31. Offshore circalittoral mixed 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 A11.31. Sensitivity assessment for offshore circalittoral mixed 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, N = none, NS = not sensitive. Refs = References.

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	4, 5, 6, 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, 6, 8(c)	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**		
	Physical change (to another sediment type)	O, F	H	M	L	NR	H	H	H	H	NS	M	L	L	All	1
	Habitat structure change-removal of substratum (extraction)	O	N	M	L	NR	L	L	NR	NR	H	L	L	NR	5	1
Physical	Abrasion/disturbance of substratum surface or seabed	O, F	M	H	H	H	M	M	M	M	M	M	M	M	4, 5, 8(c)	1
	Penetration or disturbance of substratum subsurface	O, F	M	H	H	H	M	M	M	M	M	M	M	M	4, 5, 8(c)	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**		
	Changes in suspended solids (water clarity)	O, F	M	H	M	M	M	M	M	M	M	M	M	M	4	1
	Smothering and siltation changes (light)	O	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR		1
	Smothering and siltation changes (heavy)	O	N	H	H	H	L	L	NR	NR	H	L	L	L	5	1
	Underwater noise	O, F, S	NEv	NR	NR	NR	NEv	NR	NR	NR	NEv	NR	NR	NR	All	1
	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		

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		
	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, 5, 6, 8(c)	1
Chemical	Transition elements & organo-metal contamination	O, F, S	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR		
Chemical	Hydrocarbon & PAH contamination	O, F, S	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR		
	Synthetic compound contamination	O, F, S	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR		
	Introduction of other substances	O, F, S	NA	NR	NR	NR	NA	NR	NR	NR	NA	NR	NR	NR		

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		
	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	All	1
	Removal of target species	F	H	M	L	NR	H	H	H	H	NS	M	L	L	4, 5, 6, 8(c)	1
	Removal of non-target species	F	H	M	L	NR	H	H	H	H	NS	M	L	L	4, 5, 6, 8(c)	1

References for offshore circalittoral mixed sediment sensitivity assessment

1. 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