

30. Offshore circalittoral sand

Sensitivity Assessment

Sensitivity scores for characterising ecological groups sensu Tillin & Tyler-Walters (2013) were obtained from Tillin & Tyler-Walters (2014). See case report (Appendix 10) for details of ecological groups that characterise this feature. The resistance, resilience and sensitivity scores for each pressure comprise those scores for the ecological group(s) most sensitive to that pressure. For pressures not assessed in Tillin & Tyler-Walters (2014), scores for characterising species of each ecological group were obtained from the MarLIN website (www.marlin.ac.uk) where available. The overall scores for these pressures again comprised the scores of the most sensitive organism(s) to each pressure.

Table A11.30. Sensitivity assessment for offshore circalittoral sand. Associated sectors include activities related to offshore renewable energy (O), Fishing (F), or shipping (S). NR = not relevant, NA = not assessed, NEv = no evidence, H = high, M = medium, L = low, VL = very low, N = none, NS = not sensitive. Refs = References. *Overall confidence score of the MarLIN sensitivity analyses for characterising species which followed the MarLIN sensitivity assessment approach which was used prior to the MarESA approach.

Pressures		Associat ed sector(s)	Resistance				Resilience				Sensitivity				Group or species associated with score	Refs
Classificatio n	Pressure type		Score	Qo E	Ao E	Do C	Score	Qo E	Ao E	Do C	Score	Qo E	Ao E	Do C		
Physical	Physical loss (to land or freshwater habitat)	O	N	H	H	H	VL	H	H	H	H	H	H	H	4, 5, 7, 8(c)	2
	Physical change (to another seabed type)	O, F	N	H	H	H	VL	H	H	H	H	H	H	H	4, 5, 7, 8(c)	2

Pressures		Associated sector(s)	Resistance				Resilience				Sensitivity				Group or species associated with score	Refs
Classification	Pressure type		Score	Qo E	Ao E	Do C	Score	Qo E	Ao E	Do C	Score	Qo E	Ao E	Do C		
	Physical change (to another sediment type)	O, F	L	M	L	NR	H	M	L	NR	L	M	L	NR	7	2
	Habitat structure change-removal of substratum (extraction)	O	N	M	L	NR	M	M	L	M	M	M	L	L	4, 5 8(c)	2
Physical	Abrasion/disturbance of substratum surface or seabed	O, F	M	L	NR	NR	M	L	NR	NR	M	M	L	M	4, 8(c)	2
	Penetration or disturbance of substratum subsurface	O, F	L	H	H	M	M	L	NR	NR	M	M	L	M	4, 8(c)	2

Pressures		Associated sector(s)	Resistance				Resilience				Sensitivity				Group or species associated with score	Refs
Classification	Pressure type		Score	Qo E	Ao E	Do C	Score	Qo E	Ao E	Do C	Score	Qo E	Ao E	Do C		
	Changes in suspended solids (water clarity)	O, F	M	L	NR	NR	M	L	NR	NR	M	L	NR	NR	4	2
	Smothering and siltation changes (light)	O	L				H				L	*H			<i>Amphiura filiformis</i>	2
	Smothering and siltation changes (heavy)	O	N	M	L	L	M	M	L	M	M	M	L	L	4, 5, 8(c)	2
	Underwater noise	O, F, S	NEv	NR	NR	NR	NEv	NR	NR	NR	NEv	NR	NR	NR		2
	Electromagnetic energy	O	NEv	NR	NR	NR	NEv	NR	NR	NR	NEv	NR	NR	NR		
	Barrier to species movement	O, F	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		

Appendix 11 Sensitivity Analyses - 30 Offshore circalittoral sand

Pressures		Associated sector(s)	Resistance				Resilience				Sensitivity				Group or species associated with score	Refs
Classification	Pressure type		Score	Qo E	Ao E	Do C	Score	Qo E	Ao E	Do C	Score	Qo E	Ao E	Do C		
	Death or injury by collision	O, F, S	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		
Hydrological	Water flow changes	O	H	M	L	NR	H	H	H	H	NS	M	L	L	4	2
Chemical	Transition elements & organo-metal contamination	O, F, S	L				H				L	*L			<i>Amphiura filiformis</i>	1
Chemical	Hydrocarbon & PAH contamination	O, F, S	N				M				M	*M			<i>Amphiura filiformis</i>	1
	Synthetic compound contamination	O, F, S	N				M				M	*L			<i>Amphiura filiformis</i>	1
	Introduction of other substances	O, F, S	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR		

Pressures		Associat ed sector(s)	Resistance				Resilience				Sensitivity				Group or species associated with score	Refs
Classificatio n	Pressure type		Score	Qo E	Ao E	Do C	Score	Qo E	Ao E	Do C	Score	Qo E	Ao E	Do C		
	Deoxygenation	O	M				H				L	*H			<i>Amphiura filiformis</i>	1
Biological	Introduction or spread of invasive non-indigenous species	O, F, S	NEv	NR	NR	NR	NEv	NR	NR	NR	NEv	NR	NR	NR		2
	Removal of target species	F	H	M	L	NR	H	H	H	H	NS	M	L	L	All	2
	Removal of non- target species	F	H	M	L	NR	H	H	H	H	NS	M	L	L	All	2

References for offshore circalittoral sand sensitivity assessment

1. Hill, J.M. & Wilson, E. (2008). *Amphiura filiformis* A brittlestar. In Tyler-Walters H. and Hiscock K. (eds) *Marine Life Information Network: Biology and Sensitivity Key Information Reviews*, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 24-04-2024]. Available from:
<https://www.marlin.ac.uk/species/detail/1400>
2. Tillin, H. & Tyler-Walters, H. (2014). *Assessing the sensitivity of subtidal sedimentary habitats to pressures associated with marine activities – Phase 2 Report, JNCC Report No. 512B*. JNCC, Peterborough, ISSN 0963-8091.

Reference for ecological groups

Tillin, H, Tyler-Walters, H. (2013). *Assessing the sensitivity of subtidal sedimentary habitats to pressures associated with marine activities. Phase 1 Report: Rationale and proposed ecological groupings for Level 5 biotopes against which sensitivity assessments would be best undertaken*. JNCC Report No. 512A