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Supplementary Data

Structure and spatio-temporal dynamics of the artisanal small-scale fisheries at the future MPA of "Taza" (SW Mediterranean)

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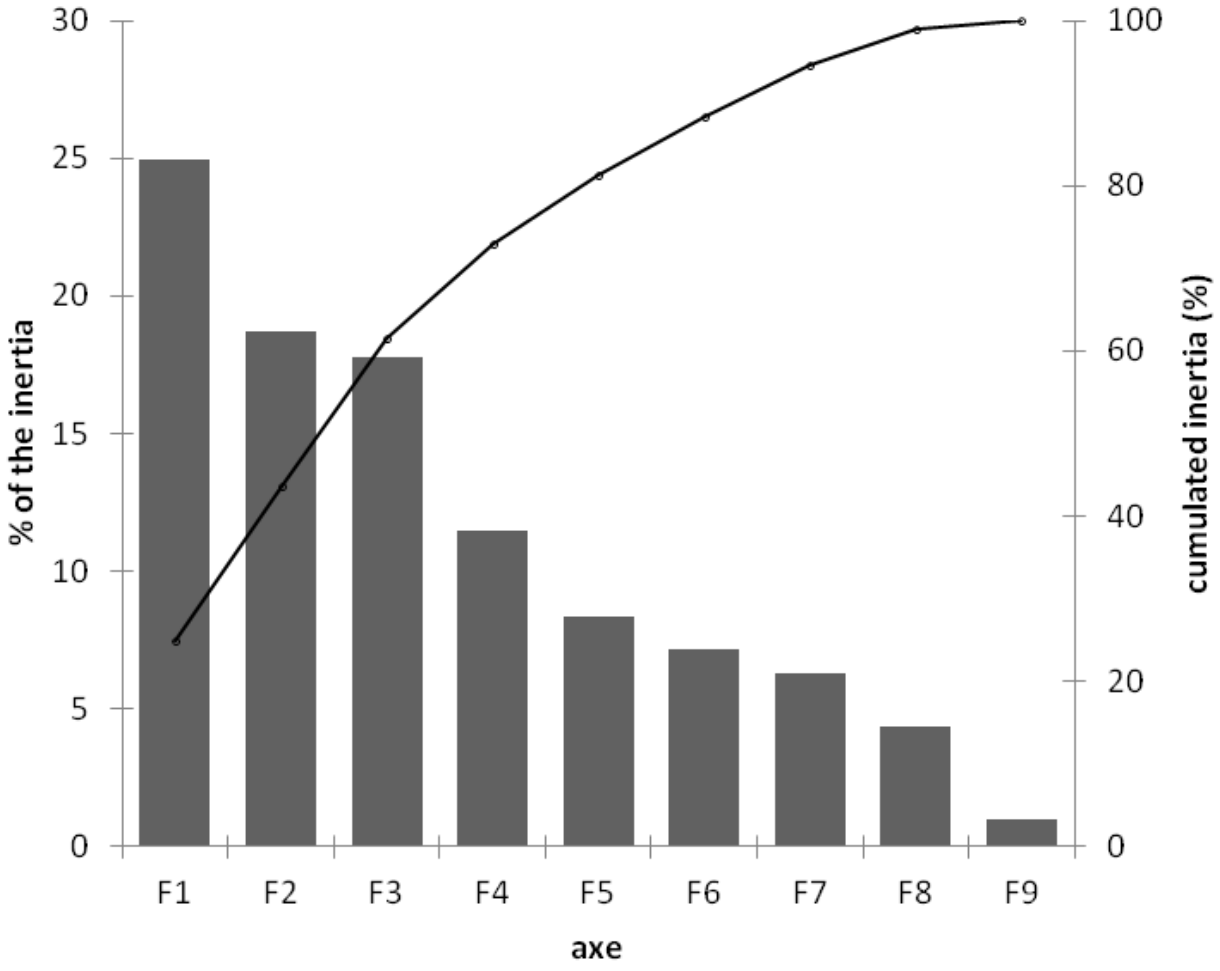


Fig. S1: Scree plot of the eigenvalues in % of inertia and in % of cumulated inertia for the 9 axes (F1 - F9) characterizing the dataset.

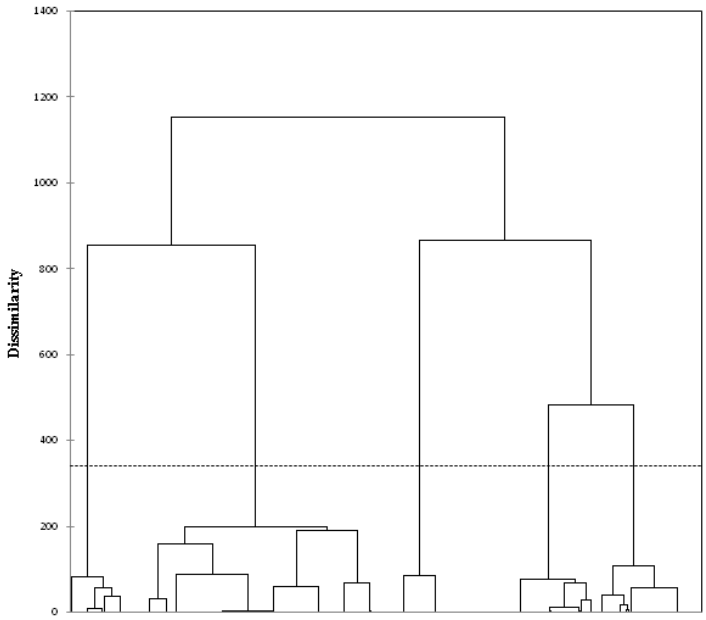


Fig. S2: Dendrogram of the cluster classification of fishing trips and partition level (indicated by the dashed line). Five clusters are obtained from multivariate analysis.

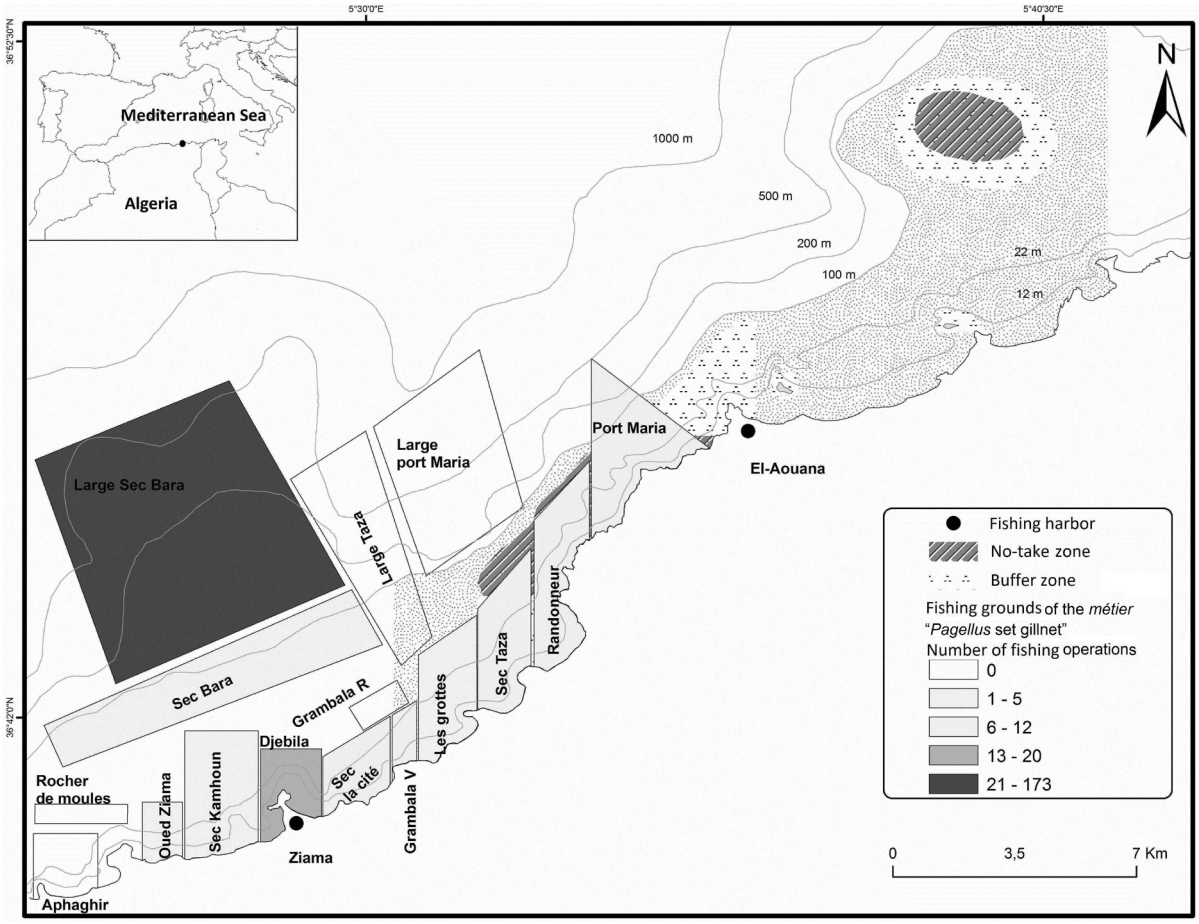


Fig. S3: Spatial distribution of "*Pagellus* set gillnet" fishing effort. Effort was represented on the basis of the number of fishing operations carried out in the different fishing grounds.

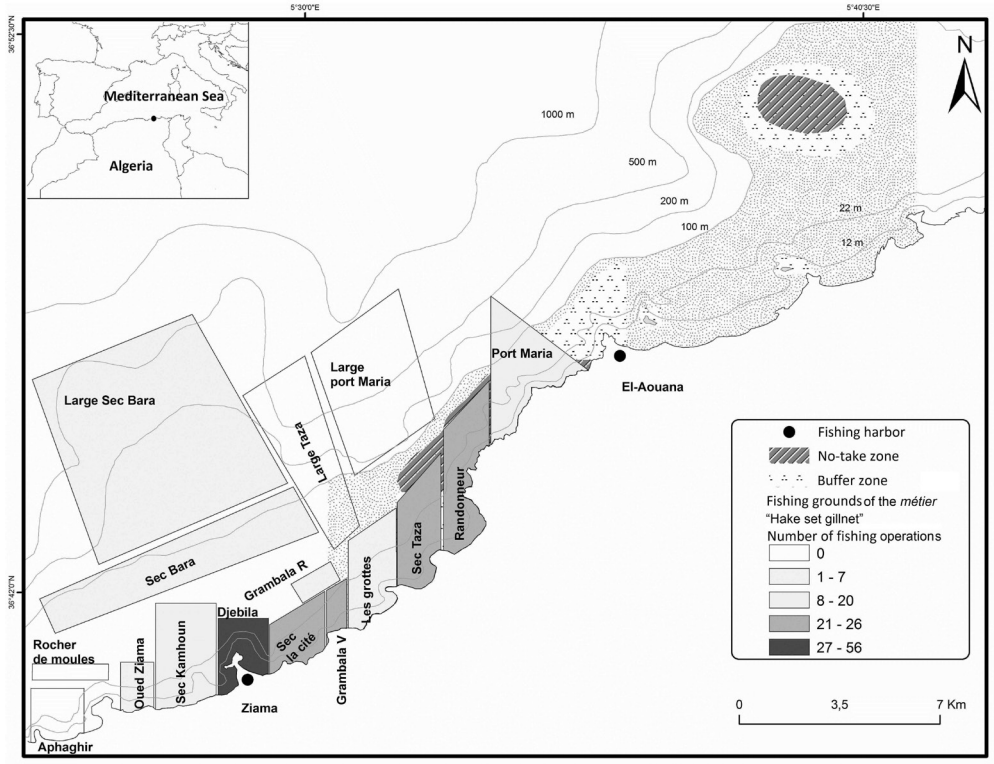


Fig. S4: Spatial distribution of "Hake set gillnet" fishing effort. Effort was represented on the basis of the number of fishing operations carried out in the different fishing grounds.

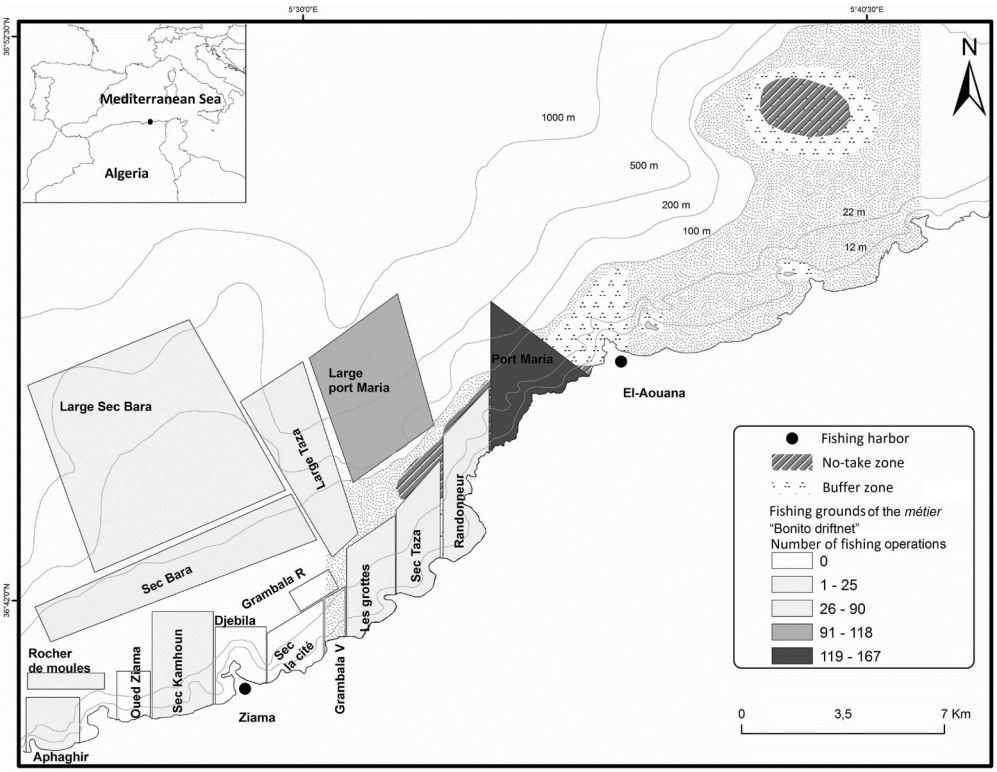


Fig. S5: Spatial distribution of "Bonito driftnet" fishing effort. Effort was represented on the basis of the number of fishing operations carried out in the different fishing grounds.

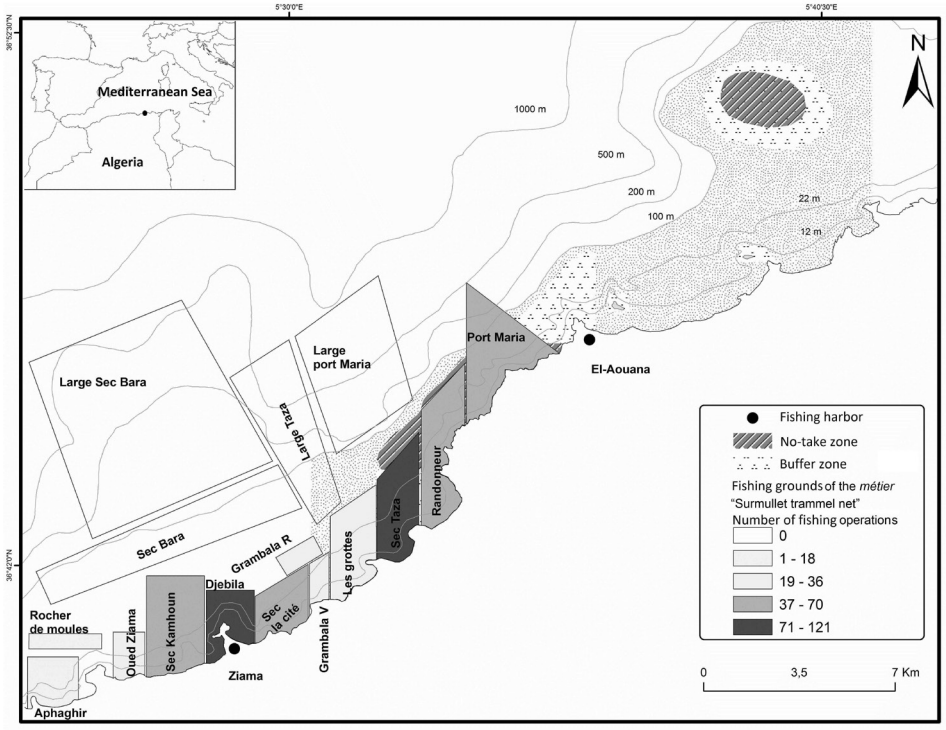


Fig. S6: Spatial distribution of "Surmullet trammel net" fishing effort. Effort was represented on the basis of the number of fishing operations carried out in the different fishing grounds.

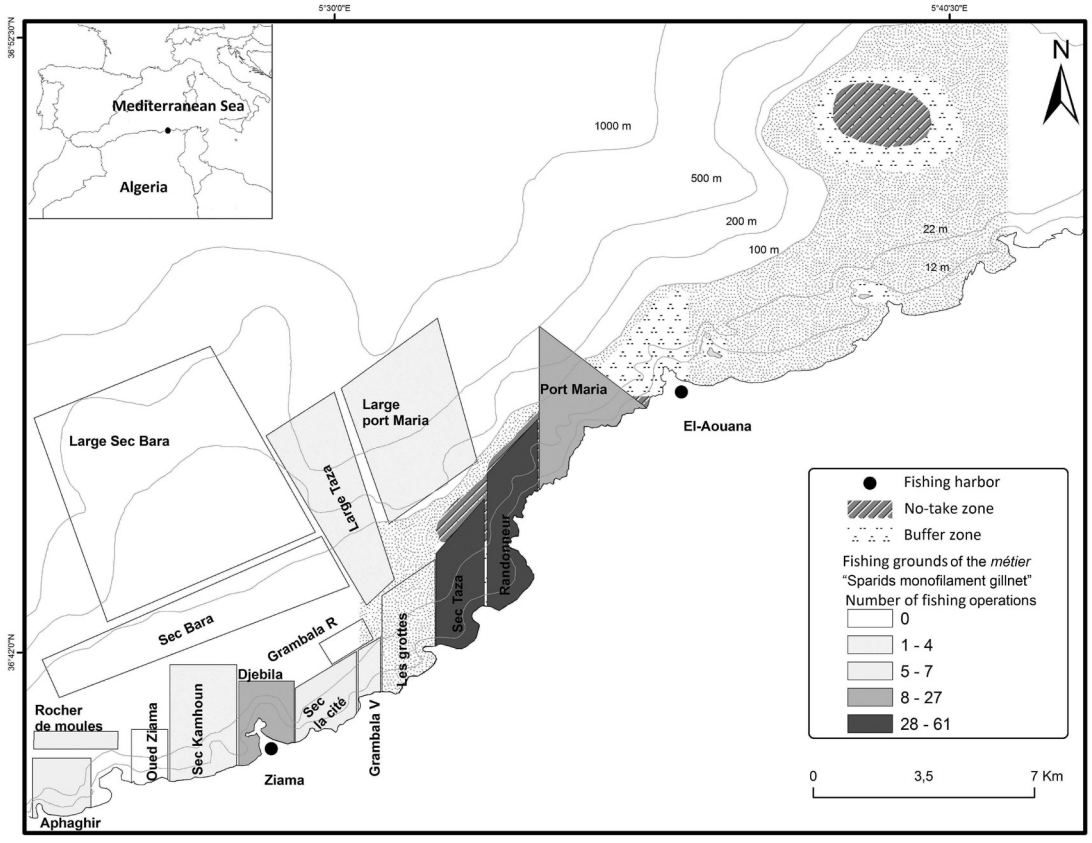


Fig. S7: Spatial distribution of "Sparids monofilament gillnet" fishing effort. Effort was represented on the basis of the number of fishing operations carried out in the different fishing grounds.

Table S1. Eigenvalues and % of the inertia of the 9 axes representing the dataset.

	F1	F2	F3	F4	F5	F6	F7	F8	F9
Eigenvalues	0.748	0.561	0.534	0.345	0.251	0.214	0.188	0.130	0.029
% inertia	24.935	18.697	17.802	11.487	8.362	7.147	6.265	4.346	0.960
% cumulated inertia	24.935	43.632	61.434	72.921	81.283	88.429	94.694	99.040	100.00

Table S2. Contribution of the different categories of the four variables (target species, gear, season, and depth) in the construction of each axe (F1 - F9).

	Weight abs.	Weight rel.	F1	F2	F3	F4	F5	F6	F7	F8	F9
Pagellus spp.	254	3.937	3.953	2.799	7.947	26.737	0.000	4.453	1.804	12.746	4.258
Merluccius merluccius	209	3.239	1.087	6.853	8.537	24.541	0.011	0.742	2.675	26.177	0.328
Sarda sarda	301	4.665	13.092	6.897	9.445	1.598	0.023	3.584	0.113	1.104	4.812
Mullus surmuletus	650	10.074	9.870	3.357	9.435	0.597	0.036	0.414	0.883	0.001	5.259
Sparids	199	3.084	4.354	21.665	9.933	0.367	0.073	0.113	5.159	0.001	2.165
Total target-species	1613	25.000	32.355	41.572	45.297	53.841	0.143	9.306	10.635	40.028	16.822
Monofilament gillnet	199	3.084	4.354	21.665	9.933	0.367	0.073	0.113	5.159	0.001	2.165
Set gillnet	463	7.176	4.722	8.988	16.412	0.251	0.006	0.969	0.011	0.629	3.660
Driftnet	301	4.665	13.092	6.897	9.445	1.598	0.023	3.584	0.113	1.104	4.812
Trammel net	650	10.074	9.870	3.357	9.435	0.597	0.036	0.414	0.883	0.001	5.259
Total gear	1613	25.000	32.038	40.908	45.224	2.814	0.138	5.080	6.167	1.735	15.896
Autumn	174	2.697	0.656	0.005	2.475	18.347	1.199	55.226	9.727	1.479	0.098
Summer	568	8.803	3.469	1.857	3.626	4.716	7.934	11.253	7.618	24.253	0.060
Winter	298	4.619	1.693	1.588	1.020	17.258	32.634	0.017	0.014	27.100	0.200
Spring	573	8.881	0.221	0.239	0.090	2.331	56.663	0.722	0.892	3.309	0.009
Total season	1613	25.000	6.038	3.689	7.211	42.653	98.431	67.219	18.25	56.141	0.367
26 - 40 m	357	5.533	2.428	8.534	1.598	0.341	0.935	12.359	47.169	0.136	4.367
>40 m	689	10.679	16.572	0.000	0.657	0.012	0.034	0.103	1.708	1.160	37.039
≤25 m	567	8.788	10.570	5.296	0.012	0.340	0.319	5.932	16.071	0.799	25.508
Total depth	1613	25.000	29.569	13.830	2.268	0.693	1.288	18.394	64.948	2.095	66.914

Table S3. Decomposition of the inertia for the optimal classification (5 clusters).

Inertia gain	Absolute	Percentage
Intra-cluster	0.923	30.74%
Inter-clusters	2.079	69.26%
Total	3.002	100.00%

Table S4. Characterization of clusters resulting from the HCA (Hierarchical Cluster Analysis). For each category of each variable, the proportion of fishing operations by cluster including the category (in %) is indicated. In bold, the categories for which the test of the difference in proportion between the class and all 1613 fishing operations is significant (p-value <0.05). On a gray background, the active and illustrative variables characterizing each cluster. n.s: not significant.

			Métier 1. *Pagellus* set gillnet	Métier 2. Hake set gillnet	Métier 3. Bonito driftnet	Métier 4. Surmullet trammel net	Métier 5. Sparids monofilament gillnet	Total
Number of fishing operations			254	209	301	650	199	1613
% of fishing operations			15.8	12.9	18.7	40.3	12.3	100
Number of boats involved			13	10	18	14	6	24
Active variables	**Target-species**	***Pagellus* spp.**	**100.0**	0.0	0.0	0.0	0.0	15.8
		Merluccius merluccius	0.0	**100.0**	0.0	0.0	0.0	12.9
		Sarda sarda	0.0	0.0	**100.0**	0.0	0.0	18.7
		Mullus surmuletus	0.0	0.0	0.0	**100.0**	0.0	40.3
		Sparids	0.0	0.0	0.0	0.0	**100.0**	12.3
	Gear	**Set gillnet**	**100.0**	**100.0**	0.0	0.0	0.0	28.7
		Driftnet	0.0	0.0	**100.0**	0.0	0.0	18.7
		Monofilament gillnet	0.0	0.0	0.0	0.0	**100.0**	12.3
		Trammel net	0.0	0.0	0.0	**100.0**	0.0	40.3
	Depth	**≤25 m**	**0.4**	**0.5**	**0.0**	**57.5**	**96.0**	35.2
		26 - 40 m	**10.7**	**26.8**	**0.0**	**42.0**	**0.4**	22.1
		>40 m	**88.9**	**72.7**	**100.0**	**0.5**	**3.6**	42.7
	Season	**Spring**	**26.3**	**49.8**	**26.9**	37.3 (n.s)	37.7 (n.s)	35.5
		Summer	**49.7**	**0.0**	**73.1**	**28.0**	**20.1**	35.2
		Autumn	**24.0**	**1.9**	**0.0**	10.8 (n.s)	**19.6**	10.8
		Winter	**0.0**	**48.3**	**0.0**	**23.9**	**22.6**	18.5
Illustrative variables	**Distance to the fishing port (m)**	**≤1000 m**	**16.1**	**48.8**	**23.9**	**37.9**	**68.3**	37.0
		1001 - 2000 m	**6.3**	**29.2**	**0.3**	**27.8**	18.6 (n.s)	18.4
		2001 - 4000 m	**6.3**	18.2 (n.s)	**25.6**	14.9 (n.s)	**0.5**	14.2
		>4000 m	**71.3**	**3.8**	**50.2**	**19.4**	**12.6**	30.4
	Length of nets (m)	**≤200 m**	**18.5**	**66.0**	**24.0**	40.3 (n.s)	**97.4**	44.2
		201 - 400 m	**8.3**	**17.2**	29.2 (n.s)	**39.8**	**2.6**	25.4
		401 - 1000 m	**4.7**	**8.7**	**38.8**	19.9 (n.s)	**0.0**	17.1
		>1000 m	**68.5**	**8.1**	**8.0**	**0.0**	**0.0**	13.3