27. Offshore circalittoral coarse sediment

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 A11.27. Sensitivity assessment for offshore circalittoral coarse sediment. 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, 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		**Associated sector(s)**	**Resistance**				**Resilience**				**Sensitivity**				**Group or species associated with score**	**Refs**
Classification	**Pressure type**		**Score**	**QoE**	**AoE**	**DoC**	**Score**	**QoE**	**AoE**	**DoC**	**Score**	**QoE**	**AoE**	**DoC**		
Physical	Physical loss (to land or freshwater habitat)	O	N	H	H	H	VL	H	H	H	H	H	H	H	2, 4, 5, 6	2

Pressures		Associated sector(s)	Resistance				Resilience				Sensitivity				Group or species associated with score	Refs
Classification	Pressure type		Score	QoE	AoE	DoC	Score	QoE	AoE	DoC	Score	QoE	AoE	DoC		
	Physical change (to another seabed type)	O, F	N	H	H	H	VL	H	H	H	H	H	H	H	2, 4, 5, 6	2
	Physical change (to another sediment type)	O, F	H	M	L	NR	H	H	H	H	NS	M	L	L	2, 4, 5, 6	2
	Habitat structure change-removal of substratum (extraction)	O	N	M	L	NR	M	L	NR	NR	M	L	L	NR	2, 4, 5, 6	2
Physical	Abrasion/disturbance of substratum surface or seabed	O, F	M	H	H	H	M	M	M	M	M	M	M	M	2, 4, 5	2

Pressures		Associated sector(s)	Resistance				Resilience				Sensitivity				Group or species associated with score	Refs
Classification	Pressure type		Score	QoE	AoE	DoC	Score	QoE	AoE	DoC	Score	QoE	AoE	DoC		
	Penetration or disturbance of substratum subsurface	O, F	M	H	H	H	M	M	M	M	M	M	M	M	2, 4, 5	2
	Changes in suspended solids (water clarity)	O, F	M	H	M	M	M	M	M	M	M	M	M	M	2, 4	2
	Smothering and siltation changes (light)	O	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR		
	Smothering and siltation changes (heavy)	O	N	H	H	H	M	L	NR	NR	M	L	L	L	2, 4, 5	2
	Underwater noise	O, F, S	NEv	NR	NR	NR	NEv	NR	NR	NR	NEv	NR	NR	NR	2, 4, 5, 6	2
	Electromagnetic energy	O	NEv	NR	NR	NR	NEv	NR	NR	NR	NEv	NR	NR	NR	2, 4, 5, 6	2

Pressures		Associated sector(s)	Resistance				Resilience				Sensitivity				Group or species associated with score	Refs
Classification	**Pressure type**		**Score**	**QoE**	**AoE**	**DoC**	**Score**	**QoE**	**AoE**	**DoC**	**Score**	**QoE**	**AoE**	**DoC**		
	Barrier to species movement	O, F	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		
	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		
Chemical	Transition elements & organo-metal contamination	O, F, S	M				H				L	L*			*Lanice conchilega*	1
Chemical	Hydrocarbon & PAH contamination	O, F, S	M				H				L	M*			*Lanice conchilega*	1
	Synthetic compound contamination	O, F, S	N				H				M	VL*			*Lanice conchilega*	1

Pressures		Associated sector(s)	Resistance				Resilience				Sensitivity				Group or species associated with score	Refs
Classification	Pressure type		Score	QoE	AoE	DoC	Score	QoE	AoE	DoC	Score	QoE	AoE	DoC		
	Introduction of other substances	O, F, S	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR		
	Deoxygenation	O	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR		
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, 4, 5, 6	
	Removal of target species	F	M	H	H	H	M	M	M	M	M	M	M	M	2	2
	Removal of non-target species	F	H	M	L	NR	H	H	H	H	NS	M	L	L	2, 4, 5, 6	

References for sensitivity offshore circalittoral coarse sediment assessment

1. Ager, O.E.D. (2008). *Lanice conchilega* Sand mason. In Tyler-Walters H. (ed) *Marine Life Information Network: Biology and Sensitivity Key Information Reviews*, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 02-05-2024]. Available from: https://www.marlin.ac.uk/species/detail/1642

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. 5