Habitat	Reefs/beds (maerl, *Sabellaria*, mussel beds, chalk reef)	
Relevant Annex I habitats	Reefs, Estuaries, Coastal lagoons, Large shallow inlets and bays, Sandbanks	
Bait collection activity with potential to interact with habitat (range of activity; Limited - Common)	**Accessing or crossing shore (includes trampling) (C) (12,21,29,30,34,48,59)**	
	x	
UK bait species: use 'Rare', 'Occasional', or 'Common' (29,48). *Indicates use not included in refs. 29 or 48*	**Species collected by given method**	
Alitta virens **(C)** (5,7,15,21,23,26-31,38,46-48,58-61)		
Hediste diversicolor **(C)** (28-31,36,48,53)		
Perinereis cultrifera **(C)** (28,29,48)		
Arenicola marina **(C)** (6,13,15,17,21,23,25-27,29-31,34-36,41,46-48,53,56,59)		
Arenicola defodiens **(C)** (25,29,31,48)		
Nephtys **spp. (O?)** (29-31,46-48)	All species	
Ensis **spp. (O)** (29-31,48,53)		
Mya arenaria **(R)** (29,48,53)		
Cerastoderma edule **(R)** (29,34,48,53)		
Mytilus edulis **(O)** (15,21,29-31,48,84,88)		
Fanworm (R*) (53)		
Littorina littorea **(R)** (29,32,48)		
Sabellaria **(R*)** (37,48,81)		
'Rockworms' from chalk reefs (R*) *Marphysa sanguinea?* (89,90)		
Piddocks (R*) (85,91,92)		
Impacts: Evidence denoted C=Chalk, Ma= Maerl, M=Mussel, S=*Sabellaria*	**Impact (Low-High)**	**Evidence (Low-High)**
Habitat impact (to biogenic structure and/or the reef-forming species)	H	M (55M,82S)
Impact target species	H	M (55M)
Impact non-target macrofaunal assemblage	H	M (82S)
Impact non-target birds	M	M (32M)
Recovery rate habitat	-	-
Recovery target species	-	-
Recovery non-target	-	-

Habitat	Reefs/beds (maerl, *Sabellaria* , mussel beds, chalk reef)	
Relevant Annex I habitats	Reefs, Estuaries, Coastal lagoons, Large shallow inlets and bays, Sandbanks	
Bait collection activity with potential to interact with habitat (range of activity; Limited - Common)	**Hand digging (C)** (5-7,12,16,26,28-31,34,35,38,42,46-48,56,58-61)	
	x	
UK bait species: use 'Rare', 'Occasional', or 'Common' (29,48). *Indicates use not included in refs. 29 or 48*	**Species collected by given method**	
Alitta virens **(C)** (5,7,15,21,23,26-31,38,46-48,58-61)	*A.virens*	
Hediste diversicolor **(C)** (28-31,36,48,53)	*H. diversicolor*	
Perinereis cultrifera **(C)** (28,29,48)	*P. cultrifera*	
Arenicola marina **(C)** (6,13,15,17,21,23,25-27,29-31,34-36,41,46-48,53,56,59)	*A. marina*	
Arenicola defodiens **(C)** (25,29,31,48)	*A. defodiens*	
Nephtys **spp. (O?)** (29-31,46-48)	*Nephtys* spp.	
Ensis **spp. (O)** (29-31,48,53)	*Ensis* spp.	
Mya arenaria **(R)** (29,48,53)	*M. arenaria*	
Cerastoderma edule **(R)** (29,34,48,53)	Fanworm	
Mytilus edulis **(O)** (15,21,29-31,48,84,88)	*Sabellaria*	
Fanworm (R*) (53)	'Rockworms'	
Littorina littorea **(R)** (29,32,48)	Piddocks	
Sabellaria **(R*)** (37,48,81)		
'Rockworms' from chalk reefs (R*) *Marphysa sanguinea?* (89,90)		
Piddocks (R*) (85,91,92)		
Impacts: Evidence denoted C=Chalk, Ma= Maerl, M=Mussel, S=*Sabellaria*	**Impact (L-H)**	**Evidence (L-H)**
Habitat impact (to biogenic structure and/or the reef-forming species)	H	M (29M,37S,81S,82S,83C,84M,85C,86M/S)
Impact target species	H?	L (85C)
Impact non-target macrofaunal assemblage	H	M (82S,83C)
Impact non-target birds	-	-
Recovery rate habitat	-	-
Recovery target species	-	-
Recovery non-target	-	-

Habitat	Reefs/beds (maerl, *Sabellaria*, mussel beds, chalk reef)	
Relevant Annex I habitats	Reefs, Estuaries, Coastal lagoons, Large shallow inlets and bays, Sandbanks	
Bait collection activity with potential to interact with habitat (range of activity; Limited - Common)	**Bait dragging (L)** (5,28,29,30,31,38, 42, 48)	
	x	
UK bait species: use 'Rare', 'Occasional', or 'Common' (29,48). *Indicates use not included in refs. 29 or 48*	**Species collected by given method**	
Alitta virens **(C)** (5,7,15,21,23,26-31,38,46-48,58-61)	*A.virens*	
Hediste diversicolor **(C)** (28-31,36,48,53)		
Perinereis cultrifera **(C)** (28,29,48)		
Arenicola marina **(C)** (6,13,15,17,21,23,25-27,29-31,34-36,41,46-48,53,56,59)		
Arenicola defodiens **(C)** (25,29,31,48)		
Nephtys **spp. (O?)** (29-31,46-48)		
Ensis **spp. (O)** (29-31,48,53)		
Mya arenaria **(R)** (29,48,53)		
Cerastoderma edule **(R)** (29,34,48,53)		
Mytilus edulis **(O)** (15,21,29-31,48,84,88)		
Fanworm (R*) (53)		
Littorina littorea **(R)** (29,32,48)		
Sabellaria **(R*)** (37,48,81)		
'Rockworms' from chalk reefs (R*) *Marphysa sanguinea?* (89,90)		
Piddocks (R*) (85,91,92)		
Impacts: Evidence denoted C=Chalk, Ma= Maerl, M=Mussel, S=*Sabellaria*	**Impact (L-H)**	**Evidence (L-H)**
Habitat impact (to biogenic structure and/or the reef-forming species)	M?	L (87M not seen)
Impact target species	-	-
Impact non-target macrofaunal assemblage	-	-
Impact non-target birds	-	-
Recovery rate habitat	-	-
Recovery target species	-	-
Recovery non-target	-	-

Habitat	Reefs/beds (maerl, *Sabellaria*, mussel beds, chalk reef)	
Relevant Annex I habitats	Reefs, Estuaries, Coastal lagoons, Large shallow inlets and bays, Sandbanks	
Bait collection activity with potential to interact with habitat (range of activity; Limited - Common)	**Bait pump (C?)** (29,30,31,48,59,64)	
UK bait species: use 'Rare', 'Occasional', or 'Common' (29,48). *Indicates use not included in refs. 29 or 48*	**Species collected by given method**	
Alitta virens **(C)** (5,7,15,21,23,26-31,38,46-48,58-61)	*A. defodiens*	
Hediste diversicolor **(C)** (28-31,36,48,53)	*Ensis* spp.	
Perinereis cultrifera **(C)** (28,29,48)		
Arenicola marina **(C)** (6,13,15,17,21,23,25-27,29-31,34-36,41,46-48,53,56,59)		
Arenicola defodiens **(C)** (25,29,31,48)		
Nephtys spp. **(O?)** (29-31,46-48)		
Ensis spp. **(O)** (29-31,48,53)		
Mya arenaria **(R)** (29,48,53)		
Cerastoderma edule **(R)** (29,34,48,53)		
Mytilus edulis **(O)** (15,21,29-31,48,84,88)		
Fanworm **(R*)** (53)		
Littorina littorea **(R)** (29,32,48)		
Sabellaria **(R*)** (37,48,81)		
'Rockworms' from chalk reefs **(R*)** *Marphysa sanguinea?* (89,90)		
Piddocks **(R*)** (85,91,92)		
Impacts: Evidence denoted C=Chalk, Ma= Maerl, M=Mussel, S=*Sabellaria*	**Impact (L-H)**	**Evidence (L-H)**
Habitat impact (to biogenic structure and/or the reef-forming species)	-	-
Impact target species	-	-
Impact non-target macrofaunal assemblage	-	-
Impact non-target birds	-	-
Recovery rate habitat	-	-
Recovery target species	-	-
Recovery non-target	-	-

Habitat	Reefs/beds (maerl, *Sabellaria*, mussel beds, chalk reef)	
Relevant Annex I habitats	Reefs, Estuaries, Coastal lagoons, Large shallow inlets and bays, Sandbanks	
Bait collection activity with potential to interact with habitat (range of activity; Limited - Common)	**Raking (L?)** (19,48,50,67,88)	
	x	
UK bait species: use 'Rare', 'Occasional', or 'Common' (29,48). *Indicates use not included in refs. 29 or 48*	**Species collected by given method**	
Alitta virens **(C)** (5,7,15,21,23,26-31,38,46-48,58-61)	*C. edule*	
Hediste diversicolor **(C)** (28-31,36,48,53)	*M. edulis*	
Perinereis cultrifera **(C)** (28,29,48)		
Arenicola marina **(C)** (6,13,15,17,21,23,25-27,29-31,34-36,41,46-48,53,56,59)		
Arenicola defodiens **(C)** (25,29,31,48)		
Nephtys **spp. (O?)** (29-31,46-48)		
Ensis **spp. (O)** (29-31,48,53)		
Mya arenaria **(R)** (29,48,53)		
Cerastoderma edule **(R)** (29,34,48,53)		
Mytilus edulis **(O)** (15,21,29-31,48,84,88)		
Fanworm (R*) (53)		
Littorina littorea **(R)** (29,32,48)		
Sabellaria **(R*)** (37,48,81)		
'Rockworms' from chalk reefs (R*) *Marphysa sanguinea?* (89,90)		
Piddocks (R*) (85,91,92)		
Impacts: Evidence denoted C=Chalk, Ma= Maerl, M=Mussel, S=*Sabellaria*	**Impact (L-H)**	**Evidence (L-H)**
Habitat impact (to biogenic structure and/or the reef-forming species)	-	-
Impact target species	-	-
Impact non-target macrofaunal assemblage	-	-
Impact non-target birds	-	-
Recovery rate habitat	-	-
Recovery target species	-	-
Recovery non-target	-	-

Habitat	Reefs/beds (maerl, *Sabellaria*, mussel beds, chalk reef)	
Relevant Annex I habitats	Reefs, Estuaries, Coastal lagoons, Large shallow inlets and bays, Sandbanks	
Bait collection activity with potential to interact with habitat (range of activity; Limited - Common)	**Salting (?) (48,64)**	
UK bait species: use 'Rare', 'Occasional', or 'Common' (29,48). *Indicates use not included in refs. 29 or 48	**Species collected by given method**	
Alitta virens **(C)** (5,7,15,21,23,26-31,38,46-48,58-61)	*Ensis* spp.	
Hediste diversicolor **(C)** (28-31,36,48,53)		
Perinereis cultrifera **(C)** (28,29,48)		
Arenicola marina **(C)** (6,13,15,17,21,23,25-27,29-31,34-36,41,46-48,53,56,59)		
Arenicola defodiens **(C)** (25,29,31,48)		
Nephtys spp. **(O?)** (29-31,46-48)		
Ensis spp. **(O)** (29-31,48,53)		
Mya arenaria **(R)** (29,48,53)		
Cerastoderma edule **(R)** (29,34,48,53)		
Mytilus edulis **(O)** (15,21,29-31,48,84,88)		
Fanworm **(R*)** (53)		
Littorina littorea **(R)** (29,32,48)		
Sabellaria **(R*)** (37,48,81)		
'Rockworms' from chalk reefs **(R*)** *Marphysa sanguinea?* (89,90)		
Piddocks **(R*)** (85,91,92)		
Impacts: Evidence denoted C=Chalk, Ma= Maerl, M=Mussel, S=*Sabellaria*	**Impact (L-H)**	**Evidence (L-H)**
Habitat impact (to biogenic structure and/or the reef-forming species)	-	-
Impact target species	-	-
Impact non-target macrofaunal assemblage	-	-
Impact non-target birds	-	-
Recovery rate habitat	-	-
Recovery target species	-	-
Recovery non-target	-	-

Habitat	Reefs/beds (maerl, *Sabellaria*, mussel beds, chalk reef)	
Relevant Annex I habitats	Reefs, Estuaries, Coastal lagoons, Large shallow inlets and bays, Sandbanks	
Bait collection activity with potential to interact with habitat (range of activity; Limited - Common)	**Hand picking (?)** (29,31,32,37,48,50)	
	x	
UK bait species: use 'Rare', 'Occasional', or 'Common' (29,48). *Indicates use not included in refs. 29 or 48	**Species collected by given method**	
Alitta virens **(C)** (5,7,15,21,23,26-31,38,46-48,58-61)	*M. edulis*	
Hediste diversicolor **(C)** (28-31,36,48,53)	*C. edule*	
Perinereis cultrifera **(C)** (28,29,48)	*Ensis* spp.	
Arenicola marina **(C)** (6,13,15,17,21,23,25-27,29-31,34-36,41,46-48,53,56,59)	*L. littorea*	
Arenicola defodiens **(C)** (25,29,31,48)		
Nephtys **spp. (O?)** (29-31,46-48)		
Ensis **spp. (O)** (29-31,48,53)		
Mya arenaria **(R)** (29,48,53)		
Cerastoderma edule **(R)** (29,34,48,53)		
Mytilus edulis **(O)** (15,21,29-31,48,84,88)		
Fanworm **(R*)** (53)		
Littorina littorea **(R)** (29,32,48)		
Sabellaria **(R*)** (37,48,81)		
'Rockworms' from chalk reefs (R*) *Marphysa sanguinea?* (89,90)		
Piddocks **(R*)** (85,91,92)		
Impacts: Evidence denoted C=Chalk, Ma= Maerl, M=Mussel, S=Sabellaria	**Impact (L-H)**	**Evidence (L-H)**
Habitat impact (to biogenic structure and/or the reef-forming species)	H	M (55M,84M)
Impact target species	H	M (55M,84M)
Impact non-target macrofaunal assemblage	-	-
Impact non-target birds	-	-
Recovery rate habitat	-	-
Recovery target species	-	-
Recovery non-target	-	-

Habitat	Reefs/beds (maerl, *Sabellaria*, mussel beds, chalk reef)	
Relevant Annex I habitats	Reefs, Estuaries, Coastal lagoons, Large shallow inlets and bays, Sandbanks	
Impact summary - Habitat	No evidence for impacts was available for maerl. Bait collection and trampling may result in direct damage to reef/bed habitat and can alter the characteristics of the reef forming species (e.g. here evidence for differences in *Sabellaria* abundance and size class frequencies associated with reef degradation and mussel biomass, density, and cover change identified as a result of experimental trampling and bait collection).	
Impact summary - Target species	Evidence is available for significant change in mussel biomass, density, and cover change as a result of experimental trampling and bait collection. Direct evidence for target impacts on chalk reefs not available, however it is suggested that damage to the reef in harvesting of piddock could reduce rock stability and potentially lead to loss of the majority of piddocks to 10cm (85)	
Impact summary - Non-target assemblage	Richness and multivariate composition were different on degraded *Sabellaria* reef compared to reef at different evolutionary stages, with higher richness on the degraded reef, though overall richness would decline if the degraded reef were to extend. The highest patchiness in the epibiota of a chalk reef was found at sites characterised by intermediate levels of disturbance (where rock is broken up for a mussel fishery in Italy).	
Impact summary - Non-target birds	A study on mussel beds indicates that the presence of a sufficient number of humans may reduce oystercatcher feeding time and that juvenile birds would be most at risk to increasing disturbance on the beds.	
MMO Risk Matrix for protected features of European Marine Sites. *https://www.gov.uk/government/publications/fisheries-in-european-marine-sites-matrix*	For Maerl beds, bait dragging, only, was rated 'Amber' and bait digging (with forks) and intertidal handwork also considered relevant to bait collection were rated as 'Blue'. For *Sabellaria*, chalk reef, and mussel beds, all activities that were considered relevant to bait collection were rated 'Amber'.	*Amber: Where there is doubt as to whether conservation objectives for a feature (or subfeature) will be achieved because of its sensitivity to a type of fishing, in all EMSs where that feature occurs, the effect of that activity or activities on such features will need to be assessed in detail at a site specific level. Appropriate management action should then be taken based on that assessment.' Blue: For gear types where there can be no feasible interaction between the gear types and habitat features, a fourth categorisation of blue is used, and no management action should be necessary*