsheet trip estimate raised to total trips	48.91
1. TUN	YFT	0	0	4788.91	0	3	Method 3 - Logsheet trip estimate raised to total trips	4788.91
2. BIL	BLM	0	0	3.46	0	3	Method 3 - Logsheet trip estimate raised to total trips	3.46
2. BIL	BUM	0	0	214.52	0	3	Method 3 - Logsheet trip estimate raised to total trips	214.52
2. BIL	MLS	0	0	1.75	0	3	Method 3 - Logsheet trip estimate raised to total trips	1.75
2. BIL	SWO	0	0	41.97	0	3	Method 3 - Logsheet trip estimate raised to total trips	41.97
3. SHK	BSH	0	0	12.78	0	3	Method 3 - Logsheet trip estimate raised to total trips	12.78
3. SHK	FAL	0	0	0	0	3	Method 3 - Logsheet trip estimate raised to total trips	0
3. SHK	HAM	0	0	0	0	3	Method 3 - Logsheet trip estimate raised to total trips	0
3. SHK	MAK	0	0	4.9	0	3	Method 3 - Logsheet trip estimate raised to total trips	4.9
3. SHK	OCS	0	0	0	0	3	Method 3 - Logsheet trip estimate raised to total trips	0
3. SHK	POR	0	0	0	0	3	Method 3 - Logsheet trip estimate raised to total trips	0
3. SHK	RHN	0	0	0	0	3	Method 3 - Logsheet trip estimate raised to total trips	0
3. SHK	THR	0	0	0.19	0	3	Method 3 - Logsheet trip estimate raised to total trips	0.19

# ACE Tables

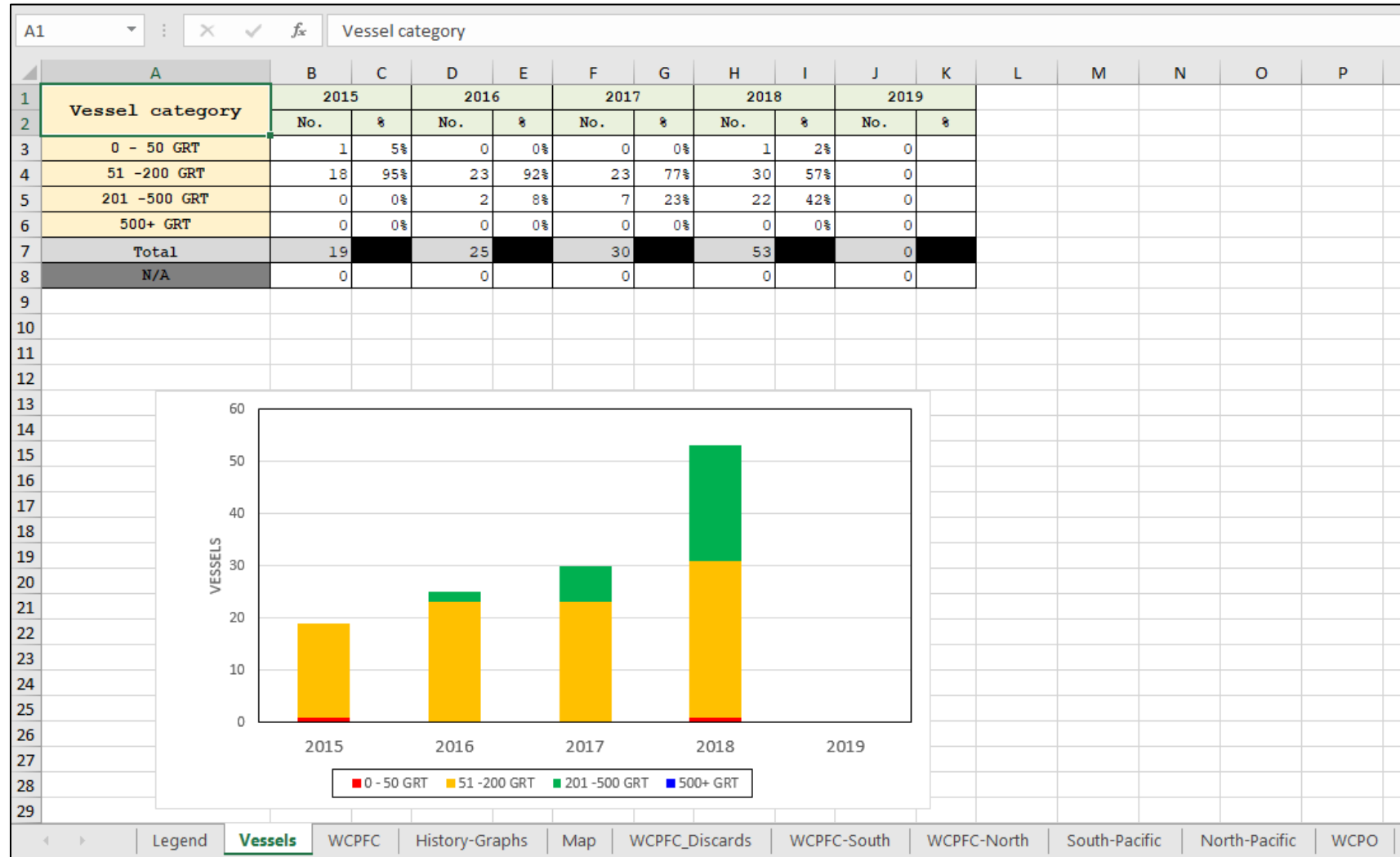
## WCPFC



- Complete, tidy and concise way to view your ACE
- Charts, maps, tables,...
- Easy copy/paste in AR part 1
- Generated after TDW making use of the ACEs

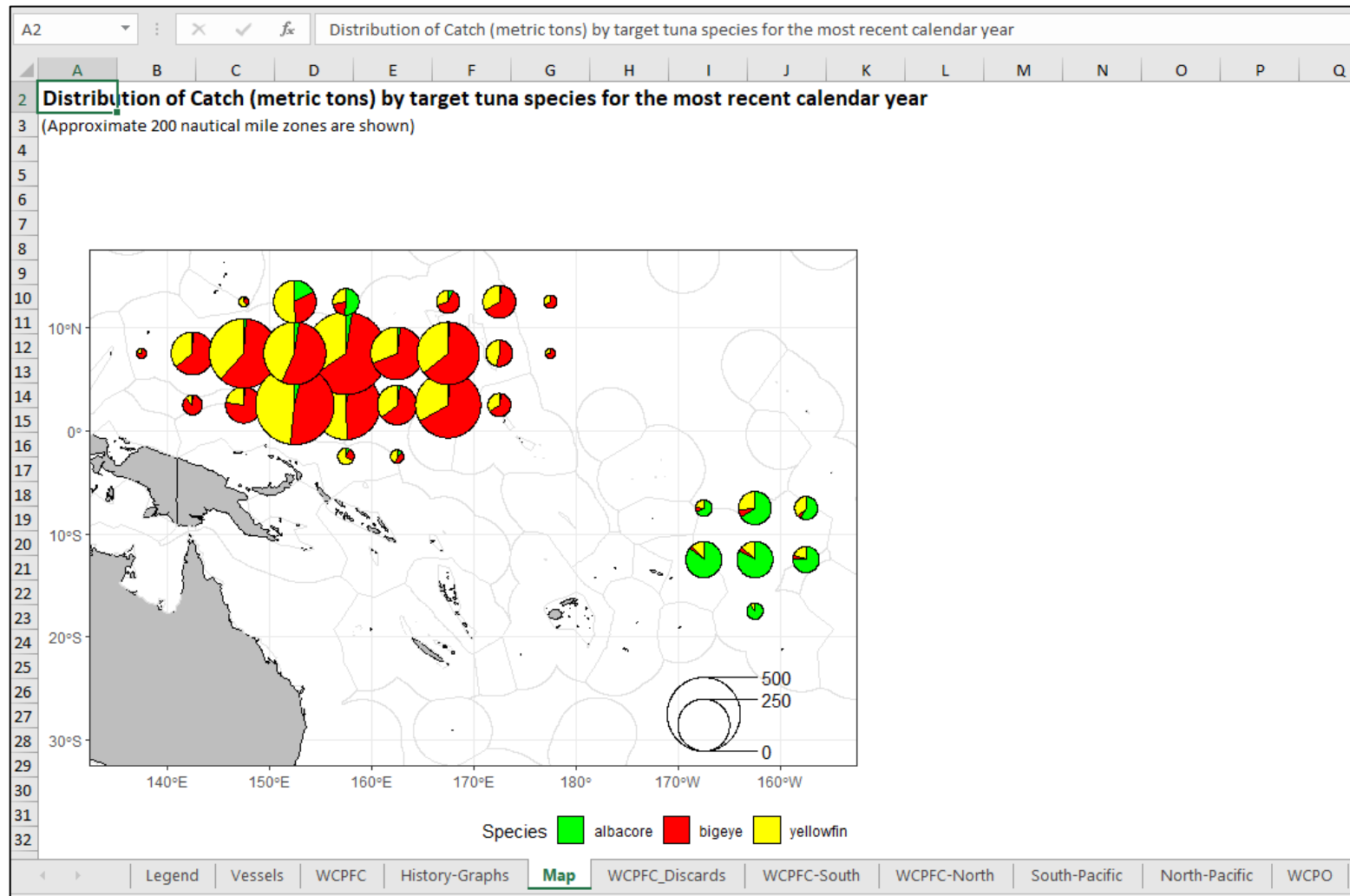
# ACE Tables

## WCPFC



# ACE Tables

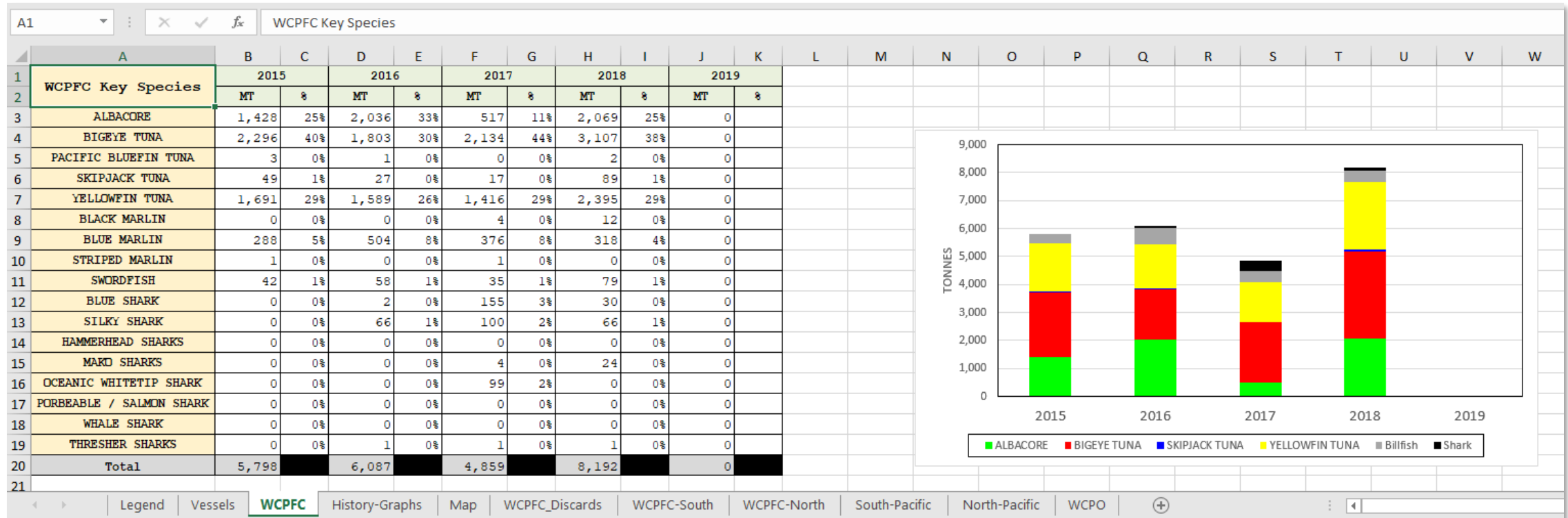
## WCPFC



# ACE Tables

## WCPFC

[bit.ly/ACE-TABLES](http://bit.ly/ACE-TABLES)



# Annual Catch Estimates

## What's next?

- ✓ Get in touch with your SPC contact
  - ACEs
  - Artisanal
- ✓ Calculate and review your TUFMAN ACEs
- ✓ **Submit your draft ACE for all your fleet, for review by SPC staff.**

# Annual Catch Estimates

## SPC's assistance

Don't hesitate to request some assistance from your assigned SPC contact

TDW18	
Annual Catch Estimates calculations	
COUNTRY	SPC STAFF
Cook Islands	Aurélien
Fiji	Colley
FSM	Benoit
French Polynesia	Benoit
Indonesia	
Kiribati	Manu
Marshall Islands	Aurélien
New Caledonia	Bruno
Nauru	Manu
Niue	
Palau	Manu
PNG	Bruno
Philippines	
Samoa	Bruno
Solomon Islands	Colley
Tonga	Colley
Tuvalu	Aurélien
Tokelau	
Vanuatu	Manu
Vietnam	
Wallis & Futuna	

# Let's get started!

2023 ACE web page

[tinyurl.com/TDW2024](https://tinyurl.com/TDW2024)

# Thank you

TDW18	
Annual Catch Estimates calculations	
COUNTRY	SPC STAFF
Cook Islands	Aurélien
Fiji	Colley
FSM	Benoit
French Polynesia	Benoit
Indonesia	
Kiribati	Manu
Marshall Islands	Aurélien
New Caledonia	Bruno
Nauru	Manu
Niue	
Palau	Manu
PNG	Bruno
Philippines	
Samoa	Bruno
Solomon Islands	Colley
Tonga	Colley
Tuvalu	Aurélien
Tokelau	
Vanuatu	Manu
Vietnam	
Wallis & Futuna	