Sea bass: state of stock and fisheries in Areas IVbc and VIId,e-h : ICES assessment and advice

Inter-AC workshop on Sea bass: 18 September 2014

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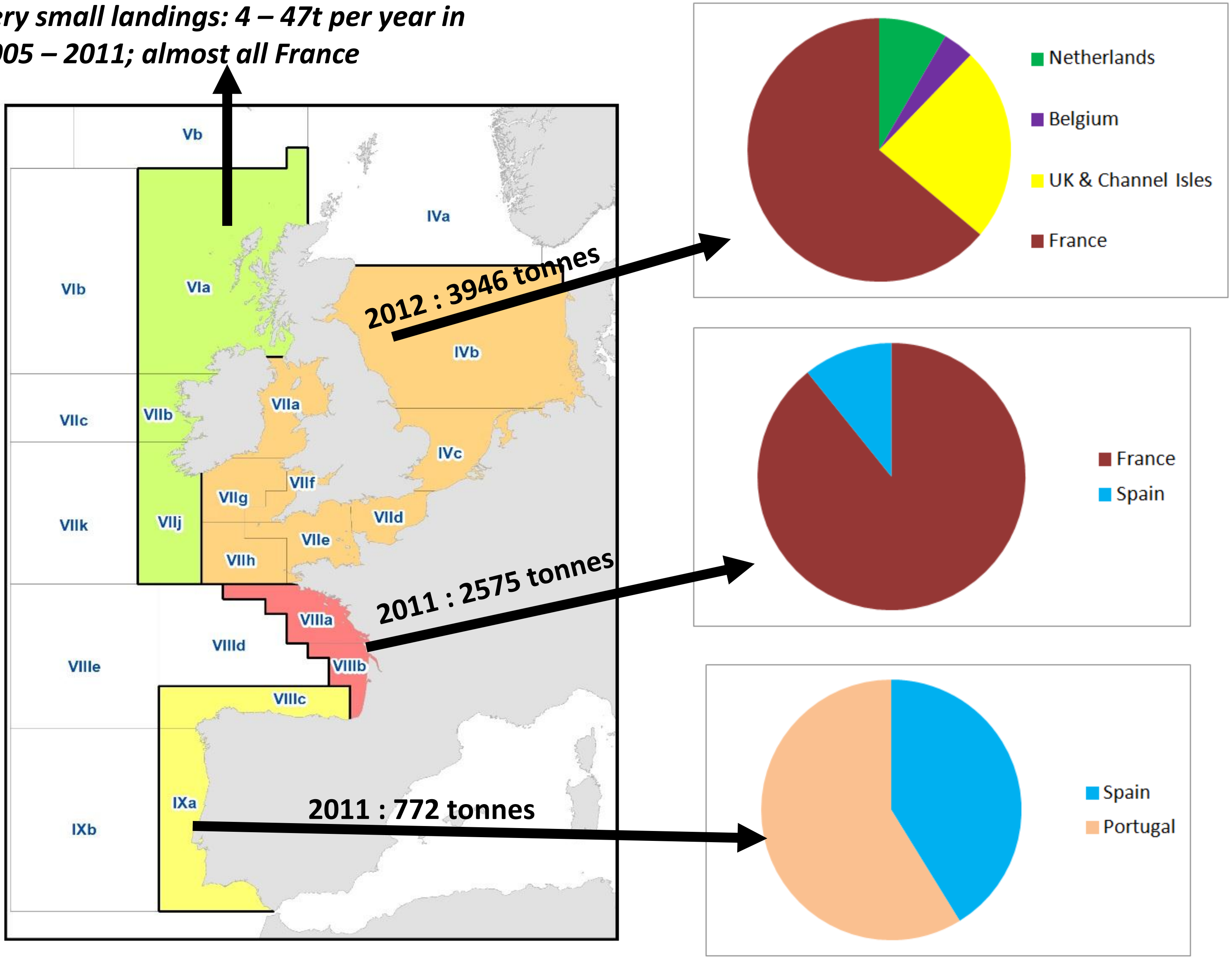
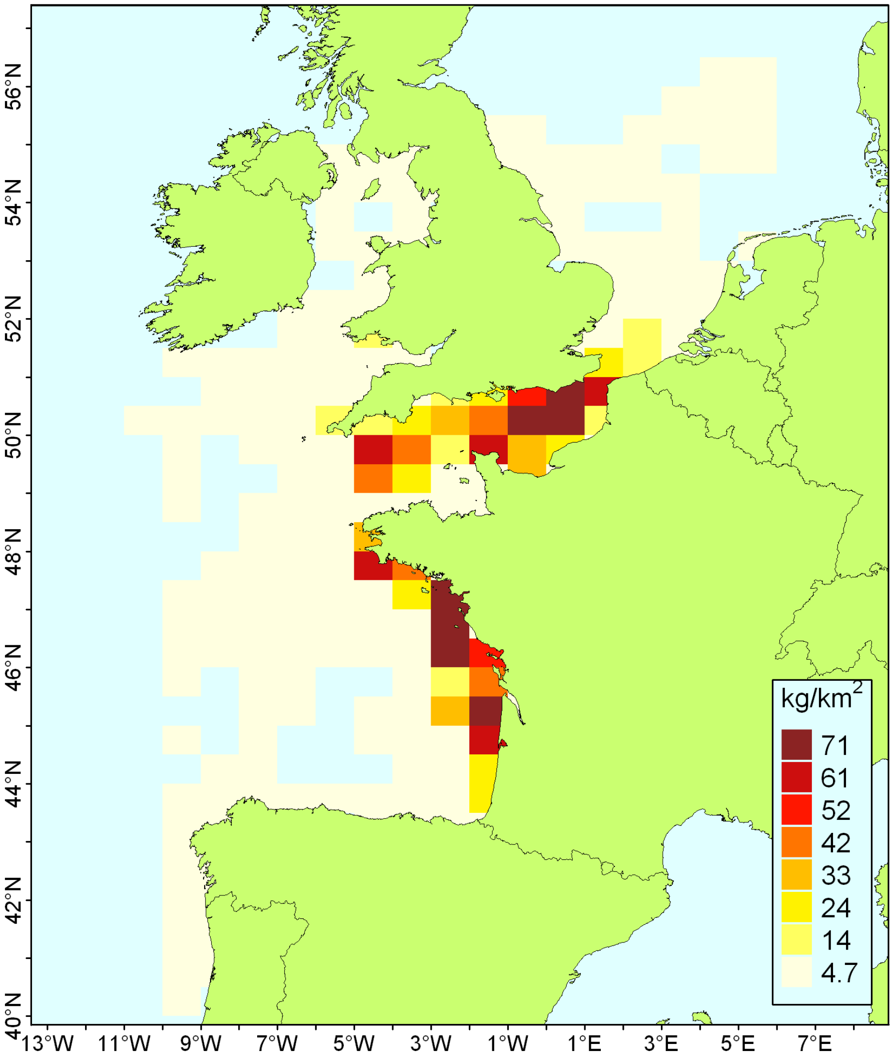
This presentation is on the stock in IVbc and VIId,e-h

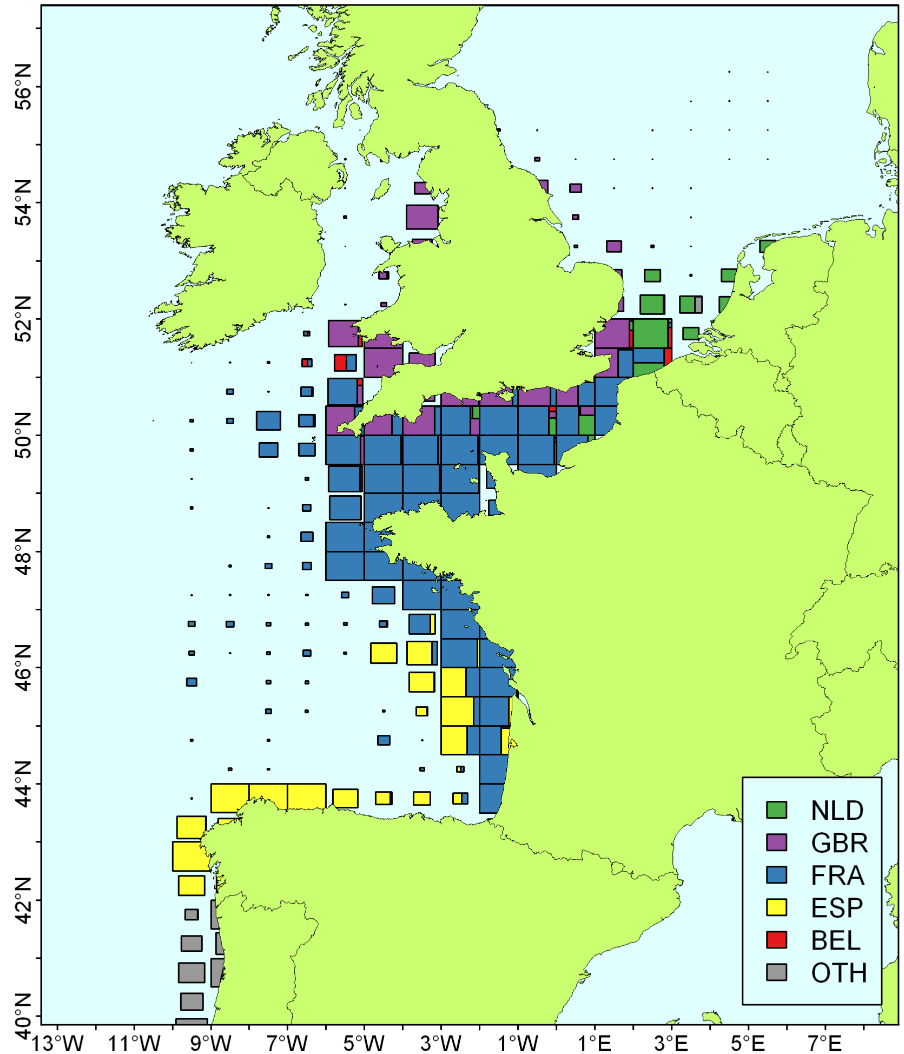
Very small landings: 4 – 47t per year in 2005 – 2011; almost all France



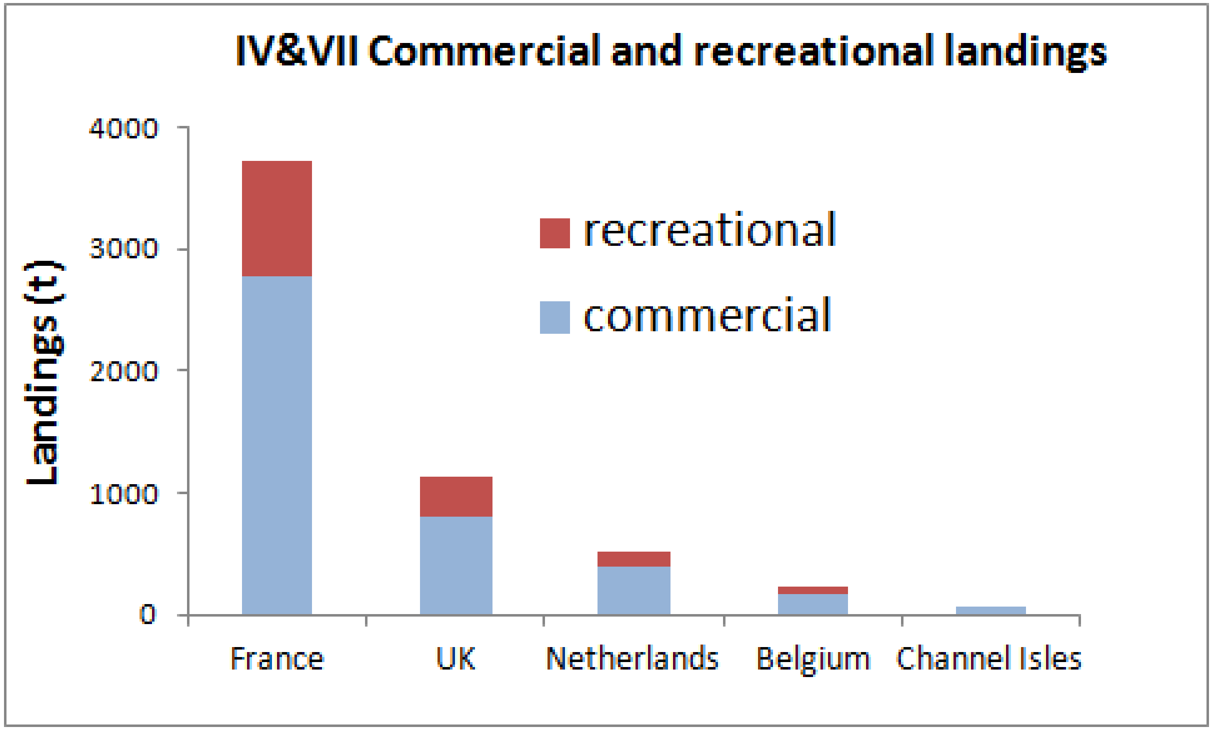
Commercial landings

Sea Bass Commercial Landings by Rectangle & Country (Data: STECF for 2012)





Sea bass is a shared commercial and recreational resource

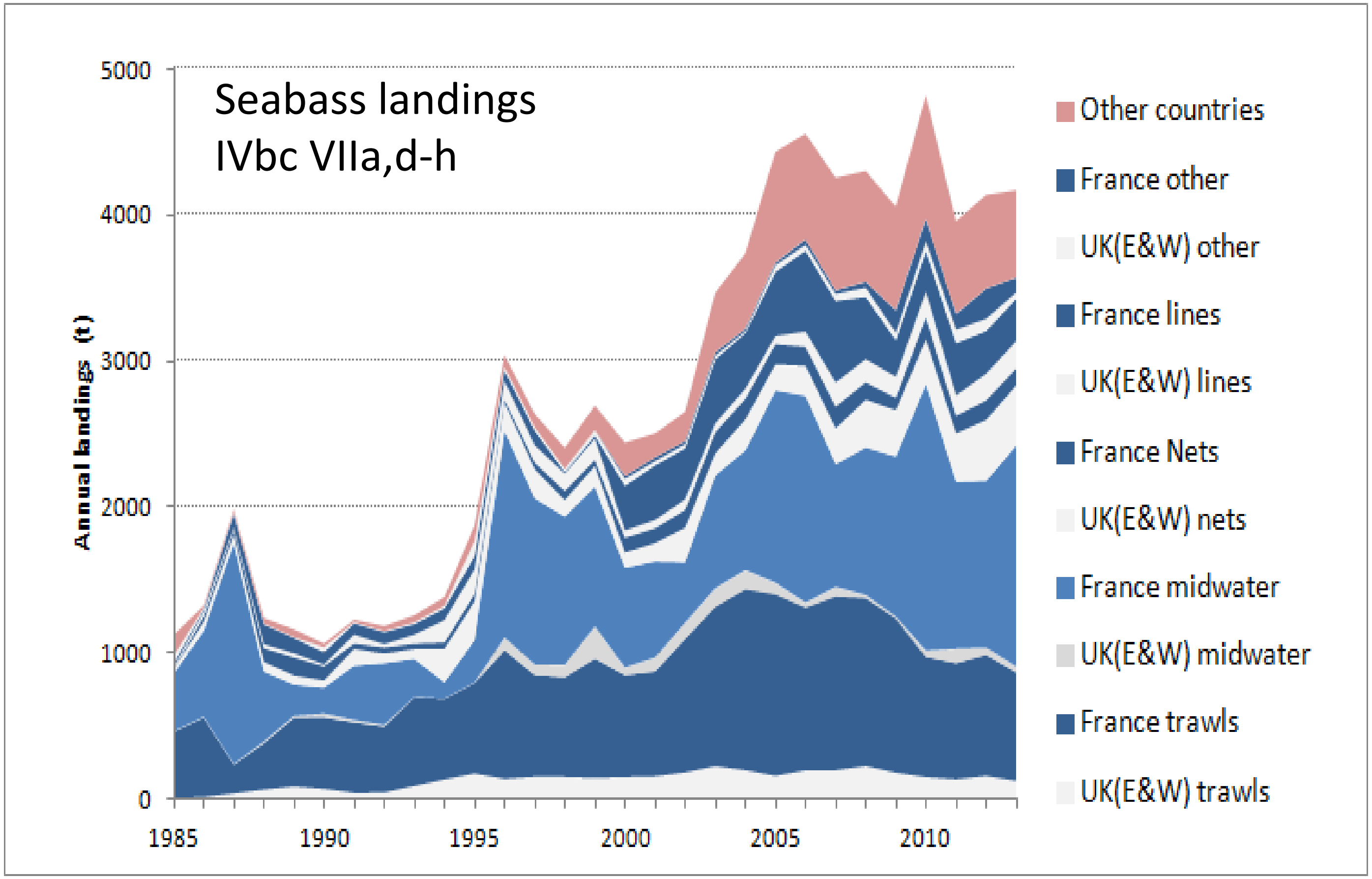


In recent few years – recreational retained catch ~ 25% of total reported landings in France, UK, Netherlands, Belgium.

Total estimated recreational landings in 2012 ~ 1.5kt

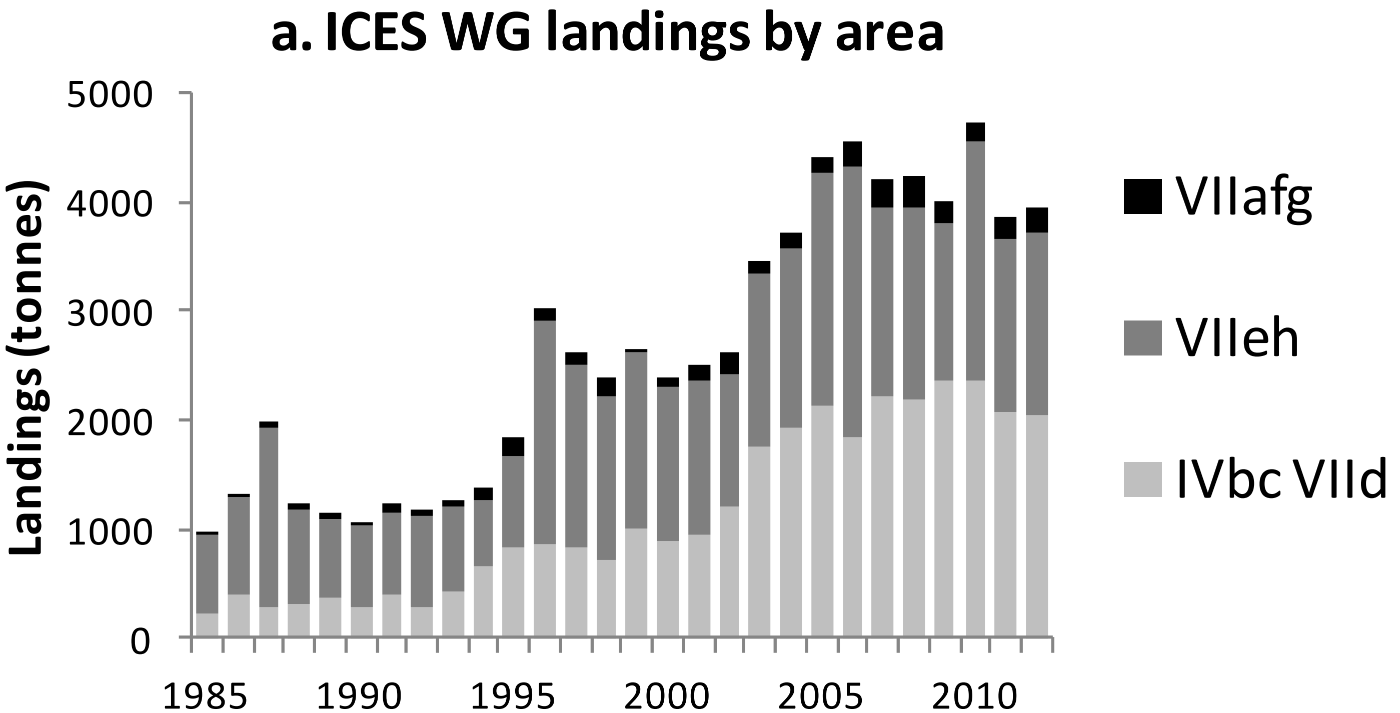
(UK = England only – will also be significant catch in Wales)

Commercial landings time series by gear



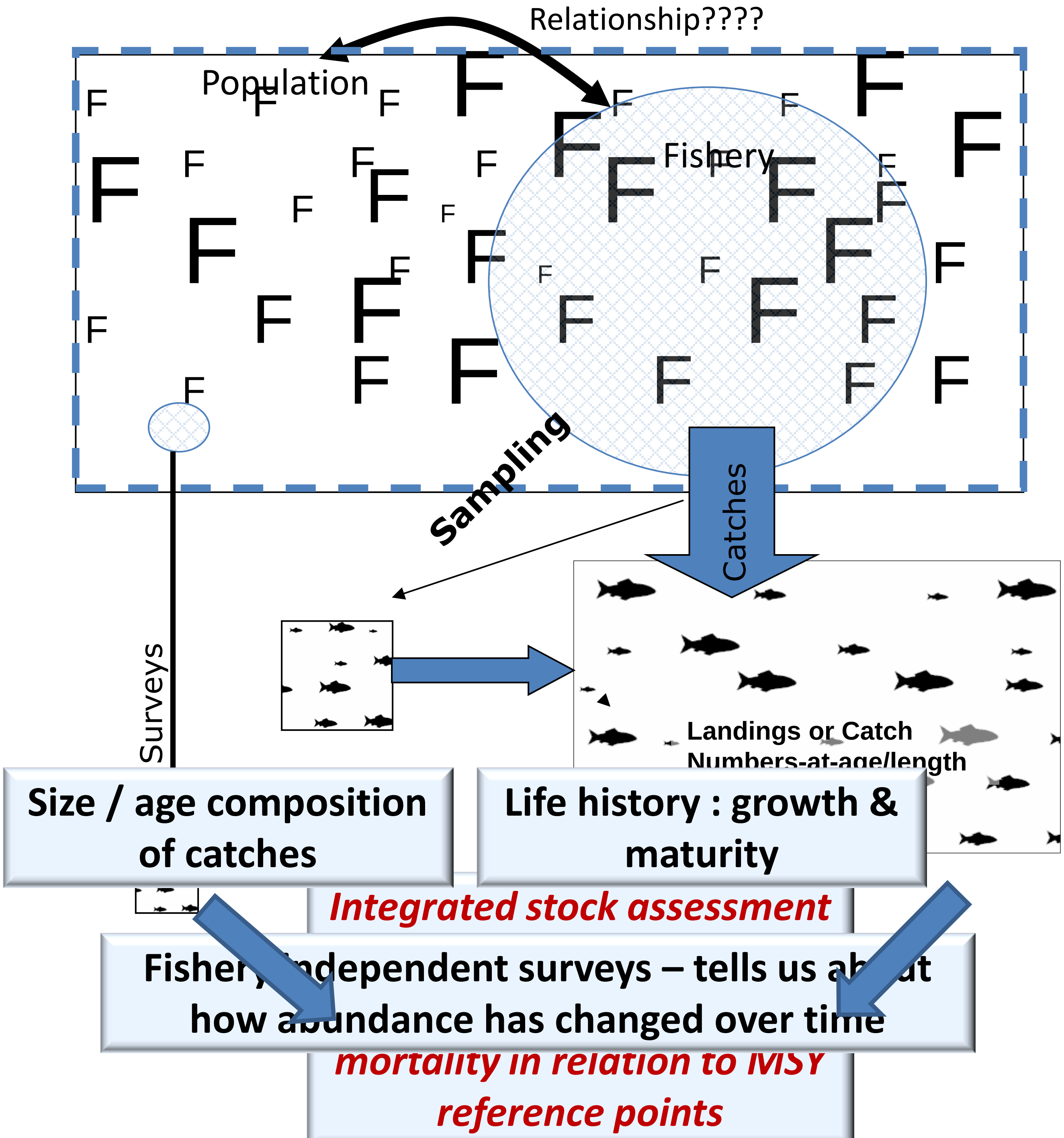
Reported landings increased following 1989 year class and subsequent good recruitment.
France has largest catch – mainly midwater pair and bottom trawl
Belgium & Netherlands – fisheries developed in 2000s

Commercial landings time series by area

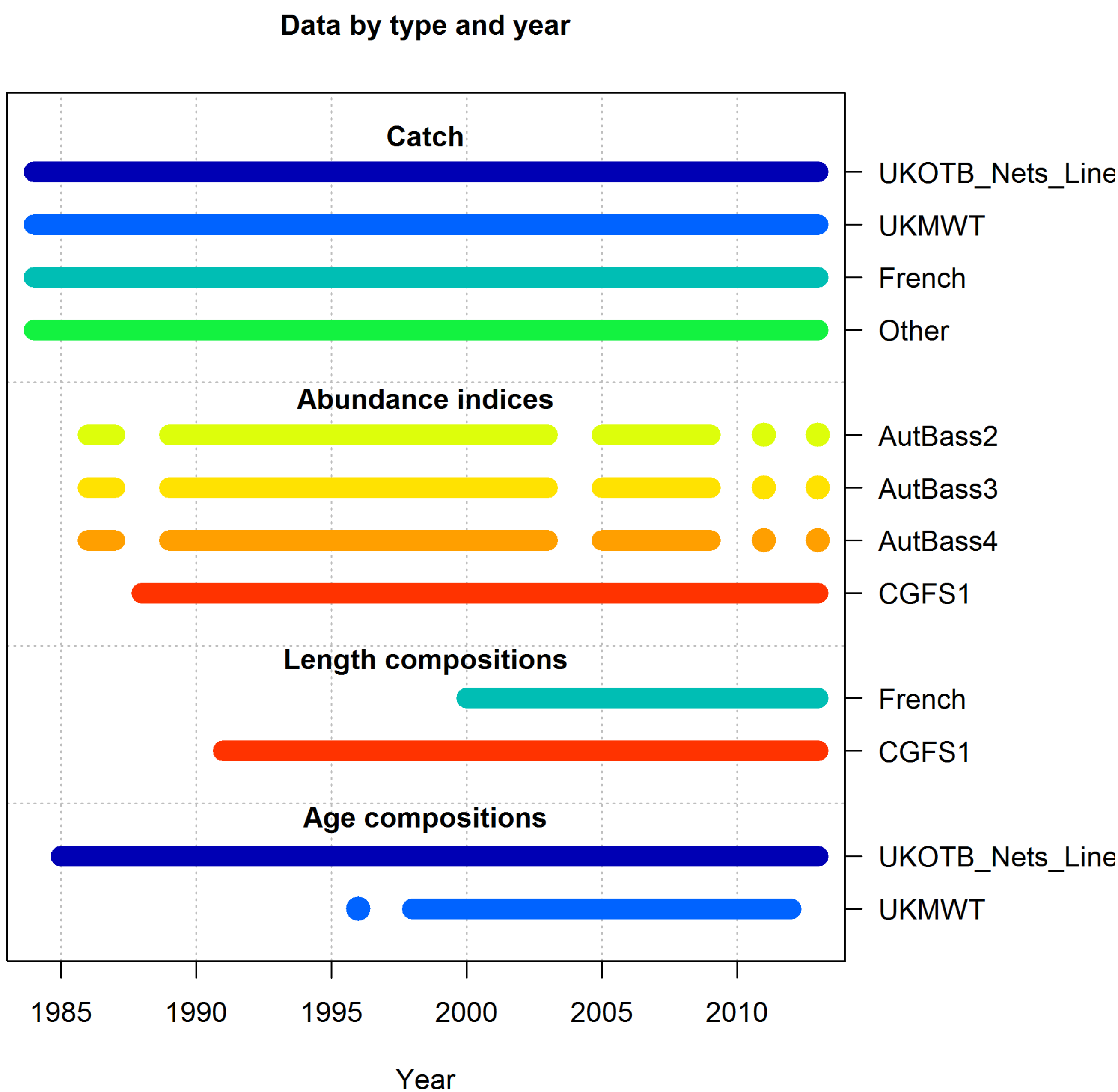


Expansion of fishery and stock most marked in North Sea – partly reflects developing fisheries by Netherlands and Belgium.

Declining stock may contract in opposite direction, towards western Channel and Celtic Sea

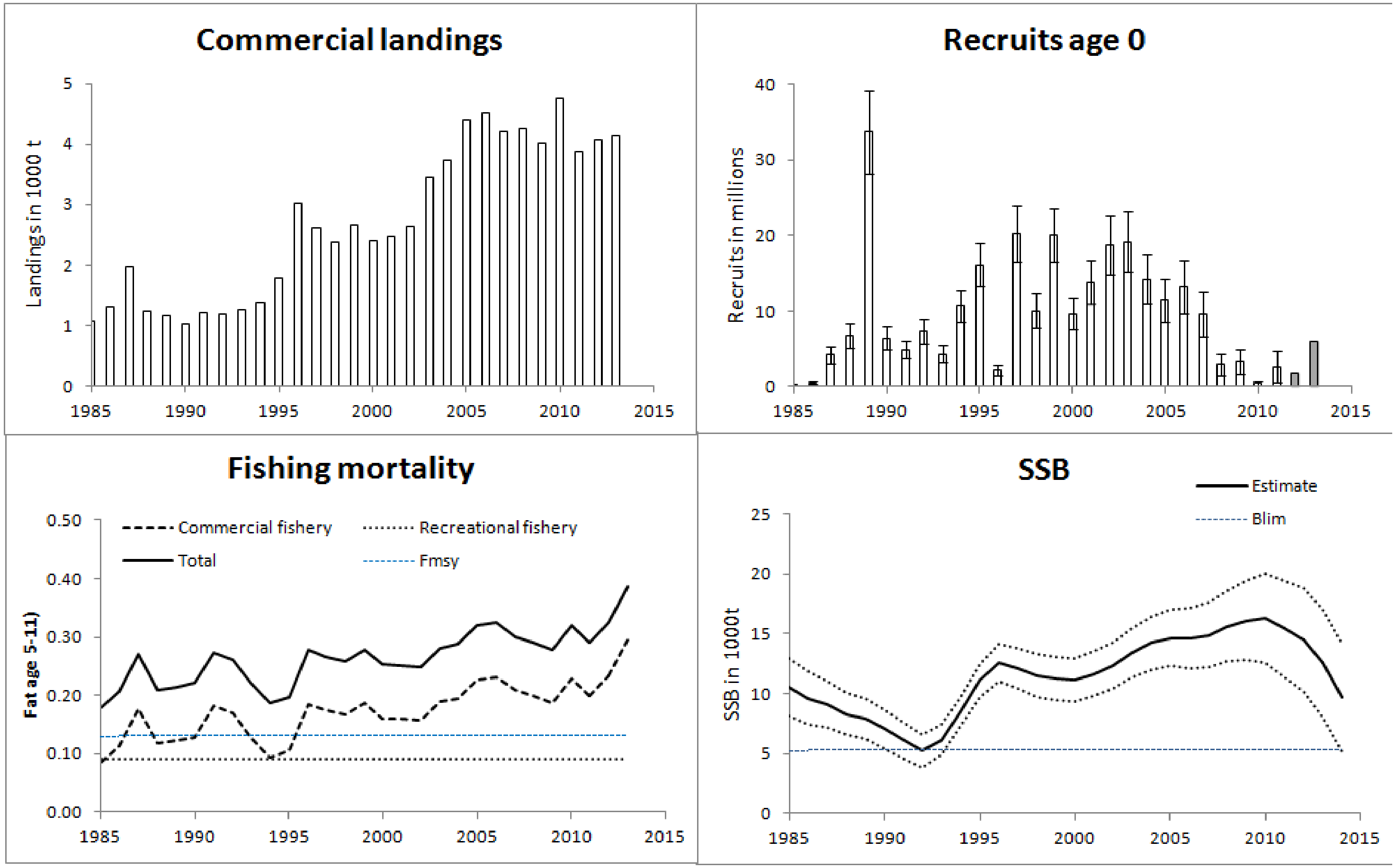

Relationship????
Population
Fishery
Sampling
Catches
Surveys
Landings or Catch
Numbers-at-age/length
Size / age composition of catches
Life history : growth & maturity
Integrated stock assessment
Fishery independent surveys – tells us about how abundance has changed over time
mortality in relation to MSY reference points

Data used



Data by type and year
Catch
UKOTB_Nets_Line
UKMWT
French
Other
Abundance indices
AutBass2
AutBass3
AutBass4
CGFS1
Length compositions
French
CGFS1
Age compositions
UKOTB_Nets_Line
UKMWT
1985
1990
1995
2000
2005
2010
Year

Stock trends in area IVbc & VIIa,d-h: ICES WGCSE 2014

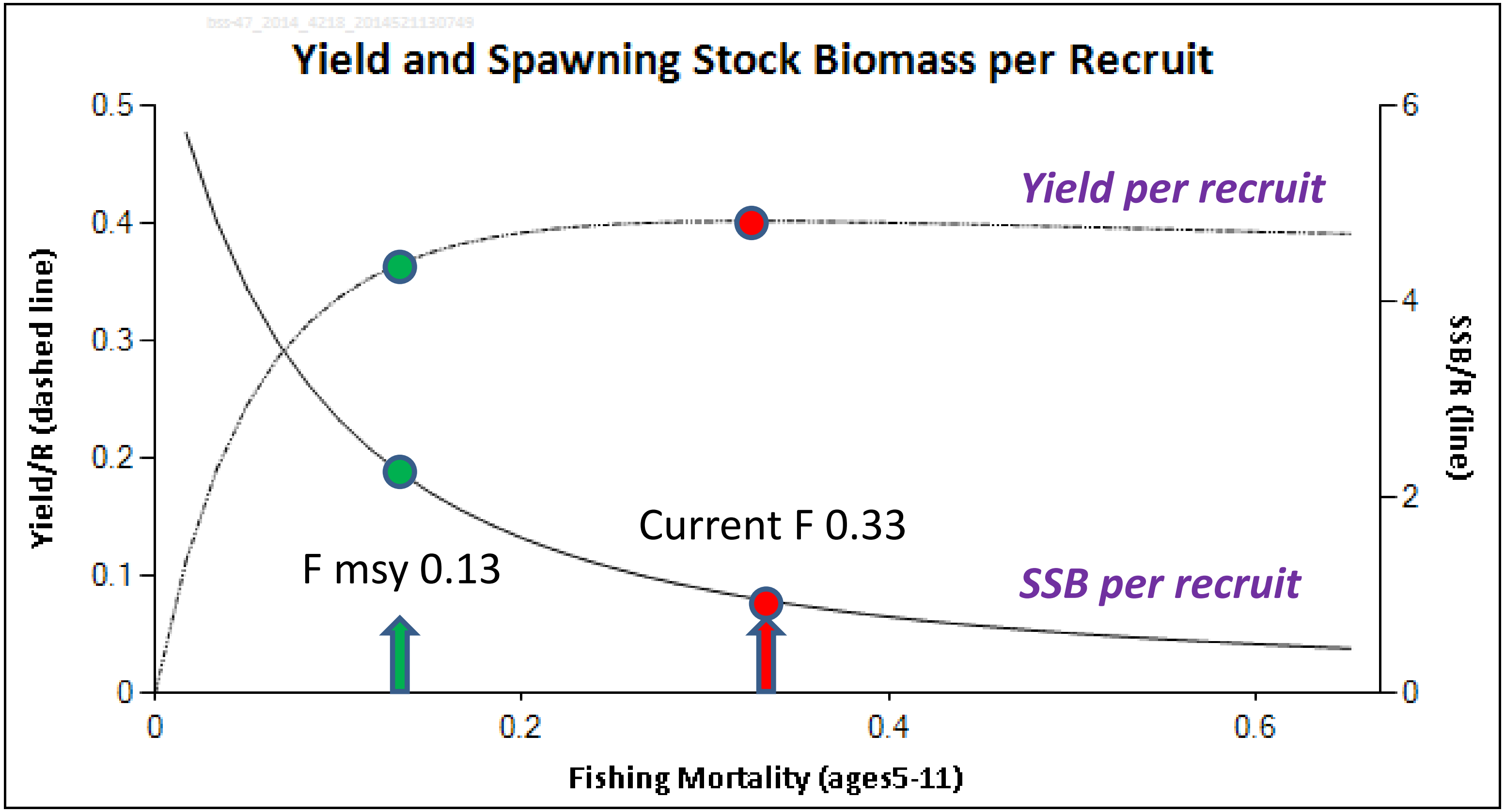


➢Stock expanded in biomass and range in 1990s due to strong recruitment in warmer sea conditions, attracting effort and expanding markets

➢ Poor recruitment since 2008 plus increased F – cause of stock decline.

➢Recent recreational F ~ 0.09 - based on recent survey estimates of ~1,500t removals

ICES 2014 assessment – Fmsy reference point



- Low Fmsy proxy (0.13) consistent with slow growth, delayed maturity, low adult M
- Basis 35% Spawners/recruit

Recent F gives only slightly more yield per recruit than at Fmsy, but causes much larger SSB depletion and reduction in average size of fish

ICES 2014 short term forecast for Bass in IVbc and VIIa,d-h.

SSB 2014: 9650t
2015: 7590 t

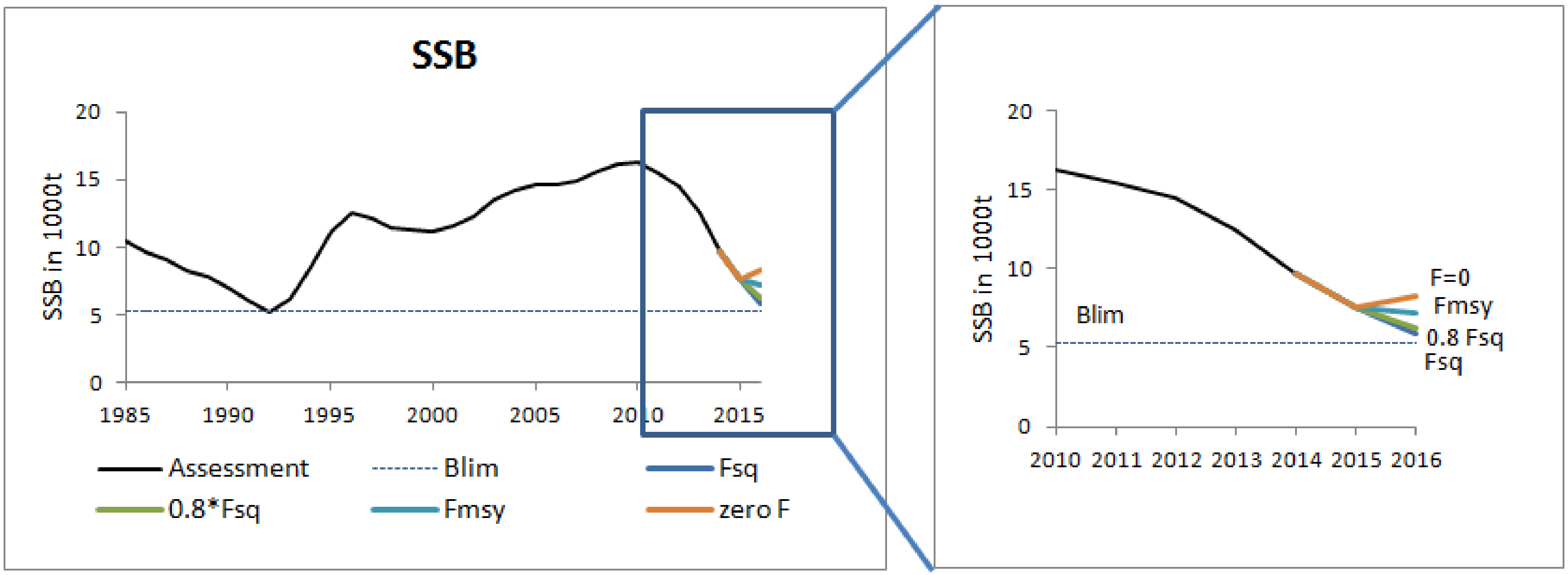
F_{2014} = average F 2011-13

Rationale	Total landings (2015) (commercial + recreational)	Basis	F Total	SSB (2016)	%SSB Change 2016 vs 2015
MSY approach	**1155**	$F_{MSY} = 0.13$	**0.13**	7241	-5%
Zero catch	**0**	$F_{total} = 0$	**0**	8285	+9%
Other options	**2685**	F_{2014}	**0.33**	5869	−23%
	2219	$0.8 \times F_{2014}$	**0.27**	6286	-17%
	1720	$0.6 \times F_{2014}$	**0.20**	6733	−11%
	1185	$0.4 \times F_{2014}$	**0.13**	7214	−5%
	613	$0.2 \times F_{2014}$	**0.07**	7730	+2%

Recent total landings ~5500t

Commercial allocation depends on extent of any reduction in recreational F from 0.09

ICES 2014 forecast: SSB for different catch options in 2015



SSB currently headed towards limit reference point of 5,250t (previous lowest observed)

Conclusions

- Sea bass – low Fmsy of 0.13 (harvesting = 11% of stock per year). Have been overfishing at double Fmsy (~ 22% per year) since 1980s.

- SSB increased to peak in 2010 due to strong recruitment; now declining due to poorer recruitment.

- Declining abundance and one-step change to Fmsy in 2015 in ICES advice implies very large reduction in landings in 2015.

- A staged reduction in F towards Fmsy still implies smaller, but still large reduction in commercial and recreational landings due to poor recruitment

- ICES and STECF highlight needs to consider social and economic objectives of commercial and recreational fisheries in any plan.