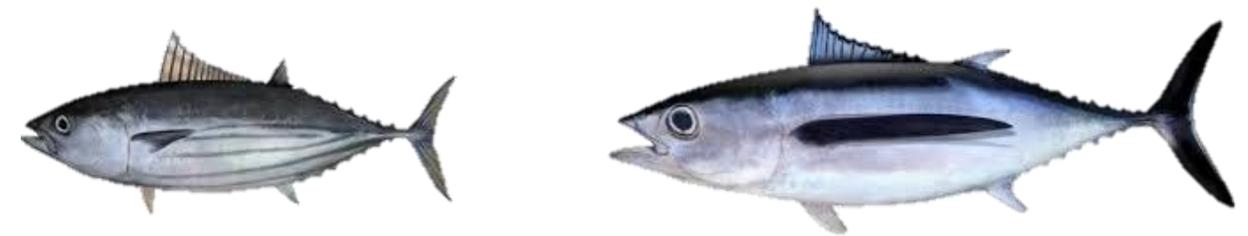




Overview of fisheries and stock status of tuna, billfish and sharks in the Western and Central Pacific Ocean



SPC, Oceanic Fisheries Program

WCPFC – 21st Regular Session of the Commission – WP27 (rev 2)

Suva, Fiji, 28th Nov – 3rd Dec 2024.

Background

- Recent information on the fisheries catch and effort
- Status of stocks of ‘key’ tuna species **assessed by SPC** – skipjack, yellowfin, bigeye and South Pacific albacore
- Summary slides for billfish and key sharks

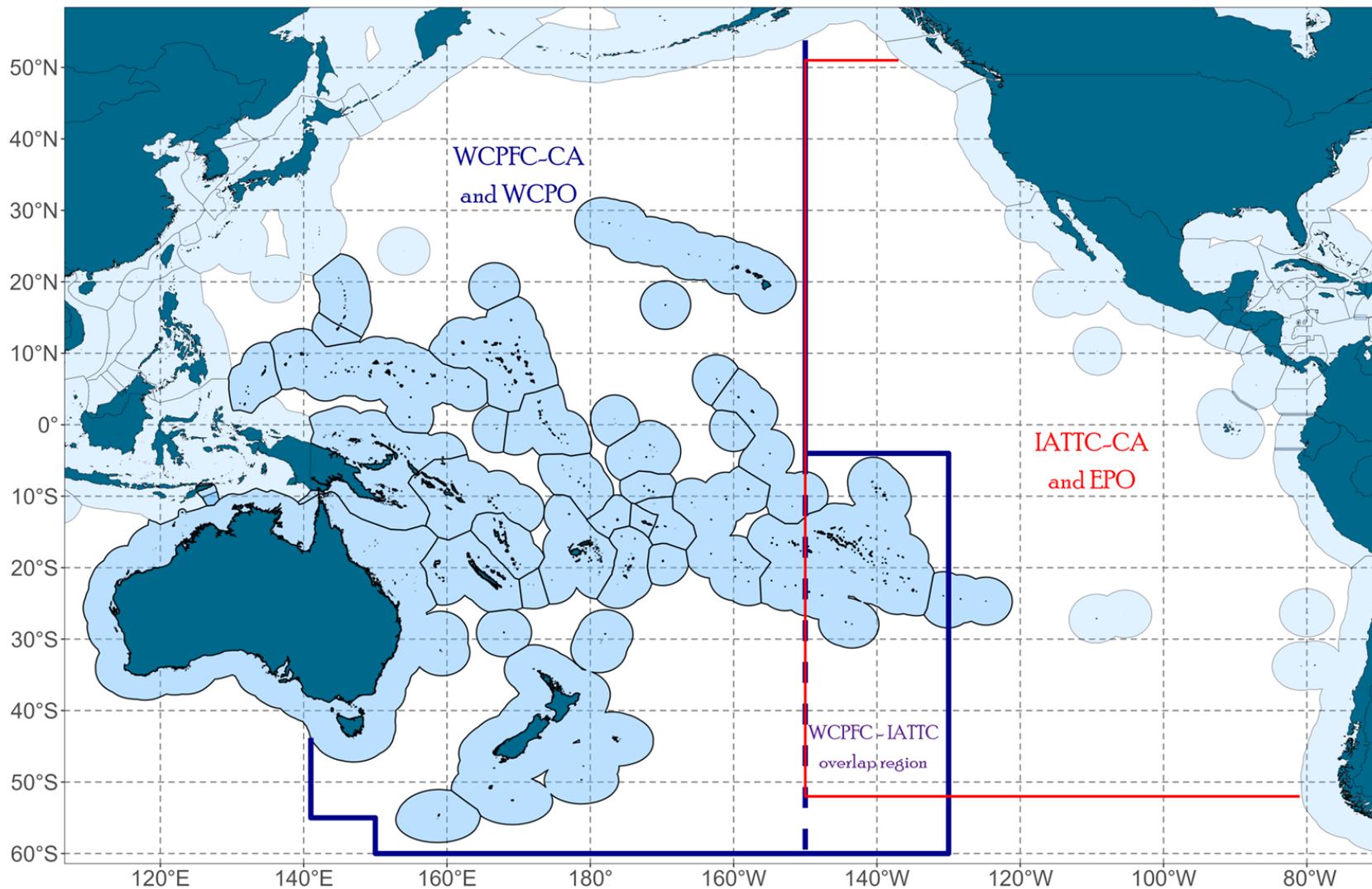
Sources

The Western and Central Pacific Tuna Fishery: 2023 Overview and Status of Stocks.
<https://fame.spc.int/resources/documents/tuna-fisheries-assessment-report> (in prep)

WCPFC Tuna Fishery Yearbook 2023. <https://www.wcpfc.int/statistical-bulletins>

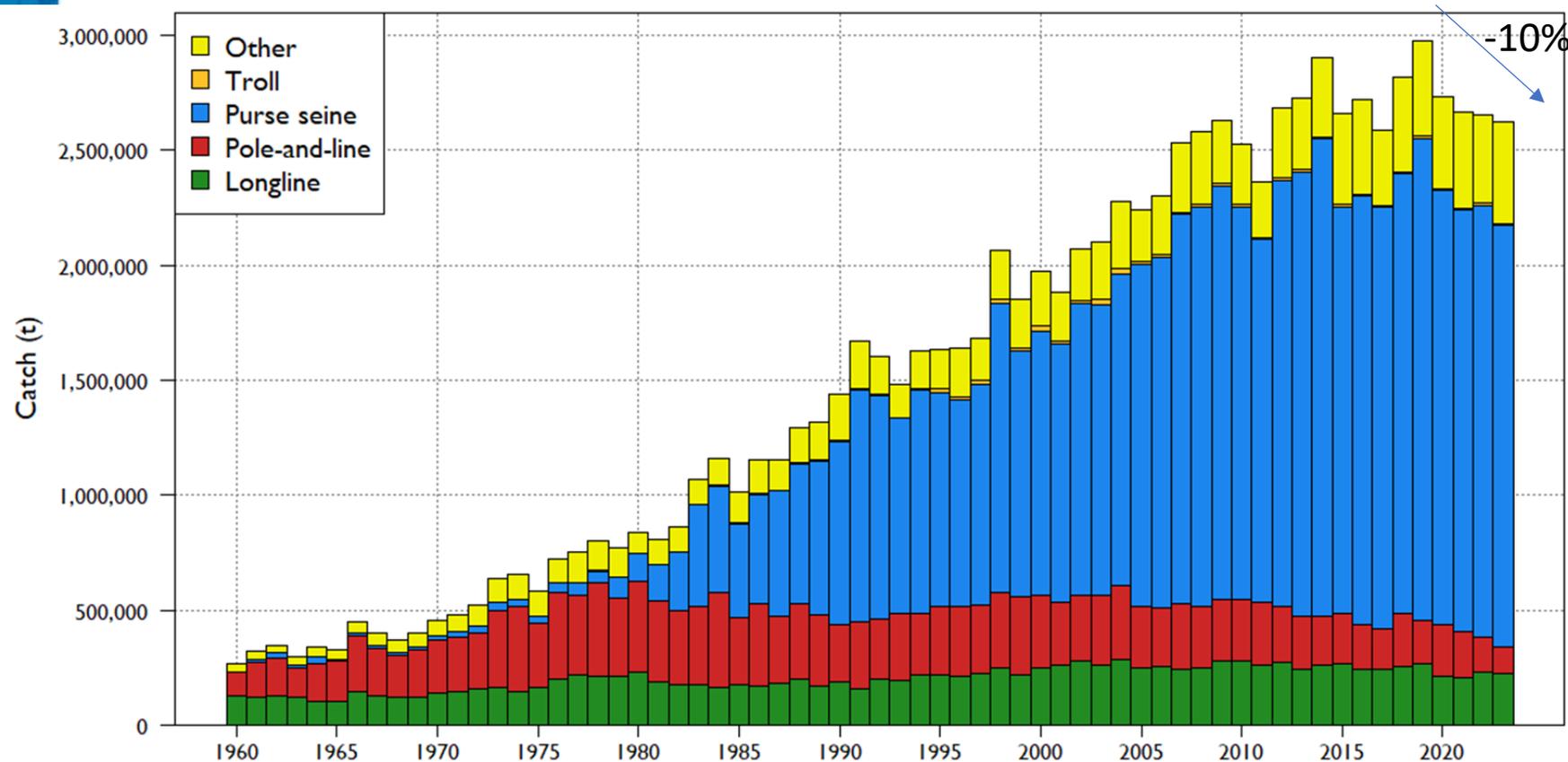
Overview of Tuna Fisheries in the Western and Central Pacific Ocean, Including Economic Conditions – 2023 <https://meetings.wcpfc.int/node/23098>

WCPFC - CA



Catch and effort summaries

WCPFC-CA Catch by Gear



2023 Provisional Estimates

Total Catch: ~2.62 mill mt

Purse seine

- 1.837 mill mt
- 70% of total

Longline

- 228K mt
- 9% of total

Pole-and-line

- 112K mt
- 4% of total

Other

- 441k mt, mixed gear Indonesia, Vietnam, and Philippines
- 17% of total

Troll

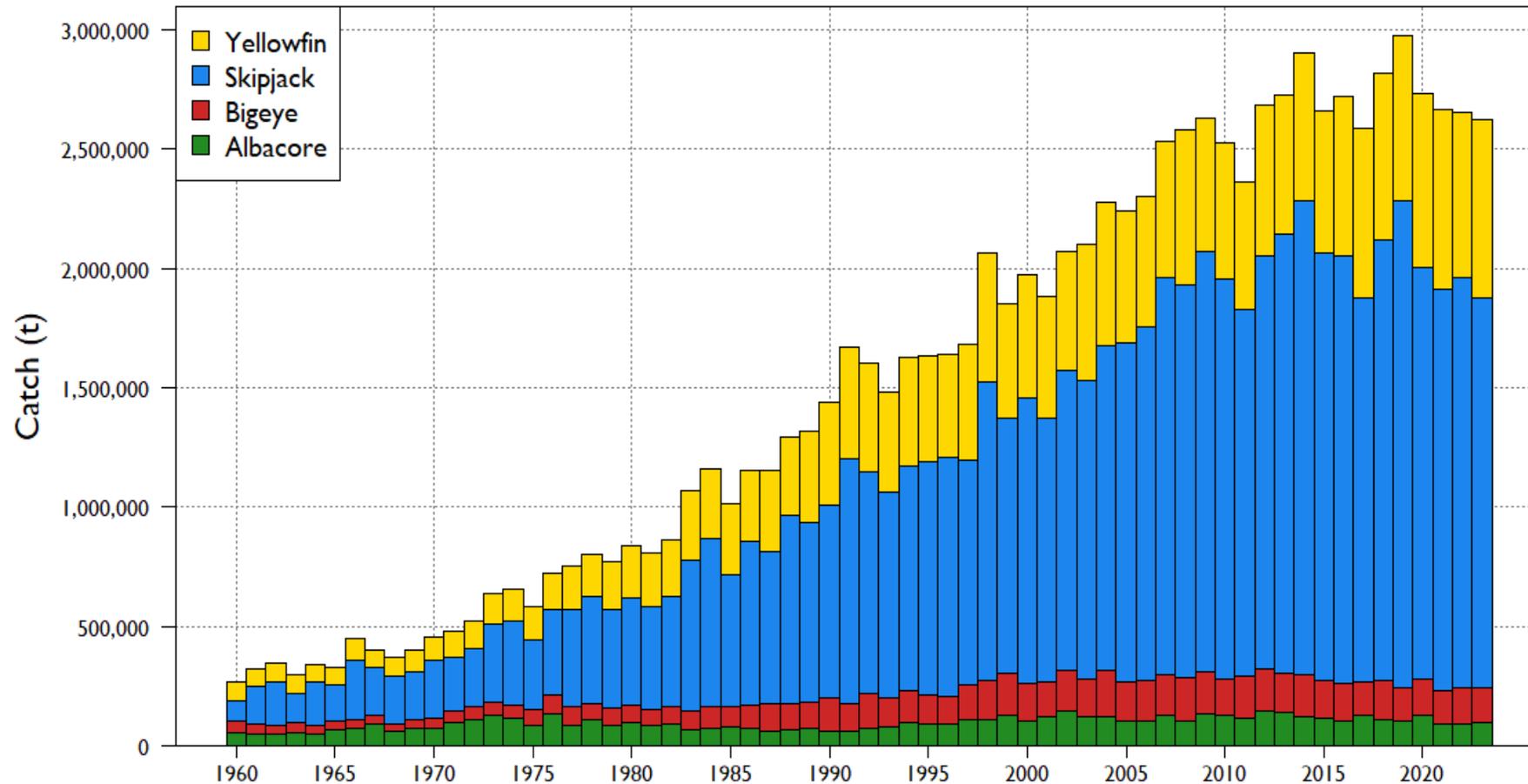
- 7k mt
- <1% of total

~53% of the global tuna catch (~ 5 mill mt) in 2023

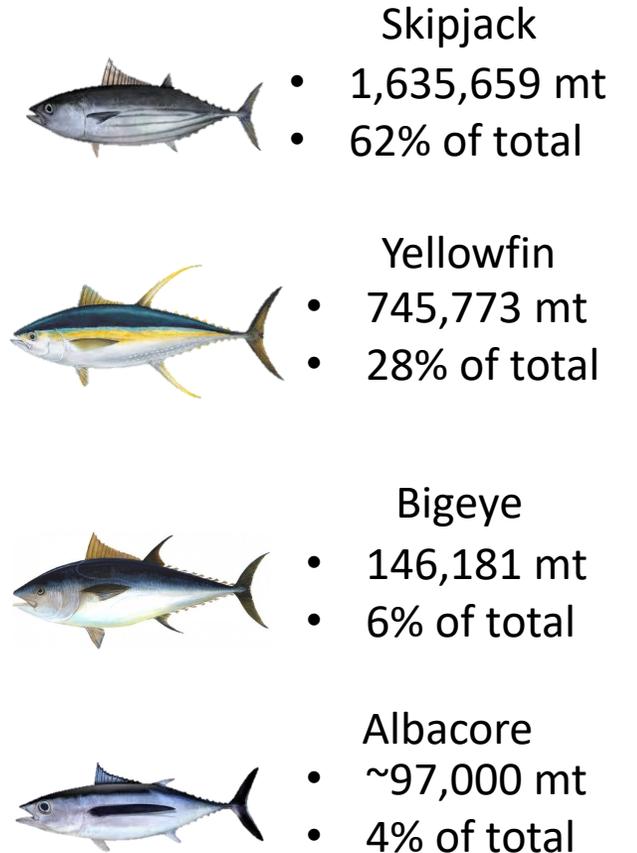
Catch trends by gear type

Gear type	Catch (1000 t)	% of total gear catch	Change from 2022	Notes
Purse seine	1837	70%	-2%	4% below 5 yr avg.
Longline	228	9%	-1%	3% below 5 yr avg.
Pole-Line	112	4%	-28%	lowest since 1960
Troll	7	<1%	-27%	44% below 5 yr avg.
Other	441	17%	+14%	8% above 5 yr avg.
Total	2624	100%	-1%	5% below 5 yr avg.

WCPFC-CA Catch by Species



2023 Provisional Estimates

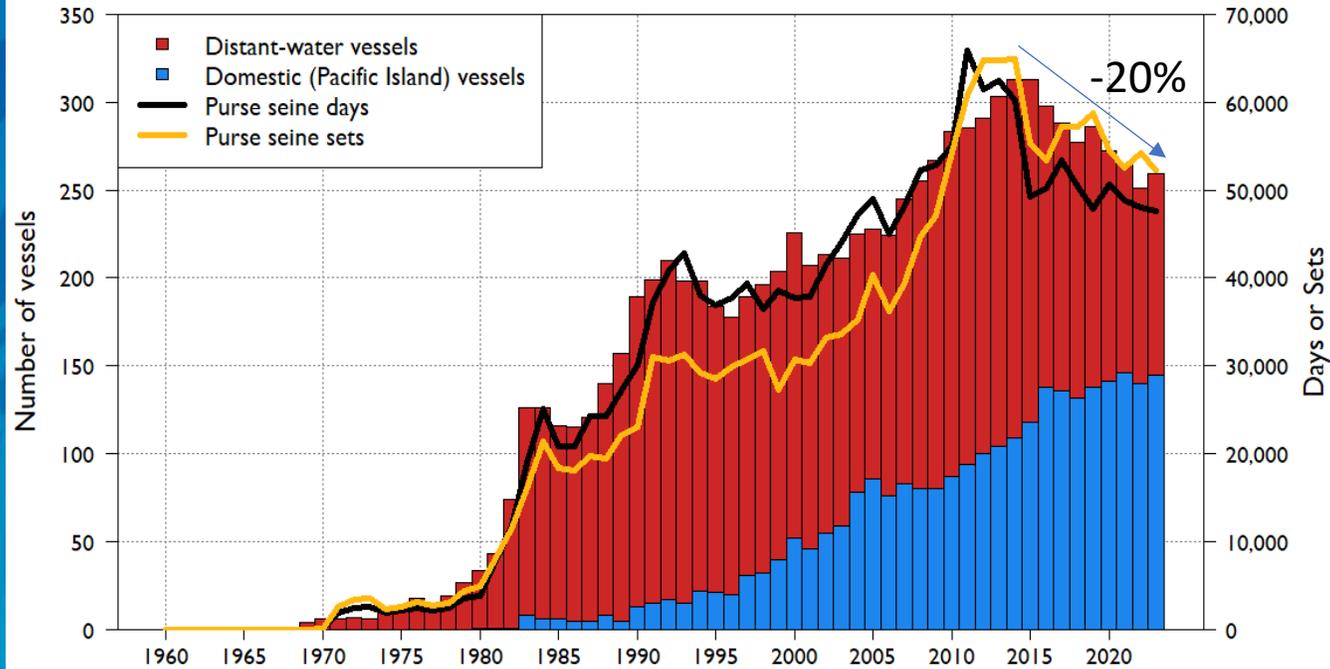


South – 66,334 mt
North – 31,295 mt

Catch trends by species

Species	Catch (1000 t)	% of total tuna catch	Change from 2022	Notes
Albacore	96	4%	+3%	8% below 5 yr avg
Bigeye	146	6%	-1%	1% below 5 yr avg
Skipjack	1636	62%	-5%	9% below 5 yr avg
Yellowfin	746	28%	+7%	4% above 5 yr avg
Total	2624	100%	-1%	5% below 5 yr avg.

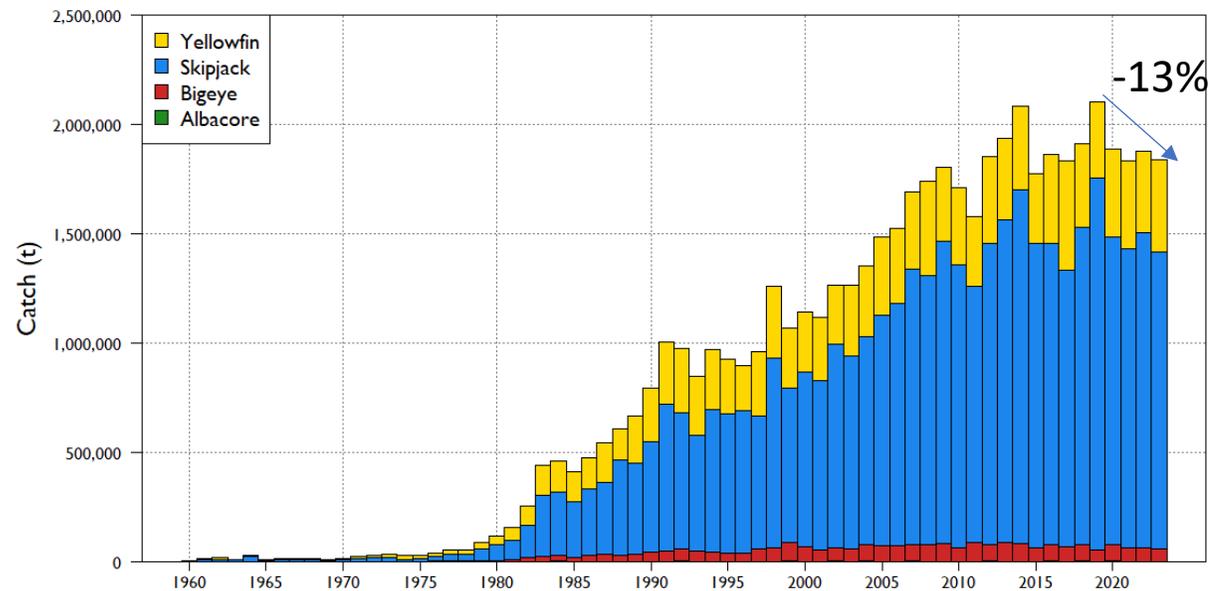
Purse seine catch and effort



Effort: 2023 provisional

- 259 vessels (145 domestic Pacific Is, 114 DWFN)
- 47,623 days
- 52,245 sets

Excluding: Japan coastal, Indonesia, Philippine and Vietnam domestic purse seine vessels

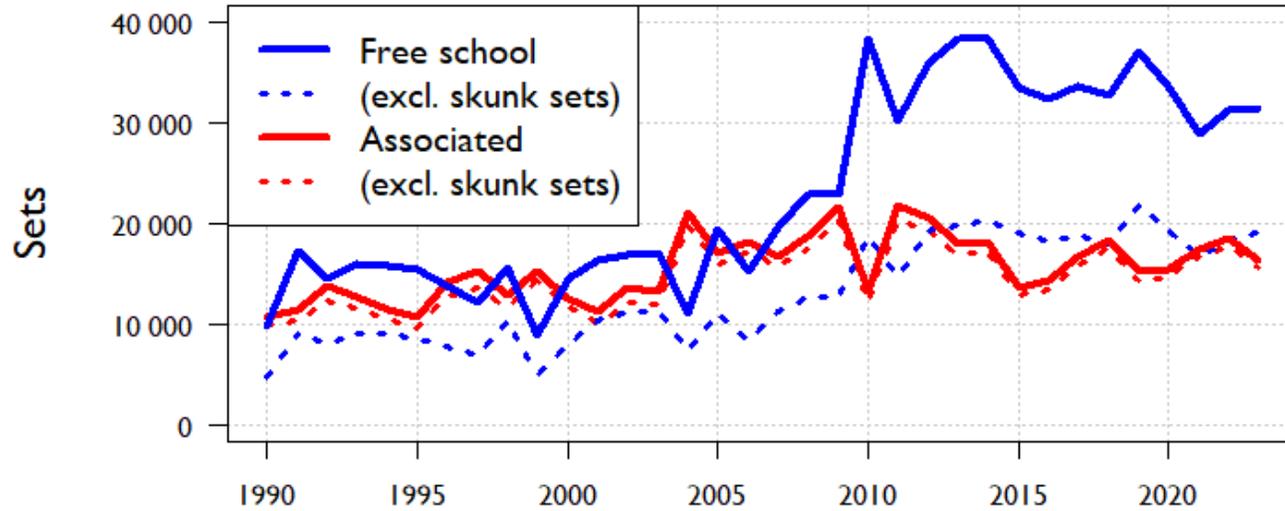


Catch: 2023 provisional

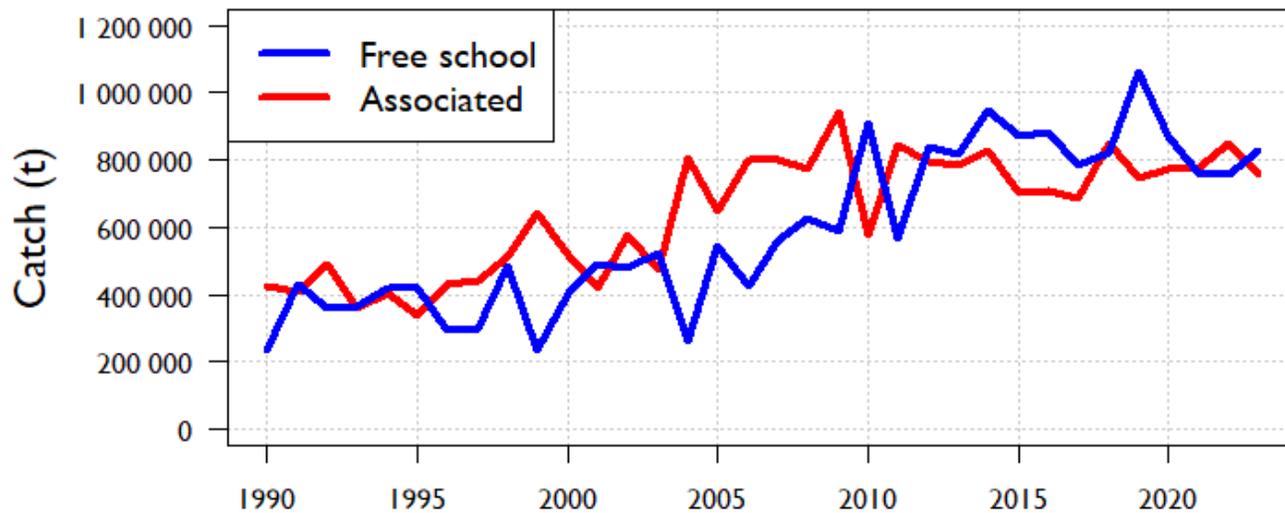
- Skipjack 1,358,582 mt
- Yellowfin 420,523 mt
- Bigeye 57,030 mt
- Albacore 744 mt

Purse seine by set type

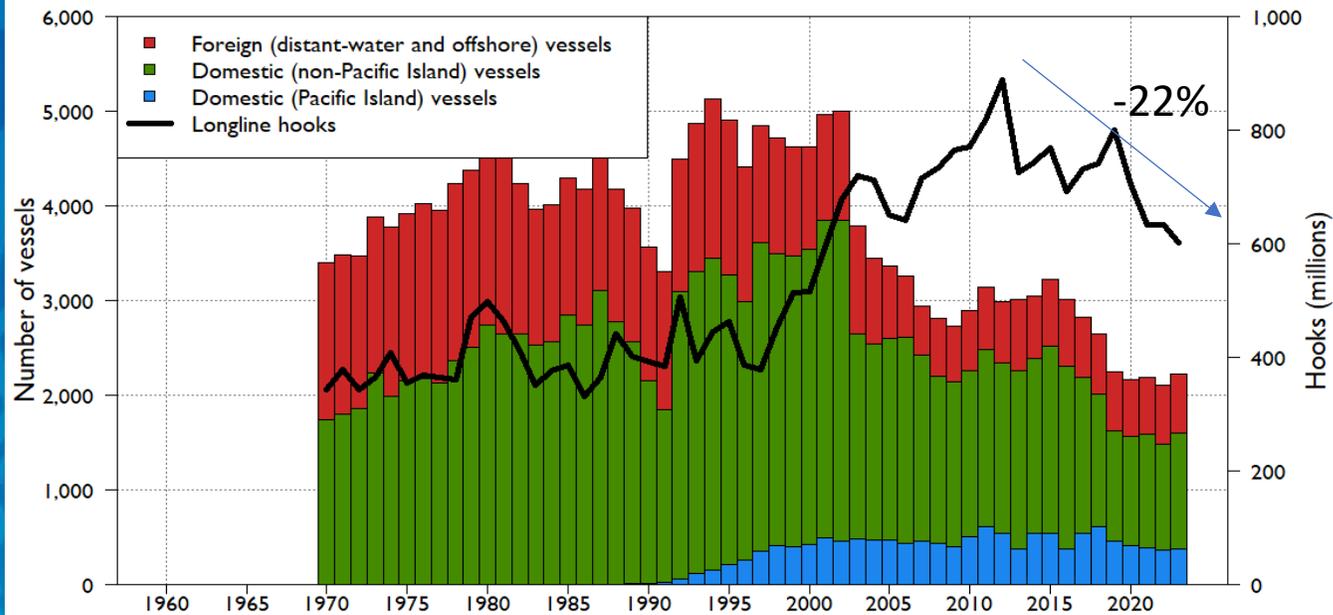
Purse seine sets by set type



Purse seine catch by set type



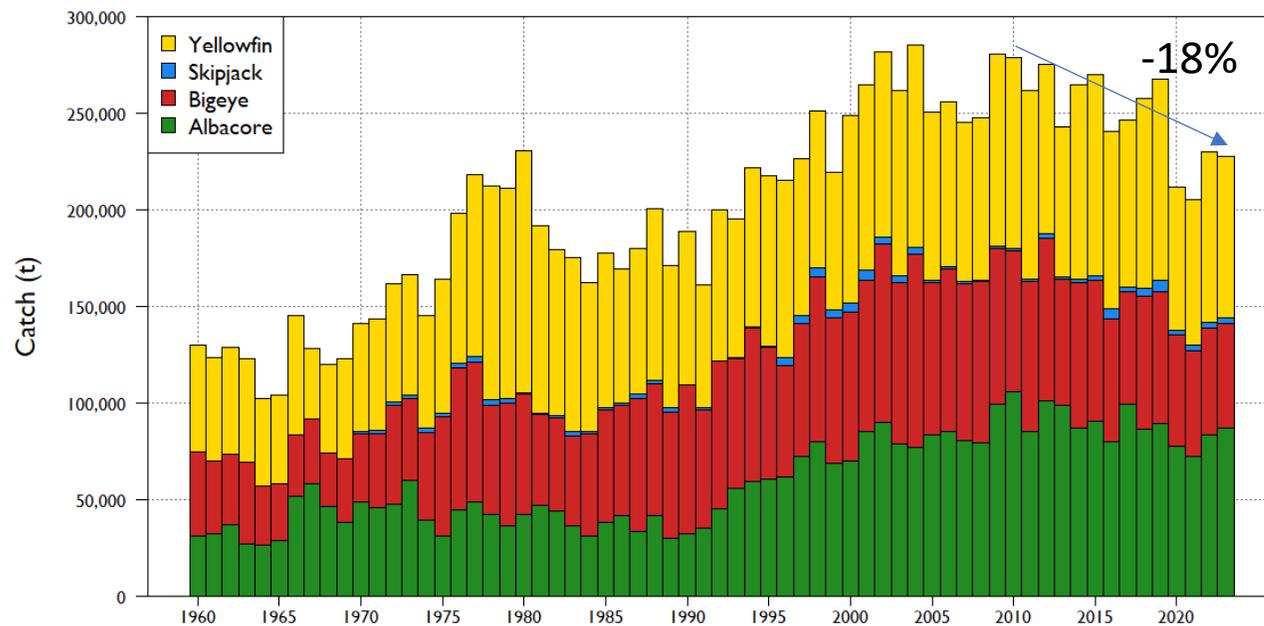
Longline catch and effort



Effort: 2023 provisional

- 1,692 vessels
(376 domestic Pacific Is, 688 domestic non-Pacific Island, 628 DWFN)
- 602 million hooks

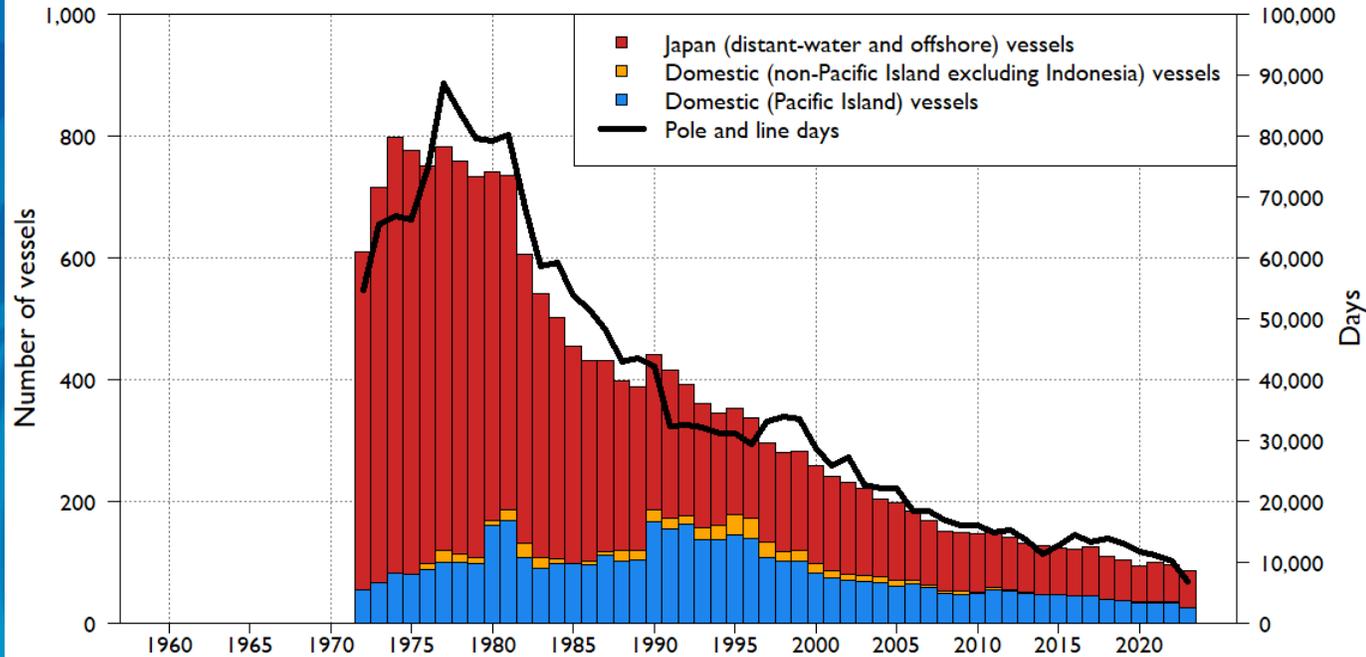
Excluding: Vietnam and Indonesia domestic longline vessels; Japanese coastal and Indonesian domestic vessels for pole-and-line.



Catch: 2023 provisional

- Yellowfin 83,876 mt
- Albacore 64,461 – south, 23,887 - north
- Bigeye 54,190 mt
- Skipjack 2,631 mt

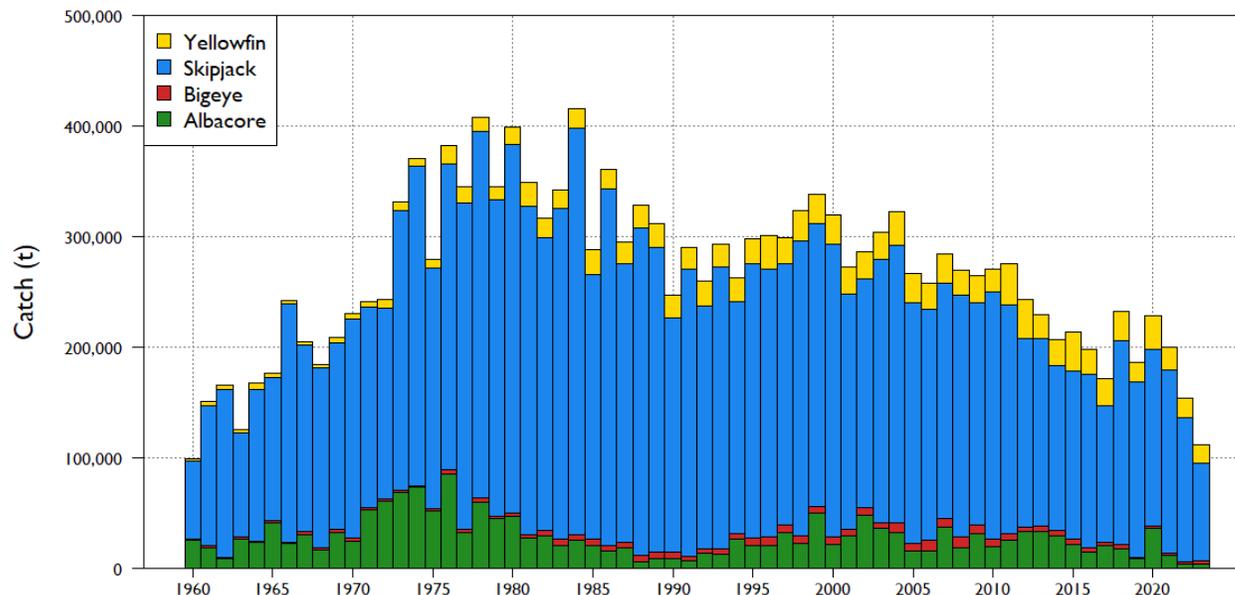
Pole and line catch and effort



Effort: 2023 provisional

- 87 vessels (61 Japan, 26 domestic Pacific Is.)
- ~7,000 days

Excluding: Japanese coastal and Indonesian domestic vessels



Catch: 2023 provisional

- Skipjack 89,026 mt
- Yellowfin 16,169 mt
- Albacore 4,245 mt (99% north equator)
- Bigeye 2,230 mt

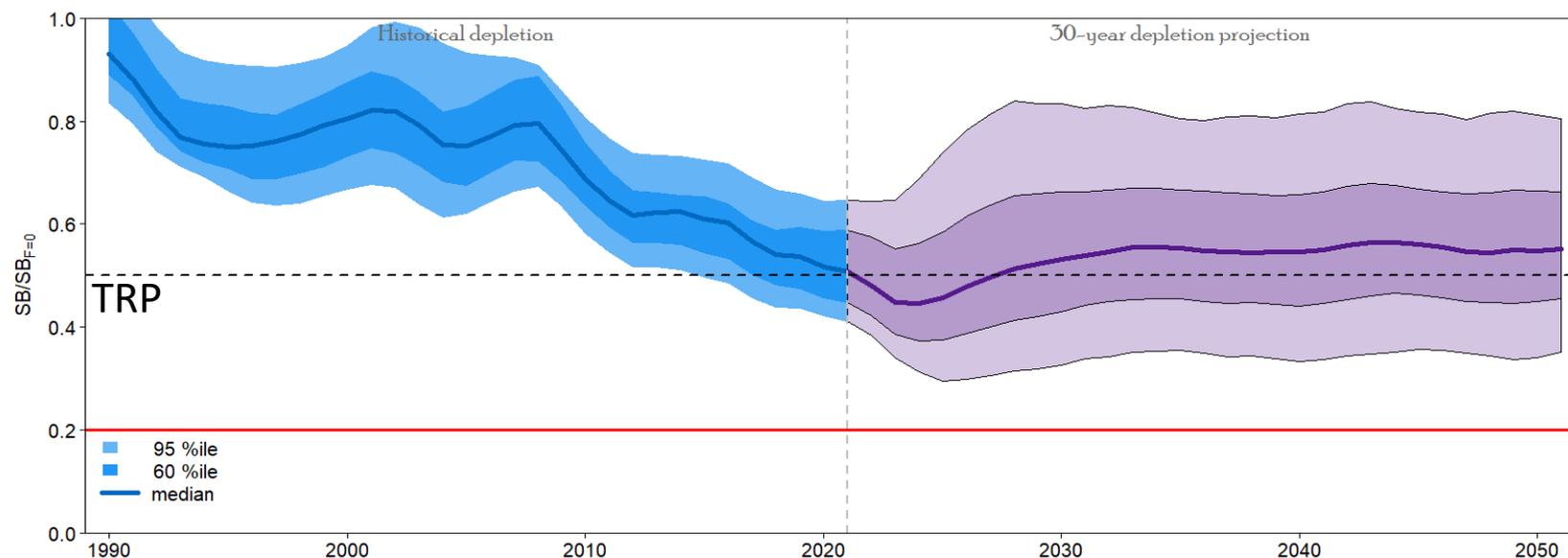
Effort trends by gear

Gear	Unit	Number	Change from 2022	Notes
Purse seine	vessels	259	+3%	4% lower than 5 yr avg
Purse seine	days	47,623	-1%	3% lower than 5 yr avg
Purse seine	sets	52,245	-4%	6% lower than 5 yr avg
Longline	vessels	2,227	-6%	2% lower than 5 yr avg
Longline	hooks	602,200,000	-5%	lowest since 2001
Pole-and-line	vessels	87	-10%	lowest on record
Pole-and-line	days	6,918	-32%	lowest on record

Tuna stock status summaries

Skipjack

- Last assessed 2022, next assessment 2025



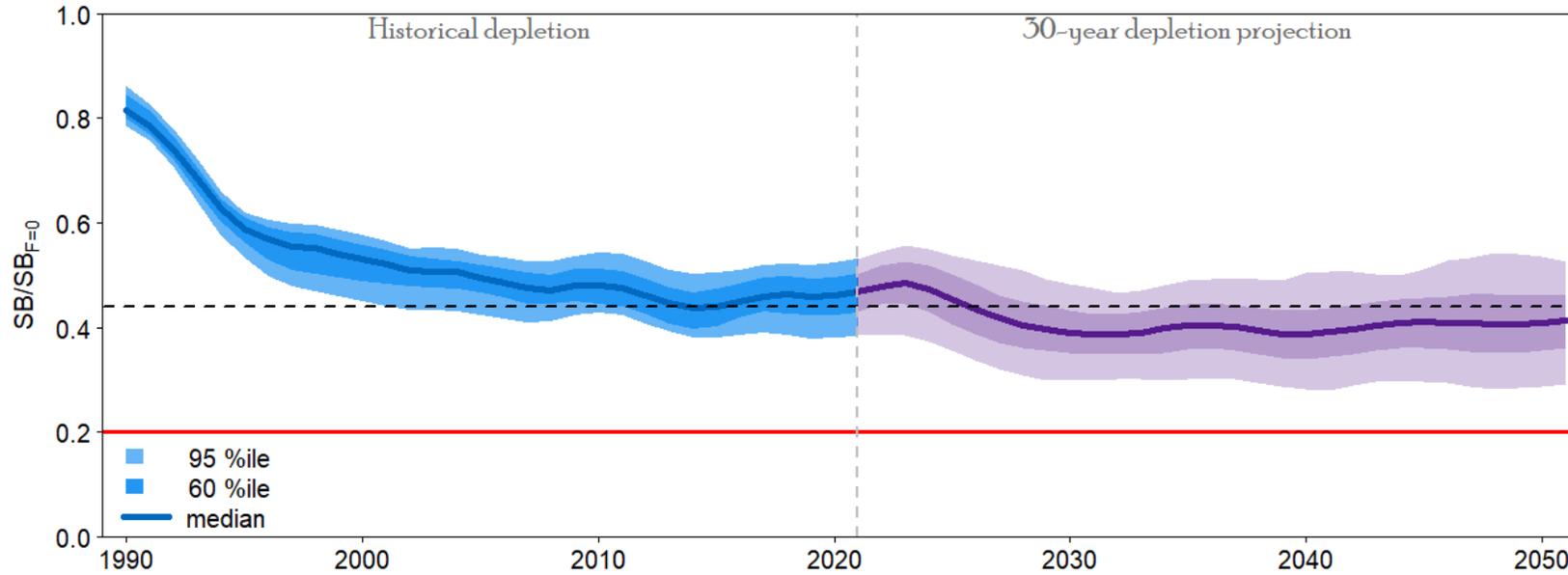
- Not overfished
- Not undergoing overfishing

Species	$SB_{\text{recent}} / SB_{F=0}$ median	10-90 %iles	$F_{\text{recent}} / F_{\text{MSY}}$ median	10-90 %iles	“Recent” Probability breaching LRP	“Future” Probability breaching LRP <i>2021 fishing levels</i>
Skipjack	0.51	0.43-0.64	0.32	0.18-0.45	0%	0%

Skipjack MP TRP calibrated on 2022 assessment = 0.50

Yellowfin

- Last assessed 2023, next assessment 2026



- Not overfished
- Not undergoing overfishing

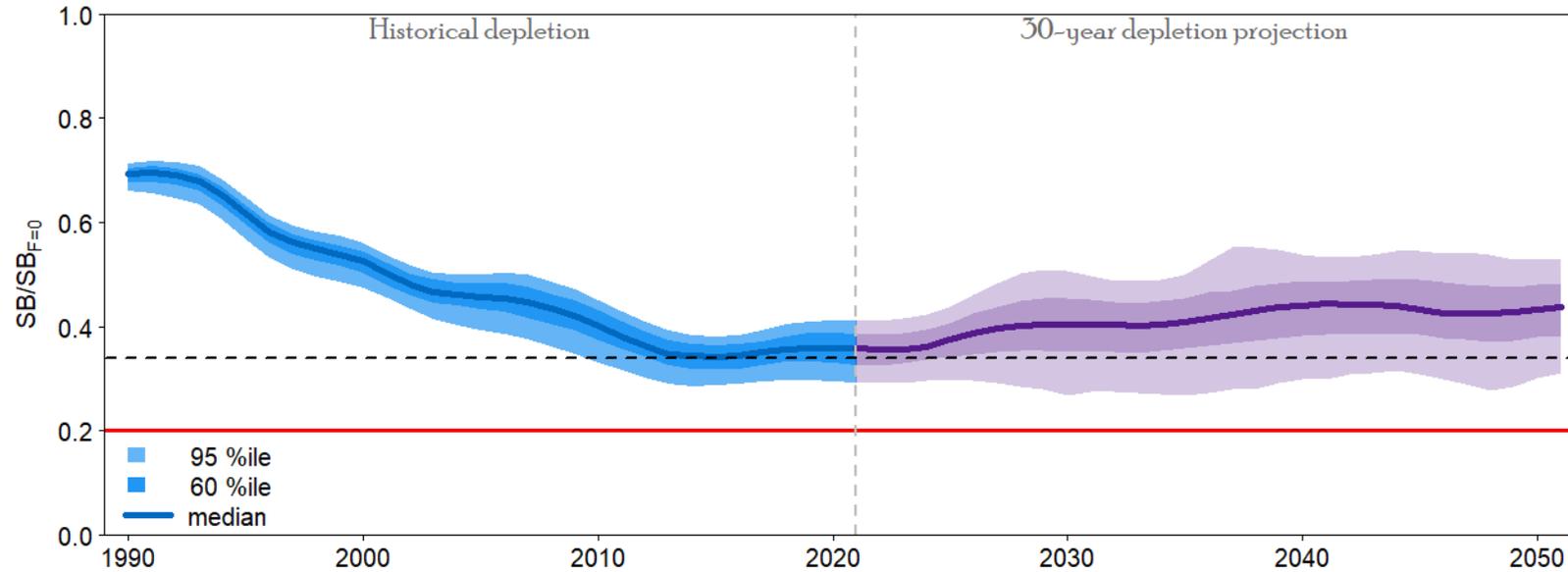
Species	$\frac{SB_{\text{recent}}}{SB_{F=0}}$ median	10-90 %iles	$\frac{F_{\text{recent}}}{F_{MSY}}$ median	10-90 %iles	“Recent” Probability breaching LRP	“Future” Probability breaching LRP <i>2019-2021 fishing</i>
Yellowfin	0.47	0.42-0.52	0.50	0.41-0.62	0%	0%

Includes estimation uncertainty

CMM 2023-01 objective (2012-2015) calibrated on 2023 assessment = 0.44

Bigeye

- Last assessed 2023, next assessment 2026



- Not overfished
- Not undergoing overfishing

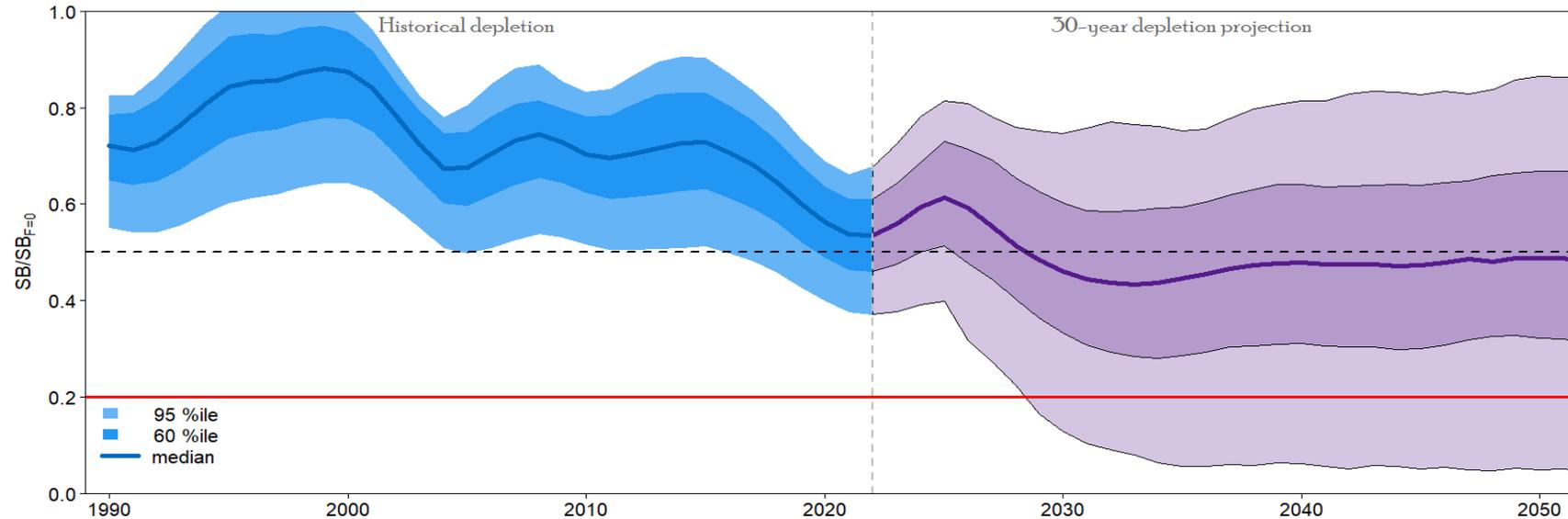
Species	SB _{recent} / SB _{F=0} median	10-90 %iles	F _{recent} / F _{MSY} median	10-90 %iles	“Recent” Probability breaching LRP	“Future” Probability breaching LRP <i>2019-2021 fishing</i>
Bigeye	0.35	0.30-0.40	0.59	0.46-0.74	0%	0%

Includes estimation uncertainty

CMM 2023-01 objective (2012-2015) calibrated on 2023 assessment = 0.34

South Pacific albacore

- Last assessed 2024, next assessment 2027



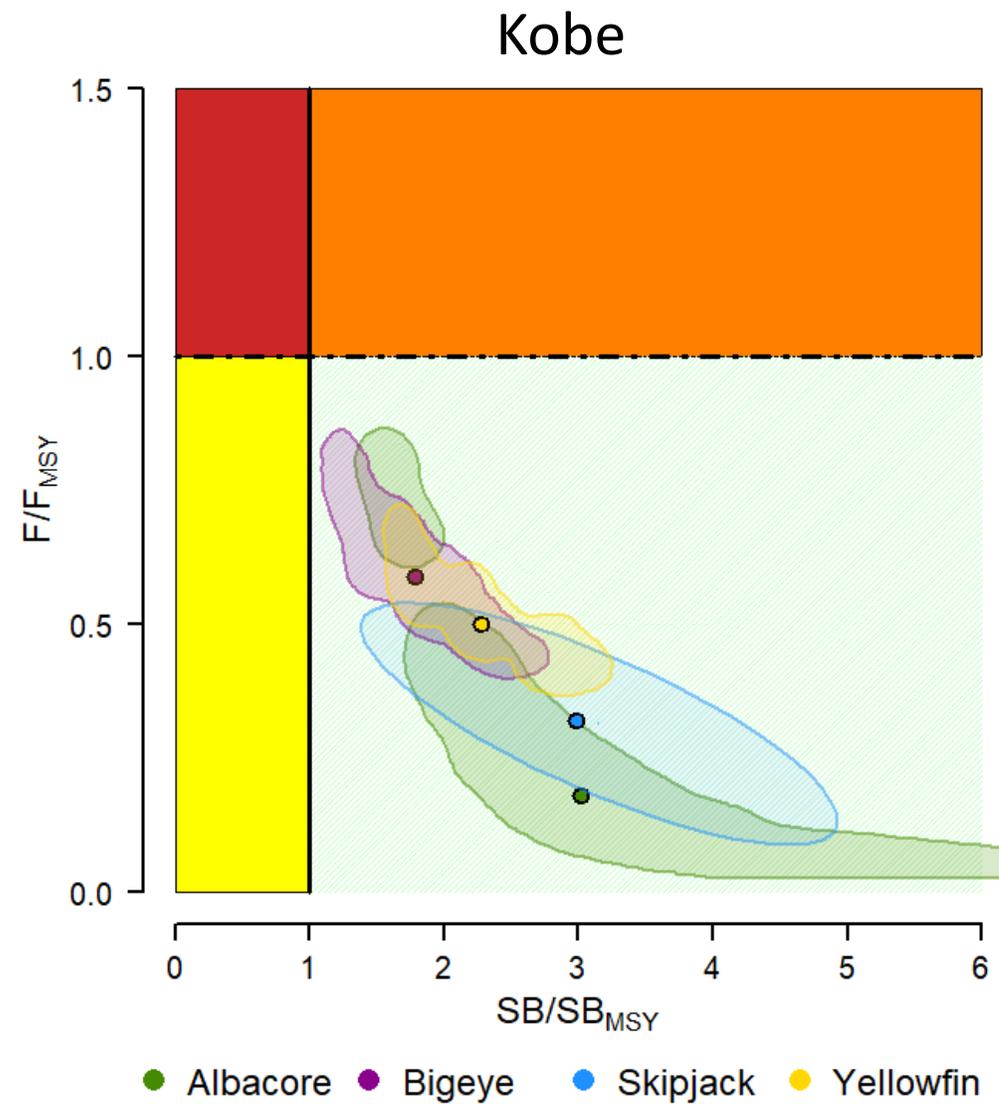
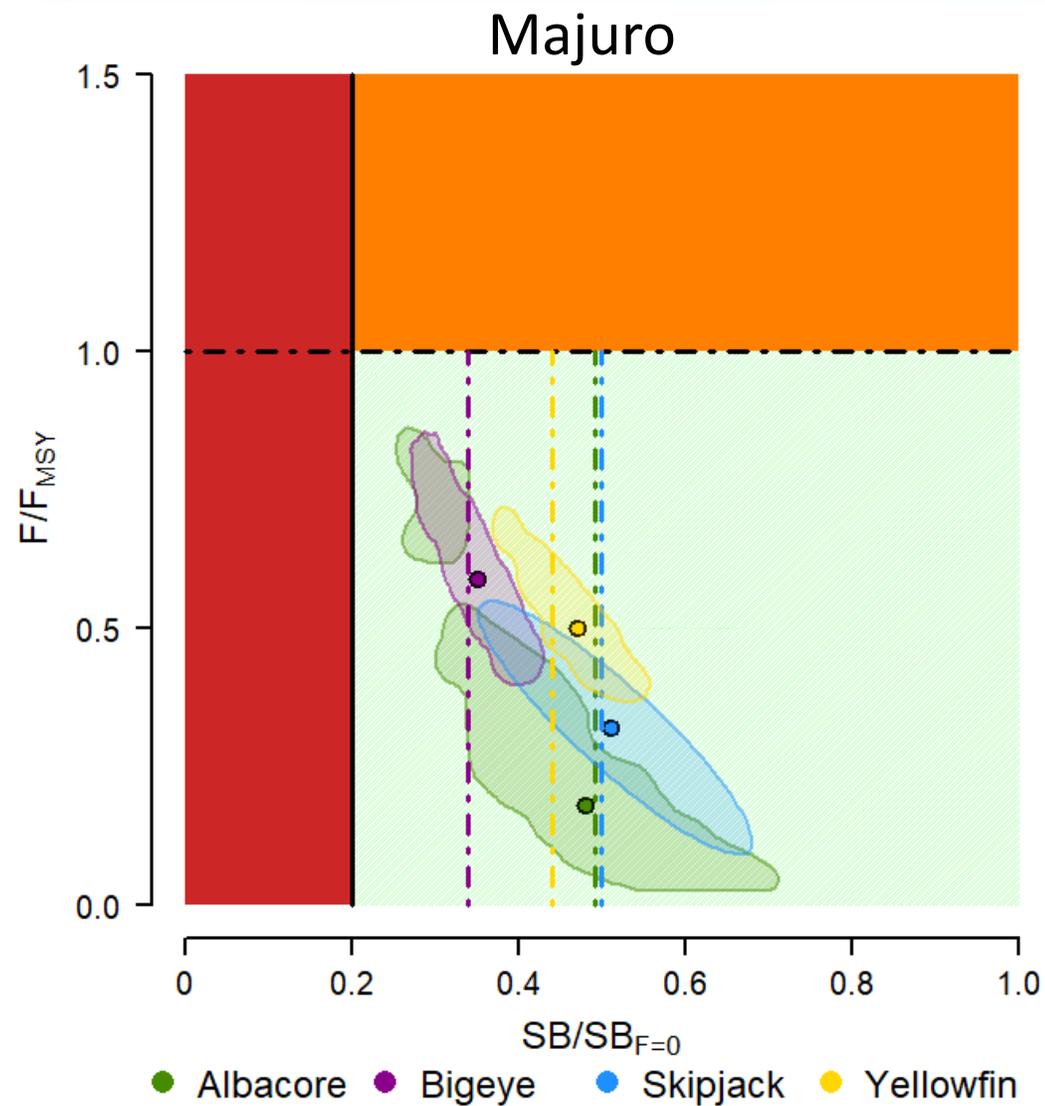
- Not overfished
- Not undergoing overfishing

Species	$SB_{\text{recent}} / SB_{F=0}$ median	10-90 %iles	$F_{\text{recent}} / F_{\text{MSY}}$ median	10-90 %iles	“Recent” Probability breaching LRP	“Future” Probability breaching LRP <i>2020-2022 fishing</i>
SP albacore	0.48	0.36-0.62	0.18	0.06-0.44	0%	14%

Interim TRP calibrated on 2024 assessment = 0.50

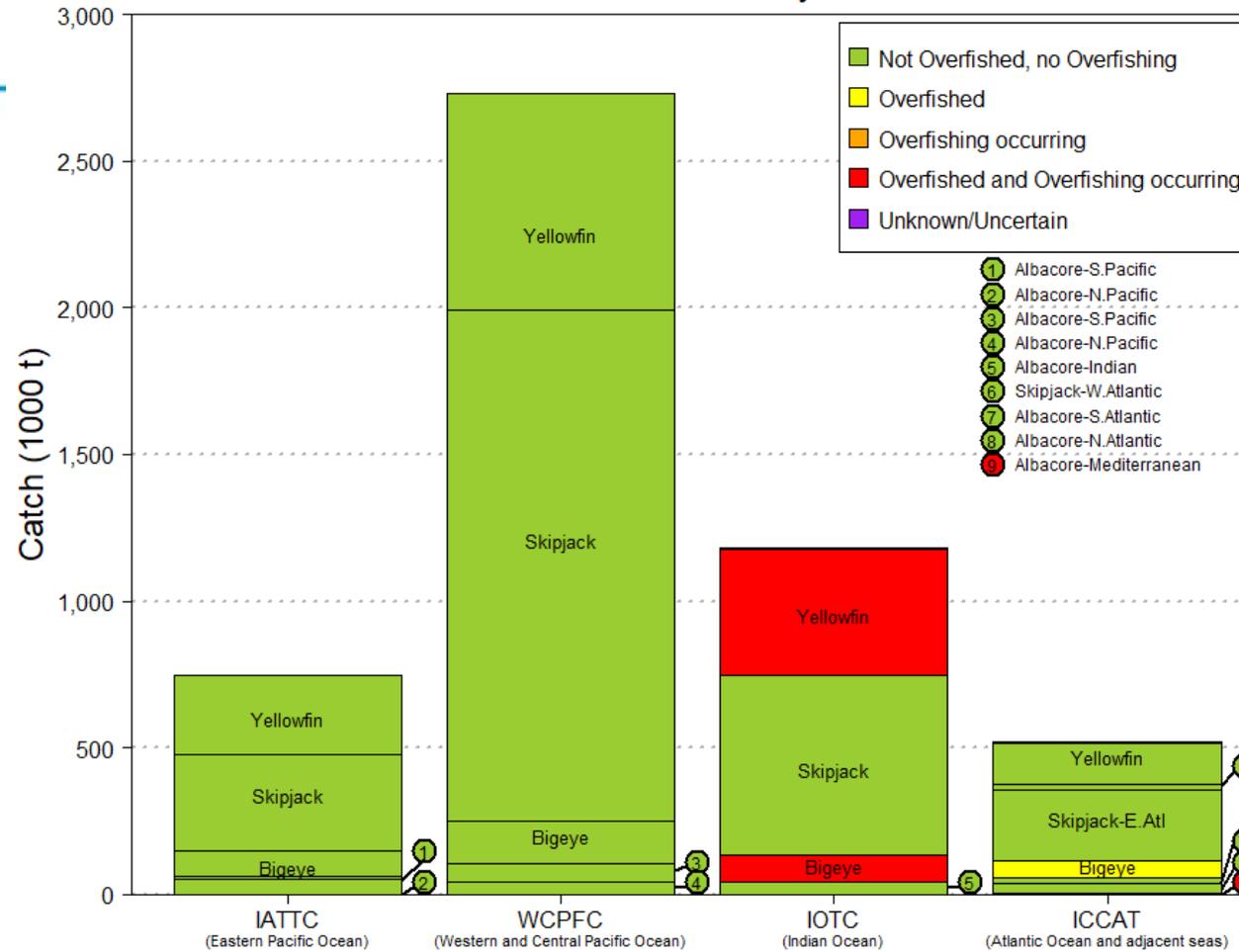
Includes estimation uncertainty

Majuro and Kobe

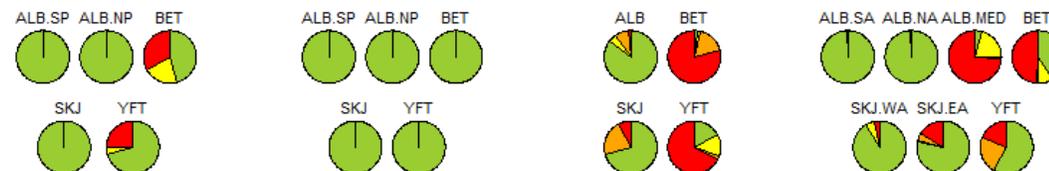


Global

Catch and stock status by tuna RFMO



Probability of being in each Kobe plot quadrant by species



Billfish and sharks

Billfish (MSY default reference points)

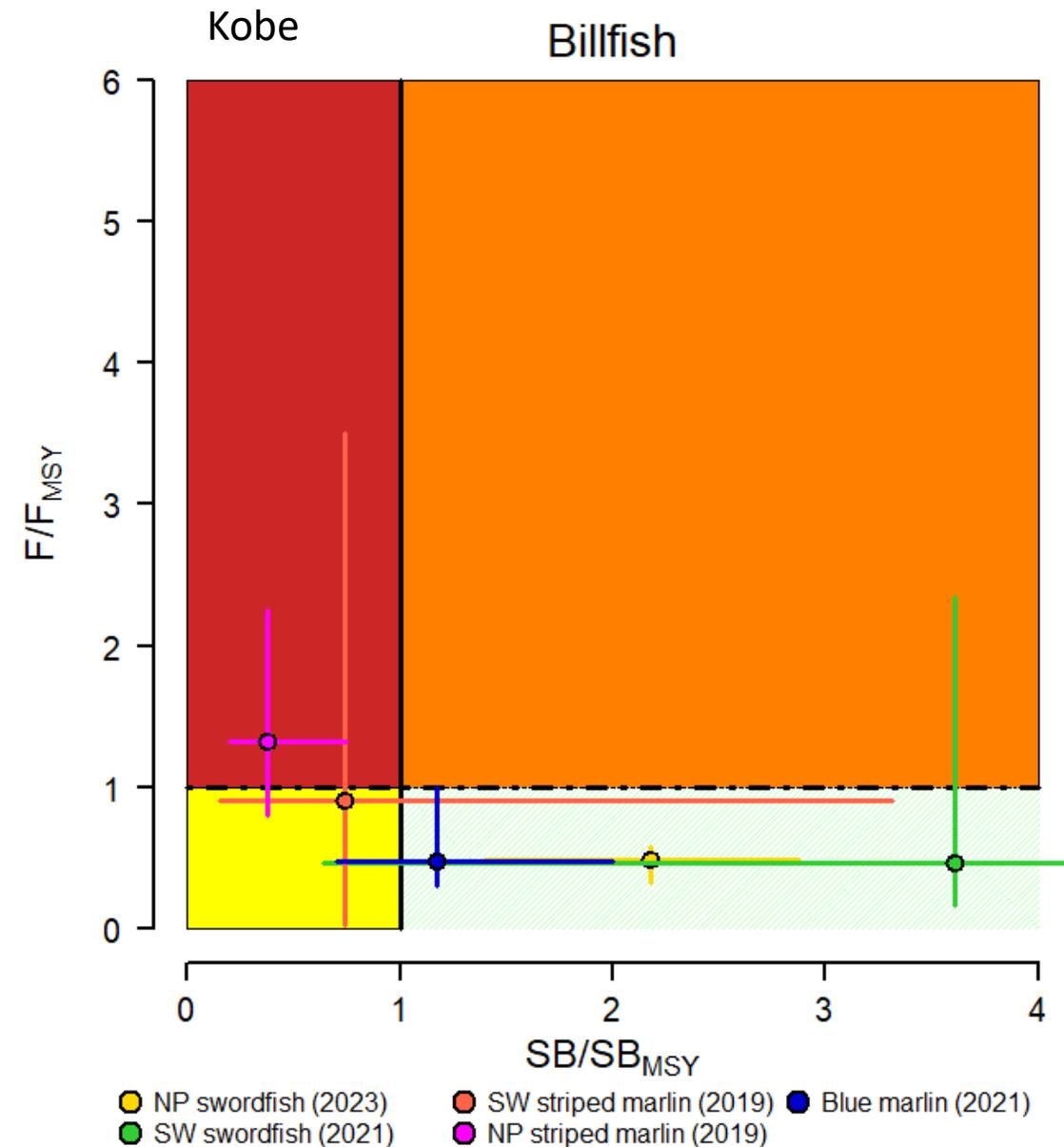
SPC assessments

Southwest Pacific striped marlin

- Assessed 2024 (last data year 2022), assessment not accepted for management advice, more technical work to do and present to SC21 in 2025.
- Management advice per 2019 assessment: *likely overfished close to undergoing overfishing*

Southwest Pacific swordfish

- Assessed 2021 (last data year 2019)
- Management advice: *not overfished not undergoing overfishing*
- Next assessment 2025



Sharks (MSY default reference points)

SPC* assessments

Southwest Pacific blue shark

- Assessed 2021-2022
- Management advice : *unlikely overfished, unlikely undergoing overfishing*
- Next assessment 2026-2027

Southwest Pacific mako shark

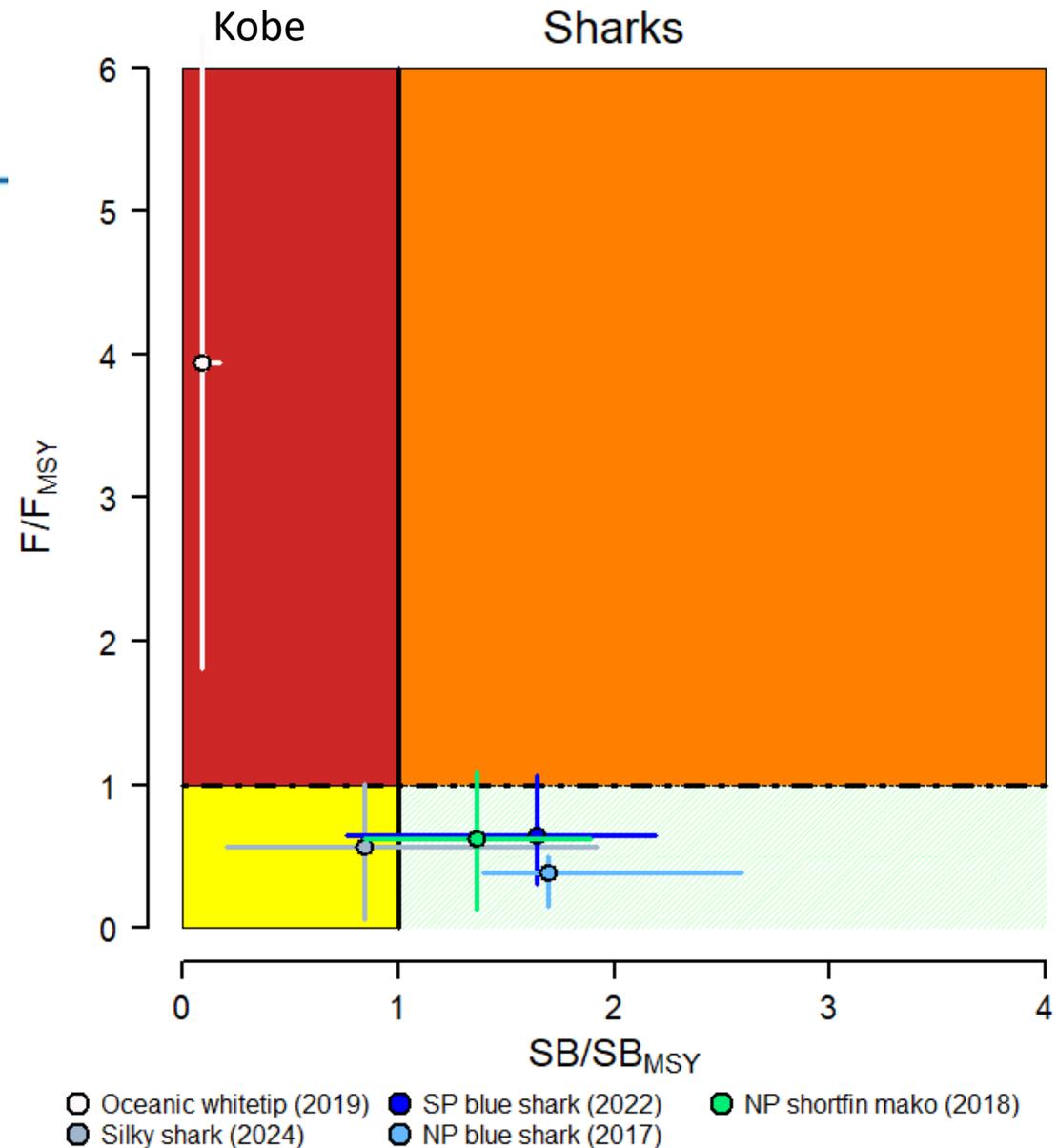
- Assessed 2021 (first assessment)
- Management advice: *none, assessment not used*
- Next assessment 2026-2027

WCPO silky shark

- Assessed 2023-2024
- Management advice: *unlikely to be undergoing overfishing, stock biomass level uncertain*
- Next assessment 2028-2029

WCPO oceanic whitetip

- Assessed 2019
- Management advice: *overfished and undergoing overfishing*
- Next assessment 2024-2025



* All recent assessments done by Dragonfly Data Science in collaboration with SPC

Thanks

TFAR 2023
Coming soon!

