North Western Waters Regional Advisory Council

Discussion Paper on a Celtic Sea mixed demersal fisheries management plan

1. Rationale - Broad objective

The main objective of this paper is to develop with the stakeholders and scientists an appropriate, workable and effective management plan (henceforth, MP) for Celtic Sea mixed demersal fisheries during 2011. The MP will have an initial transitional developmental phase in 2012-2015. The key drivers for the MP are objectivity, transparency, inclusively and evidence based decision making. Following the transitional developmental phase a long-term management plan will be developed.

The transitional developmental MP will be based on biological, economic and social objectives as outlined in points 4-6. In addition the overarching Governance will have to be addressed in the context of any proposed new structures.

2. Framework for the elaboration of a management plan: questions to be addressed

2.1. Where are we now?

➢ Fleets (number of vessels, gears, areas where they operate…)

➢ Stocks

➢ Trends

➢ Socio-Economics (turnover, direct and indirect employments generated…)

➢ Marine spatial planning (interactions between fishing grounds and MPAs, windmill parks, other marine users…)

2.2. Where do we want to be in 5-10 years time?

➢ MSY subject to ecosystem and mixed fishery considerations

➢ Achieving fishing mortality targets for key indicator stocks

➢ Fleet renewal without subsidy

> ➢ Results based management

> ➢ A high degree of self regulation

> ➢ Low discards

> ➢ Full scientific information, no more missing relevant data for managing the fisheries

> ➢ New LTMP substitutes entirely other rules and regulations and is not an addition to already existing ones.

2.3. What are the management measures that will deliver this?

> ➢ Technical measures

> ➢ Closed areas

> ➢ Fleet structure policy/capacity reduction

> ➢ Quotas

> ➢ Fisheries Science Partnerships / Self-sampling

> ➢ Others

3. Procedure for the adoption of a management plan

3.1. The development of a **draft** management plan through collaborative work between scientists, economists and stakeholders

3.2. This work will define a number of **options** that could deliver our objectives.

3.3. Each option will be accompanied by an **assessment** that will analyse the advantages and disadvantages of each approach. This will be used to inform the various trade-offs that will be required in adopting a final plan.

3.4. All options will be discussed with the **stakeholders** (ports, regional and RAC meetings)

3.5. The draft LTMP will be **refined** in light of the comments made by key stakeholders

3.6. The LTMP will be **discussed** within the RAC and, if agreed, **adopted** as RAC advice

4. Definition of objectives - Biological considerations

4.1. Transitional Objectives:

1. To have an agreed common understanding of all stakeholders on the state of stocks in the mixed demersal fisheries in the Celtic Sea including the geographical area covered i.e. ICES areas.

2. Reduce discard rates to acceptable levels (TBD) by 2015 for (10?) key demersal species including nephrops.

3. Adapt a Total Allowable Catch rather than a Total Allowable Landings management System.

4. Follow the scientific advice for MSY in transition by 2015 where applicable and available. (As the MP is based on mixed dermersal stocks choices on the appropriate MSY targets will have be decided.) For stocks where MSY transition catch options are not available use an innovative new adaptive approach to define the desired overall fishing mortality.

5. To work with scientists to redress data quality and quantity issues to ensure more robust assessments and management targets.

6. To work with ICES to find new and innovative approaches to utilise fishermen information that are both qualitative and quantitative.

7. Develop the framework for a fully documented fishery with the reversal of the burden proof.

8. Develop a suite of indicators and risk assessment framework for species of lesser importance (by-caught) in the mixed fisheries.

9. To identify vulnerable species and habitats impacted on by mixed fisheries and adopt MP accordingly.

4.2. Long-term objectives:

1. To have new adoptive assessment methods that are readily supported by all stakeholders.

2. To minimise discards of in all mixed demersal fisheries in the Celtic Sea.

3. To manage mixed demersal fisheries in the Celtic Sea on the basis of total allowable catch.

4. To ensure at least 75 % of the landed biomass is fished at or below MSY targets or other appropriate target for mixed dermersal fisheries.

5. To ensure that the remaining 25 % of the landed biomass is fished at sustainable catch levels based on a risk assessment framework.

6. To have in place a fully verifiable operational documented fishery system.

7. To protect vulnerable species and habitats through specific measures such as MPAs and other technical measures.

5. Definition of objectives - Economic considerations

5.1. Transitional objectives

1. Adopt measures to ensure a viable fleet.

2. Optimise the financial return to the fishing industry.

3. Prevent the expansion of effort in the Celtic Sea through a capacity limitation.

4. Develop co-management framework including rights based management mechanisms.

5. Promote efficiencies and reduce carbon footprint.

6. Develop an economic model and performance indicators for the fishery.

5.2. Long-term objectives

1. A viable fleet that is capable of renewing itself without subsidies.

2. Maximise the economic return from the resource for the sector whilst maintaining sustainability of the stock and habitats.

3. Ensure cost effective management of the fishery and high levels of compliance.

4. Encourage maximum commercial flexibility and administrative simplicity for industry participants.

5. An operational integrated biological-economic model that has a set of key performance indicators.

6. Definition of objectives - Social considerations

6.1. Transitional objectives

1. To define an appropriate set of social criteria that is relevant to mixed demersal fisheries in the Celtic Sea.

2. To define the parameters to be measured based on the appropriate set of social criteria.

3. To engage the fishing industry and other stakeholders in defining one and two above from the start and also on the data collection, assessment and management process.

4. To provide a range of incentives for participation in a fully documented fishery.

5. To adopt measures to protect the vulnerable fishing dependant coastal communities.

6. To develop a social model and performance indicators

6.2. Long-term objectives

1. A defined set of social criteria.

2. Quantifiable and measurable parameters.

3. Sustainable fishing dependant communities.

4. Incentives schemes the norm and draconian disincentives for breaking the rules.

5. Operational biological-economic and social model that has set of key performance indicators for the mixed demersal fisheries.

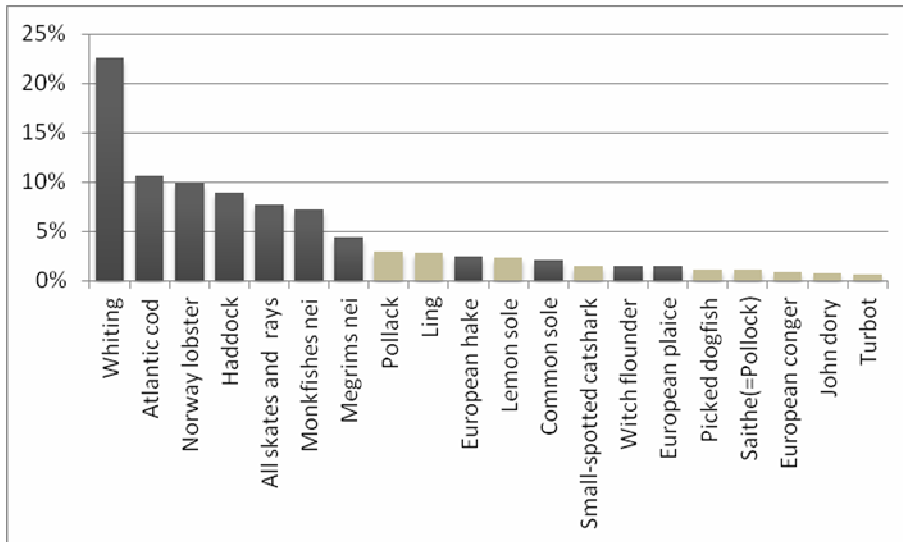**Figure 1. Landings by Species from Celtic Sea mixed demersal fisheries**

Figure 1 shows the demersal species or species categories that accounted for ~95% of the landings between 1995-2007 in VIIfg according to official statistics. The 8 top species account for ~75% of the landed biomass. See table below.

Species	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	%1995-	Cum %	ICES Advice
Whiting	12929	9585	12250	12926	13349	11125	9118	9789	6893	6971	9502	7381	6609	23%	23%	Y
Atlantic cod	7194	7974	7174	6208	5696	4512	5101	3932	4043	2288	1942	2171	2504	11%	33%	Y
Norway lobster	4283	3616	3367	3176	3387	4627	4629	5142	5144	4600	5016	4369	5402	10%	43%	Y
Haddock	2267	3402	4997	3112	2818	3585	5779	3977	4431	5568	4244	3193	3866	9%	52%	Y
All skates and rays	2961	3183	3455	3190	3530	3697	3850	3875	3936	3468	3135	3023	2977	8%	60%	Y
Monkfishes nei	3600	3322	3112	2873	3566	3400	3564	3144	3114	3163	2709	2923	3040	7%	67%	Y
Megrims nei	1895	1632	1555	1596	2421	2528	2356	1721	1898	2403	2075	1822	1621	4%	72%	Y
Pollack	1118	1166	1095	1065	1125	1402	1846	1654	1308	1294	1225	1147	1142	3%	75%	N
Ling	1662	1544	1587	1543	1291	1021	1290	1496	1143	1154	927	744	846	3%	77%	N
European hake	918	1098	943	723	1220	1508	1198	1119	1035	1170	1276	771	857	2%	80%	Y
Lemon sole	817	846	963	1034	1127	1084	1115	1211	1148	1336	1158	856	861	2%	82%	N
Common sole	732	706	670	667	973	1040	1120	1118	1207	1130	997	922	943	2%	84%	Y
Small-spotted catshark	829	769	746	717	738.5	761	953	744	526	477	527	537	561	2%	86%	N
Witch flounder	693	652	739	629	668	582	653	782	742	712	663	596	577	2%	87%	N
European plaice	721	673	818	815	948.5	721	684	618	564	489	399	414	417	1%	89%	Y
Picked dogfish	704	756	638	507	533.5	526	819	622	448	366	370	236	170	1%	90%	N
Saithe(=Pollock)	712	573	466	432	472.5	496	889	543	392	440	359	290	227	1%	91%	N
European conger	450	389	375	433	412.5	436	451	497	448	481	413	300	277	1%	92%	N
John dory	187	190	182	177	312	418	492	295	441	478	511	381	324	1%	93%	N
Turbot	215	224	217	207	266.5	288	283	392	354	364	294	280	243	1%	94%	N
Gadiformes nei	1	250	49	32	55	6	678	2497	7	3	3	1	7	1%	94%	N
Various squids nei	400	211	271	231	198	136	374	302	228	199	365	156	207	1%	95%	N
Pouting(=Bib)	249	168	209	213	312.5	447	473	304	195	138	214	134	176	1%	95%	N
Red gurnard	179	162	224	189	198.5	218	338	231	237	287	360	246	262	1%	96%	N
Marine fishes nei	333	234	298	180	173.5	167	175	109	112	102	109	100	114	0%	96%	N
Brill	140	135	136	141	168.5	167	186	176	186	196	184	168	166	0%	97%	N
European seabass	38	41	35	207	164.5	122	231	200	130	161	220	202	232	0%	97%	N
Groundfishes nei	80	73	86	59	83	1475	13	11	6	8	7	7	4	0%	97%	N
Demersal percomorphs nei	87	101	79	112	135	111	96	137	103	149	168	96	94	0%	98%	N
Common squids nei	387	66	107	60	78	22	65	132	83	71	201	42	154	0%	98%	N
Cuttlefish,bobtail squids nei	78	137	156	193	105	59	118	107	119	136	81	51	87	0%	98%	N
Dogfish sharks nei	43	59	54	0	1	4	2	5	297	353	303	118	97	0%	98%	N
Gurnards, searobins nei	57	53	47	41	89	89	110	85	82	91	82	72	89	0%	98%	N
Dogfishes nei	41	29	40	30	64	88	69	70	69	131	119	122	109	0%	99%	N
Common dab	39	36	57	56	79	81	65	58	65	88	70	62	54	0%	99%	N
Tope shark	40	57	48	50	49	51	90	70	63	63	74	67	37	0%	99%	N
Smooth-hounds nei	12	21	26	29	33.5	38	56	59	63	78	107	81	87	0%	99%	N
Tub gurnard	20	36	37	44	55	66	90	51	54	53	63	47	57	0%	99%	N
Porbeagle	26	20	8	12	62.5	117	56	24	17	19	65	49	105	0%	99%	N
Dogfishes and hounds nei	8	3	4	115	116	36	101	29	17	19	27	32	38	0%	99%	N
Red mullet	19	21	26	34	19	27	37	27	26	50	79	75	75	0%	99%	N
Grand Total	47447	44400	47662	44200	47353	47586	49841	47543	41587	41022	40866	34467	35912			

ICES currently provides some form of advice for 78% of the total landed biomass of demersal species. The advice is summarised below; advice for elasmobranchs will be available shortly.

					Scientific advice					
					State of Stock			Catch/Advice options		Policy Paper
Species	Stock area	Landings 2009	TAC 2010	Catch in VIIfg	F	SSB	Recruitment	ICES MSY	EC MSY PA	Category
Cod	VIIe-k	3,235	4,023	>80%	??	??	??	↓ catch & effort	↓ catch & effort	Cat 7 ↓ 15%
Haddock	VIIb-k	10,000 (17,100)	11,579	~70%	?	?	↑08	→ effort ↓ discards	→ effort	Cat 8 ↑ 15%
Whiting	VIIe-k	5,700	14,407	>80%	↓ since 07	?		→ effort	→ effort	Cat 8 ↑ 15%
Plaice	VIIfg	463	450	100%	↓ since 02	~ Blim	Low →	< 500 t	500 < 150 t	Cat 3 <410 t
Sole	VIIfg	790	993	100%				< 1400 t	1200 < 1700 t	Cat 1 1200 t
Nephrops (FU19)	VIIg	830		>80%	?	?	?	↓ catch	< 800 t	Cat 6
Nephrops (FU20-22)	VIIfh	5,300		>80%	?	?	?	↓ catch	< 5300 t	Cat 6
Megrim	VIIb-k & VIIIabe	11,500 (13,500)	20,400	<10%	?	?	?	↓ catch & effort	→ catch & effort	Cat 7 ↓ 15%
Anglerfish	VII & VIII	32,200	41,400	<10%	?	?	?	→ catch & effort	→ catch & effort	Cat 8 ↑ 15%
Hake	VI, VII, VIII	47,800	55,100	<5%	↓ since 05	↑ since 00		<44800	<44800	Cat 8 ↑ 15%