The following supplement accompanies the article

Forecasting the combined effects of disparate disturbances on the persistence of long-lived gorgonians: a case study of *Paramuricea clavata*

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Fig. S1. (A) *Paramuricea clavata*. Life cycle graph of the red gorgonian showing all the possible transitions between the different age-size classes used to construct the age-size structured matrix models developed in this study. (B) Size-class transition matrix; matrix elements represent 4 types of variables (*F*, *G*, *H*, *H₂*, *S*). *F*: fecundity; *G*: growth; *H*: shrink to 1 smaller class; *H₂*: shrink to 2 smaller classes; *S*: survival

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Fig. S1. (B) Size-class transition matrix; matrix elements represent 4 types of variables (*F*, *G*, *H*, *H₂*, *S*). *F*: fecundity; *G*: growth; *H*: shrink to 1 smaller class; *H₂*: shrink to 2 smaller classes; *S*: survival.
Table S1. (A) Averaged matrix obtained from the annual size-class transition matrices obtained at Medes Islands (Spain) from 2001 to 2004 and Cap de Creus from 2002 to 2004. (B) Size-class transition matrices for red gorgonian *Paramuricea clavata* population at Port-Cros National Park (France) from 1999 to 2003

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<th>(A) Size class at $t+1$</th>
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<p>| <strong>Cap de Creus</strong>        |                        |
| 1                       | 0 0 0.003 0.089 0.378 0.814 |
| 2                       | 0.765 0.471 0.048 0 0 0 0 |
| 3                       | 0 0.294 0.774 0.093 0.008 0 0 |
| 4                       | 0 0 0.032 0.713 0.129 0.028 0.017 |
| 5                       | 0 0 0 0.053 0.689 0.229 0.051 |
| 6                       | 0 0 0 0 0.061 0.569 0.254 |
| 7                       | 0 0 0 0 0 0.092 0.627 |</p>
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