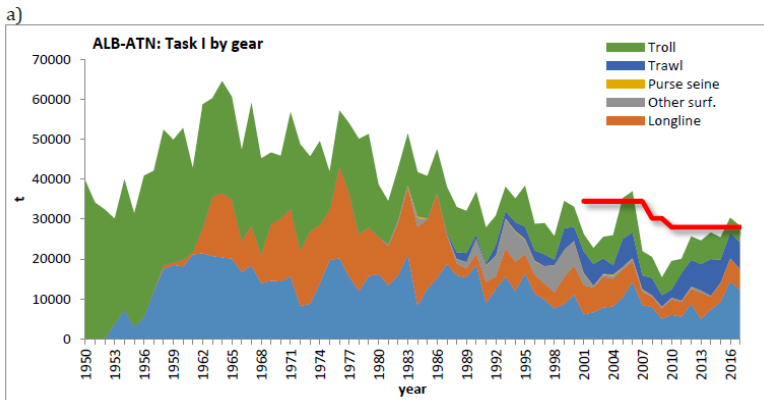


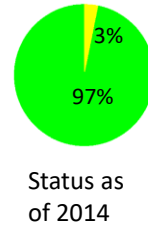
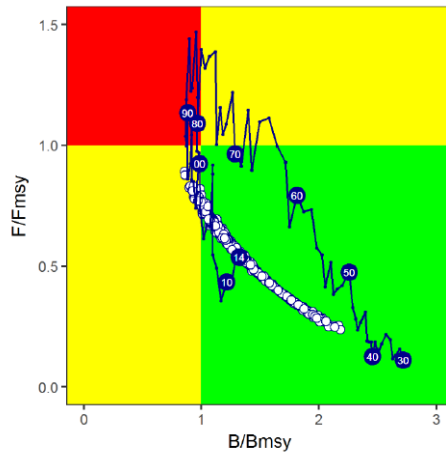
ICCAT CICTA CICAA *ALB N Fishery indicators*



The preliminary total reported catch in 2017 was 28,310 t (above the TAC of 28,000 t), and the catch in the last five years has remained about 27,000 t, above the historical minimum of around 15,000 t recorded in 2009.

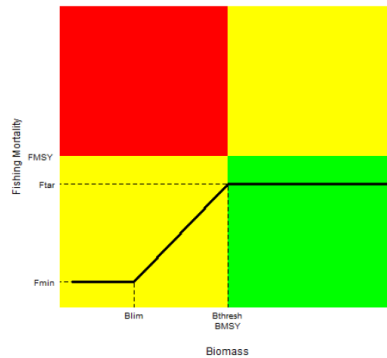
ICCAT CICTA CICAA **ALB N State of stock**

No overfishing
Not overfished



ICCAT CICTA CICAA **ALB N MSE**

HCR adopted in Rec 17-04. BLIM (set at 0.4BMSY) is the limit biomass reference point, BTHRESH (set at BMSY) is the point below which fishing mortality decreases linearly, FTAR (set at 0.8FMSY) is the target fishing mortality rate to be applied to achieve the management objectives, and FMIN (set at 0.1FMSY) is the fishing mortality to be applied when $B < BLIM$.

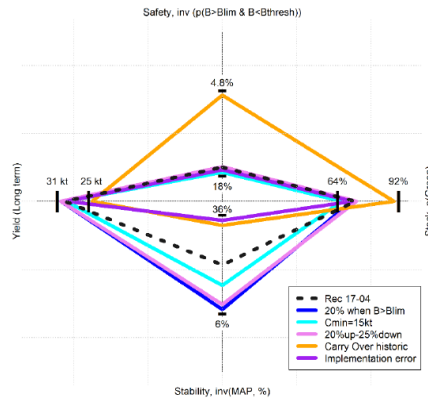


In 2018, an external peer review was conducted and it confirmed that, overall, the MSE framework appears to be scientifically sound and robust to uncertainty. Thus, the interim HCR adopted by the Commission in 2017 that led to a TAC of 33,600 t had a robust scientific basis. There is an extensive workplan to improve the MSE framework used in the evaluation of HCRs based on the recommendations of the external review (**Commission Response 19-8**).



Spider plots representing the relative performance of the HCR adopted in Rec 17-04, as well as different variants requested in par 16.

Commission could adopt any of the variants (a, b or c) mentioned in Paragraph 16 of Rec 17-04, which would provide additional stability to the fisheries while meeting management objectives.



Imposing the minimum TAC of 15,000 t would override the application of Paragraph 7.c of Rec. 17-04. Results also showed that this scenario scored lowest in stock status indicators.

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19.7 The SCRS is requested to develop in 2018 criteria for the identification of exceptional circumstances. Rec. 17-04 paragraph 12 (N-ALB)

Two principles that would signal the possibility of exceptional circumstances:

1. When there is evidence that the stock is in a state not previously considered to be plausible in the context of the MSE and/or;
2. When there is evidence that the data required to apply the HCR are not available or are no longer appropriate.

The Committee adopted a table that identifies the list of indicators that could be used to judge whether exceptional circumstances exist, how frequently these indicators should be calculated, and how frequently the determination of exceptional circumstances should be done.

Also, there is a need for the Commission to decide what to do in such circumstances.

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ALB N Recommendations with financial implications

- Several countries with important albacore fisheries have not been represented at meetings of the ALB WG. To overcome this, the Group continues to recommend that CPCs make additional efforts to participate and be made aware of capacity building funds available for participation in and contributing to Working Group meetings.
- The Committee recommends continued funding of the albacore research programme for North Atlantic albacore. Over a four year period (1.1 million Euros Total and €742,000 for the top priority tasks) the research will be focused on three main research areas: biology and ecology, monitoring of stock status, and management strategy evaluation (see Appendix 12 of SCRS report).

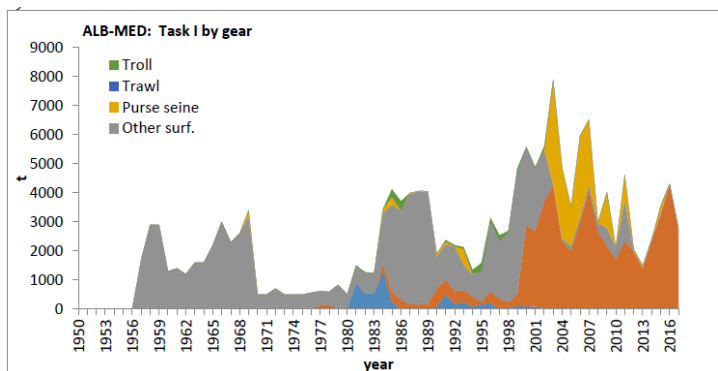
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ICCAT CICTA CICAA

ALB Med Fishery indicators



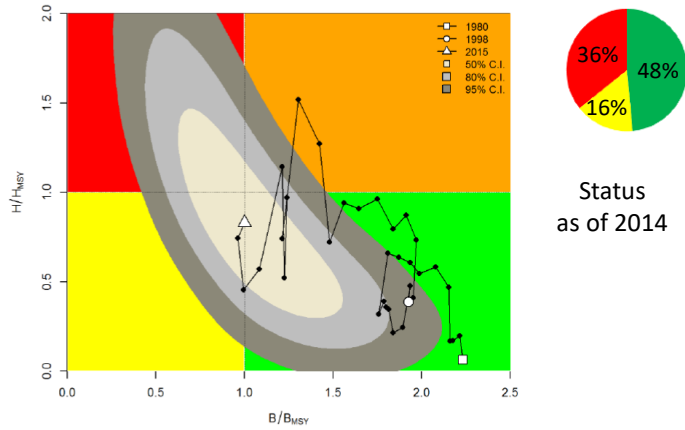
In 2017, the reported landings were 2,780 t, below those in the last decade. The majority of the catch came from longline fisheries.

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ICCAT CICTA CICAA **ALB Med State of stock**



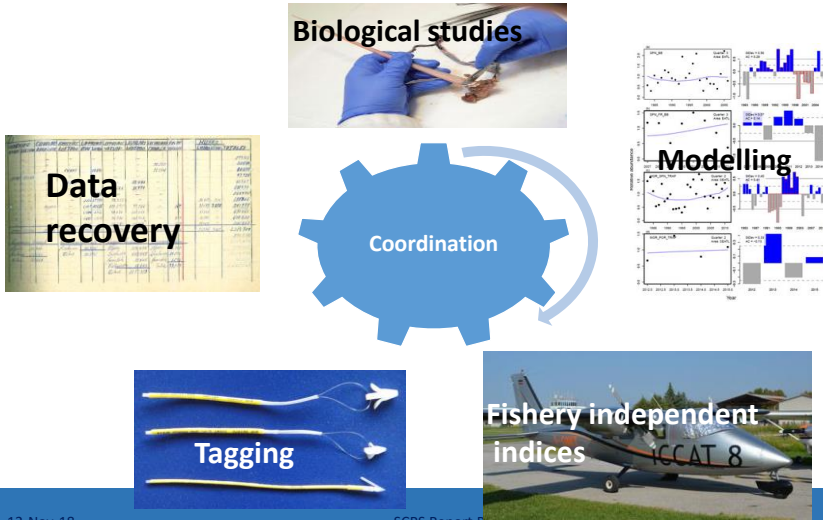
stock status is highly uncertain with respect to both fishing mortality and biomass

Overfished: NOT LIKELY
Overfishing: NOT LIKELY

ALB Med Management recommendations

Considering the high uncertainty regarding the most recent abundance trends, the Committee recommends to maintain catches below MSY at least until these abundance trends are further updated. The precise level of catch would depend on the level of risk the Commission is willing to take.

❖ It is structured in six main lines of activity:



Quick overview of GBYP Program

- ❖ Up to now, GBYP has produced a total of 148 contracts to 102 entities located in 24 countries; 289 scientific and technical reports and 244 scientific papers
- ❖ Info from all GBYP activities have contributed to BFT stock assessment advice, sensitivity models and the implementation of BFT Management Strategies Evaluation

USE OF GBYP DATA FOR IMPROVING BFT STOCKS MANAGEMENT		
ACTIVITY	BFT STOCK ASSESSMENT ADVICE AND SENSITIVITY MODELS	BFT MSE OPERATING MODELS DEVELOPMENT
Data recovery	Size data, historical trap catch data, bait boat data, historical maturity data, non GBYP e-tags data	Size data, long line CPUEs, bait boat data, historical genetic data, non GBYP e-tags data
Aerial surveys	Time series 6 years available, but not used yet	Time series 5 years already used
Tagging	Conventional tag data, growth data from tagging, GBYP e-tags data	Conventional tag data, info on movements across statistical areas from GBYP e-tags data
Biological studies	Genetic and microchemical data determining mixing, Age/Length keys, reproductive parameters, Length/weight correlation	Genetic and microchemical data determining mixing, Age/Length keys, reproductive parameters, Length/weight correlation
Modelling	Space Assessment Model (SAM) application, VPA training course, SS3	BFT MSE OM development

All the relevant documents related to the program development can be downloaded from:

<https://www.iccat.int/GBYP/en/>

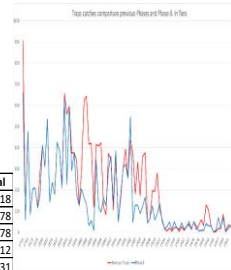
Activities&Results Phases 7 (2nd part) and 8 (1st Part) Data recovery

❖ Tasks within this Activity have continued gathering and integrating in ICCAT DBs relevant information for improving BFT assessments.

Specifically, in Phases 7 and 8:

- ❖ Recent data from Italian LL fishery (2011-2016)
- ❖ Historical data from 5 Italian tuna traps (1880-1921)
- ❖ Data from ICES BFT Working Group (1962-1978)
- ❖ Data from 41 electronic tags deployed in 2016 and 2017

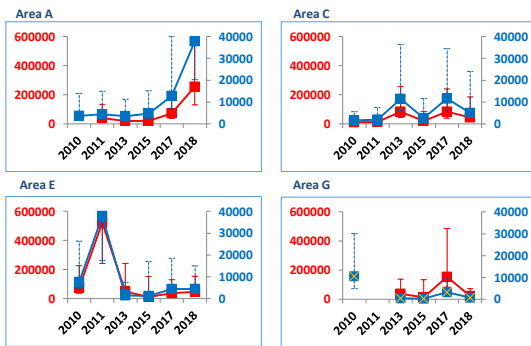
Country	Gear	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Total	
CANADA	PS									4714	794			2689	1412	1409			11018	
	RR							274	163	132	219	593	687	958	933	842	440	437	5678	
	TRAP													122		456			578	
DENMARK	MWT			112															112	
DENMARK-SWEDEN	MWT															16	6	9	31	
PORTUGAL	TROL				363														363	
LIBYA	TRAP			14912															14912	
	HAND												62	128	667	1062			1919	
USA	HARP												86	139					225	
	PS	3087	11192	6019		3738	1471	920	811	8768				66739	5562	1460	4408	2748	116923	
	RR												269		301		206	3694	4470	
	UNCL																	87	2240	2327
	Total	3087	11192	21043	363	3738	1471	1194	974	8900	4933	1387	1104	70508	8562	4850	6122	9128	158556	



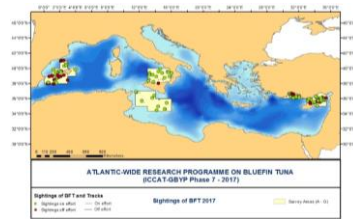
Comparison of Flumentorgiu and Secco trap catches (in tons) between official reports (red) and original data from owner diaries (blue).

Activities&Results Phases 7 (2nd part) and 8 (1st Part) Aerial survey

The 2017 and 2018 aerial surveys have been carried out on the four identified main spawning areas of the Eastern stock, following the same standardised protocol



Results from 2018 survey in N (red) and weight (blue)

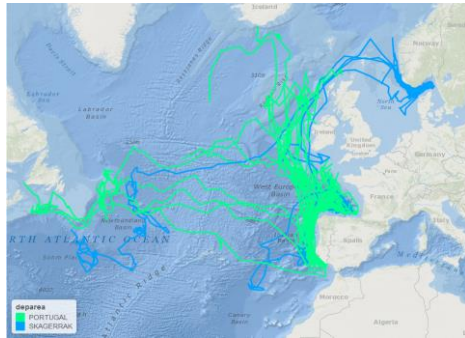


Data analysis of 2018 surveys has allowed to detect that further methodological improvements can be implemented, and that validation/calibration exercises should be carried out to increase the accuracy and precision of aerial survey results.

Activities&Results Phases 7 (2nd part) and 8 (1st Part) **Tagging**

- ❖ Conventional tagging has continued as “opportunity” activity (773 deployed in Phase 7)

Quantity	Institution	Country
1000	The Italian Federation Sport Fishing (FIPSAS)	ITALY
1000	Government of Canada (Fisheries and Oceans)	CANADA
50	Marine Institute	IRELAND
150	Associacio Catalana per a una Pesca Responsable (ACPR)	ESPAÑA
150	WWF Mediterranean Marine Initiative	ITALY
25	National Institute of Fisheries Science	KOREA
50	Institute of Marine Research	NORWAY
250	Technical University of Denmark	DENMARK



Conventional tags delivered in Phase 8

- ❖ Electronic tagging focused in North Atlantic (58 tags deployed in Phase 7 and up to 60 in Phase 8)
- ❖ Electronic tags database developed for GBYP tags, along with Shiny application for visualisation and preliminary analysis

Activities&Results Phases 7 (2nd part) and 8 (1st Part) **Biological studies:**

- Ageing (Fish Ageing Services, Australia): 2000 otoliths



These readings should be calibrated with previous ALK produced by ageing experts working on Atlantic BFT, taking into account the recently developed interpretation protocol



Modelling: Progress on MSE

- BFT WG meeting focus on MSE helped to:
 - thorough check of the appropriateness of the “operating models” covering the primary sources of uncertainty to be used to check candidate management procedures,
 - Six groups of scientists are already testing candidate procedures against these operating models
- MSE accounted of tagging data, microchemistry and genetic data to determine the proportion of eastern and western origin Bluefin present in various geographical areas across the Atlantic at various times during the year. Mixing of these fish across the whole Atlantic is appreciable and variable, which will probably have important implications for management of bluefin.
- MSE process must include adequate opportunity for feedback from stakeholders regarding objectives and acceptable trade-offs in their attainment. Completion of this MSE process is pushed to 2020, provided that scheduling allows completion of the roadmap and that sufficient funding can be made available and that no assessment is required by the Commission in either 2019 nor 2020.

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Outline of GBYP Phase 9 Tasks proposal

- a) **Data recovery:**
- b) **Aerial survey:**
- c) **Tagging:**
-
- d) **Biological and genetic sampling and analyses:**
-
- e) **Modelling:**

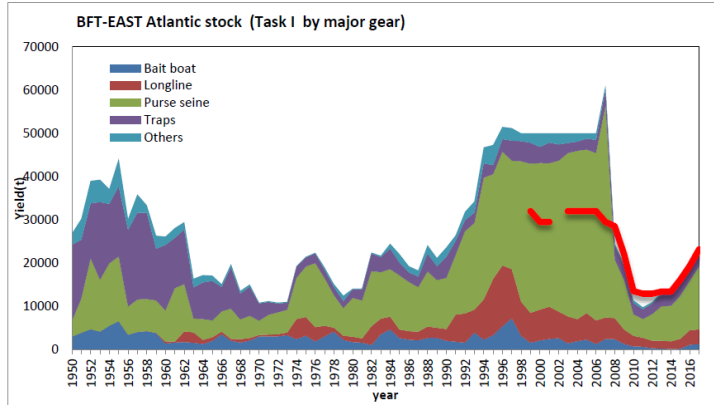
ENVISAGED BUDGET: 1750000 €

12-Nov-18

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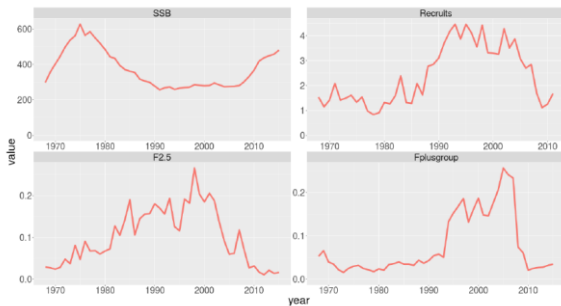
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ICCAT CICTA CICAA **BFT E Fishery indicators**



ICCAT CICTA CICAA **BFT E State of stock and outlook**

Spawning stock biomass (in thousand metric ton), recruitment (in million), and fishing mortality (average over ages 2 to 5, and 10+)



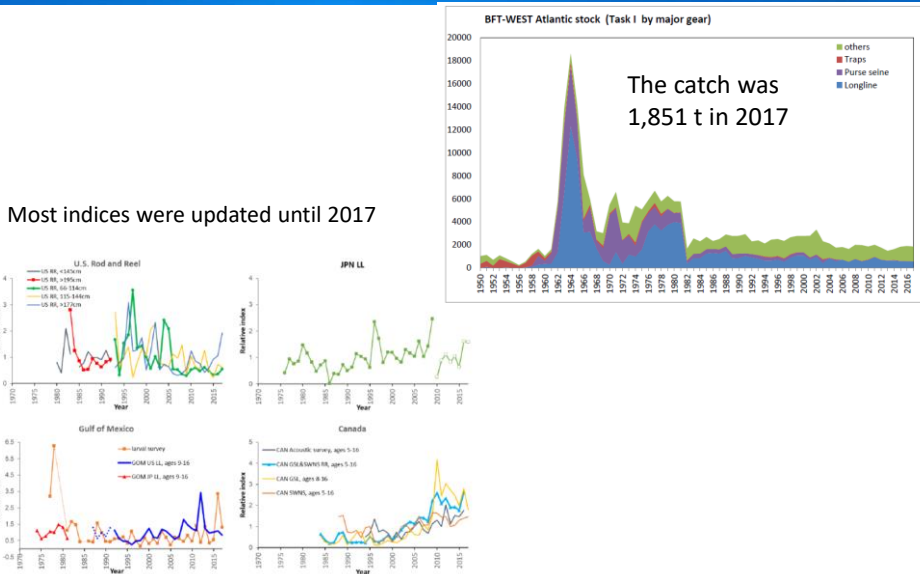
The probabilities of $F < F_{0.1}$ under the recent recruitment scenario.

Catch (t)	2018	2019	2020	2021	2022
18,000	100	100	100	100	100
20,000	99	99	99	99	99
22,000	99	99	98	98	98
23,855	98	96	98	98	99
24,000	98	96	97	98	97
26,000	87	96	96	96	96
28,000	85	94	94	94	94
30,000	93	92	92	90	89
31,000	90	90	89	89	88
32,000	89	88	87	86	83
33,000	86	85	83	81	80
34,000	82	81	79	78	75
35,000	79	77	76	72	70
36,000	75	73	70	68	64
37,000	70	68	65	62	59
38,000	65	63	60	57	54
39,000	59	57	54	52	49
40,000	56	52	49	46	44
45,000	36	35	34	30	28
50,000	24	22	20	18	18

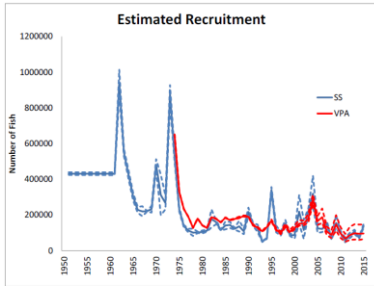
BFT E Management recommendations

- The 2017 advice included a recommendation to evaluate indices annually to advise on the continuation of the stepped increase. The indices which have been updated up to 2017 did not clearly indicate any change in the stock abundance. Consequently, the Committee is of the view that the stepped increase for 2019 from Rec 17-07 can be maintained.
- Given the abundance increase reported in 2017 assessment, the Committee advises that the Commission should consider moving from the current rebuilding plan to a management plan, while not weakening the current monitoring and control measures. The indices that have been updated through 2017 provided no clear indication to deviate from this advice.

ICCAT CICTA CICA BFT W Fishery indicators



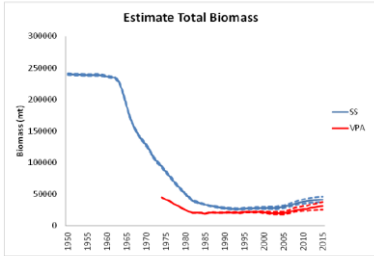
ICCAT CICTA CICA **BFT W State of stock and outlook**



Status as of 2015

Kobe II matrix giving the probability that overfishing not occurring)

Catch	2018	2019	2020
1000	100%	100%	100%
1250	100%	100%	100%
1500	100%	100%	100%
1750	99%	98%	96%
2000	94%	90%	87%
2250	83%	80%	76%
2500	72%	69%	65%
2750	62%	54%	46%
3000	46%	33%	21%
3250	26%	15%	7%



BFT W Responses to the Commission

19.9 Review on specific spawning times and areas of bluefin tuna in the western Atlantic. Rec. 17-06 paragraph 23 (W-BFT)

- There was no new information available this year for the SCRS to review on specific spawning times and areas of bluefin tuna in the western Atlantic.
- Certain CPCs plan to conduct research to explore the efficacy of the Gulf of Mexico directed fishery restriction, but at this time, the SCRS has been unable to conduct a substantive evaluation of the question on which to base new advice.
- In general, the efficacy of the protection of spawning areas of BFT has yet to be demonstrated.



BFT W Responses to the Commission



19.10 Provide guidance on a range of fish size management measures and their impact on yield per recruit and spawner per recruit considerations. Rec. 17-06 paragraph 27 (W-BFT)

The Committee reiterates its advice in 2012 in response to [Rec. 10-03]



BFT W Management recommendations



- The Commission recommended (Rec. 17-06) total allowable catches (TAC) of 2,350 t in 2018, 2019 and 2020. Projections indicate that these catches would be unlikely to lead to overfishing for this three year time period. As there are no signs in the fishery indicators that would indicate a reason to alter current management, the Committee is of the view that the current catch advice from Rec 17-06 can be maintained.



BFT Recommendations with financial implications



- Continued funding to support the essential work of GBYP including funding of the MSE development process, biological studies and the full GBYP work plan.
- Three meetings devoted primarily to MSE development (two Bluefin tuna MSE Technical Group meetings, coordinated by GBYP, and a Joint BFT/MSE intersessional meeting).