NWWAC Working Group 2

Celtic Sea

Madrid, 7 March 2018

CONSEIL CONSULTATIF POUR LES EAUX OCCIDENTALES SEPTENTRIONALES
NORTH WESTERN WATERS ADVISORY COUNCIL
CONSEJO CONSULTIVO PARA LAS AGUAS NOROCCIDENTALES

1. Action points

1. AC to draft advice on Celtic Sea haddock
2. Focus Group on Nephrops will review and update the NWWAC position on Management measures for the Nephrops stock on the Porcupine Bank (FU16)
3. Follow-up on MPA proposals
4. NWWAC Executive Committee raise a concern regarding oil and gas exploration in North Western waters with the relevant authorities/bodies
5. ICES to address questions on Cod and Whiting, e.g. factors influencing the discard data for whiting
6. Plaice: How the AC can contribute to reduce knowledge gaps

2. Election of officers

3. Feedback from previous advice

Choke Mitigation Tool
Celtic Sea

Anglerfish 7

Megrim 7

Pollack 7

Cod 7.b-k

Skates & Rays 6 & 7

Nephrops 7

Haddock 7.b-k

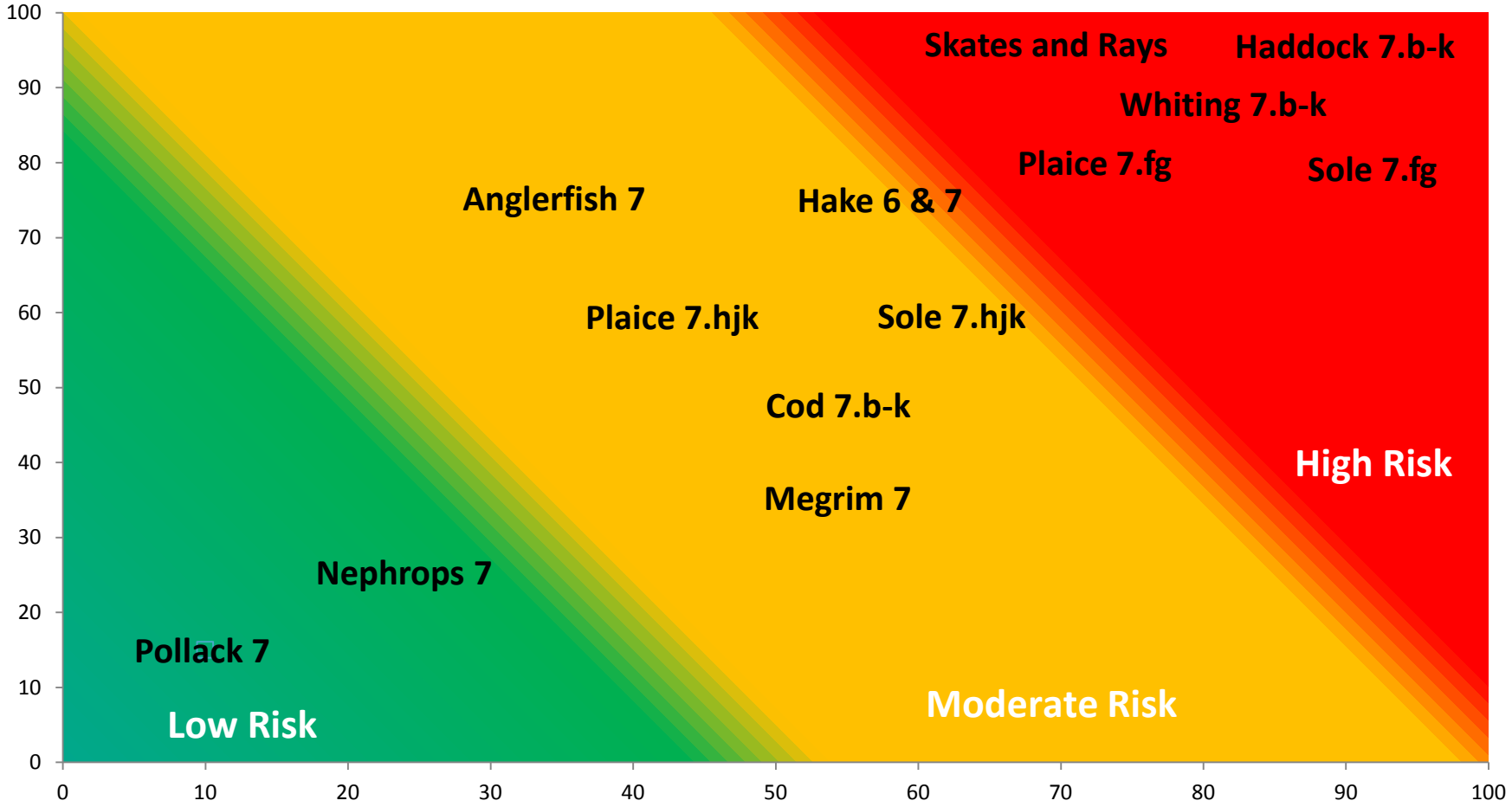
Sole 7.fg & 7.hjk

Plaice 7.fg & 7.hjk

Hake 6 & 7

Whiting 7.b-k

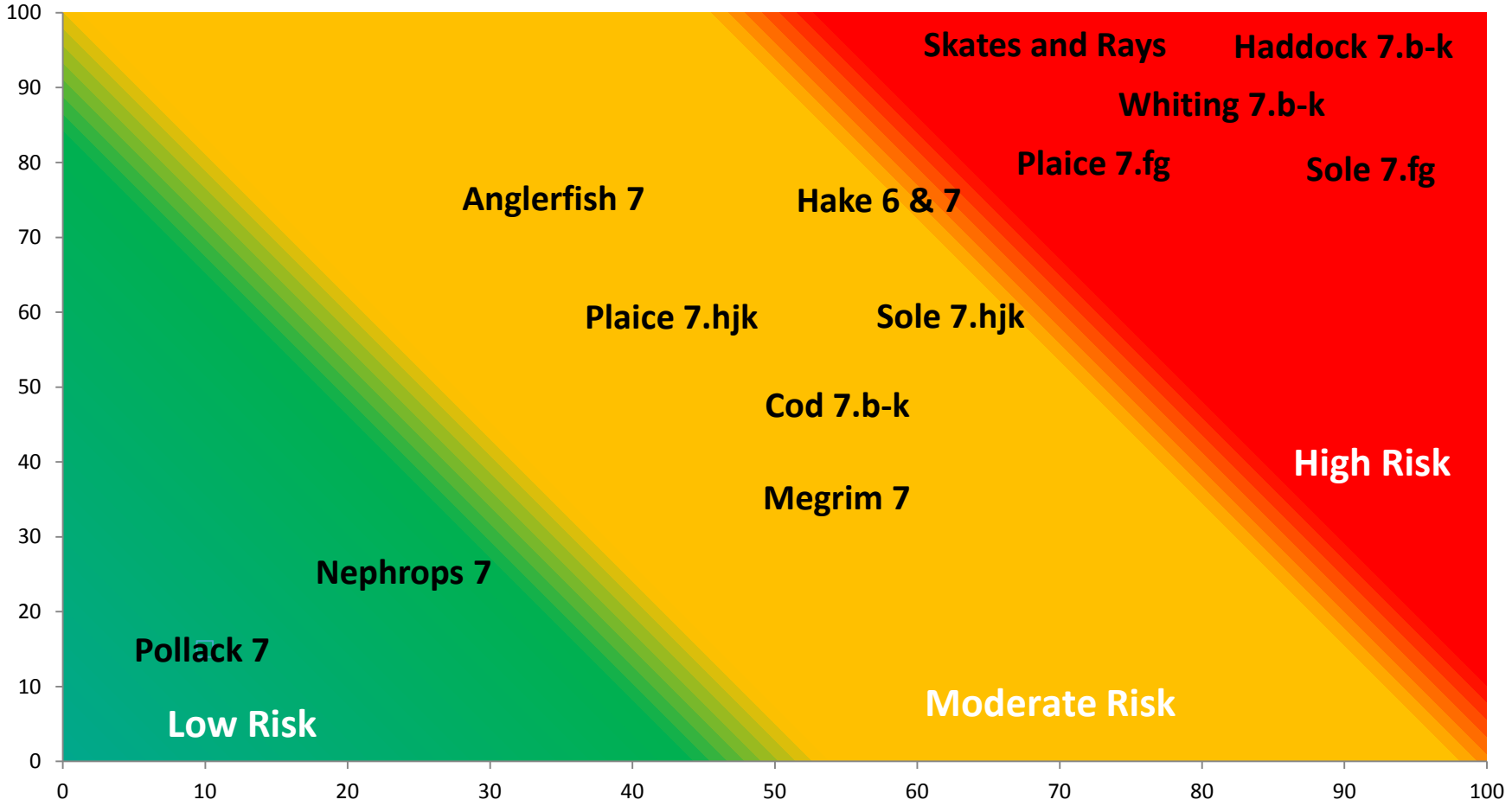
Celtic Sea – by stock



Celtic Sea – by Member State

	ANG	COD	HAD	HKE	LEZ	NEP	PLE 7.fg	PLE 7hjk	POL	SOL 7.fg	SOL 7hjk	RAJ	WHG
BE	N	N	Y	N	N	N	Y	?	N	Y	?	Y	Y
FR	N	N	Y	N	N	N	Y	?	N	Y	?	Y	Y
ES	Y	?	Y	Y	N	N	N	N	N	N	N	Y	?
IE	Y	Y	Y	Y	N	?	Y	N	N	Y	N	Y	Y
NL	N	?	?	Y	N	N	N	N	N	N	N	Y	Y
UK	Y	?	Y	N	Y	N	?	?	N	N	?	Y	N

Celtic Sea – 2015 vs 2016



4. Further improvements in selectivity to reduce choke risk

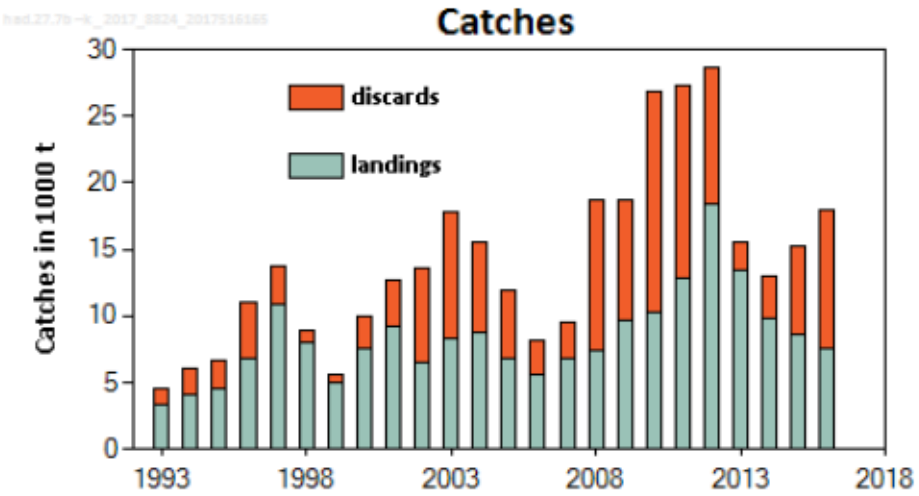
		2016	2015	2014	2016	2015	2014	2016	2015	2014	2016	2015	2014	2016	2015	2014	2016	2015	2014
Gear Type	Metier	IRL Effort [kW-days]	IRL Effort [kW-days]	IRL Effort [kW-days]	BEL Effort [kW-days]	BEL Effort [kW-days]	BEL Effort [kW-days]	UK Effort [kW-days]	UK Effort [kW-days]	UK Effort [kW-days]	Spain Effort [kW-days]	Spain Effort [kW-days]	Spain Effort [kW-days]	France Effort [kW-days]	France Effort [kW-days]	France Effort [kW-days]	NLD Effort [kW-days]	NLD Effort [kW-days]	NLD Effort [kW-days]
Boat Dredge	DRB	162098	168847	128556	89756	82670	178331	1927846	2138581	1625640	na	na	na						
Mechanised Suction dredge	HMD													2482118	2465481	2617337	na	na	na
OTB	TR1	5319428	5269621	5831901	na	na	na	2469308	2306461	2126043	268524	5402356	1622790	9445110	8965863	9658987	na	na	na
OTT	TR2	5041221	4283323	4086292	268805	251554	294997	2210756	2164658	2185169	1100958	na	780731	7461945	8180073	7009300	41894	40048	17096
OTB	TR3	150	0	90	na	na	na	9696	1255	5059	na	na	na	17483	25174	29002	na	na	na
OTTER	R_OTTER	1742	1,490	16836	na	na	na	43509	64535	267629	na	na	2876	263228	265261	221946	na	na	na
Beam	Beam	na	na	na	84612	54026	70598	2545	4230	6067	na	na	na	na	na	na	na	na	na
TBB	BT2	1156052	1055727	1029046	2606972	2465594	2240250	4126162	3742725	3802171	na	na	na	59310	89422	73876	na	na	na
Pelagic trawl	PEL_TRAWL	2256337	2545183	3266895	na	na	na	928418	1179408	1218145	na	4873	11466	454017	342895	432615	1916122	2529484	2255052
Gill nets	GN1	575621	518630	542160	na	na	na	1927019	1560843	1806204	62798	109539	65441	2785085	2574303	2598878	na	na	na
Trammel nets	GT1	42635	35795	37072	na	na	na	120899	205351	157516	110	na	na	1107402	1075083	1123708	na	na	na
Set longlines	LL1	13038	10175	14489	na	na	na	1073440	1067983	957943	2663123	3927198	2973062	2298470	2094183	2123106	na	na	na
Pots and Traps	POTS	312335	244641	260957	na	na	na	3020693	2749634	2724224	na	na	na	3368406	3025691	3291720	na	na	na
Purse seine	PS	na	na	na	na	na	na	66130	54956	20870	na	7218	39844	454017	342895	432615	na	na	na

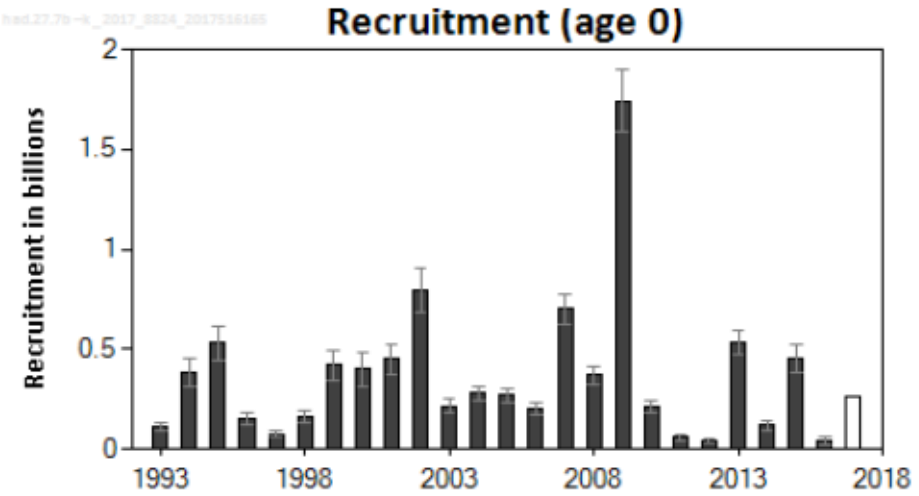
5. Discussion on potential solutions to the choke problem in mixed fisheries

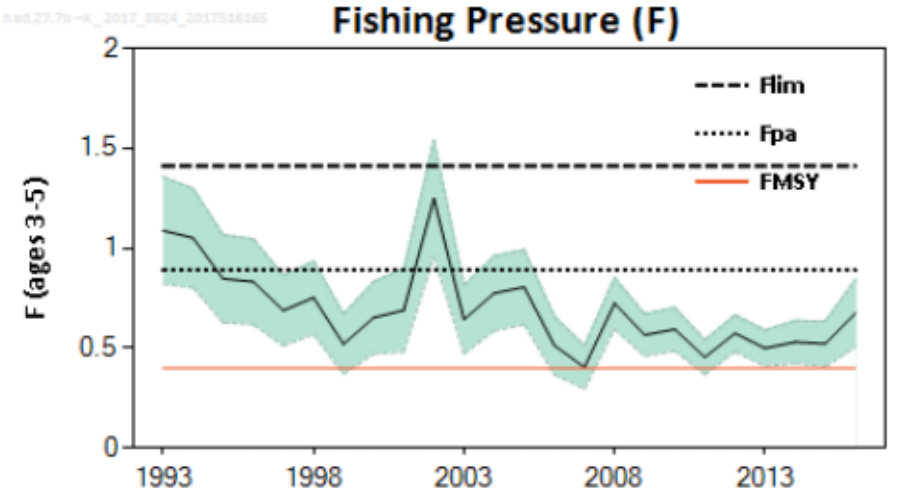
5.1 Haddock

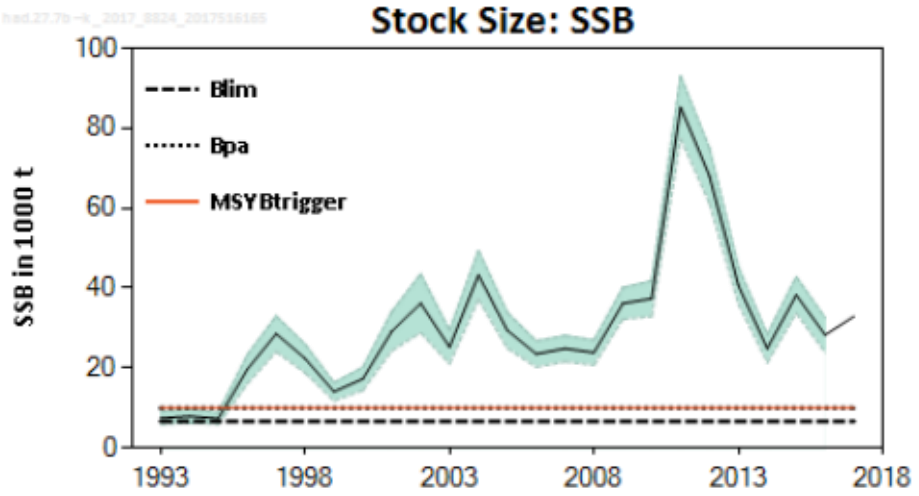
- Haddock are highly likely to choke multiple fisheries (both targeting and catching haddock as a bycatch) and there are likely to be significant economic impacts across Member States
- This includes pelagic fisheries, mixed demersal and Nephrops trawlers even with relatively small haddock bycatch
- Available mitigation actions will not fully resolve the problems.
- Improving selectivity is possible but will not resolve quota induced discards which account for approximately 50% of the discards. Residual choke issues are highly likely.

5.1 Haddock


Catches
Catches in 1000 t
discards
landings
0
5
10
15
20
25
30
1993
1998
2003
2008
2013
2018


Recruitment (age 0)
Recruitment in billions
0
0.5
1
1.5
2
1993
1998
2003
2008
2013
2018


Fishing Pressure (F)
F (ages 3-5)
Flim
Fpa
FMSY
0
0.5
1
1.5
2
1993
1998
2003
2008
2013


Stock Size: SSB
SSB in 1000 t
Blim
Bpa
MSYBtrigger
0
20
40
60
80
100
1993
1998
2003
2008
2013
2018

5.1 Haddock

Table 2 Haddock in divisions 7.b–k. The basis for the catch options.

Variable	Value	Notes	Source
F ages 3–5 (2017)	0.58	$F_{sq}=F_{Average}$(2014–2016)	ICES (2017a)
SSB (2018)	20 257 tonnes	$F_{sq=}$ 0.58	ICES (2017a)
$R_{age\ 0}$ (2017 and 2018)	257 583 thousands	Geometric mean (1993–2014)	ICES (2017a)
Catch (2017)	14 995 tonnes	$F_{sq=}$ 0.58	ICES (2017a)
Landings (2017)	9 984 tonnes	Average discard pattern (1993–2016)	ICES (2017a)
Discards (2017)	5 011 tonnes	Average discard pattern (1993–2016)	ICES (2017a)

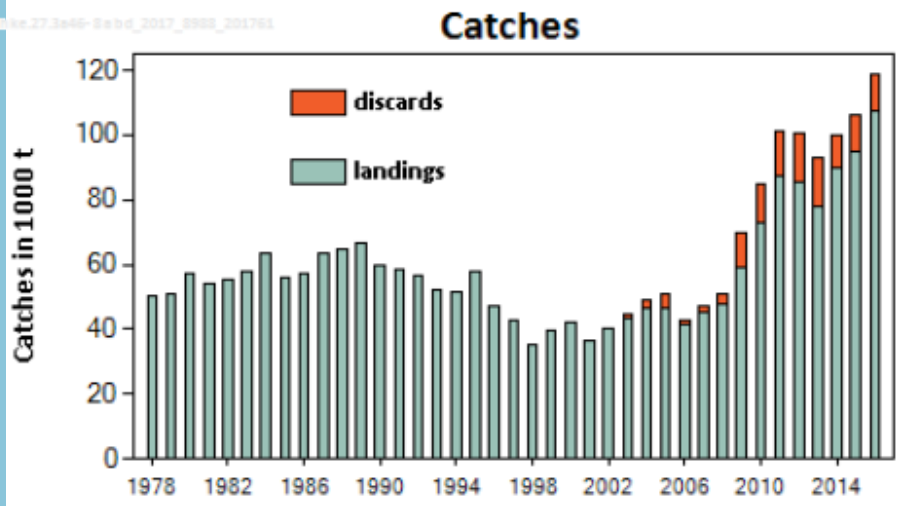
Table 3 Haddock in divisions 7.b–k. Annual catch options. All weights are in tonnes.

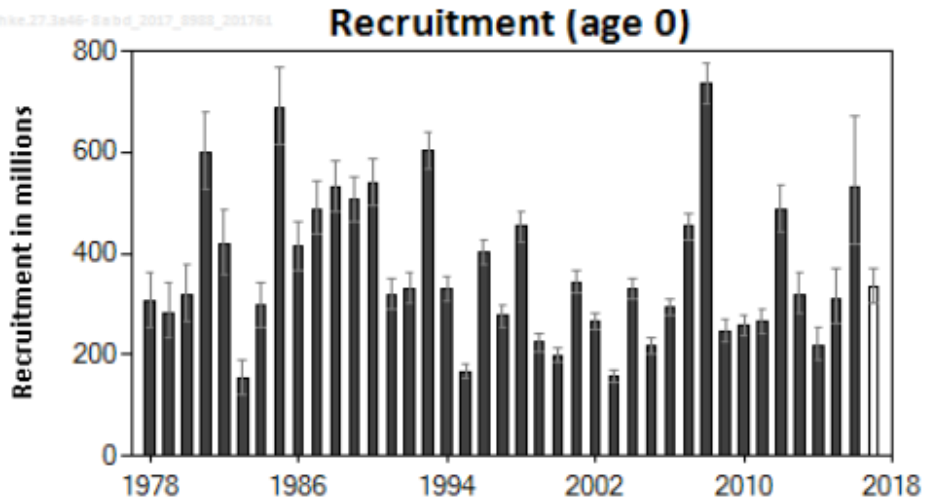
Basis	Total catch (2018)	Landings (2018)	Discards (2018)	F_{total} (2018)	$F_{Landings}$ (2018)	$F_{Discards}$ (2018)	SSB (2019)	% SSB change *	% TAC change **
ICES advice basis									
MSY approach: FMSY	8358	5911	2446	0.40	0.36	0.044	24953	23	-24
Other options									
F = 0	0	0	0	0	0	0	32908	62	-100
F_{pa}	15622	10817	4805	0.89	0.79	0.10	18170	-10.3	40
F_{lim}	20959	14206	6753	1.41	1.25	0.16	13311	-34	83
SSB (2019) = B_{lim}	28588	18494	10094	2.7	2.4	0.31	6700	-67	139
SSB (2019) = $B_{pa=}$ MSY	24702	16415	8287	1.93	1.71	0.22	10000	-51	112
F = F_{2017}	11267	7908	3359	0.58	0.51	0.06	22218	9.7	2.0
Mixed fisheries options									
A: Max.	13193			0.77			18803	-7.2	
B: Min.	7455			0.38			24213	20	
C: Stock	7806			0.40			23880	17.9	
D: SQ effort	11864			0.67			20047	-1.04	
E: Value	10853			0.60			20998	3.7	
F: Range	10913			0.55			22550	11.3	

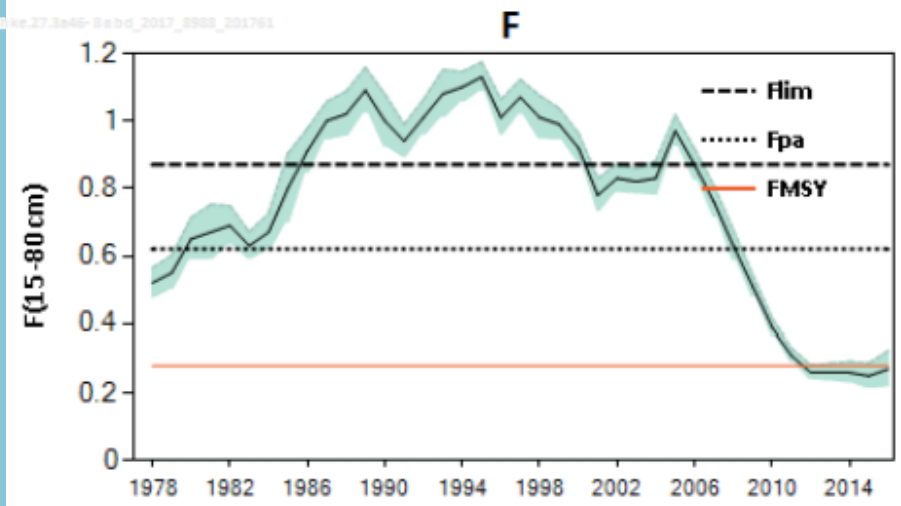
5.2 Hake

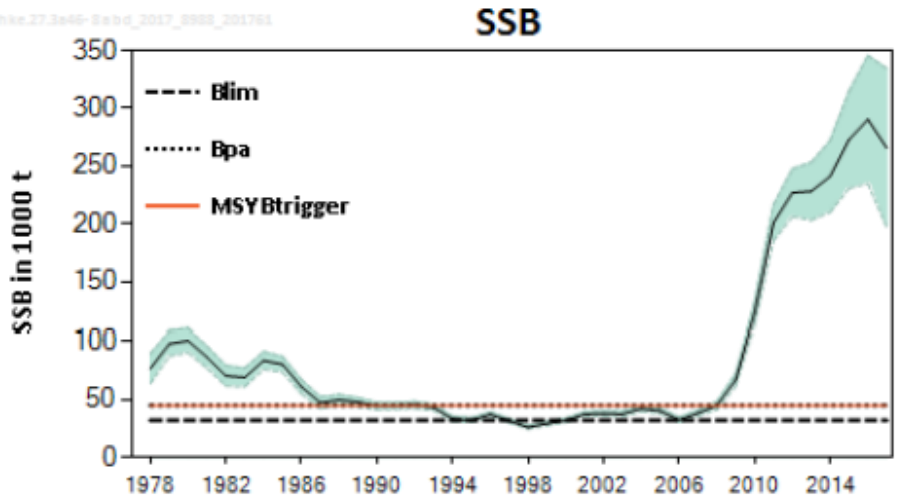
- Hake will potentially be a choke species for ES and to a lesser extent IE
- Quota swapping may help to alleviate the risk of hake choking certain fisheries but reliant on other quota being available to swap
- Improvements in selectivity, ISF and the use of *De Minimis* may all potentially help to reduce the risk of choking
- Bycatch in pelagic fisheries is an emerging problem that may increase the number of MS impacted
- Risk of residual issues for several MS without quota swaps although other tools available that are likely to reduce the risk significantly

5.2 Hake


Catches
Catches in 1000 t
discards
landings
0
20
40
60
80
100
120
1978
1982
1986
1990
1994
1998
2002
2006
2010
2014


Recruitment (age 0)
Recruitment in millions
0
200
400
600
800
1978
1986
1994
2002
2010
2018


F
F(15-80 cm)
Flim
Fpa
FMSY
0
0.2
0.4
0.6
0.8
1
1.2
1978
1982
1986
1990
1994
1998
2002
2006
2010
2014


SSB
SSB in 1000 t
Blim
Bpa
MSYBtrigger
0
50
100
150
200
250
300
350
1978
1982
1986
1990
1994
1998
2002
2006
2010
2014

5.2 Hake

Table 2 Hake in subareas 4, 6, and 7, and in divisions 3.a, 8.a–b, and 8.d, Northern stock. The basis for the catch options. All weights are in tonnes.

Variable	Value	Source	Notes
F (2017)	0.26	ICES (2017a)	Mean F(2014–2016).
SSB (2018)	267673	ICES (2017a)	
R (2017/2018)	335071	ICES (2017a)	GM (1978–2014); in thousands.
Total catch (2017)	105223	ICES (2017a)	Forecasted catch from the assessment model (based on F(2017) = Mean F(2014–2016) plus additional discards.
Wanted catch (2017)	93588	ICES (2017a)	Based on average discard rates observed during 2014–2016.
Unwanted catch (2017)	11635	ICES (2017a)	Based on average discard rates observed during 2014–2016.

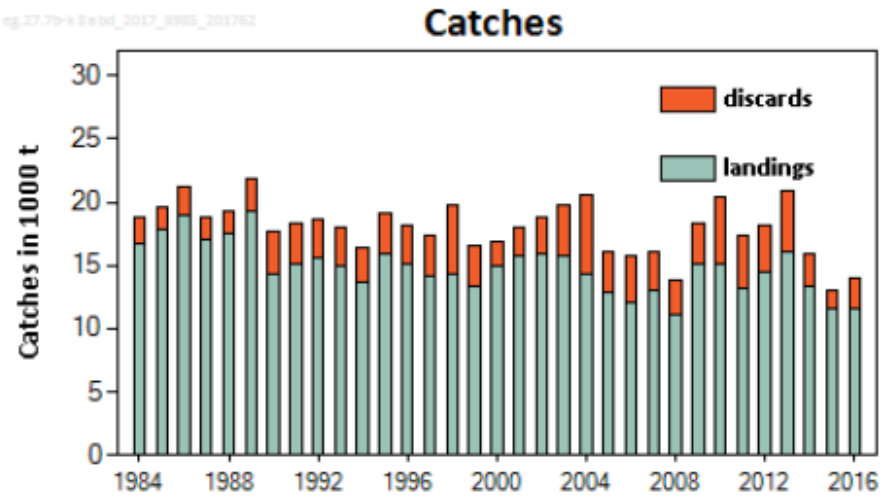
Table 3 Hake in subareas 4, 6, and 7, and in divisions 3.a, 8.a–b, and 8.d, Northern stock. Annual catch options. All weights are in tonnes.

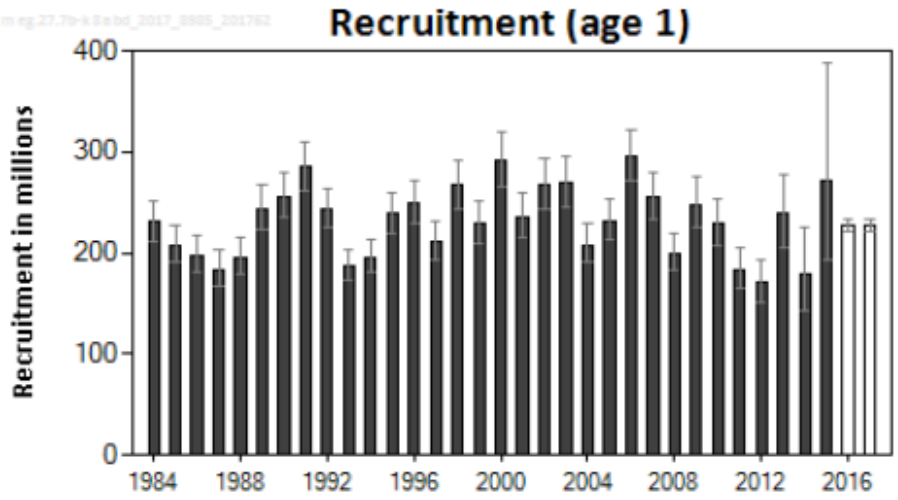
Basis	Total catch (2018)	Wanted catch* (2018)	Unwanted catch*,^ (2018)	F_{total} (2018)	F_{wanted} (2018)	$F_{unwanted}$ (2018)	SSB (2019)	% SSB change **	% Advice change ***
ICES advice basis									
MSY approach: F_{MSY}	115335	104060	11275	0.28	0.233	0.047	295193	10%	−7%
Other options									
F = 0	0	0	0	0	0	0	401929	50%	−100%
F_{pa}	211827	190172	21655	0.62	0.515	0.105	206120	−23%	71%
F_{lim}	261716	234150	27566	0.87	0.723	0.147	160047	−40%	111%
SSB (2019) = B_{lim}	383469	337722	45746	2.293	1.904	0.389	44975	−83%	210%
SSB (2019) = B_{pa}	395825	347392	48433	2.731	2.268	0.463	32001	−88%	220%
SSB (2019) = MSY $B_{trigger}$	395825	347392	48433	2.731	2.268	0.463	32001	−88%	220%
F = F_{2017}	108119	97580	10540	0.259	0.215	0.044	301860	13%	−13%
EU Recovery Plan^^	104736	94539	10196	0.25	0.208	0.042	304987	14%	−15%

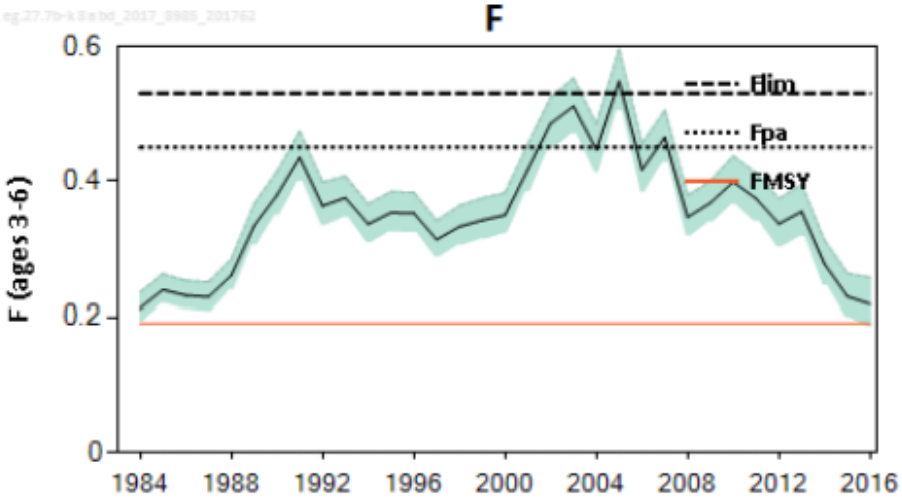
5.3 Megrim

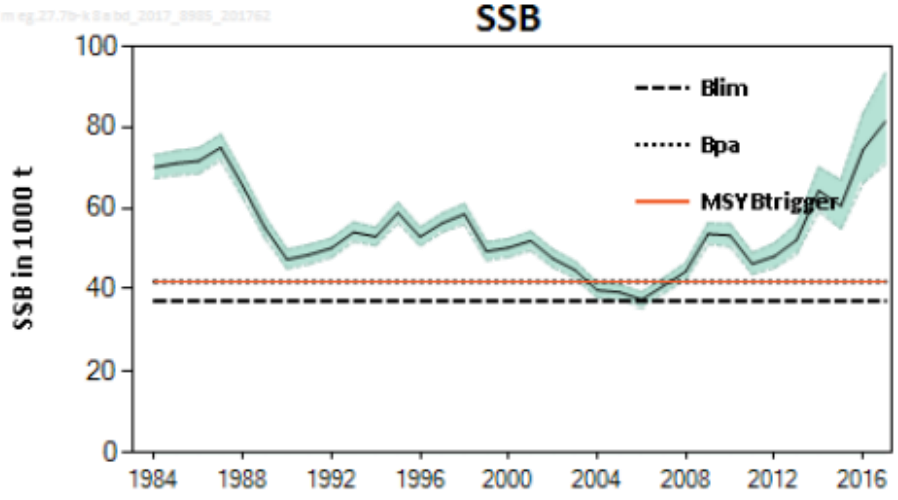
- *Megrims are potentially a choke species for the UK, which have extensive beam trawl fisheries for this species and traditionally are reliant on swaps*
- *Other MS have a surplus of quota*
- *Risk of residual issues to the UK without quota swaps*

5.3 Megrim


Catches
Catches in 1000 t
discards
landings
0
5
10
15
20
25
30
1984
1988
1992
1996
2000
2004
2008
2012
2016


Recruitment (age 1)
Recruitment in millions
0
100
200
300
400
1984
1988
1992
1996
2000
2004
2008
2012
2016


F
F (ages 3-6)
Blim
Fpa
FMSY
0
0.2
0.4
0.6
1984
1988
1992
1996
2000
2004
2008
2012
2016


SSB
SSB in 1000 t
Blim
Bpa
MSY Btrigger
0
20
40
60
80
100
1984
1988
1992
1996
2000
2004
2008
2012
2016

5.3 Megrim

Table 2 Megrim in divisions 7.b–k, 8.a–b, and 8.d. The basis for the catch options.

Variable	Value	Source	Notes
F (2017)	0.22	ICES (2017a)	F_{2016}
SSB (2018)	89644 t	ICES (2017a)	
R (2017)	227470 thousand	ICES (2017a)	Geometric mean of recruitment (1984–2014)
R (2018)	227470 thousand	ICES (2017a)	Geometric mean of recruitment (1984–2014)
Catch (2017)	16025 t	ICES (2017a)	Based on F(2017)
Landings (2017)	12941 t	ICES (2017a)	Using average discard rate of 2014–2016
Discards (2017)	3084 t	ICES (2017a)	Using average discard rate of 2014–2016

Table 3 Megrim in divisions 7.b–k, 8.a–b, and 8.d. Annual catch options. All weights are in tonnes.

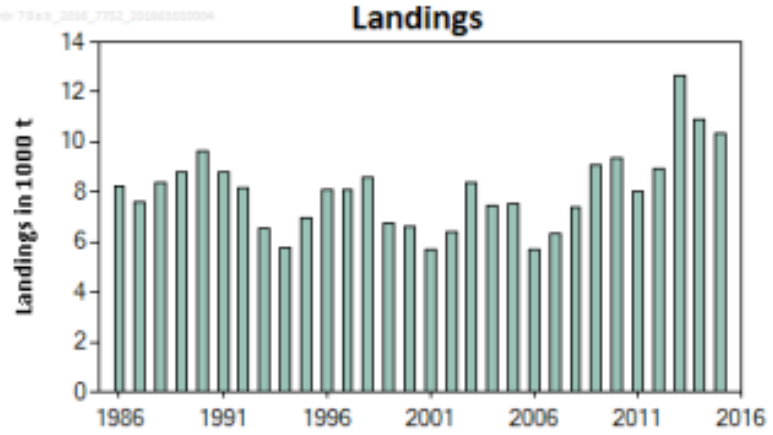
Basis	Total catch (2018)	Landings (2018)	Discards (2018)	F_{total} (2018)	SSB (2019)	% SSB change *	% Advice change **
ICES advice basis							
MSY approach: F_{MSY}	15720	12884	2836	0.191	97909	9%	−2%
Other options							
F = 0	0	0	0	0	116398	30%	−100%
F_{pa}	32592	26472	6120	0.45	78284	−13%	103%
F_{lim}	37007	29970	7037	0.53	73187	−18%	131%
SSB (2019) = B_{lim}	69111	54410	14701	1.44	37100	−59%	331%
SSB (2019) = B_{pa}	64809	51288	13521	1.26	41800	−53%	305%
SSB (2019) = MSY $B_{trigger}$	64809	51288	13521	1.26	41800	−53%	305%
F = F_{2017}	17871	14630	3241	0.22	95444	6%	12%

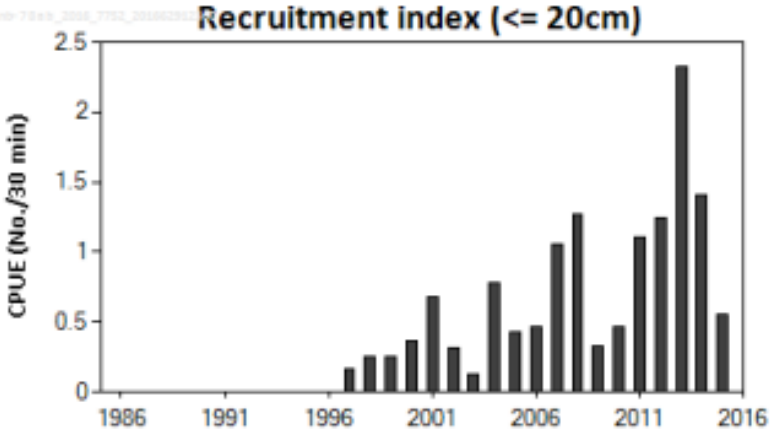
5.4 Anglerfish

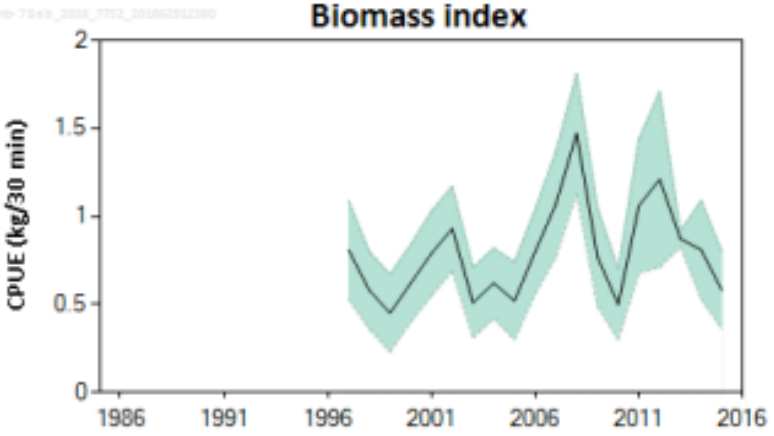
- Significant economic impacts for several Member States
- Surplus quota available for swapping but reliant on MS having other species to swap
- Specific characteristics limit potential to improve selectivity or introduce avoidance measures
- *De Minimis* may act as a short term solution particularly in by-catch fisheries where discards are low
- Risk of residual issues for several MS without quota swaps as other available tools not likely to reduce the risk of choking fully

5.4 Black-bellied Anglerfish

The biomass index has been fluctuating without trend over the time-series and with high interannual variability. The recruitment shows an increasing trend over time, although the last year is around the average of the time-series.

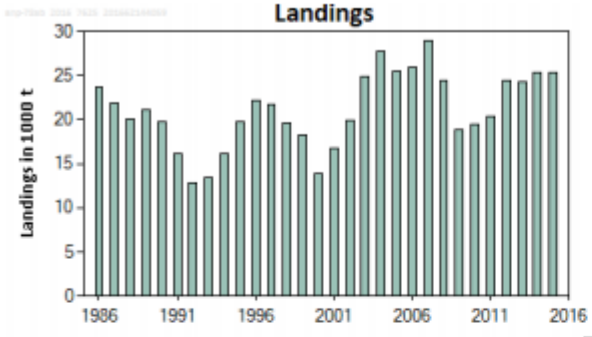


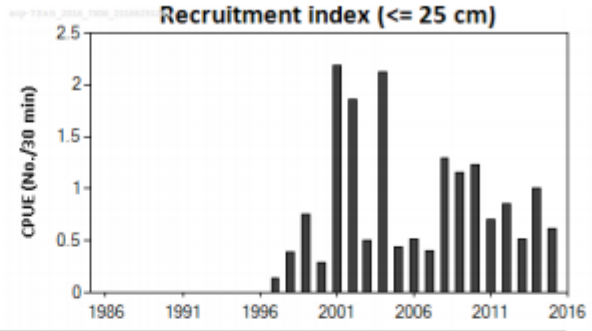


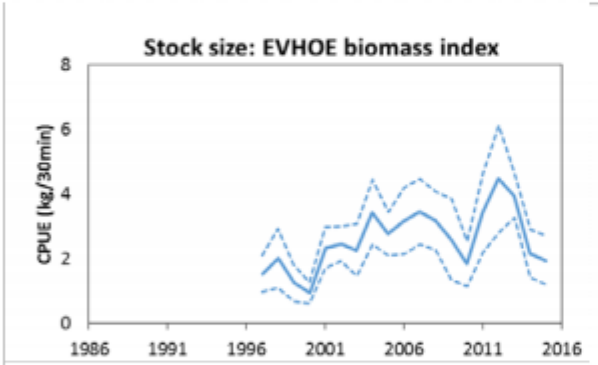


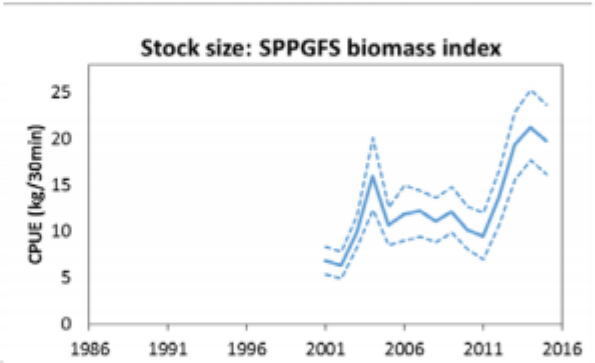
5.4 White Anglerfish

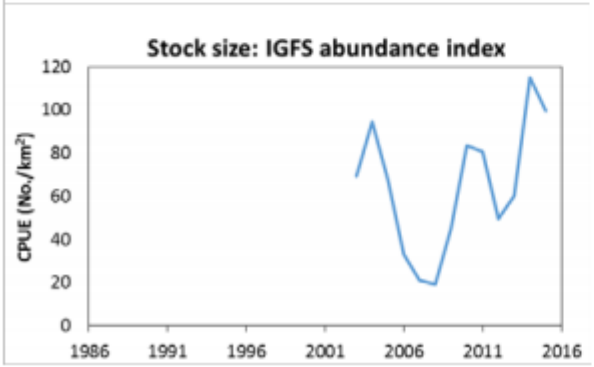
The EVHOE-WIBTS-Q4 biomass index shows high interannual variability with no strong trends, and a decrease in the last two years. The other indices, IGFS-WIBTS-Q4 and the SPPGFS-WIBTS-Q4, show an overall increasing trend during the last five years. The recruitment index varies without clear trends over time.











6. Summary of Action Points

Thank you

CONSEIL CONSULTATIF POUR LES EAUX OCCIDENTALES SEPTENTRIONALES
NORTH WESTERN WATERS ADVISORY COUNCIL
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- Flight costs (Economy class), boarding cards required
- Hotel Invoice **not expedia or booking.com** please
- Public transport to and from airport and from the place of work or residence
- Public transport to and from the hotel / meeting
- Train fares (Second class)
- Travel by private car (€0.22/Kilometre)
- Parking fees and tolls