Panel 3: Southern temperate tunas

ALBACORE South Atlantic

Last assessed in 2013 with data up to 2011

- Context of South ALB

- Executive Summary (*)
  - Fishery Indicators and biology
  - Status of stocks
  - Outlook
  - Effects of current regulations
  - Management recommendations

- Research and Statistics
  - Recommendations
  - Work plan

(*) See section 8.4 of SCRS report

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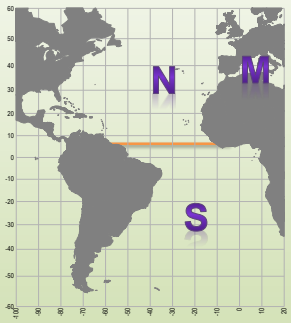
Biology | Fisheries | ALB

CONTEXT



3 management units

Albacore, Atún blanco, Germon	
Scientific name	*Thunnus alalunga*
Distribution	Widely distributed in temperate and tropical waters; from 45-50 ºN to 30-40 ºS (less abundant in surface waters between 10ºN and 10ºS)
Spawning grounds	In subtropical western areas of both hemispheres and throughout the Mediterranean Sea (spring and summer)
Maturity	Atlantic: 90 cm (age 5) / Mediterranean: 62 cm (age 3)
Life span	Atlantic: 15 years / Mediterranean: 9 years
Maximum size	Atlantic: 130 cm (40 kg) / Mediterranean: 95 cm (15 kg)
Natural mortality	Assumed M=0.3

- Environmental variability has a potential strong impact on ALB stocks

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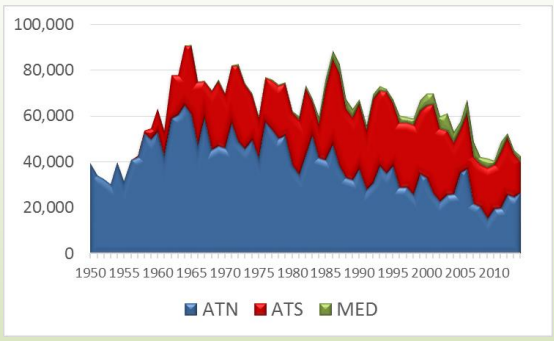
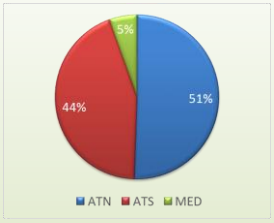
Biology | Fisheries | ALB





(average 2010-2014)

- Atlantic & Mediterranean ALB represents **20% of the world production** of ALB (average years 2009-2013).
- in recent years North and South Atlantic ALB production is almost equivalent (average years 2010-2014).

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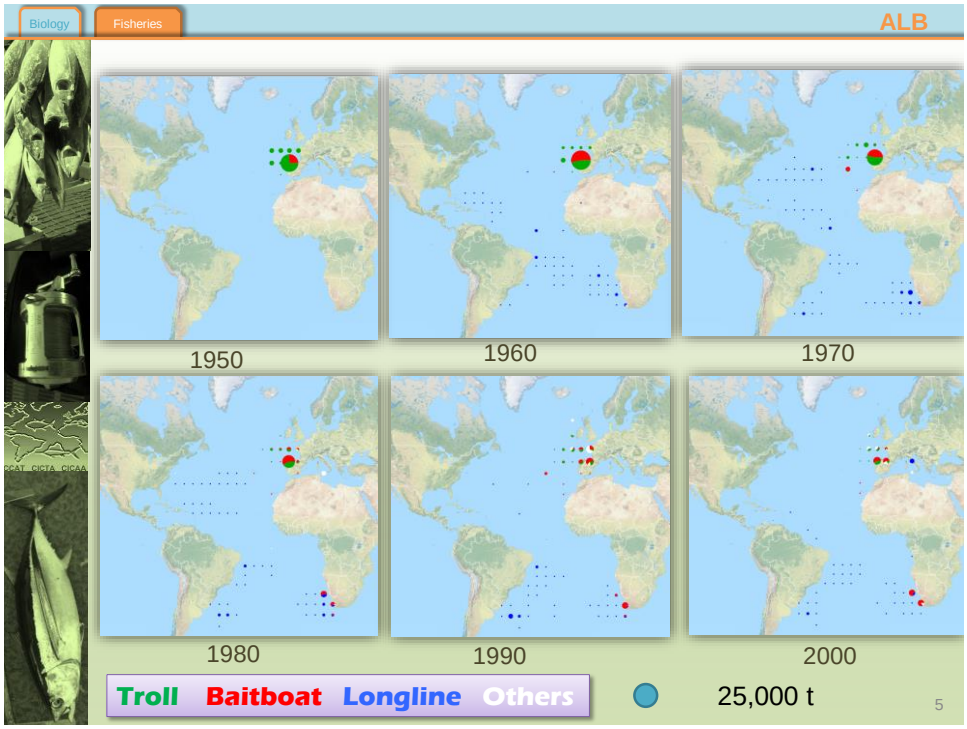
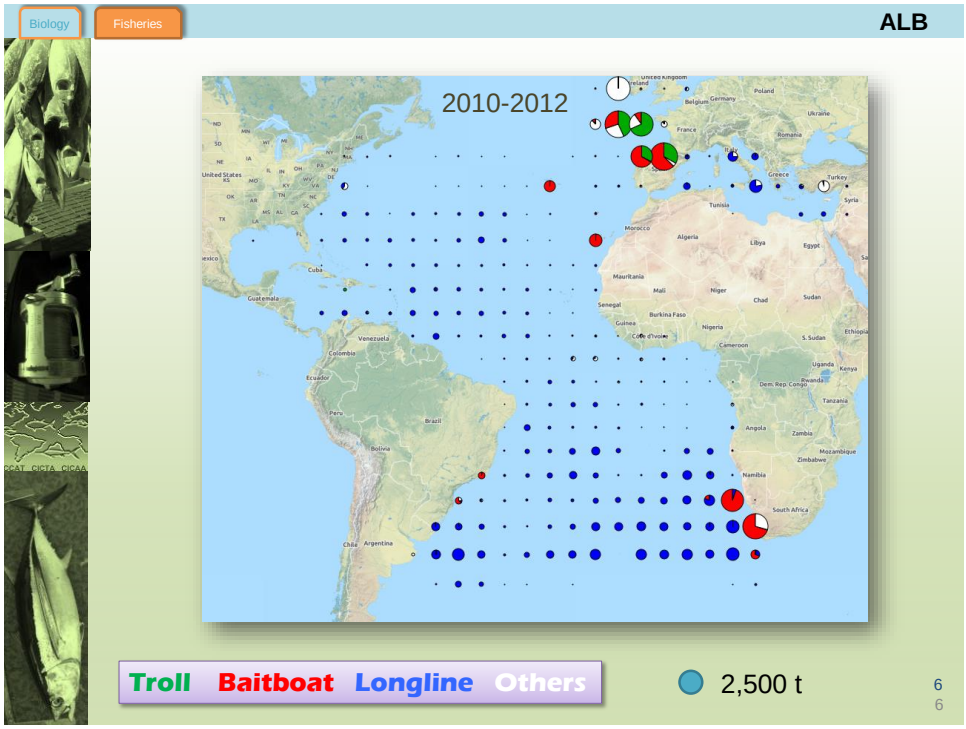

Biology
Fisheries
ALB
1950
1960
1970
1980
1990
2000
Troll
Baitboat
Longline
Others
25,000 t
5


Biology
Fisheries
ALB
2010-2012
Troll
Baitboat
Longline
Others
2,500 t
6
6

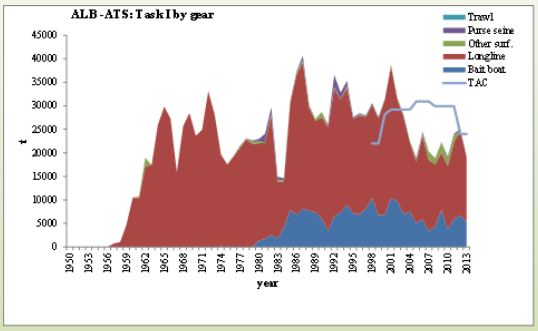
Stock Status

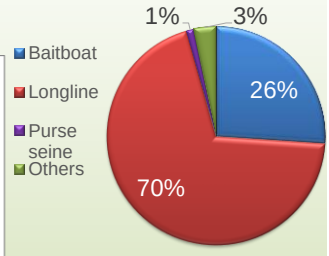
South Atlantic Albacore assessment 2013

Fishery Indicators

SALB Catches by main CPC and gear type

13,681 t in 2014





(average 2010-2014)

- LL mainly catch catch larger albacore (60 cm to 120 cm FL).
- BB mainly catch juvenile and subadult fish (70 cm to 90 cm FL).
- Recently there has been opposite trends in targeting of effort longline effort to Albacore with recent strong declines for Chinese Taipei but recent increases for Japan

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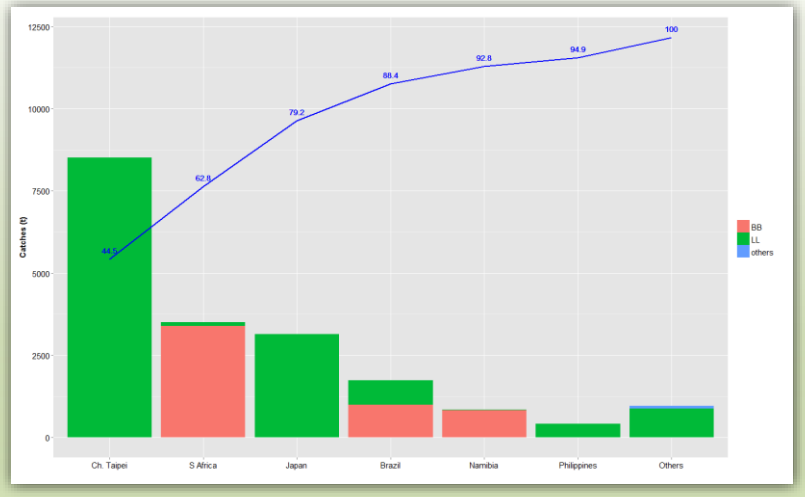
SALB Catches by main CPC and gear type (2012)



13,681 t in 2014

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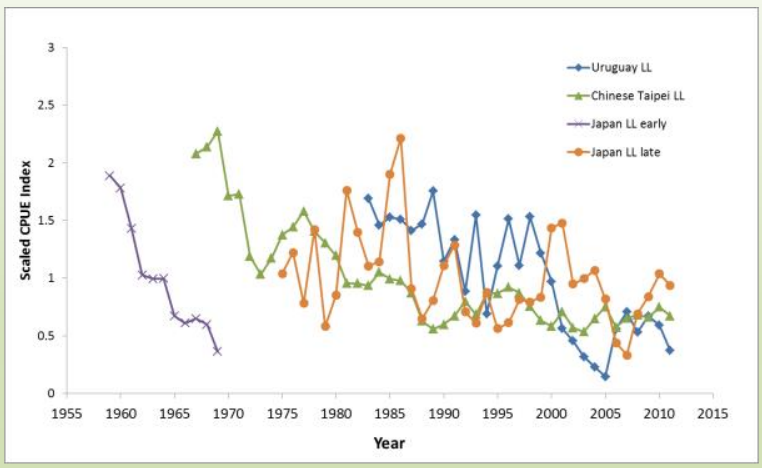
STOCK STATUS: CPUE indices



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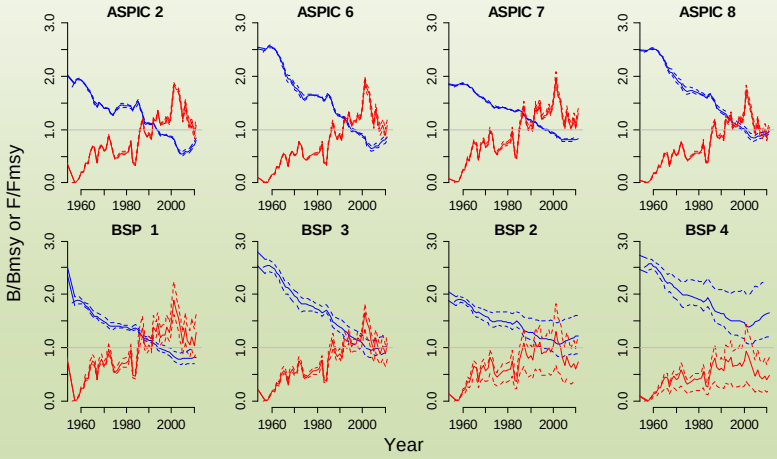
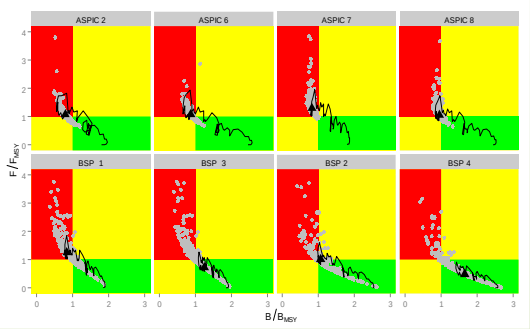
Stock Status:
Production model estimates of Biomass and Fishing mortality

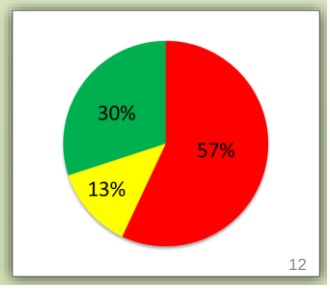


Stock Status: Kobe Plots



Results indicate that, most probably, the South Atlantic albacore stock is **around the spawning biomass and the fishing mortality that can sustain the maximum sustainable levels**.

- MSY ~ 25,228 [19,109-28,360]
- B_{2011}/B_{MSY} ~ 0.92 [0.71-1.26]
- F_{2011}/F_{MSY} ~ 1.04 [0.38-1.32]
- TAC: 24,000 t (2012-15)
- 2014 catch: 13,681 t



Outlook: K2SM

TAC/Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
14000	0.47	0.58	0.64	0.69	0.73	0.76	0.79	0.81	0.83	0.85	0.85	0.86	0.87
16000	0.47	0.56	0.61	0.66	0.70	0.72	0.75	0.76	0.79	0.80	0.82	0.83	0.84
18000	0.46	0.53	0.58	0.62	0.64	0.67	0.70	0.71	0.73	0.74	0.76	0.77	0.78
20000	0.45	0.51	0.55	0.58	0.60	0.62	0.64	0.65	0.66	0.67	0.68	0.69	0.70
22000	0.45	0.48	0.51	0.54	0.56	0.57	0.58	0.59	0.60	0.61	0.62	0.62	0.63
24000	0.43	0.45	0.46	0.48	0.48	0.50	0.50	0.51	0.52	0.52	0.53	0.53	0.53
26000	0.39	0.40	0.40	0.40	0.40	0.40	0.41	0.41	0.41	0.41	0.41	0.41	0.41
28000	0.34	0.33	0.32	0.32	0.32	0.31	0.31	0.30	0.30	0.30	0.29	0.29	0.28
30000	0.29	0.27	0.26	0.25	0.24	0.23	0.22	0.21	0.21	0.20	0.19	0.19	0.19
32000	0.24	0.22	0.21	0.19	0.18	0.18	0.17	0.17	0.16	0.16	0.15	0.15	0.15
34000	0.20	0.18	0.17	0.17	0.16	0.15	0.14	0.14	0.13	0.13	0.13	0.12	0.12

- Projections at the 2013 **TAC (24,000 t)** showed that probabilities of being in the green area would be higher than **50% only after 2020**
- Lower TAC values would provide higher probabilities of being in the green area by 2020.
- Larger TACs would not provide larger than 50% probability in the timeframe analyzed.

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Fisheries | Stock status | Outlook | Effects of current regulations | Management recommendations | ALB - S

Outlook: K2SM

TAC/Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
14000	0.47	0.58	0.64	0.69	0.73	0.76	0.79	0.81	0.83	0.85	0.85	0.86	0.87
16000	0.47	0.56	0.61	0.66	0.70	0.72	0.75	0.76	0.79	0.80	0.82	0.83	0.84
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20000	0.45	0.51	0.55	0.58	0.60	0.62	0.64	0.65	0.66	0.67	0.68	0.69	0.70
22000	0.45	0.48	0.51	0.54	0.56	0.57	0.58	0.59	0.60	0.61	0.62	0.62	0.63
24000	0.43	0.45	0.46	0.48	0.48	0.50	0.50	0.51	0.52	0.52	0.53	0.53	0.53
26000	0.39	0.40	0.40	0.40	0.40	0.40	0.41	0.41	0.41	0.41	0.41	0.41	0.41
28000	0.34	0.33	0.32	0.32	0.32	0.31	0.31	0.30	0.30	0.30	0.29	0.29	0.28

0.75 Fmsy	0.47	0.54	0.60	0.64	0.68	0.70	0.73	0.75	0.78	0.81	0.82	0.84	0.85
0.8 Fmsy	0.47	0.53	0.58	0.61	0.64	0.68	0.69	0.72	0.74	0.76	0.78	0.80	0.81
0.85 Fmsy	0.46	0.51	0.55	0.58	0.61	0.63	0.66	0.68	0.70	0.71	0.72	0.74	0.76
0.9 Fmsy	0.46	0.49	0.52	0.55	0.57	0.59	0.61	0.63	0.64	0.66	0.67	0.68	0.69
0.95 Fmsy	0.46	0.47	0.49	0.51	0.53	0.54	0.56	0.57	0.58	0.59	0.60	0.61	0.62
1.0 Fmsy	0.16	0.17	0.17	0.18	0.19	0.19	0.19	0.20	0.20	0.20	0.21	0.21	0.21

- Projections at Fmsy, without considering implementation errors, suggested that the stock biomass would not rebuild with a probability higher than 50% before 2026 if perfectly implemented.
- Probabilities >50% of rebuilding could be obtained from 2017 when projected at 0.95*Fmsy

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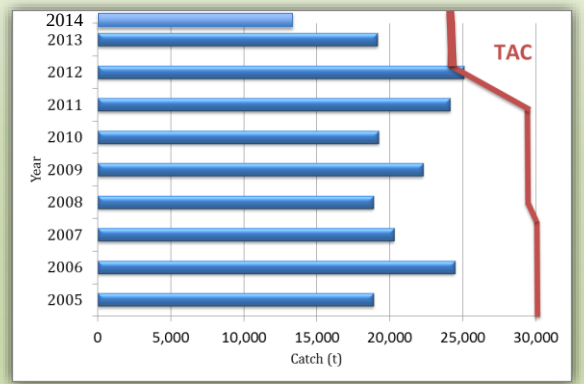
Effects of current regulations

- In 2013 the Commission established a new **TAC of 24,000 t** that has been maintained for **2014-2016** [Rec. 13-06].
- The Committee noted that, **since 2004, reported catches remained below 24,000 t**, except in 2006, 2011 and 2012, where reported catches were slightly above this value



Management recommendations

- South Atlantic albacore stock is most probably **around SSB_{MSY} and F_{MSY}**.
- Projections at a level consistent with the 2013 TAC (**24,000 t**) showed that probabilities of being in the green area would exceed **50% only after 2020**.
- With catches around **20,000 t**, probabilities of **50% would be exceeded by 2015**, and probabilities of **60% would be exceeded by 2018**.
- Further reductions in catches would increase the probability of recovery in those timeframes. And likewise, increases would reduce rebuilding probabilities and extend the timeframes.
- **Catches over the current TAC (24,000 t) will not permit the rebuilding** of the stock with at least 50% probability over the projection timeframe (ALB-Table 5).

ALB Research recommendations

- Several research lines should be pursued:
  - Further elaboration of the **MSE framework** be developed for albacore to include a more complete set of uncertainties and help direct research Programme.
  - **Biological parameters** used in the assessment should be reviewed and updated with more recent observations
  - Studies on the **effect of environmental variables on CPUE** trends of surface and other fisheries.

ALB WG WORK PLAN

- The ALB Species Group proposes to prepare the next assessments for these stocks [proposed for 2016], by r**educing uncertainty around datasets and parameters** on one hand, and **developing robust management procedures that cope with the uncertainty that remains**.
- Assessments of ALB will require:
  - external expertise to support analyses because of limited capacity available within the working group
  - More CPCs to take advantage of ICCAT funds to attend assessments to ensure broader participation