21. Circalittoral rock and biogenic reef

Sensitivity Assessment

Sensitivity scores for characterising ecological groups sensu Alexander et al. (2015), were obtained from Maher et al. (2014). See case report (Appendix 10) for details of ecological groups that characterise this feature. The overall sensitivity score for each pressure comprises those scores for the ecological group(s) most sensitive to that pressure.

Table A11.21. Sensitivity assessment for circalittoral rock and biogenic reef. 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				VL				H	H	H	H	All	1
	Physical change (to another seabed type)	O, F	N				VL				H	H	H	H	All	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	N	M	L	NR	M	H	L	H	M	M	M	M	*Sabelleria* reefs only	2, 3
	Habitat structure change-removal of substratum (extraction)	O	N	H	H	H	M	H	H	H	M	H	H	H	*Sabelleria* reefs only	2, 3
	Abrasion/disturbance of substratum surface or seabed	O, F	M				L				M	M	H	L	6(a), 6(c)	1
Physical	Penetration or disturbance of substratum subsurface	O, F	N	M	H	H	M	M	M	M	M	M	M	M	*Sabelleria* reefs only	2, 3

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				H				L	M	H	M	3	1
	Smothering and siltation changes (light)	O	NA				NA				NA					1
	Smothering and siltation changes (heavy)	O	N				L				H	L	H	M	6(c)	1
	Underwater noise	O, F, S	NEv				NEv				NEv					1
	Electromagnetic energy	O	NEv				NEv				NEv					1
	Barrier to species movement	O, F	NEv				NEv				NEv					1

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					1
Hydrological	Water flow changes	O	L				M				M	M	H	M	6(a), 6(c)	1
Chemical	Transition elements & organo-metal contamination	O, F, S	L				L				H	M	M	M	3	1
	Hydrocarbon & PAH contamination	O, F, S	L				L				H	M	M	M	6(c)	1
Chemical	Synthetic compound contamination	O, F, S	L				L				H	M	H	L	3	1
	Introduction of other substances	O, F, S	M				M				M	L	H	M	6(a)	1
	Deoxygenation	O	M				L				M	L	H	M	6(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**		
Biological	Introduction or spread of invasive non-indigenous species	O, F, S	L				L				H	M	H	M	4 (based on *Mytilus edulis* only)	1
	Removal of target species	F	M				M				M	M	H	M	6(c)	1
	Removal of non-target species	F	M				H				L	H	H	M	2, 3, 6(b)	1

References for circalittoral rock and biogenic reef sensitivity assessment

1. Maher, E., Cramb, P., de Ros Moliner, A., Alexander, D. & Rengstorf, A. (2016). *Assessing the sensitivity of sublittoral rock habitats to pressures associated with marine activities.* Marine Ecological Surveys Ltd – A report for the Joint Nature Conservation Committee. JNCC Report No. 589B. JNCC, Peterborough.

2. Tillin, H.M., Gibb, N.,, Garrard, S.L.,, Lloyd, K.A., & Watson, A. (2023). Circalittoral *Sabellaria* reefs (on rock). 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 17-04-2024]. Available from: https://www.marlin.ac.uk/habitats/detail/225

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Reference for ecological groups

Alexander, D., Coates, D. A., Tillin, H. & Tyler-Walters, H. (2015). *Conceptual Ecological Modelling of Sublittoral Rock Habitats to Inform Indicator Selection*. Marine Ecological Surveys Ltd - A report for the Joint Nature Conservation Committee, JNCC Report No 560, JNCC Peterborough.