

## ***Supplementary material***

### **On the use of recreational fishers' ecological knowledge to assess the conservation status of marine ecosystems**

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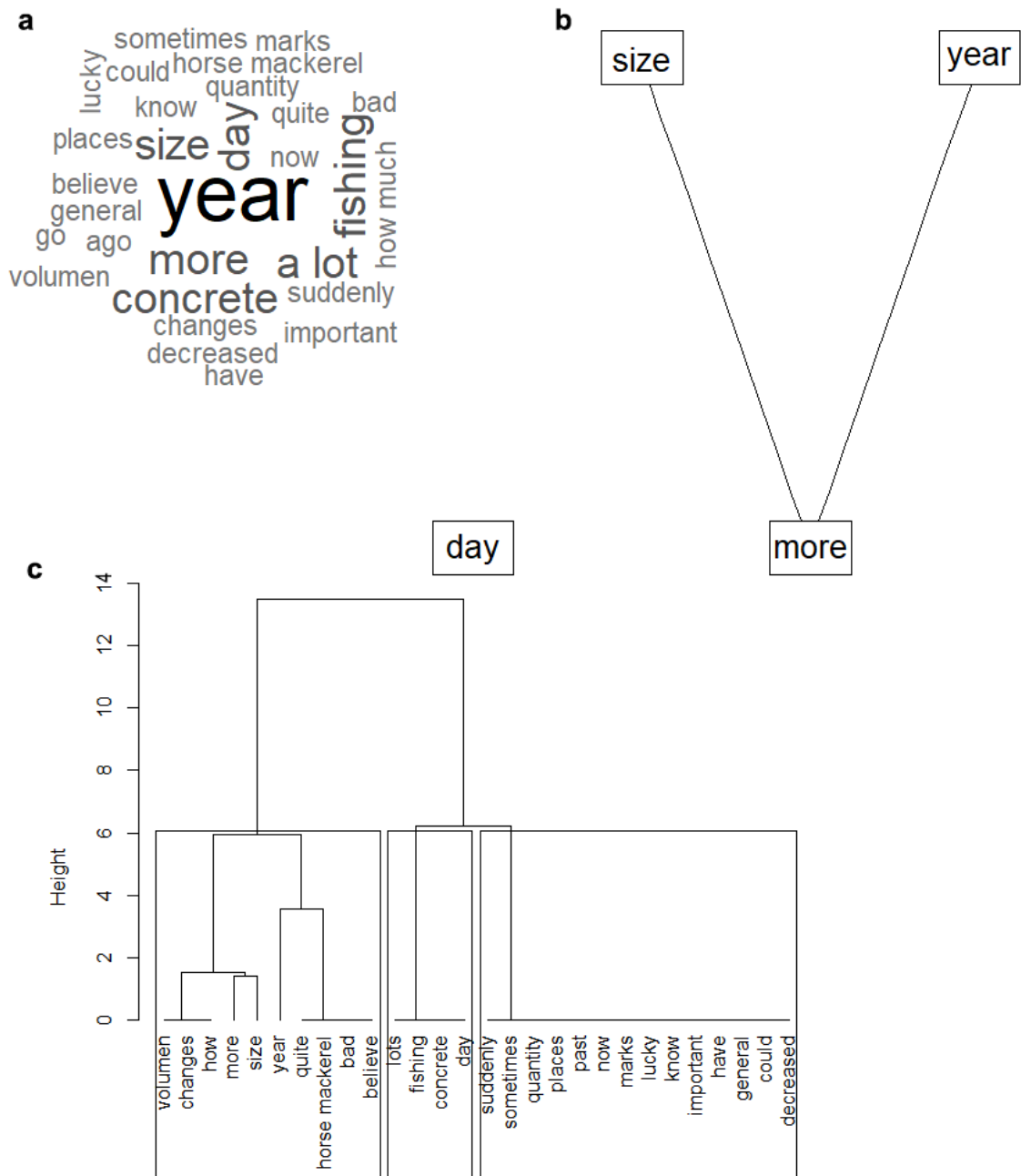
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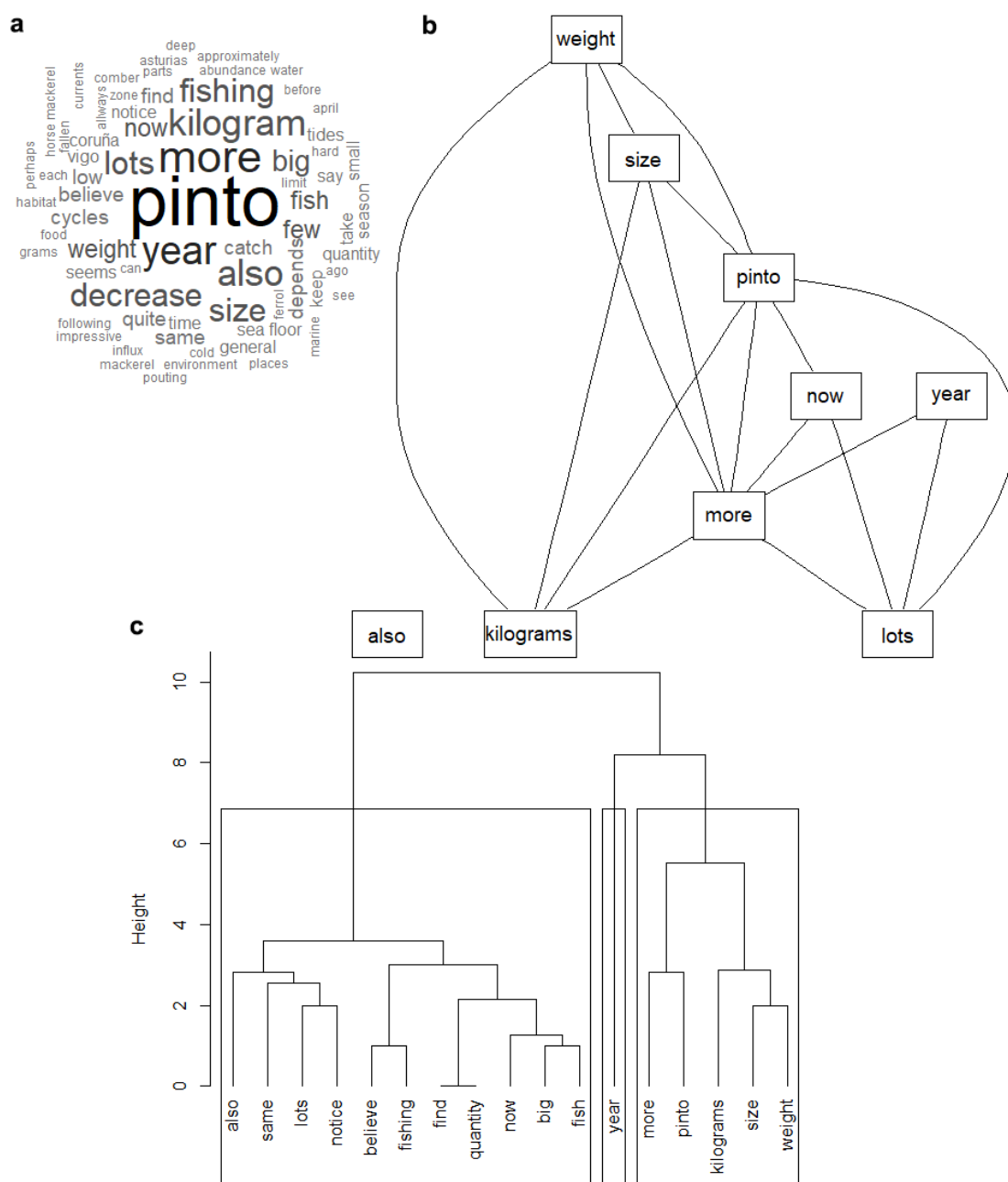
## Supporting information 1

In this section complementary information about the text analysis executed on transcriptions of interviews performed to quantify recreational fishers' perceptions on changes in the conservation status of fish stocks is presented. The results of the followed three-step approach by species are showed in Supplementary Figures S1-S10. Letter size and color strength refers to relative frequency of up to 100 most frequent words used by the fishers in word clouds (a); maximum correlation threshold has been used in the diagrams showing the relationships between most frequent words with the condition that all words showed at least one relationship with another word, when possible (b); and Ward's minimum variance method was used to cluster relationships of the most frequent words ( $\approx 20$ ), where boxes show three main groupings (c). Only species for which fishers provided more than one paragraph of text (approximately 50 words) are showed.

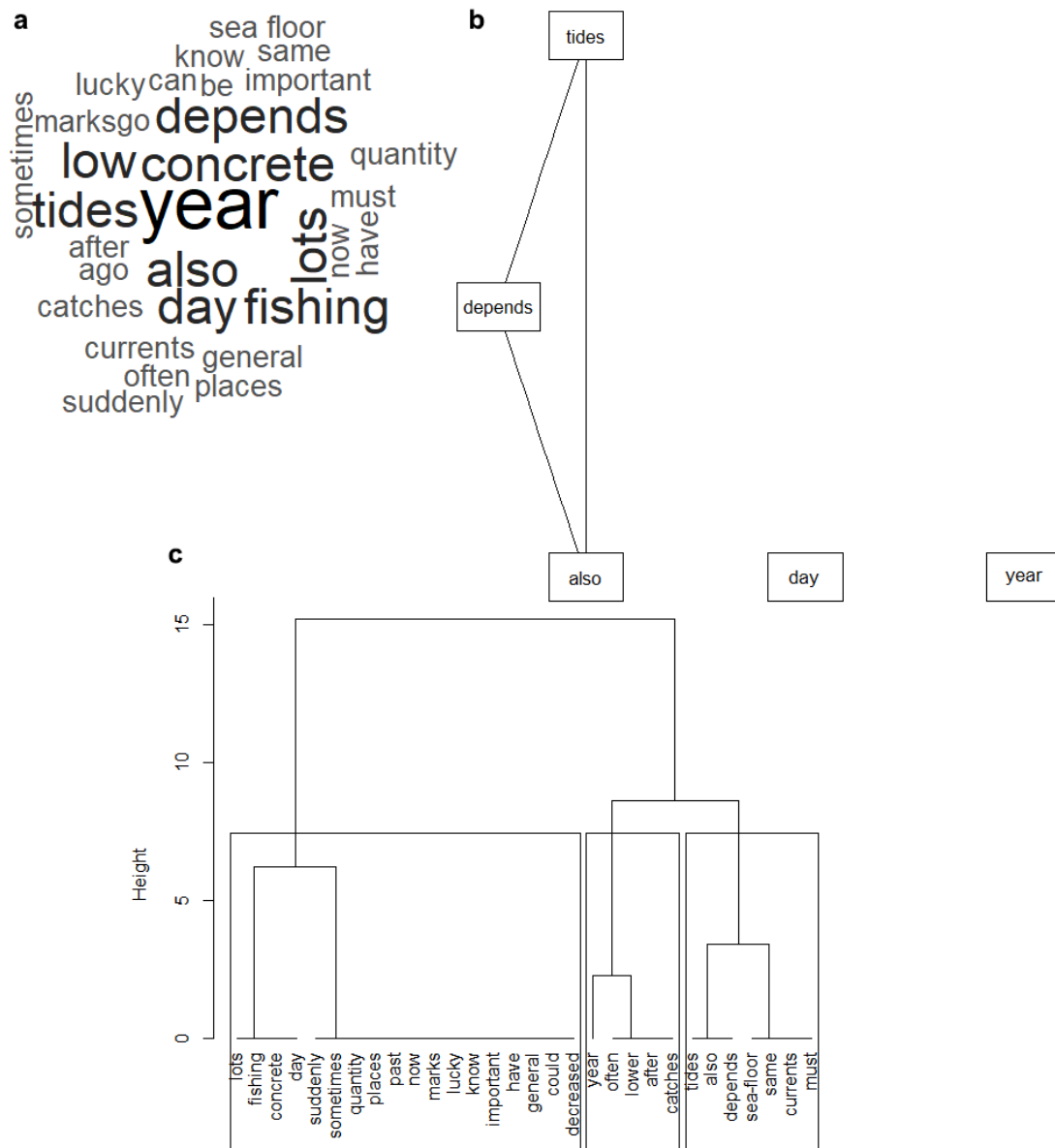


**Supplementary Figure S1.** Atlantic horse mackerel. Word cloud of frequent words (a), diagram of relationships between frequent words (b), and cluster of frequent words with main groupings in boxes (c).





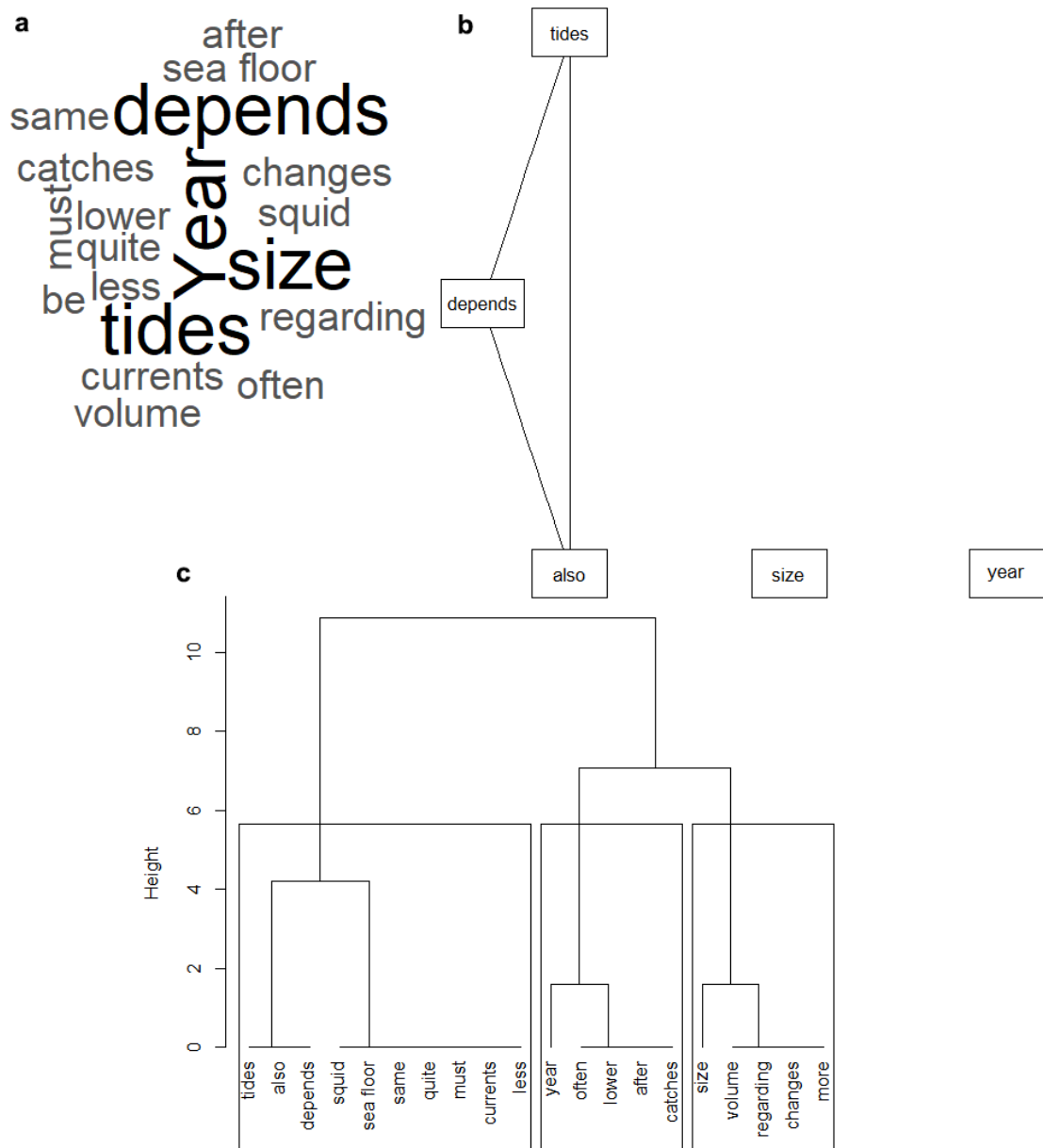
**Supplementary Figure S3.** Ballan wrasse (pinto). Word cloud of frequent words (a), diagram of relationships between frequent words (b), and cluster of frequent words with main groupings in boxes (c).



**Supplementary Figure S4.** Black seabream. Word cloud of frequent words (a), diagram of relationships between frequent words (b), and cluster of frequent words with main groupings in boxes (c).

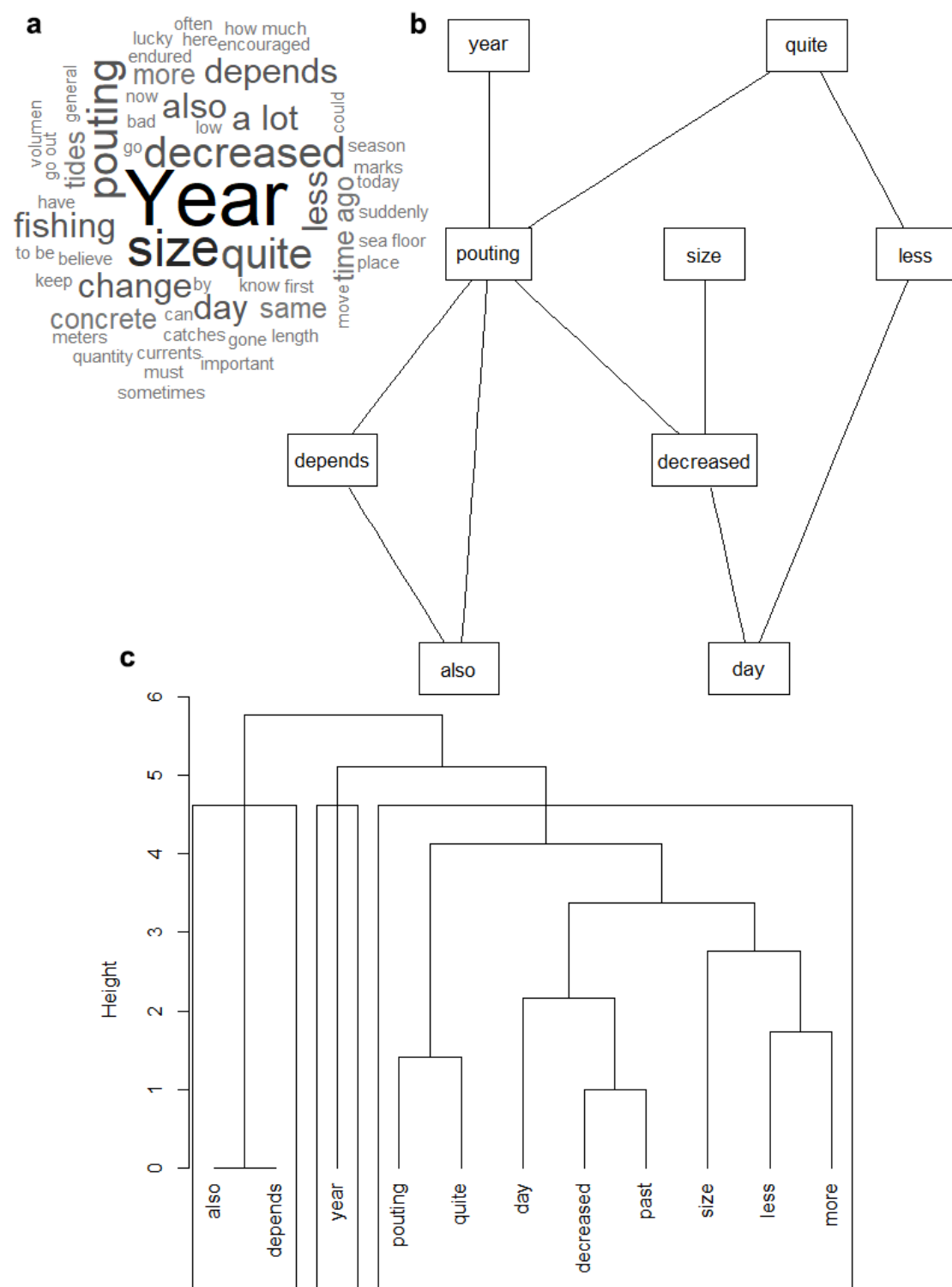






**Supplementary Figure S7.** Common squid. Word cloud of frequent words (a), diagram of relationships between frequent words (b), and cluster of frequent words with main groupings in boxes (c).



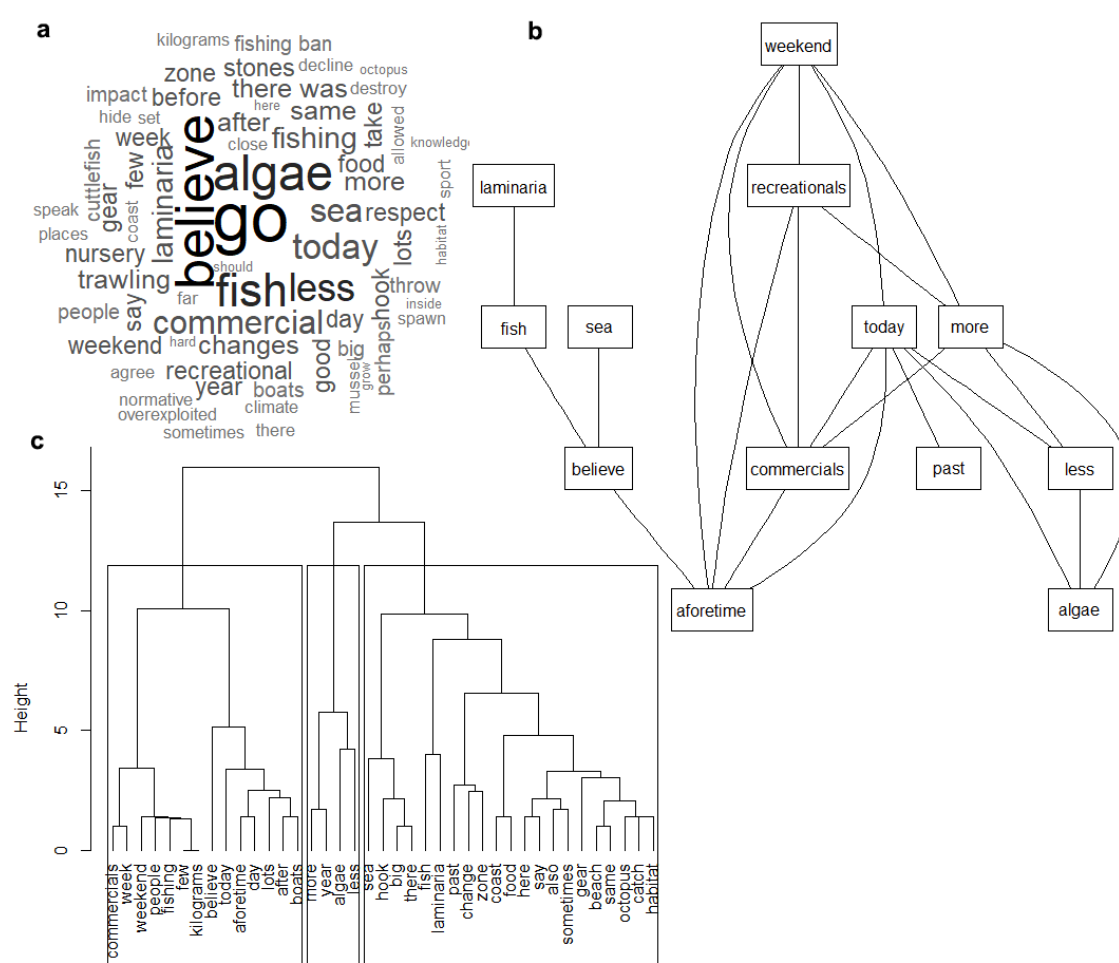


**Supplementary Figure S9.** Pouting. Word cloud of frequent words (a), diagram of relationships between frequent words (b), and cluster of frequent words with main groupings in boxes (c).



## Supporting information 2

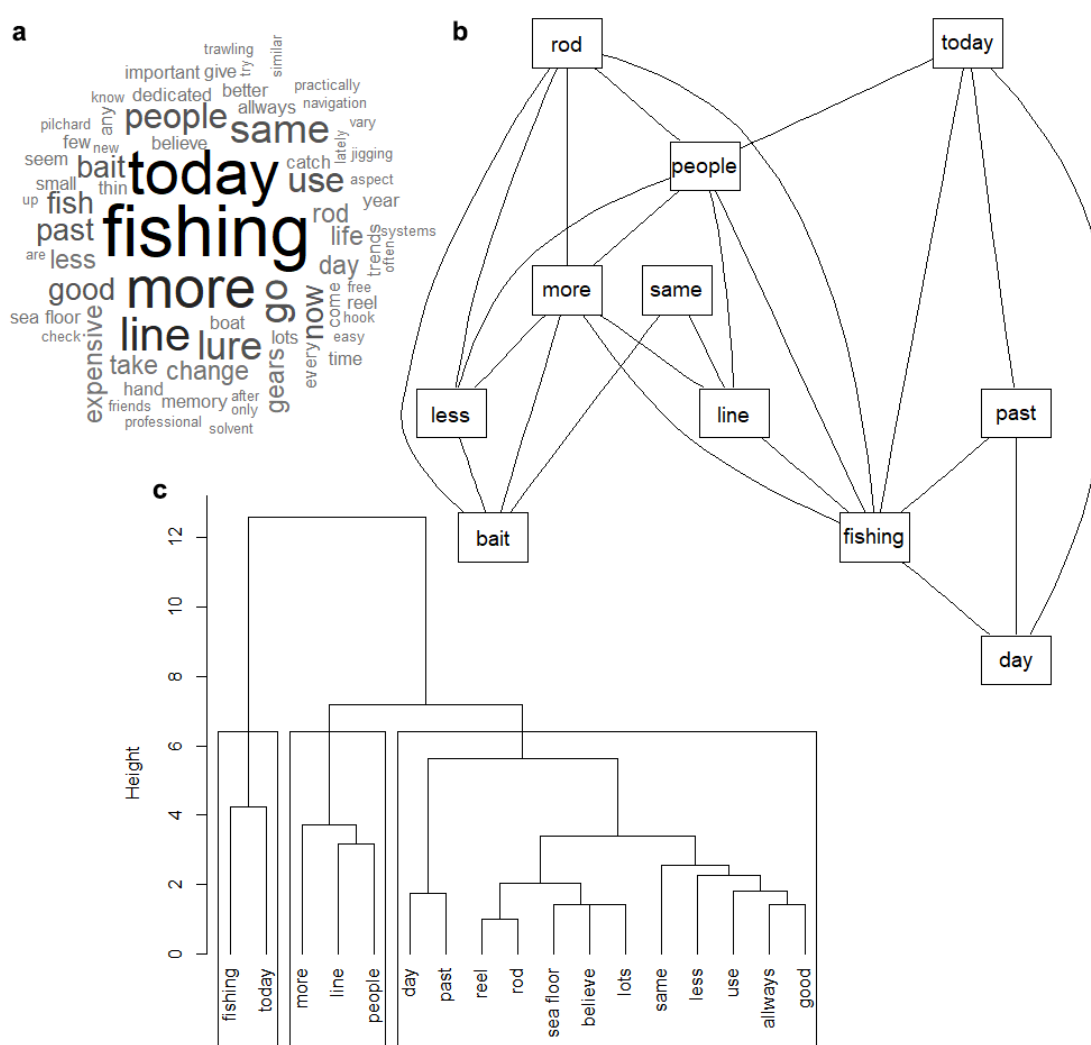
In this section complementary information about the text analysis executed on transcriptions of interviews performed to identify the main impacts on marine ecosystems is presented. The results of the followed three-step approach are showed in Supplementary Figure S11. Letter size and color strength refers to relative frequency of up to 100 most frequent words used by the fishers in word clouds (a); maximum correlation threshold has been used in the diagrams showing the relationships between most frequent words with the condition that all words showed at least one relationship with another word, when possible (b); and Ward's minimum variance method was used to cluster relationships of the most frequent words ( $\approx 20$ ), where boxes show three main groupings (c).



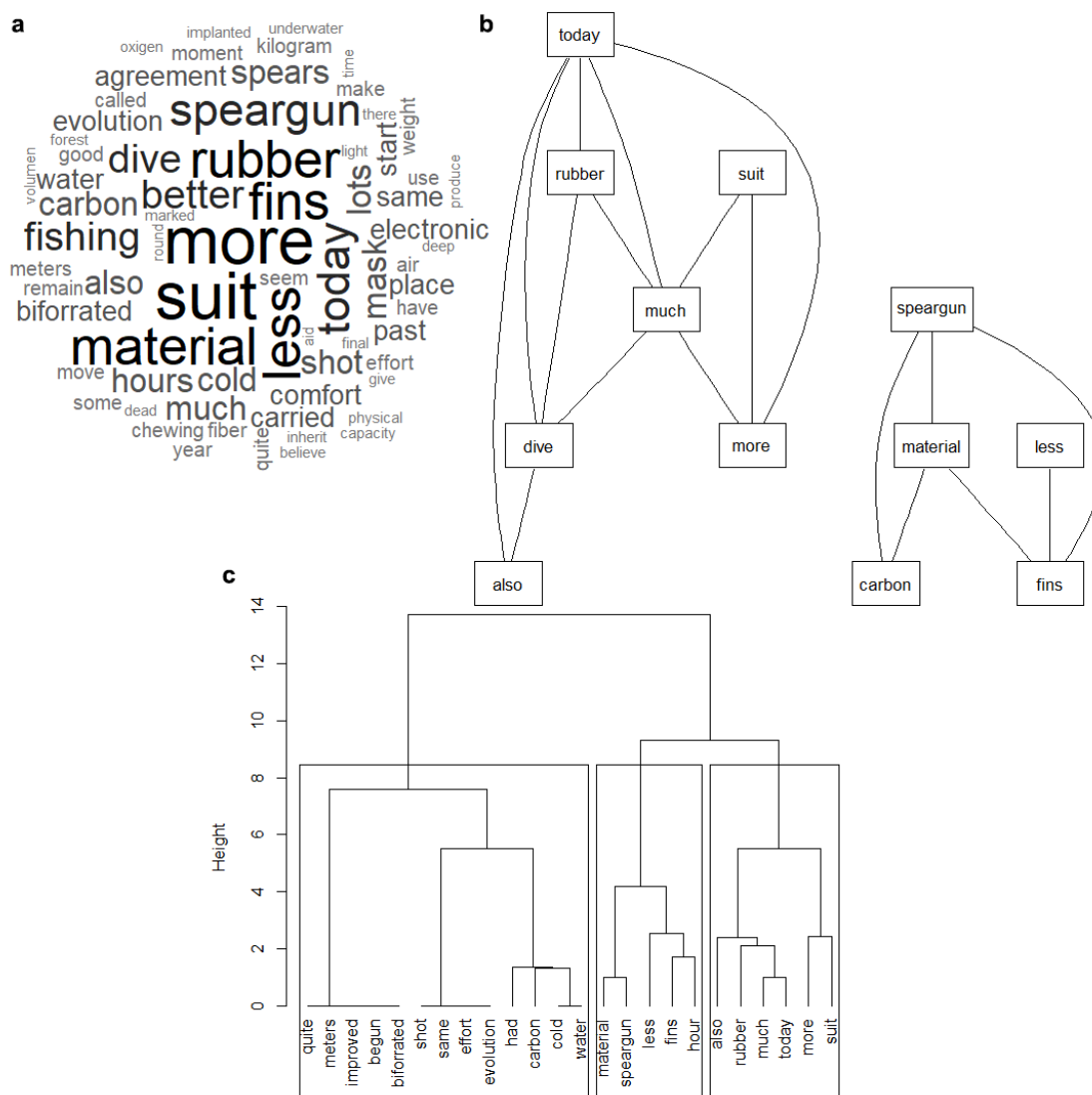
**Supplementary Figure S11.** Impacts on ecosystems. Word cloud of frequent words (a), diagram of relationships between frequent words (b), and cluster of frequent words with main groupings in boxes (c).

### Supporting information 3

In this section complementary information about the text analysis executed on transcriptions of interviews performed to quantify changes in fishing gears and techniques is presented. The results of the followed three-step approach for anglers and spear fishers are showed in Supplementary Figures S12-13. Letter size and color strength refers to relative frequency of up to 100 most frequent words used by the fishers in word clouds (a); maximum correlation threshold has been used in the diagrams showing the relationships between most frequent words with the condition that all words showed at least one relationship with another word, when possible (b); and Ward's minimum variance method was used to cluster relationships of the most frequent words ( $\approx 20$ ), where boxes show three main groupings (c).



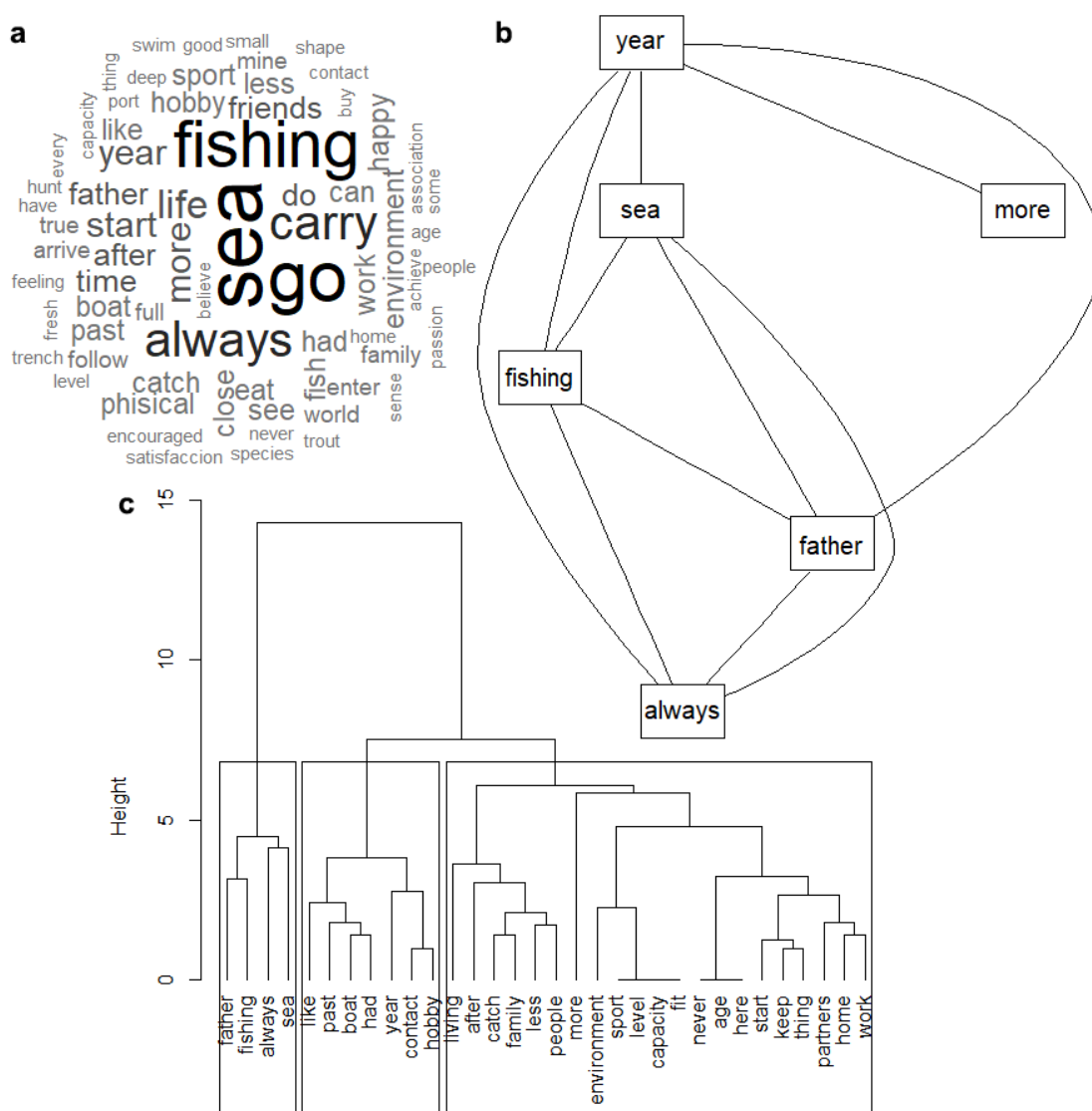
**Supplementary Figure S12.** Changes in angling fishing gears. Word cloud of frequent words (a), diagram of relationships between frequent words (b), and cluster of frequent words with main groupings in boxes (c).



**Supplementary Figure S13.** Changes in spearfishing gears. Word cloud of frequent words (a), diagram of relationships between frequent words (b), and cluster of frequent words with main groupings in boxes (c).

## Supporting information 4

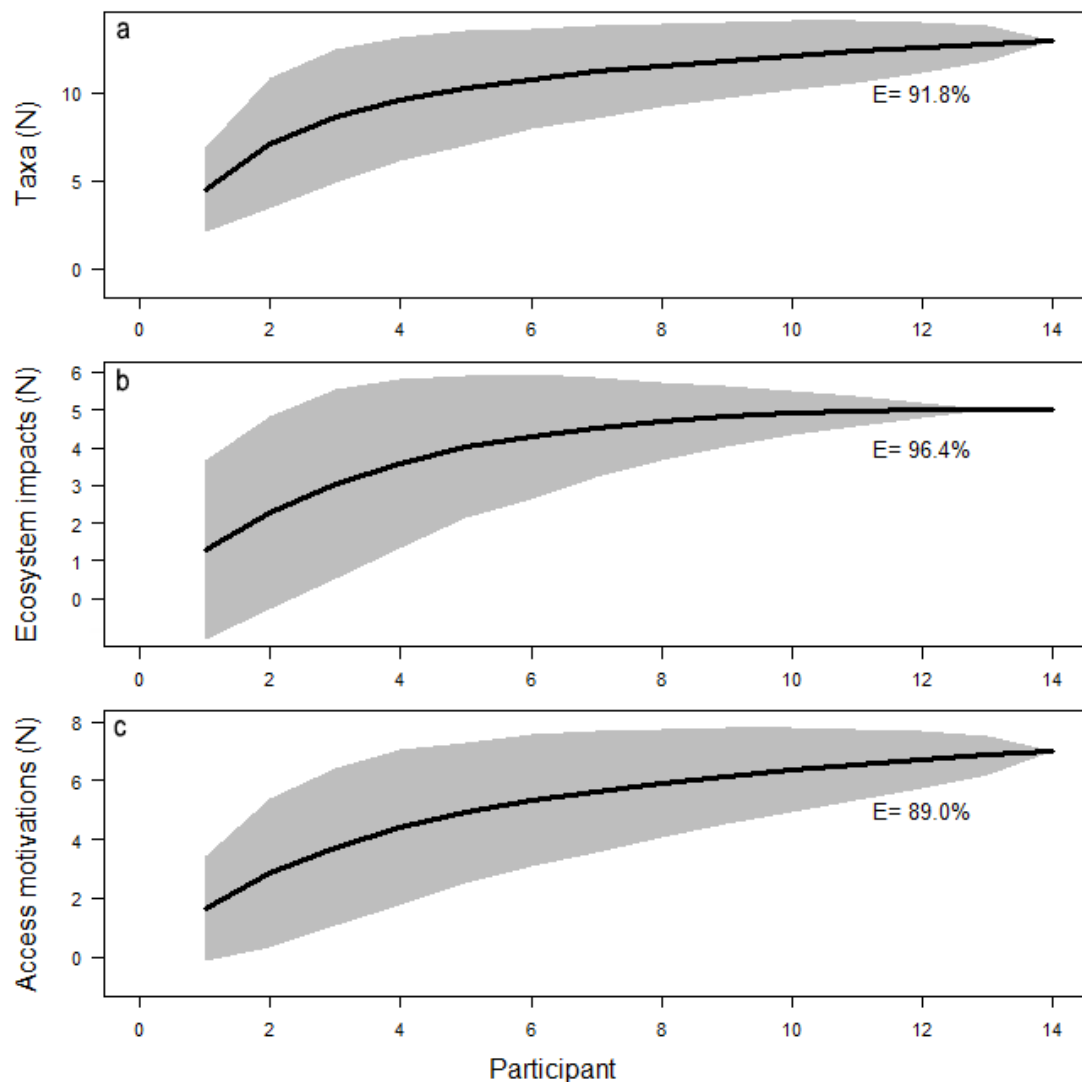
In this section complementary information about the text analysis executed on transcriptions of interviews performed to identify the fishers' access motivation to the recreational fishery. The results of the followed three-step approach are showed in Supplementary Figure S14. Letter size and color strength refers to relative frequency of up to 100 most frequent words used by the fishers in word clouds (a); maximum correlation threshold has been used in the diagrams showing the relationships between most frequent words with the condition that all words showed at least one relationship with another word, when possible (b); and Ward's minimum variance method was used to cluster relationships of the most frequent words ( $\approx 20$ ), where boxes show three main groupings (c).



**Supplementary Figure S14.** Access motivations to the recreational fishery. Word cloud of frequent words (a), diagram of relationships between frequent words (b), and cluster of frequent words with main groupings in boxes (c).

## Supporting information 5

In this section complementary information about an assessment made on the degree of completeness of the inventories of species and key concepts after analyzing transcriptions of interviews with recreational fishers is presented. The results of mean accumulation curves obtained by random bootstrapping permutations of the data on species and key concepts on ecological impacts and access motivation to the fishery are showed in Supplementary Figure S15.



**Supplementary Figure S15.** Completeness degree of inventories of species and key concepts. Accumulation curves of identified species (a), ecological impacts (b), and access motivations (c). The shaded area shows the estimated standard deviation. The efficiency in the identification of species and key concepts (E), as the percentage of the identified species and concepts in relation to the potential unidentified ones are also shown.