

## SUPPORTING INFORMATION

### S1

#### MedSens index: The bridge between marine citizen science and coastal management

Eva Turicchia<sup>1,5,7,9,10</sup>, Carlo Cerrano<sup>2,5,7,8,11</sup>, Matteo Ghetta<sup>3</sup>, Marco Abbiati<sup>1,5,6,9,10</sup>, Massimo Ponti<sup>4,5,7,9,10</sup>

- <sup>1</sup> Dipartimento di Conservazione dei Beni Culturali, Università di Bologna, Via degli Ariani 1, 48121 Ravenna, Italy.
- <sup>2</sup> Dipartimento di Scienze della Vita e dell'Ambiente, Università Politecnica delle Marche, Via Brecce Bianche, 60131 Ancona, Italy.
- <sup>3</sup> Faunalia, Piazza Garibaldi 5, 56025 Pontedera, Italy.
- <sup>4</sup> Dipartimento di Scienze Biologiche, Geologiche e Ambientali, Università di Bologna, Via S. Alberto 163, 48123 Ravenna, Italy.
- <sup>5</sup> Consorzio Nazionale Interuniversitario per le Scienze del Mare, Piazzale Flaminio 9, 00196 Roma, Italy.
- <sup>6</sup> Istituto di Scienze Marine, Consiglio Nazionale delle Ricerche, Via Piero Gobetti 101, 40129 Bologna, Italy.
- <sup>7</sup> Reef Check Italia onlus, Via Brecce Bianche, 60131 Ancona, Italy.
- <sup>8</sup> Stazione Zoologica Anton Dohrn, Villa Comunale, 80121, Napoli, Italy
- <sup>9</sup> Centro Interdipartimentale di Ricerca Industriale Fonti Rinnovabili, Ambiente, Mare ed Energia, Università di Bologna, Via S. Alberto 163, 48123 Ravenna, Italy
- <sup>10</sup> Centro Interdipartimentale di Ricerca per le Scienze Ambientali, University of Bologna, Via S. Alberto 163, 48123 Ravenna, Italy
- <sup>11</sup> Fano Marine Center, Viale Adriatico 1, 61032 Fano, Italy

TABLE S1.1 Taxa selected for the sensitive assessment and their typical habitats.

Class	Taxon	Typical habitats
Ulvophyceae	<i>Caulerpa cylindracea</i> Sonder, 1845	rocky bottoms, coralligenous
	<i>Caulerpa taxifolia</i> (M.Vahl) C.Agardh, 1817	rocky bottoms
Demospongiae	<i>Axinella</i> spp.	rocky bottoms, coralligenous
	<i>Aplysina</i> spp. Nardo, 1834	rocky bottoms, coralligenous, caves
	<i>Geodia cydonium</i> (Linnaeus, 1767)	rocky & detritic bottoms
Anthozoa	<i>Corallium rubrum</i> (Linnaeus, 1758)	coralligenous, caves
	<i>Paramuricea clavata</i> (Risso, 1826)	rocky bottoms, coralligenous
	<i>Eunicella cavolini</i> (Koch, 1887)	rocky bottoms, coralligenous
	<i>Eunicella singularis</i> (Esper, 1791)	rocky bottoms, coralligenous
	<i>Eunicella verrucosa</i> (Pallas, 1766)	soft & rocky bottoms, coralligenous
	<i>Parazoanthus axinellae</i> (Schmidt, 1862)	rocky bottoms, coralligenous
	<i>Savalia savaglia</i> (Bertoloni, 1819)	rocky bottoms, coralligenous
	<i>Cladocora caespitosa</i> (Linnaeus, 1767)	rocky bottoms, coralligenous
	<i>Astroides calycularis</i> (Pallas, 1766)	rocky bottoms
	<i>Balanophyllia europaea</i> (Risso, 1826)	rocky bottoms, coralligenous
	<i>Leptopsammia pruvoti</i> Lacaze-Duthiers, 1897	rocky bottoms, coralligenous
Bivalvia	<i>Pinna nobilis</i> Linnaeus, 1758	soft & rocky bottoms, seagrasses
	<i>Arca noae</i> Linnaeus, 1758	rocky bottoms
Malacostraca	<i>Palinurus elephas</i> (Fabricius, 1787)	rocky bottoms, coralligenous, caves
	<i>Homarus gammarus</i> (Linnaeus, 1758)	rocky bottoms, coralligenous, caves
	<i>Scyllarides latus</i> (Latreille, 1803)	rocky bottoms, coralligenous, caves
Echinoidea	<i>Paracentrotus lividus</i> (Lamarck, 1816)	rocky bottoms
Actinopterygii	<i>Hippocampus</i> spp.	rocky bottoms, seagrasses
	<i>Diplodus</i> spp.	rocky bottoms, coralligenous
	<i>Sciaena umbra</i> Linnaeus, 1758	rocky bottoms, coralligenous

TABLE S1.2 Pressures likely affect marine species and considered in the evidence-based sensitivity assessment according to the MarESA approach and the needs of the MSFD (Tyler-Walters, Tillin, d'Avack, Perry & Stamp 2018).

Pressure type	Pressure
<b>Physical</b>	Emergence regime changes
	Salinity changes (increase)
	Salinity changes (decrease)
	Temperature changes (increase)
	Temperature changes (decrease)
	Water flow (tidal current) changes
	Wave exposure changes
	Changes in suspended solids (water clarity)
	Habitat structure changes - removal of substratum (extraction)
	Abrasion/ disturbance at the surface of the substratum
	Penetration and/or disturbance of the substratum below the surface
	Smothering and siltation rate changes (light)
	Smothering and siltation rate changes (heavy)
	Physical change
	Physical loss
	Barrier to species movement
	Electromagnetic changes
	Death or injury by collision
Introduction of light	
Litter	
Noise changes	
Visual disturbance	
<b>Chemical</b>	Organic enrichment
	De-oxygenation
	Introduction of other substance (solid, liquid or gas)
	Nutrient enrichment
	Hydrocarbon and PAH contamination
	Radionuclide contamination
	Synthetic compound contamination
Transition elements & organo-metal contamination	
<b>Biological</b>	Genetic modification and translocation of indigenous species
	Introduction of microbial pathogens
	Introduction or spread of invasive non-indigenous species
	Removal of non-target species
Removal of target species	

## Reference

Tyler-Walters, H., Tillin, H. M., d'Avack, E. A. S., Perry, F. & Stamp, T. (2018). *Marine Evidence-based Sensitivity Assessment (MarESA) – A Guide*. Marine Life Information Network (MarLIN), Marine Biological Association of the UK, Plymouth.