

# Annex V

## Western Ionian Sea (GSA 19)

### Summary

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#### 4.5.1 Introduction

Based on the results of Fast-scan and interactions with stakeholders, the ten UoAs listed in Table 4.2.1.1 were identified in the GSA 19. In this list the UoAs using bottom otter trawl nets (OTB) target mainly three different types of target species:

- demersal fish (DEF);
- mixed group of demersal species and deep water species (MDD);
- deep water species (DWS)

These types were aggregated together in Tables 4.5.1.1 and 4.5.3.1, both in terms of landed volume and value. Considering trawlers landings, about 90% come from boats targeting mixed group of demersal species and deep water species (MDD).

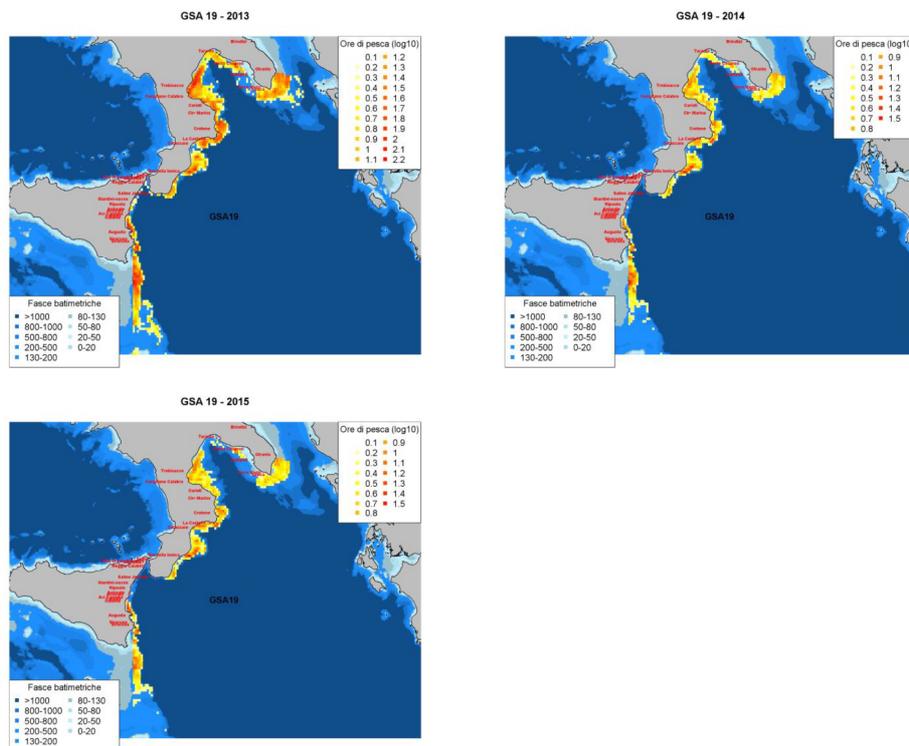
**Table 4.5.1.1 – List of the UoAs selected for Deeper-mapping in the GSA 19**

Italian name	English name	Scientific name	Gear	Group of target species	Mean landing in weight 2015-2016 (Ton)	Mean landing in value 2015-2016 (k Euro)	UoA Identified during the consultation
Alalunga	Albacore	<i>Thunnus alalunga</i>	Drifting longline	LPF	1,089	3,208	X
Alici	European anchovy	<i>Engraulis encrasicolus</i>	Purse seine	SPF	651	1,395	
Gamberi bianchi o rosa	Deep-water rose shrimp	<i>Parapenaeus longirostris</i>	Bottom otter trawl	DEF+MDD+DWS	635	4,733	X
Gamberi rossi	Giant red shrimp	<i>Aristaeomorpha foliacea</i>	Bottom otter trawl	MDD+DWS	668	14,239	X
Gambero viola	Blue and red shrimp	<i>Aristeus antennatus</i>	Bottom otter trawl	MDD+DWS	91	1,938	
Pesce spada	Swordfish	<i>Xiphias gladius</i>	Drifting longline	LPF	701	6,506	X
Polpo comune o di scoglio	Common octopus	<i>Octopus vulgaris</i>	Trammel net	DEF	120	959	X
Seppia mediterranea o comune	Common cuttlefish	<i>Sepia officinalis</i>	Trammel net	DEF	246	2,865	X
Triglie di scoglio	Surmullet	<i>Mullus surmuletus</i>	Gill net	DEF	86	1,242	X
Triglie di scoglio	Surmullet	<i>Mullus surmuletus</i>	Trammel net	DEF	45	539	X
<ul style="list-style-type: none"> <li>- DEF: Demersal fish.</li> <li>- DWS: Deep water species.</li> <li>- LPF: Large pelagic fish.</li> <li>- MDD: Mixed group of demersal species and deep water species.</li> </ul>							

Source: estimates from MIPAAFT/National Fisheries Data Collection Programme

From the data shown in table 4.4.5.1 it is possible to note that the selected UoAs consist of 6 types of fishing gears: the drifting and fixed longlines, the purse seine, the bottom otter trawl, the gill-net and the trammel net. The boats that operate with purse seines for small pelagics generally have a medium size (12-18 meters LFT), are located in the ports of Catania and Augusta and operate mainly in coastal waters. The trawl activity is carried out by both medium and large boats that are distributed in the main Puglian and Calabrian fishing ports. Figure 4.5.1.1 shows the maps of the fishing activity of trawlers (OTB, period 2013 -2015) within the GSA 19, estimated from the Vessel Monitoring System (VMS) data. The analyzes were performed with VMS base (Russo et al., 2014) using a grid with 5km side cells and the values represent the total annual fishing hours per cell of all trawl boats aggregated also in terms of target species . In GSA19, the distribution of the trawler fleet is concentrated mainly in the northern area of the area (Figure 4.5.1.1). The greatest intensity of fishing pressure is recorded in the central area corresponding to the Calabrian coasts. At a spatial level in

the three-year period 2013-2015, the distribution of fishing activity seems to have remained constant; however, it is possible to notice a reduction in the intensity that affects the whole GSA (Figure 4.5.1.1; MIPAAFT, 2017).



**Figure 4.5.1.1 - Fishing activities of the trawling fleet in the GSA19. The values represent the average fishing hours per cell, calculated from the monthly hours for the years 2013 to 2015 (MIPAAFT, 2017).**

The fleet of boats using fixed and drifting longlines respectively for demersal fish and large pelagic fish is mainly found in the fishing ports of Catania and Augusta and consists of medium-sized boats (12 to 24 meters of LFT). Finally, the boats that use passive gears such as the gill net and trammel net are generally small and distributed along the entire coast of Puglia, Calabria and Sicily. These boats operate close to the coast and target demersal species, including octopus, cuttlefish and surmullet.

Regarding the management, at various levels, of the resources involved in the activities selected fisheries (UoA) - international (ICCAT), regional (GFCM), Community (EU / EC) and national (MIPAAFT) - see Chapter 3.

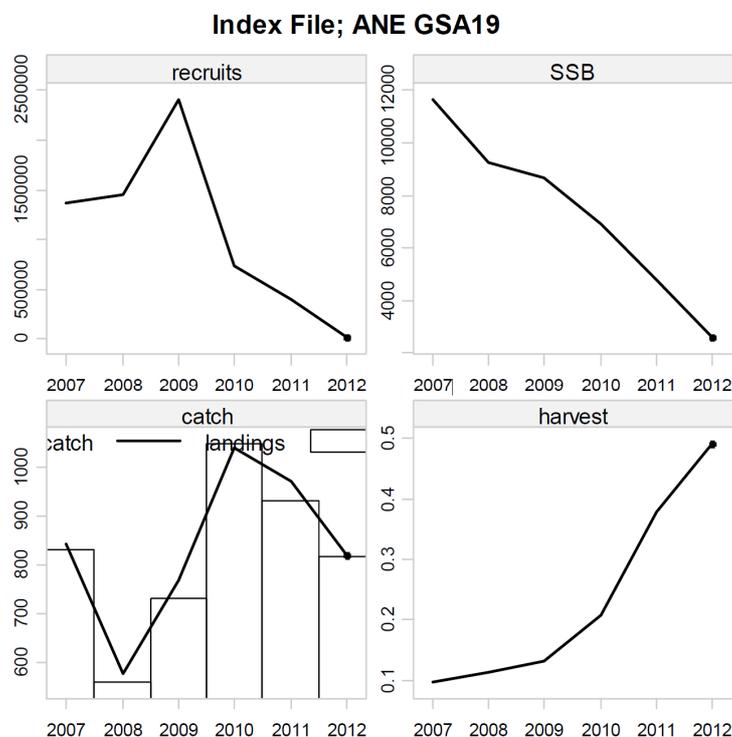
#### 4.5.2 Status of target stocks exploited by the selected UoAs

##### Albacore (*Thunnus alalunga*)

The albacore is fished in the western Ionian sea mainly with drifting longlines. In terms of the status of the resource, the assessment is carried out with a production model (CMSY model, ICCAT, 2017a) combining the fishing statistics of the entire Mediterranean basin, considering that this species is distributed throughout the area as a single stock. The results of this evaluation are reported in the chapter of the results concerning the GSA 10 (section 4.1.2).

##### European anchovy (*Engraulis encrasicolus*)

The European anchovy is fished in the western Ionian Sea mainly with purse for small pelagics. This stock was assessed using an analytical model (sepVPA, STECF 2013). The model results show a decline in the SSB from 2007 to 2012 (Figure 4.5.2.1). However, in the absence of eco-survey abundance indices, the evaluation made in 2013 should be considered indicative only of the trend of the stock. Recruitment showed a marked decrease in the last available year (2012; Figure 4.5.2.1). Given the results of the analysis conducted in 2013, the exploitation rate in terms of fishing mortality can not be compared with the reference point, equal to an exploitation rate of 0.4, so the state of exploitation of the stock is not known (Figure 4.5.2.1).



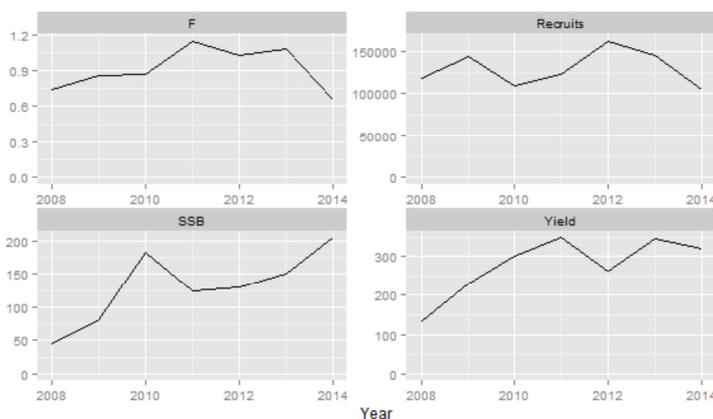
**Figure 4.5.2.1 – Results of the evaluation of the European anchovy (*Engraulis encrasicolus*) in GSA 19 (STECF, 2013).**

### Deep-water rose shrimp (*Parapenaeus longirostris*)

The deep-water rose shrimp is fished in the western Ionian Sea mainly with trawl nets having as target species the mixed group of demersal species and deep-sea species (MDD: 57%). The status of this stock is reported previously in Annex IV, GSA 18 (section 4.4.2).

### Giant red shrimp (*Aristeomorpha foliacea*)

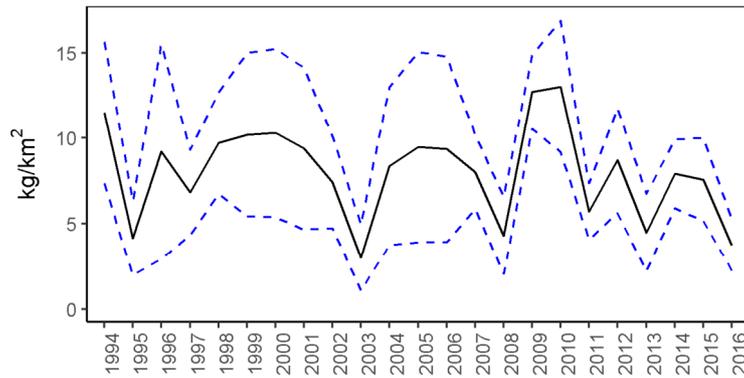
The giant red shrimps are fished in the western Ionian Sea mainly by trawlers having deep-sea species as target group (DWS: 72%). This stock was assessed using an analytical model (XSA, STECF 2016). The spawning stock biomass (SSB) showed an increasing trend in the period 2008-2014, ranging from 44.4 tonnes in 2008 to 205 tonnes in 2014 (Figure 4.5.2.2). Recruitment is characterized by a fluctuating trend, which varies from a minimum of 105 million in 2014 to 162 million in 2012. Finally, the fishing mortality showed a clear growing trend in the period 2008-2011, followed by a decreasing trend. The average geometric of the last three years of fishing mortality (2012-2014), used to diagnose the stock, is 0.90 then higher than the reference value estimated as 0.29 (FMSY = F0.1; STECF 2016)).



**Figura 4.5.2.2 – Results of the evaluation of the giant red shrimp (*Aristeomorpha foliacea*) in GSA 19 (STECF, 2016).**

### Blue and red shrimp (*Aristeus antennatus*)

The blue and red shrimp is fished in the western Ionian Sea mainly with trawl nets having deep-sea species as a target group (DWS: 63%). The species is not currently subject to an analytical evaluation, nor are empirical reference points available that can be used to evaluate their exploitation status. The biomass index for this species, estimated as part of the MEDITS trawling campaign, shows clear fluctuations in the period 1994-2010, followed by a generally decreasing trend (MIPAAFT, 2017; Figure 4.5.2.3).



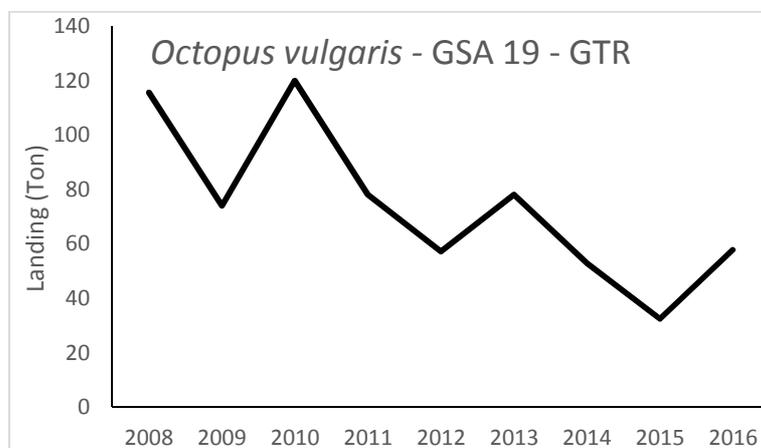
**Figura 4.5.2.3 – Biomass index trend of blue and red shrimp (*Aristeus antennatus*) in GSA19. MEDITS data for the period 1994-2015 (MIPAAF, 2017).**

**Swordfish (*Xiphias gladius*)**

Swordfish is fished in the western Ionian Sea mainly with drifting long lines. In terms of the status of the resource, the evaluation is carried out with an analytical model (XSA, ICCAT, 2017) combining the fishing statistics of the entire Mediterranean basin, considering that this species is distributed throughout the area as a single stock. The results of this evaluation are reported in the chapter on the results concerning the GSA 10 (Annex I, Paragraph 4.1.2).

**Common octopus (*Octopus vulgaris*)**

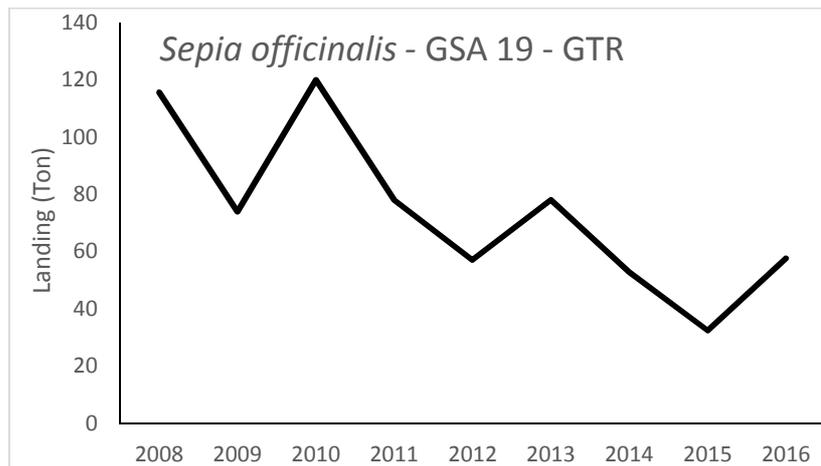
The common octopus is fished in the western Ionian Sea mainly with trammel net. For this species there is not an assessment of the status of the resource in this area nor are analytic or empirical abundance indices and reference points available. The landed data available from the economic data-call (AER, 2018) show an increasing trend of the tremaglio landed in GSA 19 from 2008 to 2011 followed by a general decline in the following years (Figure 4.5.2.4).



**Figura 4.5.2.4 – Trend of common octopus (*Octopus vulgaris*) landing fished with trammel net (GTR) in GSA 19 (AER, 2018).**

**Common cuttlefish (*Sepia officinalis*)**

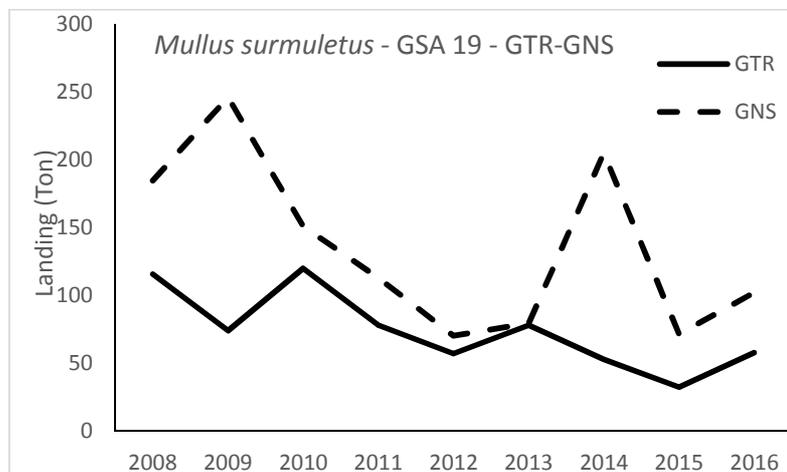
The common cuttlefish is fished in the western Ionian Sea mainly with trammel net. For this species there is not an assessment of the status of the resource in this area nor are analytic or empirical abundance indices and reference points available. The landed data available from the economic data-call (AER, 2018) show an increasing trend of the trammel landings in GSA 19 from 2008 to 2011 followed by a period with evident oscillations but generally stable (Figure 4.5.2.5).



**Figura 4.5.2.5 – Trend of common cuttlefish (*Sepia officinalis*) landing fished with trammel net (GTR) in GSA 19 (AER, 2018).**

**Surmullet (*Mullus surmuletus*)**

The surmullet is fished in the western Ionian Sea mainly with trammel net and gill net. For this species there is not an assessment of the status of the resource in this area nor are analytic or empirical abundance indices and reference points available. The landing data available from the economic data-call (AER, 2018) show a decreasing trend of the trammel net landings in GSA 19 for the whole series. The gill net landings, always higher than the trammel net, show an absolute maximum in 2009 followed by a generally negative trend for the remaining period, with the exception of the peak observed in 2014 (Figure 4.5.2.6).



**Figura 4.5.2.6 – Trend of surmullet (*Mullus surmuletus*) landing fished with trammel net (GTR) and gill net (GNS) in GSA 19 (AER, 2018).**

### 4.5.3 Lists of the species exploited by the selected UoAs

This section shows the lists of species or groups of species that result in the capture of a specific fishing gear for the respective UoA selected in the GSA 19. Specifically:

Table 4.5.3.1 shows the list of species or groups of species detected for the UoA using the bottom trawl (OTB) in the GSA 19.

Table 4.5.3.2 shows the list of species or groups of species detected for UoAs using the derived longline (LLD) for large pelagic fish (LPF) in the GSA 19.

Table 4.5.3.3 shows the list of species or groups of species detected for the UoA using the (PS) path for small pelagic fish (SPF) in the GSA 19.

Table 4.5.3.4 shows the list of species or groups of species detected for the UoA using the trefoil (GTR) in the GSA 19.

Table 4.5.3.5 shows the list of species or groups of species detected for UoAs using gillnets (GNS) in the GSA 19.

**Table 4.5.3.1 – List of species detected for the UoA using bottom otter trawl (OTB) in the GSA 19. The species underlined are the species detected for the selected UoA.**

Italian name	English name	Scientific name	Mean landing in weight 2015-2016 (Ton)	Percentage (%)
Gamberi rossi	Giant red shrimp	<i>Aristaeomorpha foliacea</i>	668.227	19.888
Gamberi bianchi o rosa	Deep-water rose shrimp	<i>Parapenaeus longirostris</i>	634.929	18.896
Nasello	European hake	<i>Merluccius merluccius</i>	294.490	8.764
Triglie di fango	Red mullet	<i>Mullus barbatus</i>	177.485	5.282
Boghe	Bogue	<i>Boops boops</i>	169.341	5.040
Budego	Blackbellied angler	<i>Lophius budegassa</i>	153.301	4.562
Totano comune	Broadtail shortfin squid	<i>Illex coindetii</i>	128.584	3.827
Gambero viola	Blue and red shrimp	<i>Aristeus antennatus</i>	90.997	2.708
Sugarello maggiore	Mediterranean horse mackerel	<i>Trachurus mediterraneus</i>	90.385	2.690
Altri pesci	Marine fishes nei	<i>Osteichthyes</i>	86.514	2.575
Pannocchie	Spottail mantis squillid	<i>Squilla mantis</i>	85.047	2.531
Scampi	Norway lobster	<i>Nephrops norvegicus</i>	79.509	2.366
Moscardino muschiato	Musky octopus	<i>Eledone moschata</i>	61.303	1.824
Polpo comune o di scoglio	Common octopus	<i>Octopus vulgaris</i>	56.547	1.683
Sugarello o suro	Atlantic horse mackerel	<i>Trachurus trachurus</i>	55.578	1.654
Musdea	Forkbeard	<i>Phycis phycis</i>	51.501	1.533
Lanzardo	Chub mackerel	<i>Scomber japonicus</i>	50.831	1.513
Seppia mediterranea o comune	Common cuttlefish	<i>Sepia officinalis</i>	45.097	1.342
Pastinaca	Shortnose greeneye	<i>Chlorophthalmus agassizi</i>	42.101	1.253
Moscardino bianco	Horned octopus	<i>Eledone cirrhosa</i>	40.179	1.196
Pesce sciabola	Silver scabbardfish	<i>Lepidopus caudatus</i>	38.848	1.156
Gallinella o cappone	Tub gurnard	<i>Chelidonichthys lucerna</i>	33.682	1.002
Lanzardo atlantico	Atlantic chub mackerel	<i>Scomber colias</i>	30.659	0.912
Pagello fragolino	Common pandora	<i>Pagellus erythrinus</i>	13.751	0.409
Sgombro	Atlantic mackerel	<i>Scomber scombrus</i>	13.205	0.393

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Italian name	English name	Scientific name	Mean landing in weight 2015-2016 (Ton)	Percentage (%)
Gobetto	Plesionika shrimps nei	<i>Plesionika spp</i>	12.573	0.374
Altri crostacei	Marine crustaceans nei	<i>Crustacea</i>	12.456	0.371
Melu' o potassolo	Blue whiting(=Poutassou)	<i>Micromesistius poutassou</i>	12.348	0.367
Calamaro mediterraneo	European squid	<i>Loligo vulgaris</i>	11.546	0.344
Gronghi	European conger	<i>Conger conger</i>	8.760	0.261
Rana pescatrice	Angler(=Monk)	<i>Lophius piscatorius</i>	8.382	0.249
Razza bianca	White skate	<i>Raja alba</i>	7.793	0.232
Calamaretto	Alloteuthis squids nei	<i>Alloteuthis spp</i>	7.673	0.228
Mormore	Sand steenbras	<i>Lithognathus mormyrus</i>	6.382	0.190
Scorfano rosso	Red scorpionfish	<i>Scorpaena scrofa</i>	6.230	0.185
Merlano	Whiting	<i>Merlangius merlangus</i>	5.764	0.172
Pesce prete	Stargazer	<i>Uranoscopus scaber</i>	5.688	0.169
Sardine	European pilchard(=Sardine)	<i>Sardina pilchardus</i>	5.618	0.167
Alici	European anchovy	<i>Engraulis encrasicolus</i>	5.394	0.161
Zanchetta	Mediterranean scaldfish	<i>Arnoglossus laterna</i>	5.186	0.154
Triglie di scoglio	Surmullet	<i>Mullus surmuletus</i>	4.996	0.149
Palamita	Atlantic bonito	<i>Sarda sarda</i>	3.787	0.113
Capone ubriaco	Streaked gurnard	<i>Chelidonichthys lastoviza</i>	3.420	0.102
Pagello mafrone	Axillary seabream	<i>Pagellus acarne</i>	3.307	0.098
Cappellano	Poor cod	<i>Trisopterus minutus</i>	2.757	0.082
Sarago fasciato	Common two-banded seabream	<i>Diplodus vulgaris</i>	1.983	0.059
Spigole	European seabass	<i>Dicentrarchus labrax</i>	1.930	0.057
Ricciole	Greater amberjack	<i>Seriola dumerili</i>	1.798	0.054
Cefali altri	Mulletts nei	<i>Mugilidae</i>	1.544	0.046
Linguattola	Spotted flounder	<i>Citharus linguatula</i>	1.529	0.045
Tracine	Weeverfishes nei	<i>Trachinidae</i>	1.491	0.044
Pagello rovello	Blackspot(=red) seabream	<i>Pagellus bogaraveo</i>	1.473	0.044
Pesce san Pietro	John dory	<i>Zeus faber</i>	1.365	0.041
Tonno rosso	Atlantic bluefin tuna	<i>Thunnus thynnus</i>	1.334	0.040
Scorfani di fondale	Blackbelly rosefish	<i>Helicolenus dactylopterus</i>	1.306	0.039
Mazzancolle	Caramote prawn	<i>Penaeus kerathurus</i>	1.230	0.037
Totano tozzo	Lesser flying squid	<i>Todaropsis eblanae</i>	1.215	0.036
Cernia di scoglio	Dusky grouper	<i>Epinephelus marginatus</i>	0.896	0.027
Pagro comune	Red porgy	<i>Pagrus pagrus</i>	0.894	0.027
Palombo	Blackspotted smooth-hound	<i>Mustelus punctulatus</i>	0.889	0.026
Rombi altri	Turbots nei	<i>Scophthalmidae</i>	0.785	0.023
Rombo chiodato	Turbot	<i>Psetta maxima</i>	0.779	0.023
Salpa	Salema	<i>Sarpa salpa</i>	0.621	0.018
Elasmobranchi	Sharks, rays, skates, etc, nei	<i>Elasmobranchii</i>	0.604	0.018
Pesce castagna	Atlantic pomfret	<i>Brama brama</i>	0.541	0.016
Scorfanotto	Small red scorpionfish	<i>Scorpaena notata</i>	0.435	0.013
Razza chiodata	Thornback ray	<i>Raja clavata</i>	0.428	0.013
Occhiate	Saddled seabream	<i>Oblada melanura</i>	0.359	0.011
Gattuccio	Small-spotted catshark	<i>Scyliorhinus canicula</i>	0.330	0.010

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Italian name	English name	Scientific name	Mean landing in weight 2015-2016 (Ton)	Percentage (%)
Totano viola	European flying squid	<i>Todarodes sagittatus</i>	0.299	0.009
Passera	European flounder	<i>Platichthys flesus</i>	0.274	0.008
Razza maculata	Spotted ray	<i>Raja montagui</i>	0.259	0.008
Aragosta	Common spiny lobster	<i>Palinurus elephas</i>	0.249	0.007
Orate	Gilthead seabream	<i>Sparus aurata</i>	0.232	0.007
Musdea bianca	Greater forkbeard	<i>Phycis blennoides</i>	0.146	0.004
Scorfano nero	Black scorpionfish	<i>Scorpaena porcus</i>	0.102	0.003
Dentici	Common dentex	<i>Dentex dentex</i>	0.098	0.003
Verdesca	Blue shark	<i>Prionace glauca</i>	0.096	0.003
Capone coccio	Red gurnard	<i>Aspitrigla cuculus</i>	0.079	0.002
Calamari	Common squids nei	<i>Loligo spp</i>	0.077	0.002
Sarago maggiore	White seabream	<i>Diplodus sargus</i>	0.060	0.002
Razze altre	Raja rays nei	<i>Raja spp</i>	0.054	0.002
Rombo liscio	Brill	<i>Scophthalmus rhombus</i>	0.052	0.002
Sogliola comune	Common sole	<i>Solea solea</i>	0.033	0.001
Scombroidei	Frigate and bullet tunas	<i>Auxis thazard, A, rochei</i>	0.014	< 0.001
Granchi	Marine crabs nei	<i>Brachyura</i>	0.005	<0.001

Source: estimates from MIPAAFT/National Fisheries Data Collection Programme

**Table 4.5.3.2 - List of species detected for UoA using drift longlines (LLD) in GSA 19. The species underlined are the species detected for the selected UoAs.**

Italian name	English name	Scientific name	Mean landing in weight 2015-2016 (Ton)	Percentage (%)
<u>Alalunga</u>	<u>Albacore</u>	<u><i>Thunnus alalunga</i></u>	1089.245	52.712
<u>Pesce spada</u>	<u>Swordfish</u>	<u><i>Xiphias gladius</i></u>	701.325	33.939
Lampughe	Common dolphinfish	<i>Coryphaena hippurus</i>	51.244	2.480
Tonnetto	Little tunny(=Atl,black skipj)	<i>Euthynnus alletteratus</i>	43.912	2.125
Tonno rosso	Atlantic bluefin tuna	<i>Thunnus thynnus</i>	42.214	2.043
Pesce sciabola	Silver scabbardfish	<i>Lepidopus caudatus</i>	41.941	2.030
Palamita	Atlantic bonito	<i>Sarda sarda</i>	27.746	1.343
Altri pesci	Marine fishes nei	<i>Osteichthyes</i>	19.697	0.953
Aguglie	Garfish	<i>Belone belone</i>	11.674	0.565
Tonnetto striato	Skipjack tuna	<i>Katsuwonus pelamis</i>	9.964	0.482
Sugarello maggiore	Mediterranean horse mackerel	<i>Trachurus mediterraneus</i>	6.179	0.299
Verdesca	Blue shark	<i>Prionace glauca</i>	3.960	0.192
Luccio	European barracuda	<i>Sphyræna sphyraena</i>	2.643	0.128
Pesce castagna	Atlantic pomfret	<i>Brama brama</i>	2.560	0.124
Scombroidei	Frigate and bullet tunas	<i>Auxis thazard, A, rochei</i>	1.957	0.095
Istiophoridae	Marlins,sailfishes,etc, nei	<i>Istiophoridae</i>	1.589	0.077
Nasello	European hake	<i>Merluccius merluccius</i>	1.160	0.056
Razza maculata	Spotted ray	<i>Raja montagui</i>	1.046	0.051
Capone coccio	Red gurnard	<i>Aspitrigla cuculus</i>	0.843	0.041
Pagro comune	Red porgy	<i>Pagrus pagrus</i>	0.725	0.035

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Italian name	English name	Scientific name	Mean landing in weight 2015-2016 (Ton)	Percentage (%)
Pagello fragolino	Common pandora	<i>Pagellus erythrinus</i>	0.606	0.029
Pagello mafrone	Axillary seabream	<i>Pagellus acarne</i>	0.592	0.029
Mormore	Sand steenbras	<i>Lithognathus mormyrus</i>	0.459	0.022
Pagello rovello	Blackspot(=red) seabream	<i>Pagellus bogaraveo</i>	0.450	0.022
Polpo comune o di scoglio	Common octopus	<i>Octopus vulgaris</i>	0.383	0.019
Sarago sparaglione o sparlotto	Annular seabream	<i>Diplodus annularis</i>	0.354	0.017
Gronghi	European conger	<i>Conger conger</i>	0.347	0.017
Rombi altri	Turbots nei	<i>Scophthalmidae</i>	0.323	0.016
Triglie di fango	Red mullet	<i>Mullus barbatus</i>	0.275	0.013
Sugarello o suro	Atlantic horse mackerel	<i>Trachurus trachurus</i>	0.222	0.011
Squalo manzo	Sharpnose sevengill shark	<i>Heptranchias perlo</i>	0.211	0.010
Gattuccio	Small-spotted catshark	<i>Scyliorhinus canicula</i>	0.180	0.009
Razza quattrocchi	Brown ray	<i>Raja miraletus</i>	0.155	0.007
Sarago fasciato	Common two-banded seabream	<i>Diplodus vulgaris</i>	0.099	0.005
Scorfano rosso	Red scorpionfish	<i>Scorpaena scrofa</i>	0.083	0.004
Ricciole	Greater amberjack	<i>Seriola dumerili</i>	0.039	0.002

Source: estimates from MIPAAFT/National Fisheries Data Collection Programme

**Table 4.5.3.3 – List of species detected for the UoA using purse seine (PS) for small pelagic fish (SPF) in the GSA 19. The species underlined are the species detected for the selected UoA.**

Italian name	English name	Scientific name	Mean landing in weight 2015-2016 (Ton)	Percentage (%)
<u>Alici</u>	<u>European anchovy</u>	<u><i>Engraulis encrasicolus</i></u>	<u>651.037</u>	<u>39.729</u>
Sardine	European pilchard(=Sardine)	<i>Sardina pilchardus</i>	307.659	18.774
Lanzardo atlantico	Atlantic chub mackerel	<i>Scomber colias</i>	160.193	9.776
Sugarello o suro	Atlantic horse mackerel	<i>Trachurus trachurus</i>	74.251	4.531
Sgombro	Atlantic mackerel	<i>Scomber scombrus</i>	70.971	4.331
Sugarello maggiore	Mediterranean horse mackerel	<i>Trachurus mediterraneus</i>	54.692	3.338
Alaccia	Round sardinella	<i>Sardinella aurita</i>	47.836	2.919
Boghe	Bogue	<i>Boops boops</i>	40.040	2.443
Nasello	European hake	<i>Merluccius merluccius</i>	35.971	2.195
Mormore	Sand steenbras	<i>Lithognathus mormyrus</i>	17.411	1.062
Pagello rovello	Blackspot(=red) seabream	<i>Pagellus bogaraveo</i>	17.324	1.057
Palamita	Atlantic bonito	<i>Sarda sarda</i>	16.895	1.031
Ricciole	Greater amberjack	<i>Seriola dumerili</i>	14.839	0.906
Pesce pilota	Pilotfish	<i>Naucrates ductor</i>	10.658	0.650
Tonnetto	Little tunny(=Atl. black skipj)	<i>Euthynnus alletteratus</i>	10.328	0.630
Triglie di fango	Red mullet	<i>Mullus barbatus</i>	9.834	0.600
Cefalo volpina	Flathead grey mullet	<i>Mugil cephalus</i>	8.506	0.519
Cefali altri	Mulletts nei	<i>Mugilidae</i>	7.398	0.451
Lampughe	Common dolphinfish	<i>Coryphaena hippurus</i>	7.118	0.434
Pagello mafrone	Axillary seabream	<i>Pagellus acarne</i>	6.597	0.403
Pagello fragolino	Common pandora	<i>Pagellus erythrinus</i>	6.442	0.393

**BLUFISH PROJECT**  
**Stage 1.b – Deeper mapping/Annex V – GSA 19**

Italian name	English name	Scientific name	Mean landing in weight 2015-2016 (Ton)	Percentage (%)
Pagro comune	Red porgy	<i>Pagrus pagrus</i>	6.421	0.392
Scombroidei	Frigate and bullet tunas	<i>Auxis thazard, A, rochei</i>	5.617	0.343
Polpo comune o di scoglio	Common octopus	<i>Octopus vulgaris</i>	5.140	0.314
Calamaro mediterraneo	European squid	<i>Loligo vulgaris</i>	4.590	0.280
Aguglie	Garfish	<i>Belone belone</i>	4.564	0.279
Latterino	Silversides(=Sand smelts) nei	<i>Atherinidae</i>	4.422	0.270
Pesce sciabola	Silver scabbardfish	<i>Lepidopus caudatus</i>	4.312	0.263
Rombi altri	Turbots nei	<i>Scophthalmidae</i>	3.543	0.216
Tonnetto striato	Skipjack tuna	<i>Katsuwonus pelamis</i>	3.501	0.214
Luccio	European barracuda	<i>Sphyaena sphyraena</i>	3.055	0.186
Lanzardo	Chub mackerel	<i>Scomber japonicus</i>	2.666	0.163
Sarago sparaglione o sparlotto	Annular seabream	<i>Diplodus annularis</i>	2.556	0.156
Seppia mediterranea o comune	Common cuttlefish	<i>Sepia officinalis</i>	2.287	0.140
Orate	Gilthead seabream	<i>Sparus aurata</i>	1.902	0.116
Spigole	European seabass	<i>Dicentrarchus labrax</i>	1.467	0.090
Sarago fasciato	Common two-banded seabream	<i>Diplodus vulgaris</i>	1.382	0.084
Zerro, menola	Picarel	<i>Spicara smaris</i>	1.298	0.079
Altri pesci	Marine fishes nei	<i>Osteichthyes</i>	1.053	0.064
Salpa	Salema	<i>Sarpa salpa</i>	0.919	0.056
Zerro musillo	Curled picarel	<i>Centracanthus cirrus</i>	0.854	0.052
Serranidae	Groupers, seabasses nei	<i>Serranidae</i>	0.514	0.031
Pesce spada	Swordfish	<i>Xiphias gladius</i>	0.250	0.015
Occhiate	Saddled seabream	<i>Oblada melanura</i>	0.181	0.011
Leccia	Leerfish	<i>Lichia amia</i>	0.100	0.006
Elasmobranchi	Sharks, rays, skates, etc, nei	<i>Elasmobranchii</i>	0.071	0.004
Leccia stella	Pompano	<i>Trachinotus ovatus</i>	0.031	0.002
Pesce serra	Bluefish	<i>Pomatomus saltatrix</i>	0.008	0.001

Source: estimates from MIPAAFT/National Fisheries Data Collection Programme

**Table 4.5.3.4 – List of species detected for the UoA using trammel net (GTR) in the GSA 19. The underlined species are the species detected for the selected UoAs.**

Italian name	English name	Scientific name	Mean landing in weight 2015-2016 (Ton)	Percentage (%)
<u>Seppia mediterranea o comune</u>	<u>Common cuttlefish</u>	<u><i>Sepia officinalis</i></u>	<u>245.710</u>	<u>19.826</u>
<u>Polpo comune o di scoglio</u>	<u>Common octopus</u>	<u><i>Octopus vulgaris</i></u>	<u>120.336</u>	<u>9.710</u>
Nasello	European hake	<i>Merluccius merluccius</i>	97.778	7.890
Scorfano rosso	Red scorpionfish	<i>Scorpaena scrofa</i>	63.461	5.121
Altri pesci	Marine fishes nei	<i>Osteichthyes</i>	57.034	4.602
Musdea	Forkbeard	<i>Phycis phycis</i>	46.308	3.737
Scorfano nero	Black scorpionfish	<i>Scorpaena porcus</i>	45.910	3.704
<u>Triglie di scoglio</u>	<u>Surmullet</u>	<u><i>Mullus surmuletus</i></u>	<u>45.130</u>	<u>3.642</u>
Palamita	Atlantic bonito	<i>Sarda sarda</i>	38.515	3.108
Pagello fragolino	Common pandora	<i>Pagellus erythrinus</i>	30.116	2.430
Totano comune	Broadtail shortfin squid	<i>Illex coindetii</i>	28.632	2.310

**BLUFISH PROJECT**  
**Stage 1.b – Deeper mapping/Annex V – GSA 19**

Italian name	English name	Scientific name	Mean landing in weight 2015-2016 (Ton)	Percentage (%)
Boghe	Bogue	<i>Boops boops</i>	24.458	1.974
Mormore	Sand steenbras	<i>Lithognathus mormyrus</i>	24.021	1.938
Sugarello o suro	Atlantic horse mackerel	<i>Trachurus trachurus</i>	23.502	1.896
Triglie di fango	Red mullet	<i>Mullus barbatus</i>	23.044	1.859
Pesce prete	Stargazer	<i>Uranoscopus scaber</i>	20.091	1.621
Sogliola comune	Common sole	<i>Solea solea</i>	19.252	1.553
Pannocchie	Spottail mantis squillid	<i>Squilla mantis</i>	18.428	1.487
Tonnetto	Little tunny(=Atl,black skipj)	<i>Euthynnus alletteratus</i>	18.384	1.483
Pesce pettine o pesce rasoio	Pearly razorfish	<i>Xyrichtys novacula</i>	17.295	1.396
Aragosta	Common spiny lobster	<i>Palinurus elephas</i>	15.912	1.284
Budego	Blackbellied angler	<i>Lophius budegassa</i>	14.529	1.172
Ricciole	Greater amberjack	<i>Seriola dumerili</i>	12.969	1.047
Dentici	Common dentex	<i>Dentex dentex</i>	12.952	1.045
Gallinella o cappone	Tub gurnard	<i>Chelidonichthys lucerna</i>	12.538	1.012
Cefali altri	Mulletts nei	<i>Mugilidae</i>	11.016	0.889
Rombo chiodato	Turbot	<i>Psetta maxima</i>	10.176	0.821
Mendola, mennola	Blotched picarel	<i>Spicara maena</i>	9.902	0.799
Sarago pizzuto	Sharpsnout seabream	<i>Diplodus puntazzo</i>	8.996	0.726
Scombroidei	Frigate and bullet tunas	<i>Auxis thazard, A, rochei</i>	8.617	0.695
Sugarello maggiore	Mediterranean horse mackerel	<i>Trachurus mediterraneus</i>	8.368	0.675
Occhiate	Saddled seabream	<i>Oblada melanura</i>	8.276	0.668
Moscardino bianco	Horned octopus	<i>Eledone cirrhosa</i>	8.081	0.652
Capone ubriaco	Streaked gurnard	<i>Chelidonichthys lastoviza</i>	7.179	0.579
Rana pescatrice	Angler(=Monk)	<i>Lophius piscatorius</i>	6.305	0.509
Spigole	European seabass	<i>Dicentrarchus labrax</i>	6.026	0.486
Mazzancolle	Caramote prawn	<i>Penaeus kerathurus</i>	5.860	0.473
Gronghi	European conger	<i>Conger conger</i>	4.975	0.401
Razza maculata	Spotted ray	<i>Raja montagui</i>	4.873	0.393
Sarago fasciato	Common two-banded seabream	<i>Diplodus vulgaris</i>	4.845	0.391
Orate	Gilthead seabream	<i>Sparus aurata</i>	4.359	0.352
Scorfanotto	Small red scorpionfish	<i>Scorpaena notata</i>	4.210	0.340
Tracine	Weeverfishes nei	<i>Trachinidae</i>	3.959	0.319
Sarago sparaglione o sparlotto	Annular seabream	<i>Diplodus annularis</i>	3.664	0.296
Luccio	European barracuda	<i>Sphyræna sphyraena</i>	3.581	0.289
Pagro comune	Red porgy	<i>Pagrus pagrus</i>	3.571	0.288
Calamaro mediterraneo	European squid	<i>Loligo vulgaris</i>	3.374	0.272
Sgombro	Atlantic mackerel	<i>Scomber scombrus</i>	3.189	0.257
Pagello mafrone	Axillary seabream	<i>Pagellus acarne</i>	2.859	0.231
Salpa	Salema	<i>Sarpa salpa</i>	2.540	0.205
Sarago maggiore	White seabream	<i>Diplodus sargus</i>	2.321	0.187
Lanzardo atlantico	Atlantic chub mackerel	<i>Scomber colias</i>	2.009	0.162
Scorfani di fondale	Blackbelly rosefish	<i>Helicolenus dactylopterus</i>	1.454	0.117
Ombrine	Shi drum	<i>Umbrina cirrosa</i>	1.127	0.091
Verdesca	Blue shark	<i>Prionace glauca</i>	0.987	0.080
Leccia stella	Pompano	<i>Trachinotus ovatus</i>	0.883	0.071

**BLUFISH PROJECT**  
**Stage 1.b – Deeper mapping/Annex V – GSA 19**

Italian name	English name	Scientific name	Mean landing in weight 2015-2016 (Ton)	Percentage (%)
Cernia di scoglio	Dusky grouper	<i>Epinephelus marginatus</i>	0.793	0.064
Pesce san Pietro	John dory	<i>Zeus faber</i>	0.788	0.064
Calamaretto	Alloteuthis squids nei	<i>Alloteuthis spp</i>	0.752	0.061
Lanzardo	Chub mackerel	<i>Scomber japonicus</i>	0.704	0.057
Tanute	Black seabream	<i>Spondyliosoma cantharus</i>	0.662	0.053
Astice	European lobster	<i>Homarus gammarus</i>	0.535	0.043
Capone coccio	Red gurnard	<i>Aspitrigla cuculus</i>	0.530	0.043
Pagello rovello	Blackspot(=red) seabream	<i>Pagellus bogaraveo</i>	0.441	0.036
Elasmobranchi	Sharks, rays, skates, etc, nei	<i>Elasmobranchii</i>	0.197	0.016
Pesce serra	Bluefish	<i>Pomatomus saltatrix</i>	0.016	0.001

Source: estimates from MIPAAFT/National Fisheries Data Collection Programme

**Table 4.5.3.5 – List of species detected for the UoA using gill net (GNS) in the GSA 19. The underlined species are the species detected for the selected UoAs.**

Italian name	English name	Scientific name	Mean landing in weight 2015-2016 (Ton)	Percentage (%)
Nasello	European hake	<i>Merluccius merluccius</i>	120.756	8.906
Boghe	Boque	<i>Boops boops</i>	114.492	8.444
<u>Triglie di scoglio</u>	<u>Surmullet</u>	<u><i>Mullus surmuletus</i></u>	<u>85.680</u>	<u>6.319</u>
Triglie di fango	Red mullet	<i>Mullus barbatus</i>	78.172	5.765
Palamita	Atlantic bonito	<i>Sarda sarda</i>	74.647	5.505
Polpo comune o di scoglio	Common octopus	<i>Octopus vulgaris</i>	58.465	4.312
Altri pesci	Marine fishes nei	<i>Osteichthyes</i>	54.707	4.035
Sgombro	Atlantic mackerel	<i>Scomber scombrus</i>	52.213	3.851
Budego	Blackbellied angler	<i>Lophius budegassa</i>	47.606	3.511
Gallinella o cappone	Tub gurnard	<i>Chelidonichthys lucerna</i>	47.120	3.475
Scorfano rosso	Red scorpionfish	<i>Scorpaena scrofa</i>	43.870	3.235
Seppia mediterranea o comune	Common cuttlefish	<i>Sepia officinalis</i>	41.839	3.086
Occhiate	Saddled seabream	<i>Oblada melanura</i>	38.151	2.814
Lanzardo atlantico	Atlantic chub mackerel	<i>Scomber colias</i>	35.852	2.644
Tonnetto	Little tunny(=Atl,black skipj)	<i>Euthynnus alletteratus</i>	33.403	2.463
Musdea	Forkbeard	<i>Phycis phycis</i>	33.185	2.447
Scombroidei	Frigate and bullet tunas	<i>Auxis thazard, A. rochei</i>	32.467	2.394
Ricciole	Greater amberjack	<i>Seriola dumerili</i>	31.980	2.358
Sugarello maggiore	Mediterranean horse mackerel	<i>Trachurus mediterraneus</i>	26.147	1.928
Ricciole	Greater amberjack	<i>Seriola dumerili</i>	25.169	1.856
Palamita	Atlantic bonito	<i>Sarda sarda</i>	22.128	1.632
Sugarello o suro	Atlantic horse mackerel	<i>Trachurus trachurus</i>	21.504	1.586
Mendola, mennola	Blotched picarel	<i>Spicara maena</i>	18.414	1.358
Pesce pettine o pesce rasoio	Pearly razorfish	<i>Xyrichtys novacula</i>	15.418	1.137
Scorfano nero	Black scorpionfish	<i>Scorpaena porcus</i>	14.533	1.072
Calamaro mediterraneo	European squid	<i>Loligo vulgaris</i>	13.809	1.018
Lanzardo	Chub mackerel	<i>Scomber japonicus</i>	13.524	0.997
Pagello fragolino	Common pandora	<i>Pagellus erythrinus</i>	10.444	0.770

**BLUFISH PROJECT**  
**Stage 1.b – Deeper mapping/Annex V – GSA 19**

Italian name	English name	Scientific name	Mean landing in weight 2015-2016 (Ton)	Percentage (%)
Gronghi	European conger	<i>Conger conger</i>	8.817	0.650
Sarago fasciato	Common two-banded seabream	<i>Diplodus vulgaris</i>	8.697	0.641
Pannocchie	Spottail mantis squillid	<i>Squilla mantis</i>	8.124	0.599
Rana pescatrice	Angler (=Monk)	<i>Lophius piscatorius</i>	7.710	0.569
Zerro, menola	Picarel	<i>Spicara smaris</i>	7.268	0.536
Cefali altri	Mulletts nei	<i>Mugilidae</i>	6.560	0.484
Pago comune	Red porgy	<i>Pagrus pagrus</i>	6.547	0.483
Aragosta	Common spiny lobster	<i>Palinurus elephas</i>	6.494	0.479
Mormore	Sand steenbras	<i>Lithognathus mormyrus</i>	6.323	0.466
Capone cocchio	Red gurnard	<i>Aspitrigla cuculus</i>	6.082	0.449
Sarago fasciato	Common two-banded seabream	<i>Diplodus vulgaris</i>	5.448	0.402
Sugarello maggiore	Mediterranean horse mackerel	<i>Trachurus mediterraneus</i>	5.215	0.385
Leccia stella	Pompano	<i>Trachinotus ovatus</i>	4.702	0.347
Sarago maggiore	White seabream	<i>Diplodus sargus</i>	4.348	0.321
Lanzardo atlantico	Atlantic chub mackerel	<i>Scomber colias</i>	3.955	0.292
Scorfani di fondale	Blackbelly rosefish	<i>Helicolenus dactylopterus</i>	3.526	0.260
Leccia	Leerfish	<i>Lichia amia</i>	3.346	0.247
Scombroidei	Frigate and bullet tunas	<i>Auxis thazard, A. rochei</i>	3.022	0.223
Salpa	Salema	<i>Sarpa salpa</i>	2.992	0.221
Paqello mafrone	Axillary seabream	<i>Paqellus acarne</i>	2.866	0.211
Tonnetto	Little tunny (=Atl,black skipj)	<i>Euthynnus alletteratus</i>	2.764	0.204
Sogliola comune	Common sole	<i>Solea solea</i>	2.219	0.164
Scorfanotto	Small red scorpionfish	<i>Scorpaena notata</i>	2.126	0.157
Seppia mediterranea o comune	Common cuttlefish	<i>Sepia officinalis</i>	1.990	0.147
Triglie di fango	Red mullet	<i>Mullus barbatus</i>	1.922	0.142
Calamaretto	Alloteuthis squids nei	<i>Alloteuthis spp</i>	1.817	0.134
Pesce pettine o pesce rasoio	Pearly razorfish	<i>Xyrichtys novacula</i>	1.816	0.134
Sarago maggiore	White seabream	<i>Diplodus sargus</i>	1.801	0.133
Sugarello o suro	Atlantic horse mackerel	<i>Trachurus trachurus</i>	1.773	0.131
Verdesca	Blue shark	<i>Prionace glauca</i>	1.474	0.109
Nasello	European hake	<i>Merluccius merluccius</i>	1.302	0.096
Totano comune	Broadtail shortfin squid	<i>Illex coindetii</i>	1.199	0.088
Triglie di scoglio	Surmullet	<i>Mullus surmuletus</i>	1.012	0.075
Altri pesci	Marine fishes nei	<i>Osteichthyes</i>	0.995	0.073
Lampughe	Common dolphinfish	<i>Coryphaena hippurus</i>	0.926	0.068
Tracine	Weeverfishes nei	<i>Trachinidae</i>	0.912	0.067
Polpo comune o di scoglio	Common octopus	<i>Octopus vulgaris</i>	0.896	0.066
Luccio	European barracuda	<i>Sphyrna sphyraena</i>	0.874	0.064
Sogliola comune	Common sole	<i>Solea solea</i>	0.846	0.062
Capone ubriaco	Streaked gurnard	<i>Chelidonichthys lastoviza</i>	0.841	0.062
Palombo	Blackspotted smooth-hound	<i>Mustelus punctulatus</i>	0.761	0.056
Budego	Blackbellied angler	<i>Lophius budegassa</i>	0.757	0.056
Rombo chiodato	Turbot	<i>Psetta maxima</i>	0.731	0.054
Dentici	Common dentex	<i>Dentex dentex</i>	0.714	0.053
Gallinella o cappone	Tub gurnard	<i>Chelidonichthys lucerna</i>	0.658	0.049

Italian name	English name	Scientific name	Mean landing in weight 2015-2016 (Ton)	Percentage (%)
Sarago sparaglione o sparlotto	Annular seabream	<i>Diplodus annularis</i>	0.606	0.045
Aguglie	Garfish	<i>Belone belone</i>	0.516	0.038
Altri crostacei	Marine crustaceans nei	<i>Crustacea</i>	0.475	0.035
Lampughe	Common dolphinfish	<i>Coryphaena hippurus</i>	0.430	0.032
Spigole	European seabass	<i>Dicentrarchus labrax</i>	0.419	0.031
Musdea bianca	Greater forkbeard	<i>Phycis blennooides</i>	0.417	0.031
Dentici	Common dentex	<i>Dentex dentex</i>	0.404	0.030
Orate	Gilthead seabream	<i>Sparus aurata</i>	0.338	0.025
Scorfano rosso	Red scorpionfish	<i>Scorpaena scrofa</i>	0.284	0.021
Calamaro mediterraneo	European squid	<i>Loligo vulgaris</i>	0.284	0.021
Zanchetta	Mediterranean scaldfish	<i>Arnoglossus laterna</i>	0.256	0.019
Pesce serra	Bluefish	<i>Pomatomus saltatrix</i>	0.164	0.012
Moscardino bianco	Horned octopus	<i>Eledone cirrhosa</i>	0.151	0.011
Pesce prete	Stargazer	<i>Uranoscopus scaber</i>	0.101	0.007
Astice	European lobster	<i>Homarus gammarus</i>	0.092	0.007
Mazzancolle	Caramote prawn	<i>Penaeus kerathurus</i>	0.062	0.005
Cernia di scoglio	Dusky grouper	<i>Epinephelus marginatus</i>	0.048	0.004
Pesce sciabola	Silver scabbardfish	<i>Lepidopus caudatus</i>	0.038	0.003
Razza bianca	White skate	<i>Raja alba</i>	0.019	0.001

Source: estimates from MIPAAFT/National Fisheries Data Collection Programme

#### 4.5.4 Environmental context

The Ionian Sea is the deepest basin in the Mediterranean. It communicates to the west with the western Mediterranean through the Sicilian Channel, to the north with the Adriatic through the Otranto Channel and to the east with the Aegean Sea through the three narrow of the Cretan arch. The Ionian Sea is geomorphologically divided by the Taranto canyon, a rift dug by the Bradano river with NW-SE direction and depths that exceed 2,000 m, on an eastern and a south-western slope. The first, between the Taranto canyon and Apulia peninsula, has a large continental shelf with terraces of abrasion and calcareous bioclastic deposits. On this side, both on the stalls and on the escarpment, there are no real canyons. The south-western sector is the southern continuation of the Apennines and includes three regions: Basilicata, Calabria and Sicily, with numerous submarine canyons located along these coasts. On both sides there are different coastal morphotypes as well as different types of habitat and seabed. Along the Apulian coast the beaches alternate with rocky coasts that in the Salento peninsula are higher and with numerous underwater caves. On the south-western side, wide and long stretches alternate with pebbly beaches with rocky and cliff-like stretches along the southernmost part of Calabria and Sicily (MIPAAF, 2017).

The Ionic Sea receives from the west, through the Sicilian Channel, superficial Atlantic waters whose salinity grows from 37.5 psu in the Sicilian Channel to 38.6 psu near Crete. The modified Atlantic waters form a layer of about 60-150 m and their temperature ranges between 13 ° C in winter and 28 ° C in summer. Another mass of water that affects the Ionian basin is that of the intermediate Levantine waters which, under the surface layer, extend up to 800-900 m of depth. Levantine intermediate waters are characterized by higher values of temperature and salinity, showing significant differences between the southern and northern part of the Ionian. The

Adriatic Sea is the main source of deep water in the eastern Mediterranean. These colder waters are located between the Levantine intermediate waters and the bottom; penetrate the Ionian from the north, through the Otranto Channel, and determine the cyclonic circulation of the waters of this basin. The hydrographic observations carried out in the 1990s revealed profound variations not only in the physicochemical parameters but also in the circulation of water masses because of the phenomenon of climatic origin called Eastern Mediterranean Transient. The waters of the Ionian Sea, as in most of the Mediterranean, are oligotrophic. Nitrate and phosphate concentrations are about 90% and 129% lower than in the western Mediterranean. Although the primary productivity is generally quite low, the total flow of organic matter detected in the Otranto Channel is comparable with that observed in the western Mediterranean and northern Adriatic (MIPAAFT, 2017).

Different benthic biocoenoses characterize the GSA 19, from the coastline to the bathyal plane. Along the Apulian coasts dominate the rocky bottoms on the plateau. Between Otranto and S. Maria di Leuca the coast is rich in underwater caves and the biocoenosis of the coralligenous is frequent, with some areas covered by the *P. oceanica* phanerogama. In very shallow waters, coastal portions are characterized by the coarseness of coarse sands with background currents and superficial muddy sands in sheltered areas. In deeper waters, the biocoenosis of coralligenous and coastal detritus is widespread.

Along the coasts of Basilicata and Calabria, the presence of numerous rivers and streams (Bradano, Basento, Cavone, Agri, Sinni, Crati, etc.) has led to the formation of vast alluvial beaches characterized by dunes covered with evergreen scrub. In the infralittoral plan the biocoenoses of the fine and coarse sands alternate with coastal debris and prairies of *P. oceanica* and *C. nodosa*

In the circalittoral plan, both in Puglia and in the regions of the south-western side, the biocenosis of coastal terrigenous mud is widespread starting from 70-80 m. In Calabria, to the south-east of Capo Spulico, there is the Amendolara dry which covers an area of about 31 km<sup>2</sup>. Due to the richness of species, also of commercial interest, the dry is frequented by local fishermen who use trammel, palamites and pots. Instead, around it, at greater depths, fishermen from the mariners of Taranto and Schiavonea carry out the trawl especially for the capture of hake and deep-water rose shrimp.

At the edge of the pit, there are some areas, both north and south of the Taranto canyon, where there is the biocoenosis generally characterized by the dominance of the crinoid *L. phalangium*. Beyond the pit, the biocenosis of the bathyal mud extends throughout the basin. In the context of this biocoenosis, the facies characterized by the species *F. quadrangularis* and *I. elongata* have almost completely disappeared due to trawling. These two facies are very important because they are often associated with species of significant commercial importance, in particular the crustaceans as *P. longirostris*, *N. norvegicus*, *A. antennatus* and *A. foliacea*.

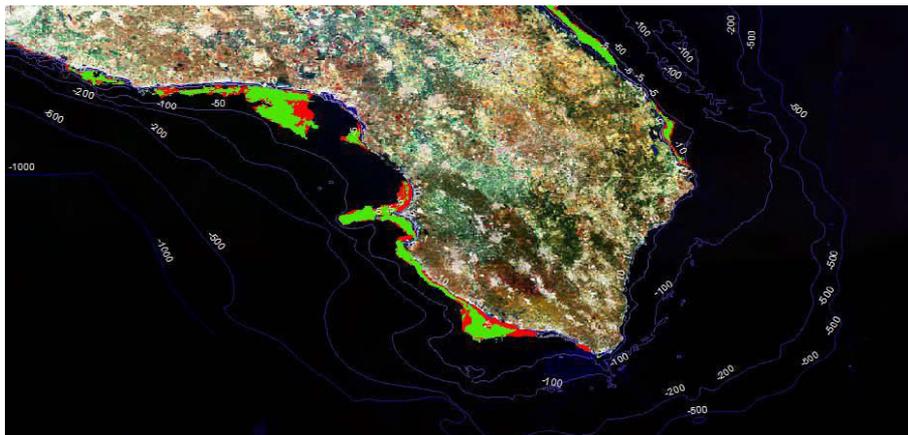
In the bathyal plain, offshore of S. Maria di Leuca, between 350 and 1,100 m of depth, a white coral bank extends for about 900 km<sup>2</sup>. Mud hillocks (mounds) of different sizes are covered with variable density from dead and living colonies of the species of colonial scleractinias *L. pertusa* and *M. oculata*. Over 220 species have been identified in this bank and many of these, even of commercial interest, find refuge, food resources and reproductive and recruiting sites. The complexity of the white coral habitat with the presence of suspending and filtering organisms is due to the energy-trophic system closely related to the hydrographic situation of the area. The Santa Maria di Leuca bank is located above 12 nautical miles of territorial waters. The

marinas of Leuca and Gallipoli operate around the counter between Otranto and Torre Ovo. In order to protect this particular habitat, the Mediterranean Fisheries Commission (GFCM) has established the new category "Deep-sea fisheries restricted area".

Moreover, in agreement with the Convention on Biological Diversity (CHM, 2017), the Ionian Sea is characterized by the presence of important habitats for sea turtles, such as *Chelonia mydas*, and *C. carretta*, and marine mammals such as *Ziphius cavirostris*, *Delphinus delphis*, *Globicephala melas*, *T. truncatus*, *Balaenoptera physalus* and *Physeter macrocephalus*.

#### Distribution of marine seagrasses

Between Otranto and S. Maria di Leuca, the coast is rich in areas covered by *P. oceanica*. This, however, is more extensive in the stretch of coast between S. Maria di Leuca and Porto Cesareo within 30 m depth. Proceeding westwards, different biocenoses alternate on the infralittoral and circalittoral plan. *P. oceanica* meadows alternate with areas covered with *Cymodocea nodosa* and *Halophila stipulacea* as well as with photophilous algae bases on rocky bottoms (Figures 4.5.4.1). It is known that in some areas of the Ionian Apulian coast the state of the *Posidonia* meadows is in clear regression (Figure 4.5.4.1).



**Figure 4.5.4.1 - Map of the distribution of *P. oceanica* along the southern side of the Apulian coasts. Green area: current situation, red area: regression (Giannoulaki et al., 2013).**

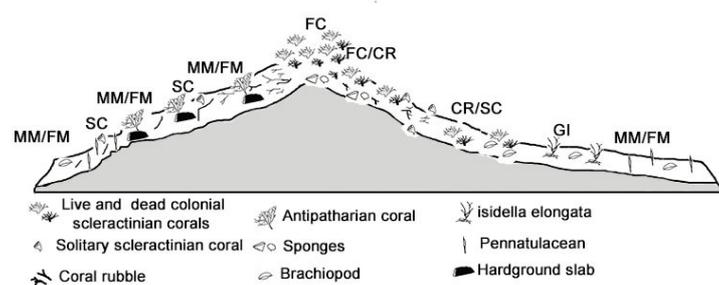
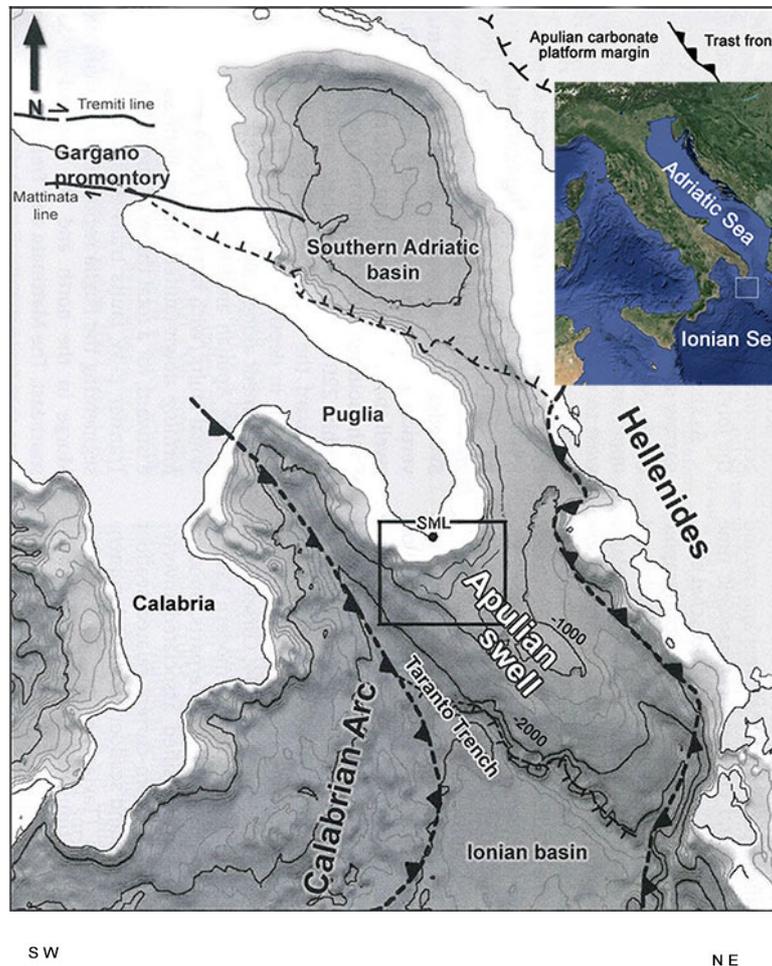
#### Distribution of coralligenous

In the western Ionian Sea there are large areas characterized by the presence of coralligenous bottoms, especially along the Apulian coasts (Figure 4.4.4.1, Annex IV, GSA 18). Along the coasts of western Sicily there are coralligenous funds in particular in the southernmost part (Figure 4.1.4.3, Annex I, GSA 10). In Apulia there are many areas characterized by the presence of coralligenous bottoms (Figure 4.4.4.1, Annex IV, GSA 18), while *mäerl* beds seem to be absent.

#### Deep coral biocoenosis

In the western Ionian Sea, in particular off the coast of Santa Maria di Leuca (Lecce), there is the largest community of white corals currently known in the Mediterranean.

The province of Cold Water Coral Province of Santa Maria di Leuca (SML CWC province) develops on the continental side from about 400 to about 1,200 m, on the Apulian ridge (Figure 4.5.4.2; Mastrototaro et al., 2010).

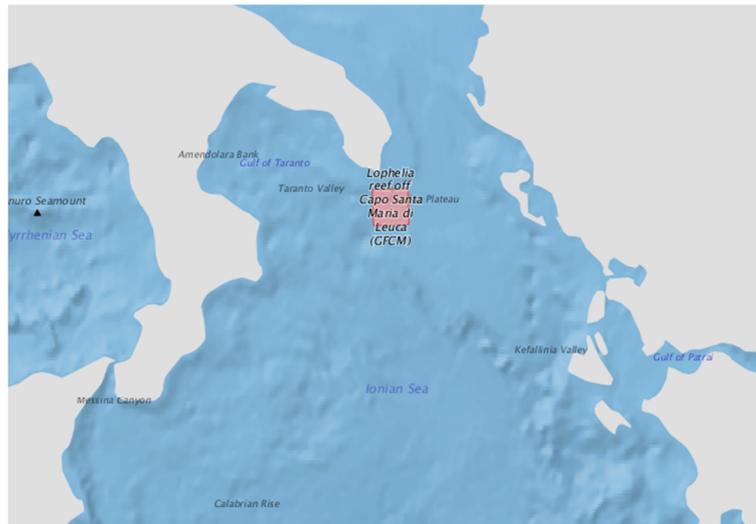


**Figure 4.5.4.2 - Map of the distribution of deep coral in the western Ionian Sea (Savini and Corselli, 2010; Upper Map) and diagram and distribution of facies (FC = Coral Framework; CR = Coral Rubble; SC = Solitary Corals; GI = Gryphus and Isidella elongata ; MM = Mollusc Mud; FM = Foraminifer Mud; Lower Scheme; Mastrototaro et al., 2010).**

This area has been intensively studied in recent years and research has allowed to define the morphology of the seabed, the dominant sedimentary processes and the extension and the model of the distribution of cold water corals. In particular, it has been discovered that the growth of corals in deep waters creates colonial spots sediment on the northern flanks and near the top of the mound structures (Vertino et

al., 2010). Deep bioconstructions consist of living and dead colonies of *M. oculata* associated with *L. pertusa* and *D. dianthus*. Bioconstructions grow on consolidated sediments of pleistocene and gypsum shell (Vertino et al., 2010; Figure 3.5.3.3). The mounds that host the white coral community are delimited by numerous sedimentary facies, mostly bioclastic and coarse grained, which represent the transition to the nearby batialic bottoms characterized by pelagic sedimentation (Rosso et al., 2010).

Recommendation GFCM / 2006/3 (GFCM, 2006) establishes a FRA (Fisheries Restricted Area) corresponding to the *Lophelia* reef outside Capo Santa Maria di Leuca in order to protect the seabed (Figure 4.5.4.3).



**Figura 4.5.4.3 - Map of the Fisheries Restricted Area of Capo Santa Maria di Leuca (GFCM, 2006).**

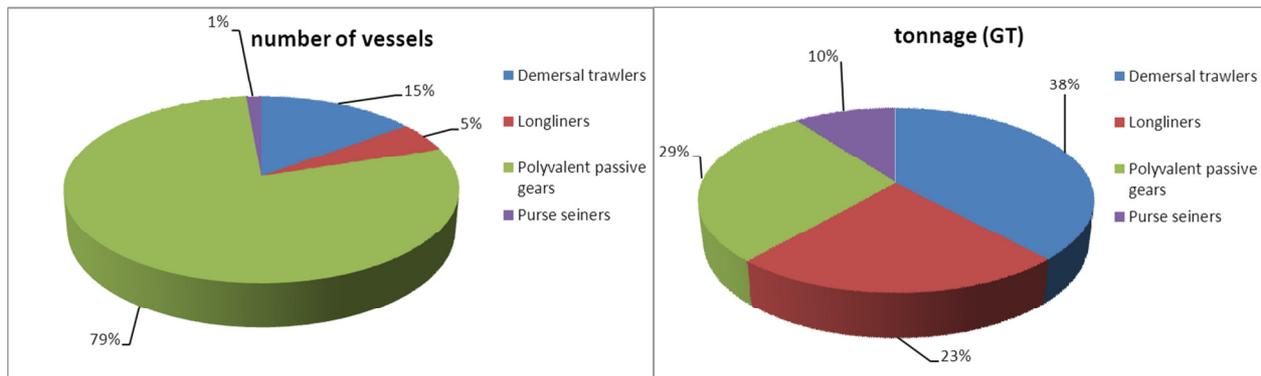
#### The ecosystem of the western Ionian Sea

The western Ionian Sea (GSA 19) is located in the same ecoregion as GSA 16, described earlier in section 4.4.4, Annex III.

#### 4.5.5 Socio-economic context. Analysis of the main socio-economic indicators and of market trends in the 10 UoAs selected for the Deeper Mapping

The vessels registered in the compartments of GSA 19 are almost equally distributed among Ionian Apulia, Ionian Calabria, and Ionian Sicily. The fleet is largely characterised by artisanal vessels that use trammel nets, longlines, and pots and traps; in fact, polyvalent passive vessels account for 80% of all boats and for 29% of GT. However, the bulk of landings and landing value in this GSA are provided by trawlers. In 2017, these vessels caught slightly more than 3,500 tons of product, which was worth about €38 million and accounted for 31% of GSA 19 catches and for 40% of intakes.

The trawler fleet is concentrated in Calabria and Apulia. Most longliners (78 vessels) are registered in the compartments of Ionian Sicily, as are 14 of the 19 purse seiners.



**Figure 4.5.5.1 - Composition of the fleet registered in the ports of GSA 19 in relation to predominant fishing technique, vessel number, and tonnage (2017 data). Source: MIPAAFT / National Fisheries Data Collection Programme. Data processed by NISEA.**

Trawling is concentrated in the northern part of GSA 19 (Gulf of Taranto), whereas fishing pressure, which is especially due to trawling, is highest in the central area (Calabrian coast).

Giant red, blue and red, and deep-water rose shrimp, which are among the most valuable target species of the demersal fleets of GSA 19, suffer from the competition of frozen product, either imported or caught by other Italian fleets. In fact, selling catch that has been frozen directly on board is highly practical, also considering that freezing does not greatly affect the final price. This is especially true for giant red and blue and red shrimp: these are mostly purchased by restaurants, where the final consumers are unable to tell the frozen product from the fresh. However, these vessels lack the tonnage and the financial strength to freeze the catch directly on board (MIPAAFT, 2017).

Fish sales in this area largely follow old-fashioned methods: the catch is traded by a small number of operators, who thus work under near-monopoly conditions. In addition, the absence, until recent times, of public fish markets and the limited number of wholesalers have made product distribution highly inefficient, a situation that calls for strengthening and modernisation of the distribution system. Despite the lack, in some areas, of market structures (GSA 19 encompasses three Italian administrative Regions), the distribution system and the commercial infrastructure appear to be improving. Fishermen's markets are now active in Catania, Corigliano Calabro, and Aci Trezza. In 2017, the markets of Corigliano Calabro, Aci Trezza, and Catania traded about 992 tons of local product (28% of the whole local production). In 2015-2017, the product volume traded in the Corigliano Calabro market rose by 8%, whereas the Aci Trezza market lost 18% (ISMEA, 2018). The Corigliano Calabro market sells only local product, whereas about 59% of the product traded in Aci Trezza is not locally caught.

In 2017, the most commercially valuable species sold in the last two markets were giant red and deep-water rose shrimp (about 6% of traded volume), while European hake, European anchovy, and mackerel accounted for more than 10%. POs are not as

present as in other areas, since there are only two in the whole GSA (source: [https://ec.europa.eu/fisheries/cfp/market/producer\\_organisations\\_it](https://ec.europa.eu/fisheries/cfp/market/producer_organisations_it)).

The amount of local catch traded in Sicily’s fish markets should increase further. This is expected to be achieved by the provisions of Decree no. 459 of 8.8.2018<sup>1</sup>, which states that in areas where wholesale markets and fishermen’s markets have been set up with 2007-2013 European Fisheries Fund (EFF) and 2014-2020 EMFF financing, the landed product is to be sold at these facilities.

The fishing activities carried out in the 10 UoAs of GSA 19 that have been selected for the Deeper Mapping (listed in Table 4.5.1.1) use trawls, passive gears (chiefly trammel nets), purse seines, and drifting longlines. The estimated number of vessels which in 2017 practiced a *métier* based on a combination of gear and group of target species according to EU DCF programme codifications is reported in Table 4.1.5.1.

**Table 4.5.5.1 - Structural and production indicators for the 10 UoAs selected in GSA 10 (2017 data)<sup>2</sup>**

Gear (species defining the selected UoA)	Group of target species	Number of vessels	Estimated crew number	Total value of landings (€ 000)	Value of landings of species of the selected UoA (%)
Trammel nets ( <i>Surmullet, Common cuttlefish, Common octopus</i> )	DEF	224	434	4,370,587	17%
Set gillnets (anchored) ( <i>Surmullet</i> )	DEF	603	1,168	15,523,039	40%
Drifting longlines ( <i>Swordfish, Albacore</i> )	LPF	131	507	11,898,212	90%
Purse seines ( <i>European anchovy</i> )	SPF	42	160	4,324,245	71%
Bottom otter trawl ( <i>Deep-water rose shrimp, Giant red shrimp, Blue and red shrimp</i> )	DEF	102	321	11,686,219	27%
	MDD	68	213	12,194,669	60%
	DWS	68	213	14,315,434	74%
<ul style="list-style-type: none"> <li>– DEF: Demersal fish</li> <li>– DWS: Deep-water species</li> <li>– MDD: Mixed demersal and deep-water species</li> <li>– SPF: Small pelagic fish</li> </ul>					

**Source:** MIPAAFT / National Fisheries Data Collection Programme. Data processed by NISEA.

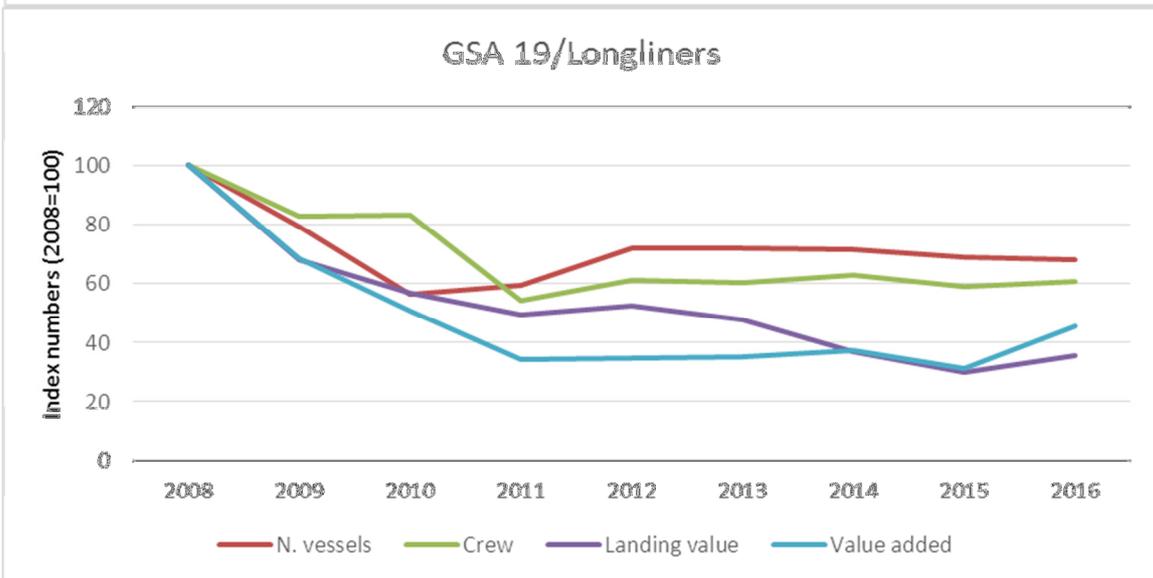
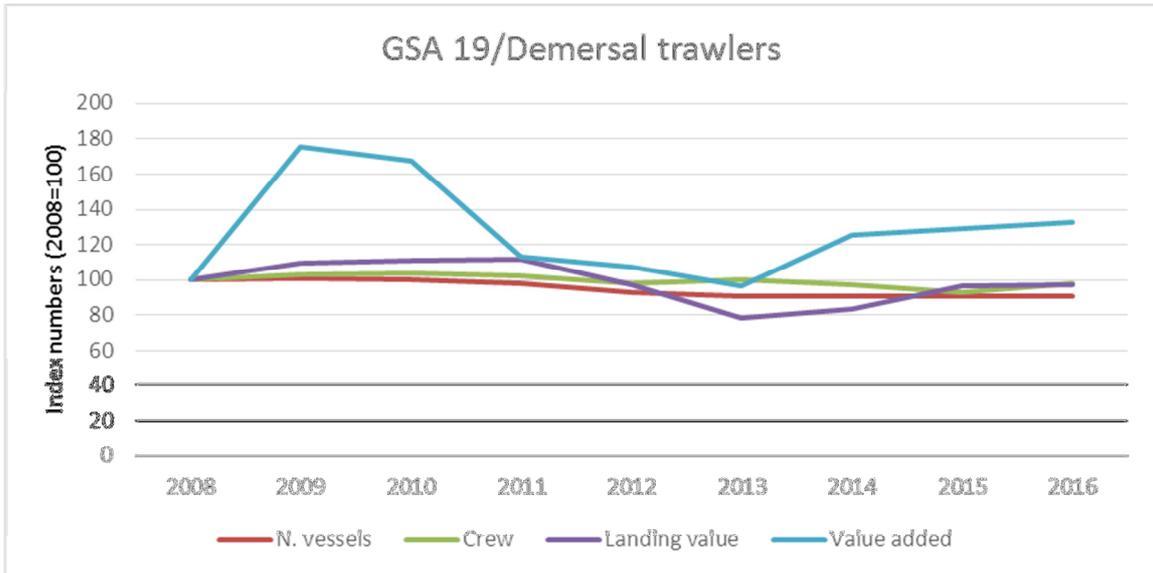
<sup>1</sup> Decree no. 459 of 8.8.2018 of the MIPAAFT General Fisheries Directorate: Provisions concerning the wholesale in Sicily of fish products in wholesale markets and fishermen’s markets set up with 2007-2013 EFF and 2014-2020 EMFF financing.

<sup>2</sup> Crew numbers are based on the average job figures reported in the period in question for the fleet segment to which the 10 UoAs belong (where a segment includes vessels using predominantly a given gear).

The 10 UoAs selected for the Deeper Mapping belong to the three main fleet segments defined by Commission Regulation (EC) No 1639/2001, as follows:

- polyvalent passive vessels (PGP) less than 12 m LOA: vessels using predominantly passive gears (in the selected UoAs, those using trammel nets and other set gillnets, and some using longlines and purse seines, but not as the predominant gear);
- vessels using hooks (HOK): boats using predominantly longlines (in the selected UoAs, those using drifting longlines)
- purse seiners (PS): for the vessels using predominantly purse seines;
- demersal trawlers and demersal seiners (DTS): boats using predominantly demersal trawls (in the selected UoAs, those using bottom otter trawls).

The next figure shows the 2008-2016 trends of the main structural indicators (vessel and crew number) and production variables (value of landings and value added) of the fleet segments to which the 10 UoAs of GSA 19 belong.



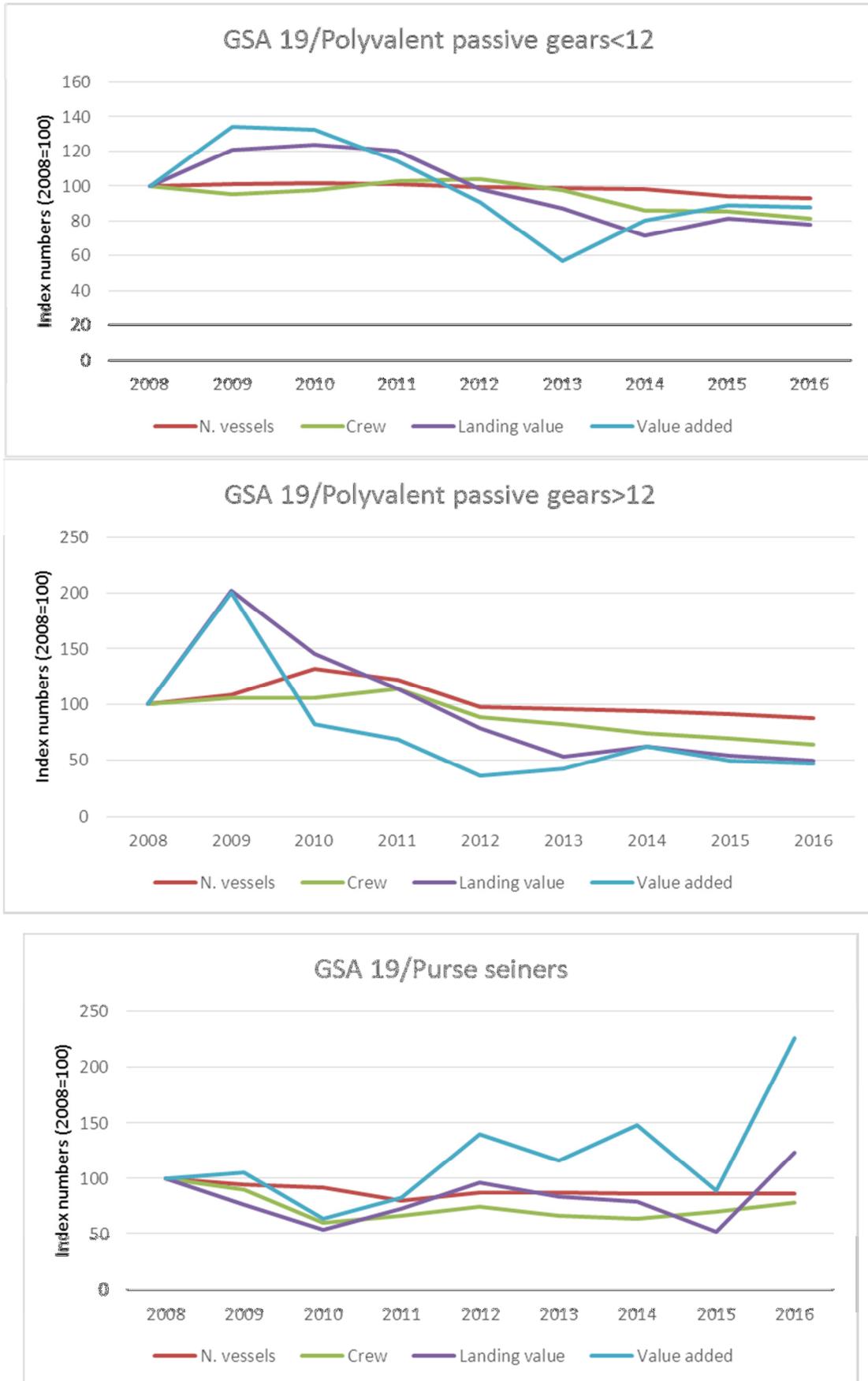


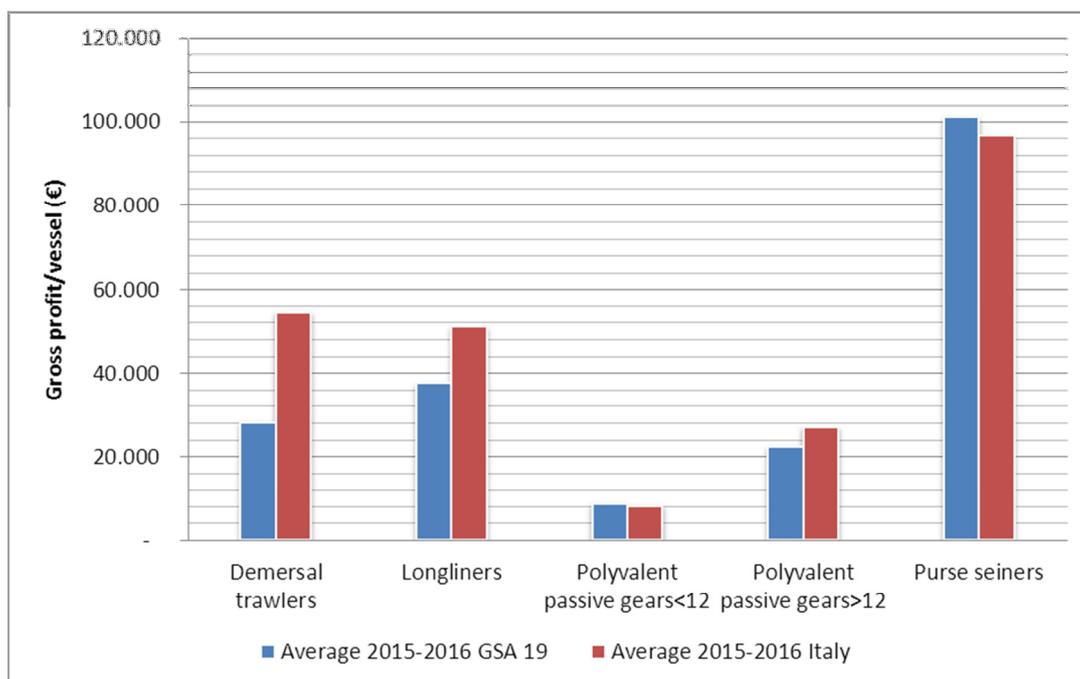
Figure 4.5.5.2- Trends of the structural and production indicators of the fleet segments to which the 10 UoAs selected in GSA 19 belong; index numbers 2008-2016 (2008=100). Source: MIPAAFT / National Fisheries Data Collection Programme. Data processed by NISEA.

Vessel number declined slightly in most fleet segments, the fleet using predominantly longlines being the most affected (-32%).

The reduced capacity clearly involved a loss of jobs.

The value of landings shows a less consistent trend, since trawler and purse seiner landings increased both in the whole time series and in the last 3-4 years, whereas the landings of the other segments increased only in the past few years.

The value added relating to these segments is in line with the value of landings.



**Figure 4.5.5.3 - Gross profit *per vessel* for each fleet segment of the 10 UoAs selected in GSA 19. Comparison with the 2015-2016 Italian national average. Source: MIPAAFT / National Fisheries Data Collection Programme. Data processed by NISEA.**

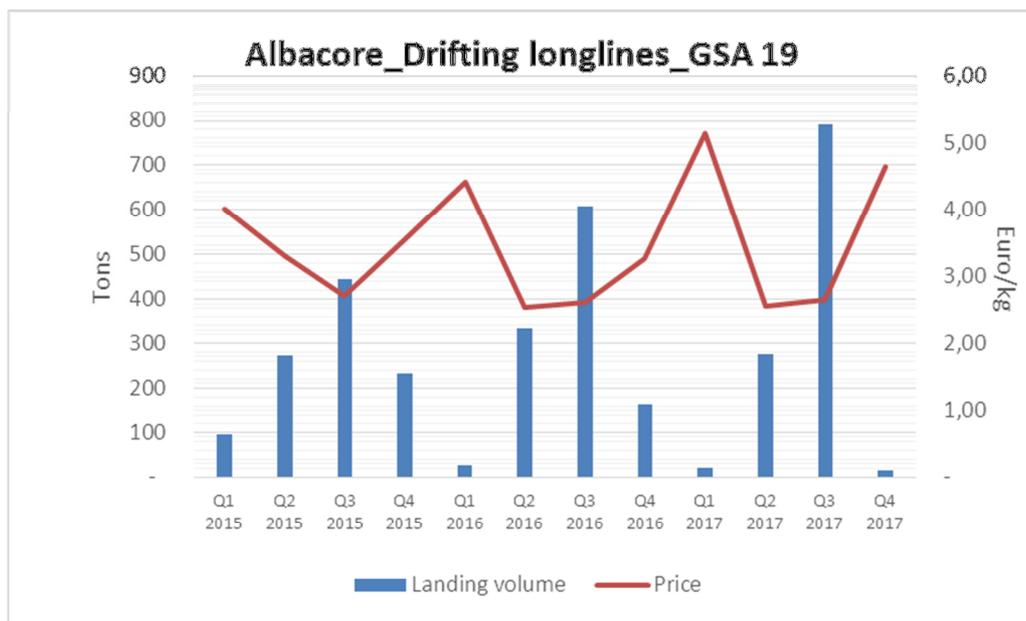
Purse seiners and vessels less than 12 m LOA using passive gears achieved a good economic performance in 2015-2017, with a gross profit *per vessel* of more than €100,000, compared with the Italian national average of €96,000. The figures of the other segments are lower, particularly those of trawlers, where gross profit *per vessel* was nearly half the national average. Notably, trawlers in this GSA are less than 24 m LOA.

The 10 UoAs selected for the Deeper Mapping of GSA 19 are listed below. For each UoA, this report provides quarterly production data (landed volume and sale price) for 2015-2017 and wholesale market volumes and prices (minimum and maximum), as available.

- Albacore: drifting longlines
- European anchovy: purse seines
- Deep-water rose shrimp: bottom otter trawls
- Giant red shrimp: bottom otter trawls

- Blue and red shrimp: bottom otter trawls
- Swordfish: drifting longlines
- Common octopus: trammel nets
- Common cuttlefish: trammel nets
- Surmullet: set gillnets and trammel nets.

**Albacore:**



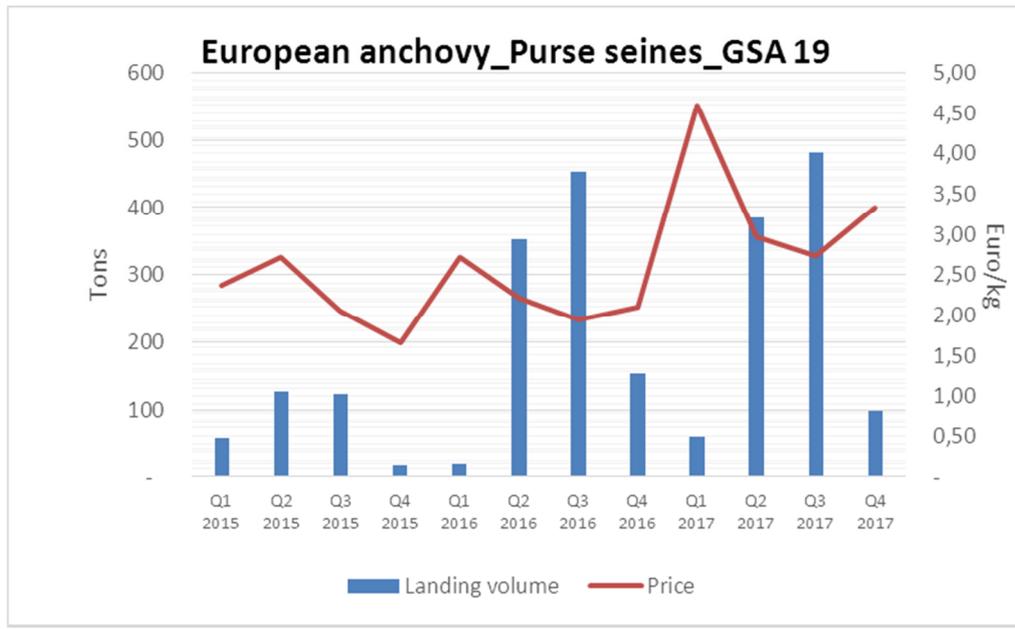
**Figure 4.5.5.4 – Average volumes and production prices of albacore (ALB) landed by vessels using drifting longlines (LLD) in GSA 19 (2015-2017 quarterly [Q] data). Source: MIPAAFT / National Fisheries Data Collection Programme. Data processed by NISEA.**

In 2015-2017, the average annual landings of albacore were quite stable at a little over 1,000 tons. Catches were markedly seasonal and are highest in May-September.

The average price was also fairly constant, with oscillations that are due to the seasonality of the species (from €2.50 / kg in peak season to €5.00 / kg at times of low supply).

Albacore consumption and import-export data are not available.

**European anchovy:**



**Figure 4.5.5.5 – Average volumes and production prices of European anchovy (ANE) landed by vessels using purse seines (PS) in GSA 19 (2015-2017 quarterly [Q] data). Source: MIPAAFT / National Fisheries Data Collection Programme. Data processed by NISEA.**

Landings of European anchovy with purse seines increased considerably from 324 tons in 2015 to more than 1,000 tons in 2017. Landings were higher during the fishing season, which is usually from May to October. Average prices increased from 2015 to 2017 and changed as a function of supply, from €2.20 / kg in 2015 to €3.40 / kg in 2017, with a peak at €4.60 / kg in the first quarter of 2017.

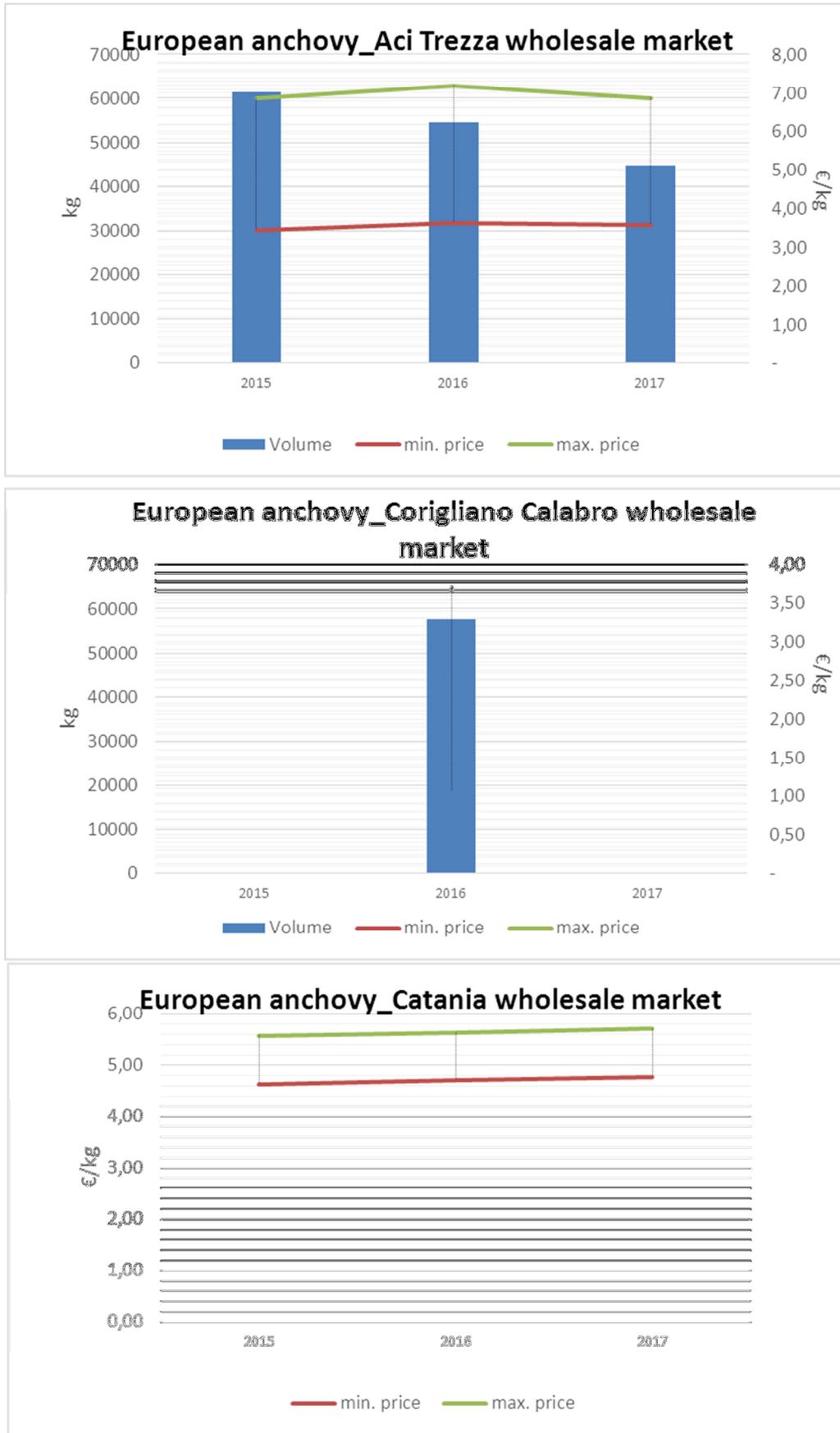


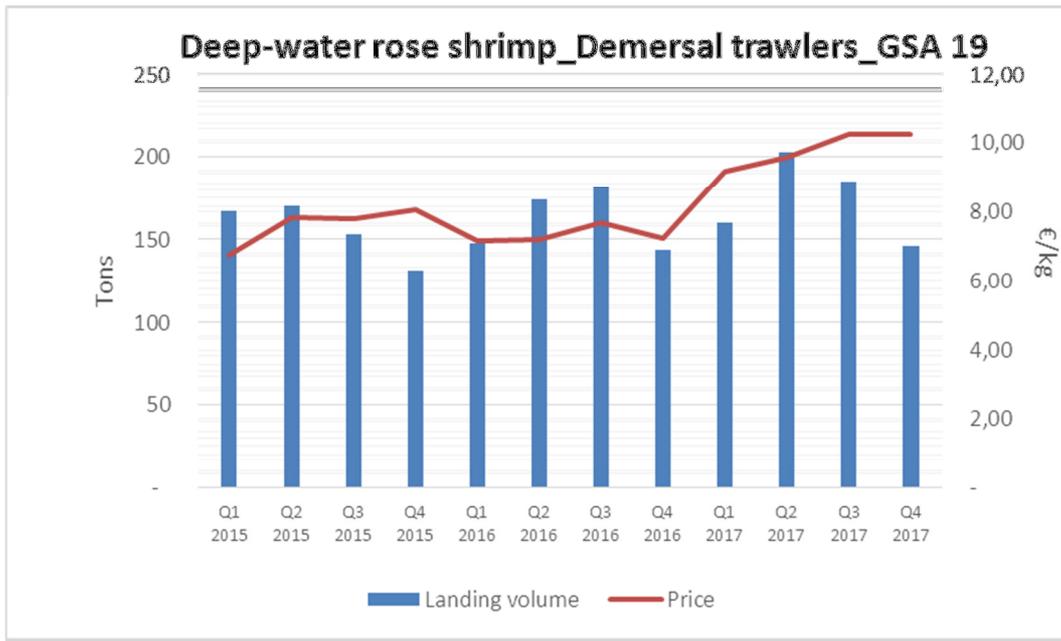
Figure 4.5.5.6 – Traded volume and minimum and maximum price of anchovies recorded at the fishermen’s markets of Aci Trezza (Sicily) and Corigliano Calabro (Calabria) and at the mixed market of Catania (Sicily). Average annual data (2015-2017). Data processed by NISEA.

The data regarding anchovy consumption come from three markets. Two, Aci Trezza and Corigliano Calabro, are fishermen's markets selling mostly local fish. The latter market is close to the port of Schiavonea and is characterised by the fact that several local traders collect the catch from the landing sites and drive it to the local wholesale market in their own refrigerated and freezer vans. Most of this product is sold to restaurants, whereas a smaller quota is bought by street vendors and local fish shops. Systematic data are available for the Aci Trezza market, whereas data from Corigliano Calabro market are occasional, reflecting a cyclic, inconsistent supply. The third market, in Catania, is a mixed market with different sale prices; however, data on traded volumes are not available.

Notably, in 2016 anchovy prices were significantly higher in Aci Trezza than in Corigliano Calabro, even though the two markets sold similar amounts of anchovy. The difference is explained by the larger size of the anchovy sold in the Aci Trezza market.

As regards the consumption and import-export data, the reader is referred to the national trends provided in Annex I (GSA 10).

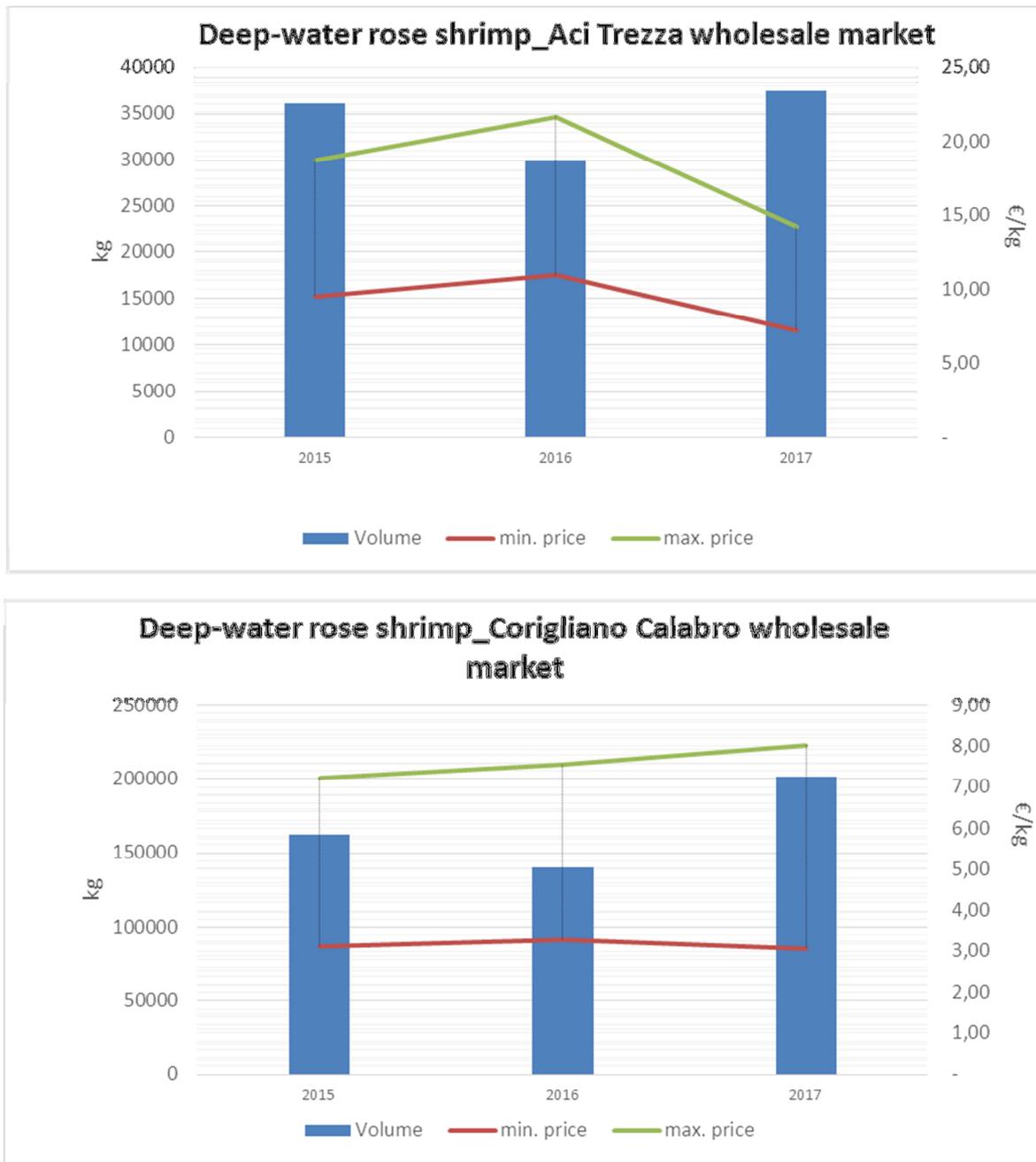
**Deep-water rose shrimp:**



**Figure 4.5.5.7 – Average volumes and production prices of deep-water rose shrimp (DPS) landed by vessels using bottom otter trawls (OTB) in GSA 19 (2015-2017 quarterly [Q] data). Source: MIPAAFT / National Fisheries Data Collection Programme. Data processed by NISEA.**

Average trawler landings of deep-water rose shrimp increased slightly from 620 tons in 2015 to about 700 tons in 2017, with higher landings in the second and third quarter.

In contrast, their average price increased markedly, by more than €2 / kg, from 2015 to 2017, reflecting consumer appreciation for the product.



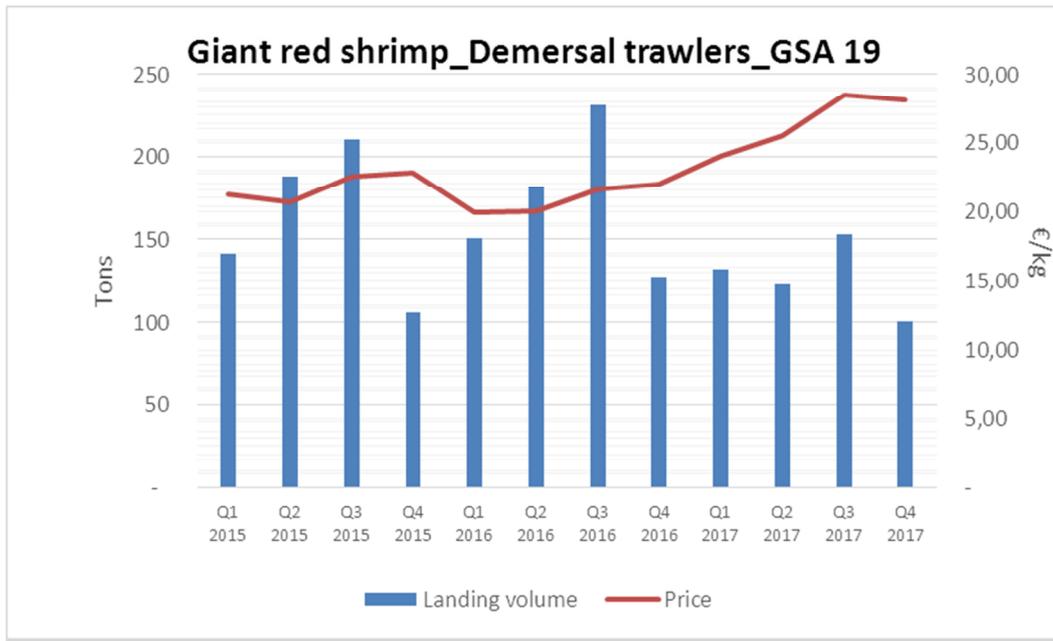
**Figure 4.5.5.8 – Traded volume and minimum and maximum price of deep-water rose shrimp recorded at the fishermen’s markets of Aci Trezza (Sicily) and Corigliano Calabro (Calabria). Average annual data (2015-2017). Data processed by NISEA.**

The above data refer to the fishermen’s markets (ISMEA, 2018). Although deep-water shrimp data were collected at the Catania market, they are not available for 2015-2017, because most of this commercially valuable product is purchased by restaurants. The economic dynamics of the Aci Trezza and Corigliano Calabro markets determined a price difference for this product: although traded volumes had been growing at both sites, prices in the former market decreased significantly in 2017 compared with the previous two years. Accordingly, the peak price of more than €21 / kg was reached in 2016, whereas the highest price in 2017 was €19 / kg. The high supply in 2017 clearly depressed the prices offered by wholesalers. In contrast, in the

Calabrian market the higher volumes were accompanied by an upward price trend. However, prices in the Corigliano Calabro market were significantly lower than the average prices recorded at Aci Trezza despite the similar sale volumes.

As regards the consumption and import-export data, the reader is referred to the national trends provided in Annex I (GSA 10).

**Giant red shrimp:**



**Figure 4.5.5.9 – Average volumes and production prices of giant red shrimp (ARS) landed by vessels using bottom otter trawls (OTB) in GSA 19 (2015-2017 quarterly [Q] data). Source: MIPAAFT / National Fisheries Data Collection Programme. Data processed by NISEA.**

The average annual landings of giant red shrimp by trawlers declined slightly from 2015 to 2017. Landings peaked in 2016 at about 700 tons and fell to little more than 500 tons in 2017.

Given the high demand for this product, the reduced supply (-21%) triggered a virtually commensurate price increase (average price, +22%).

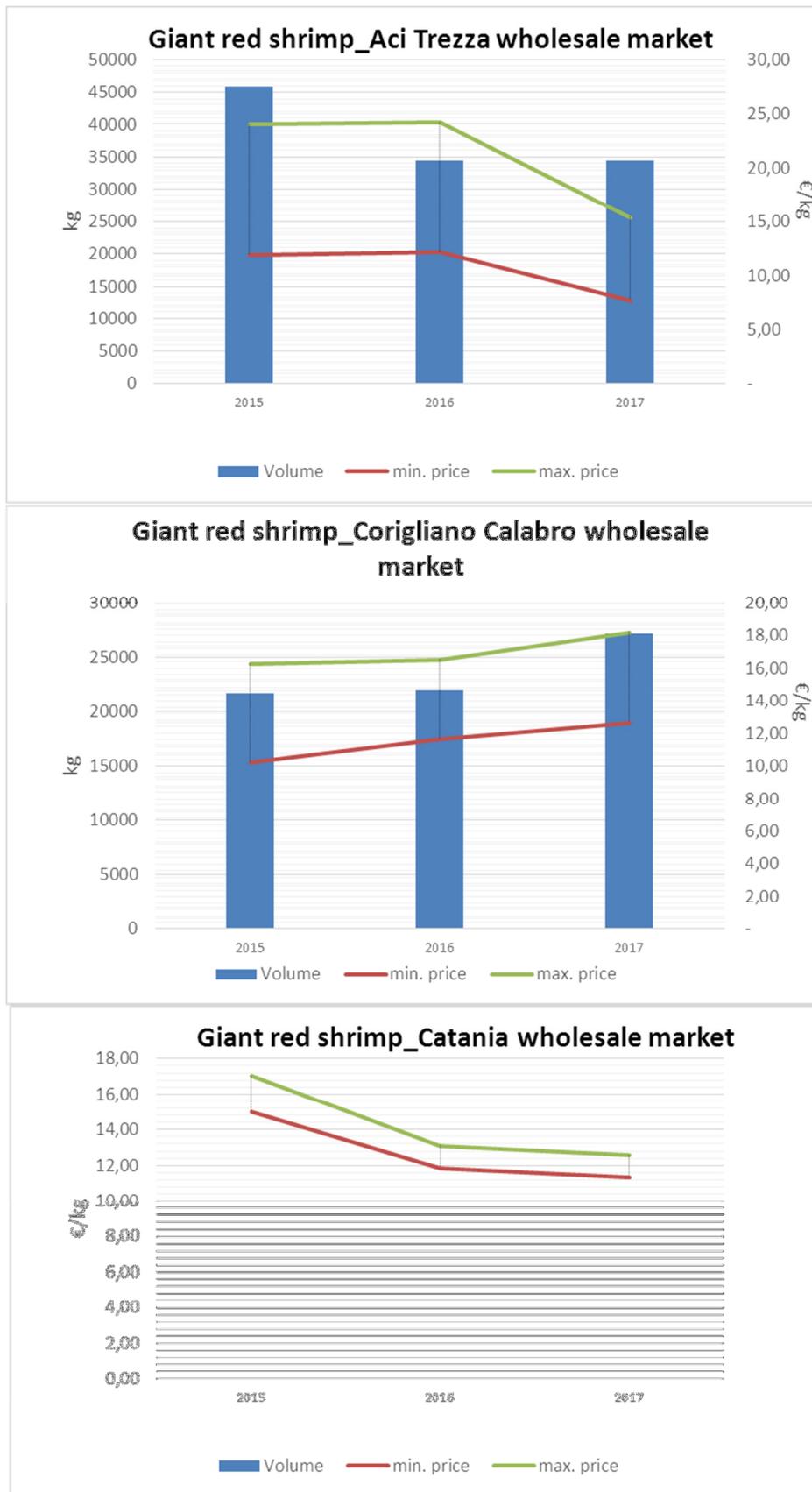
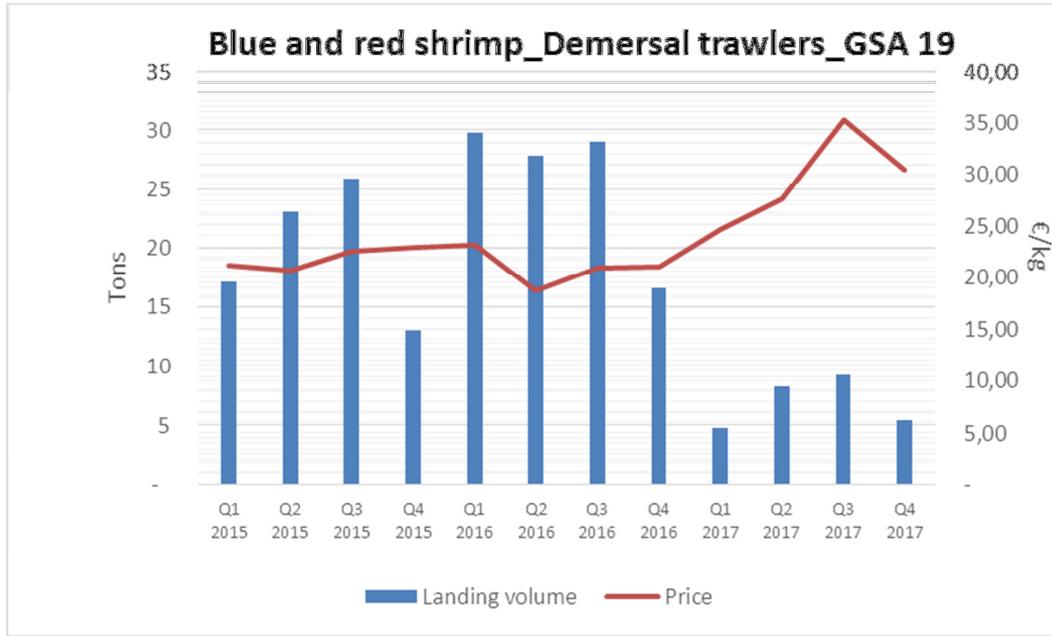


Figure 4.5.5.10 – Traded volume and minimum and maximum price of giant red shrimp recorded at the fishermen’s markets of Aci Trezza (Sicily) and Corigliano Calabro (Calabria) and at the mixed market of Catania (Sicily). Average annual data (2015-2017). Data processed by NISEA.

Also in GSA 19, giant red shrimp are traded both in fishermen's markets and in the mixed market. Two types of dynamics can be noted in the fishermen's markets. In the Sicilian market of Aci Trezza, volumes (where available) and sale prices declined in 2015-2017 (ISMEA, 2018) as a consequence of strategic decisions that involved a reduction in the product supplied to the fishermen's markets. In fact, it should be stressed that most of the Sicilian supply of giant red shrimp is managed by the PO of Mazara del Vallo, which has launched a local label for its fish products, whereas the prices recorded in the Sicilian market refer to medium-sized specimens, which are not covered by the label. In the Calabrian market of Corigliano the volumes traded in 2017 were higher than those sold in the previous two years (about +23% compared with 2015), yet prices rose. These data regard medium-sized specimens, whose price is higher than the one commanded in Aci Trezza by specimens of the same size (about €18 / kg vs €12 / kg).

**Blue and red shrimp:**



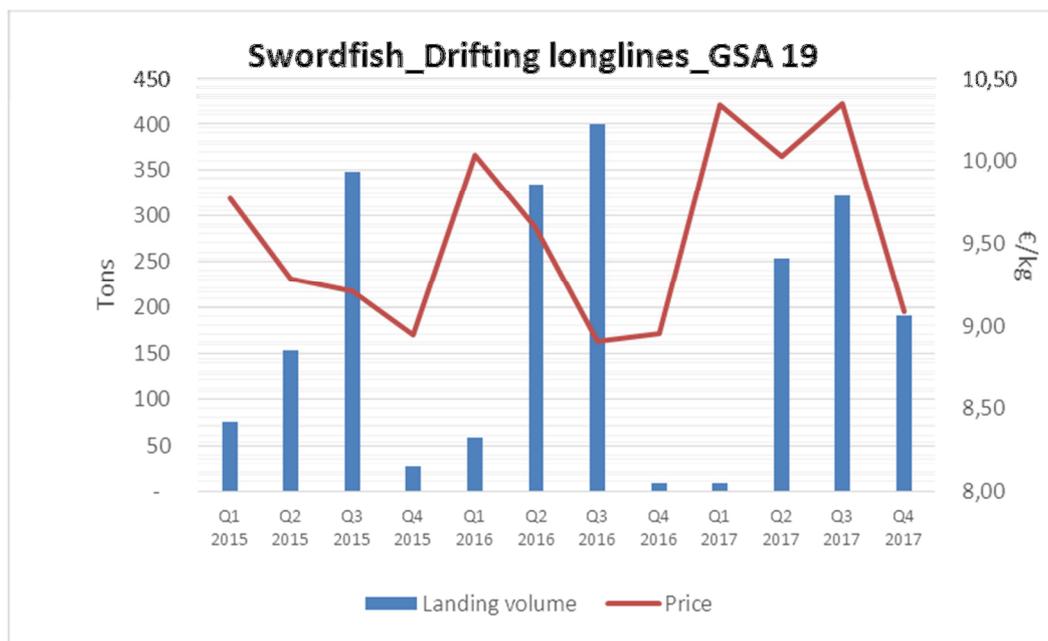
**Figure 4.5.5.11 – Average volumes and production prices of blue and red shrimp (ARA) landed by vessels using bottom otter trawls (OTB) in GSA 19 (2015-2017 quarterly [Q] data). Source: MIPAAFT / National Fisheries Data Collection Programme. Data processed by NISEA.**

Average annual trawler landings of blue and red shrimp plummeted (-65%) from 2015 to 2017. Landings peaked at more than 100 tons in 2016, then fell to less than 30 tons in 2017. According to the operators, it is quite common for a good year to be followed by a poor one. Indeed, the same sources have reported significantly higher landings in 2018.

The lower supply induced a price increase (35%), which in 2017 reached about €30 / kg (annual average).

There are no data on traded volumes in fishermen’s or mixed markets. Likely, the scarce landings are sold directly to the final consumers (mostly restaurants) without the intervention of wholesalers.

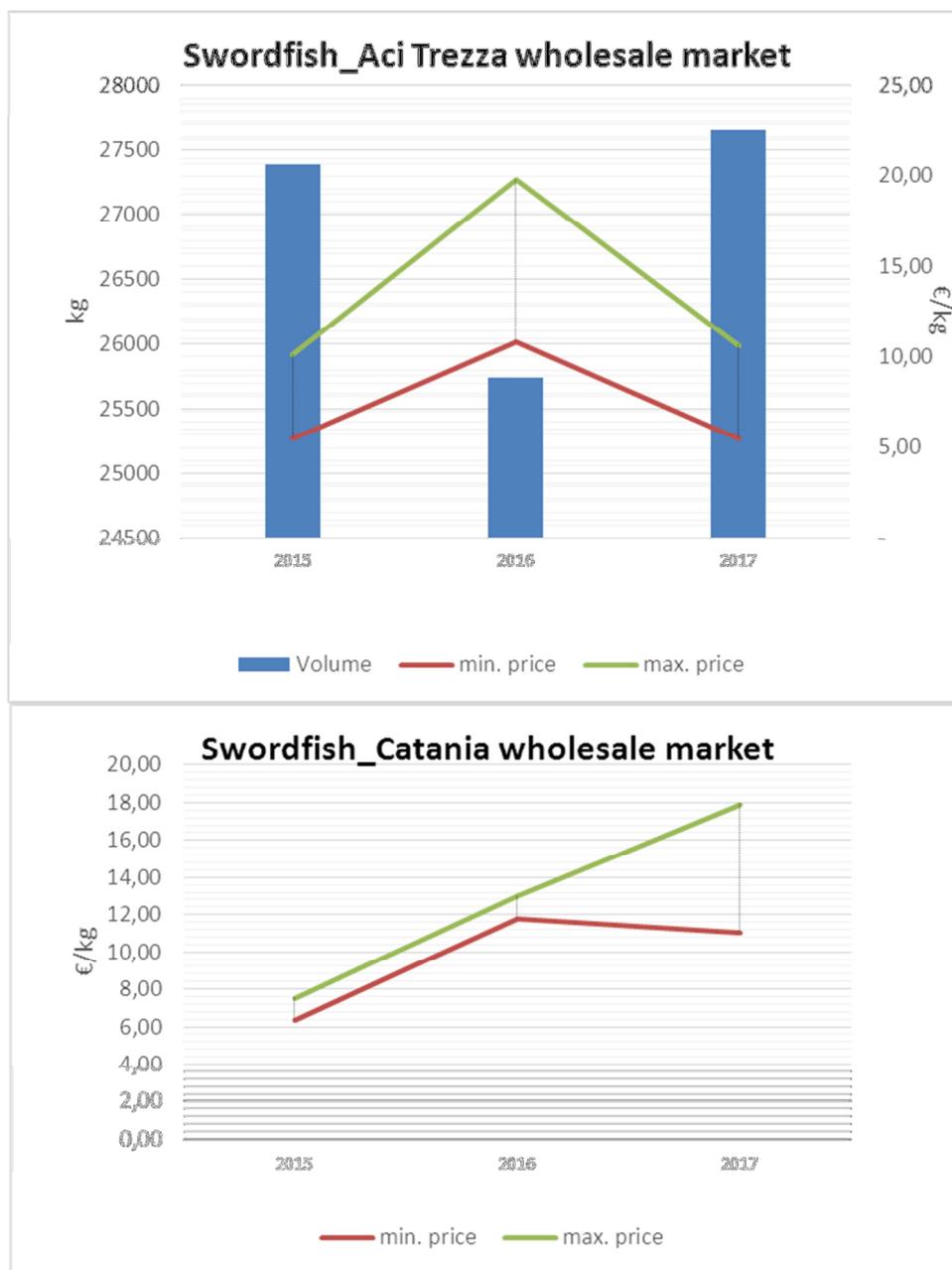
**Swordfish:**



**Figure 4.5.5.12 – Average volumes and production prices of swordfish (SWO) landed by vessels using trammel nets (GTR) in GSA 19 (2015-2017 quarterly [Q] data). Source: MIPAAFT / National Fisheries Data Collection Programme. Data processed by NISEA.**

The average annual landings of swordfish were fairly stable, between 600 and 800 tons, in 2015-2017. The species is highly seasonal (2<sup>nd</sup> and 3<sup>rd</sup> quarter).

The average price also changed little and was around €9.50 / kg, ranging from €8.90 / kg at the peak of the season to €5.00 / kg when the supply was scarce (winter).

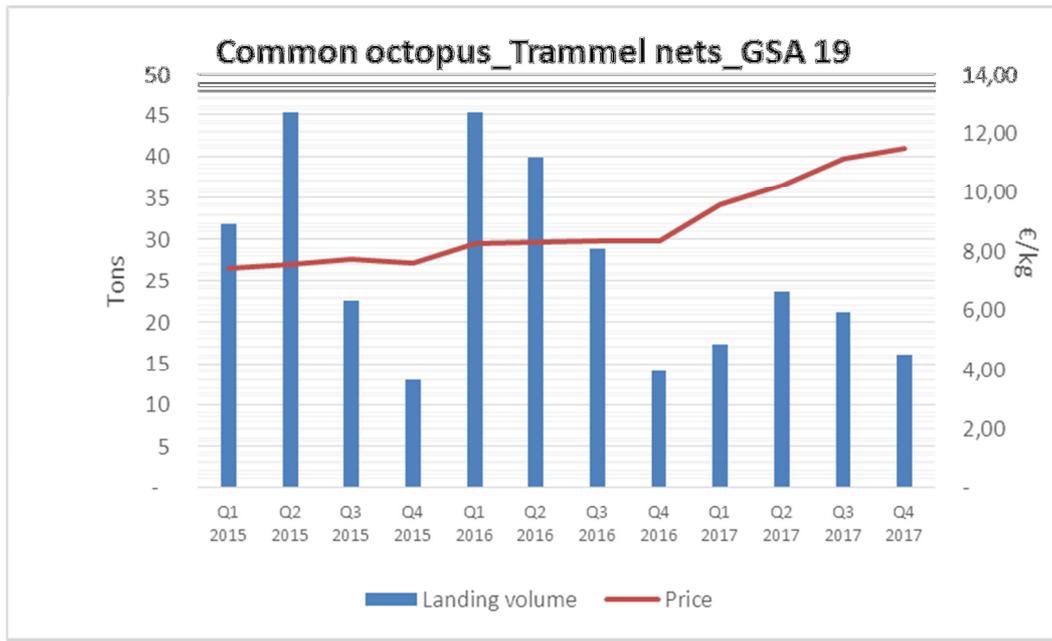


**Figure 4.5.5.13 – Traded volume and minimum and maximum price of swordfish recorded at the fishermen’s market of Aci Trezza and at the mixed market of Catania (Sicily). Average annual data (2015-2017). Data processed by NISEA.**

Swordfish are sold both in fishermen’s and in mixed markets. At Corigliano Calabro they are not traded by wholesalers. In the Aci Trezza fishermen’s market swordfish are classified as Italian, despite the fact that the Sicilian fleet is the one landing most of them. The origin of the swordfish sold in the Catania mixed market is mostly from Italian Mediterranean waters. The swordfish volumes traded in the Aci Trezza fishermen’s market fell considerably in 2016 (- 40% compared with 2015), whereas in 2017 they exceeded 2015 levels by 1%. With regard to price, Mediterranean swordfish commanded a much higher price than the imported product, prices peaking respectively at more than €24 and €11 / kg (2017 price, reported by ISMEA).

As regards the consumption and import-export data, the reader is referred to the national trends provided in Annex I (GSA 10).

**Common octopus:**



**Figure 4.5.5.14 – Average volumes and production prices of common octopus (OCC) landed by vessels using trammel nets (GTR) in GSA 19 (2015-2017 quarterly [Q] data). Source: MIPAAFT / National Fisheries Data Collection Programme. Data processed by NISEA.**

The average annual landings of common octopus caught with trammel nets, predominantly along the Ionian coast of Apulia, decreased by 31% from 2015 to 2017 to an average value of 100 tons, and were most abundant in the second quarter.

The average first sale price increased to slightly less than €8 / kg in 2017, peaking at €11.50 / kg in the last quarter.

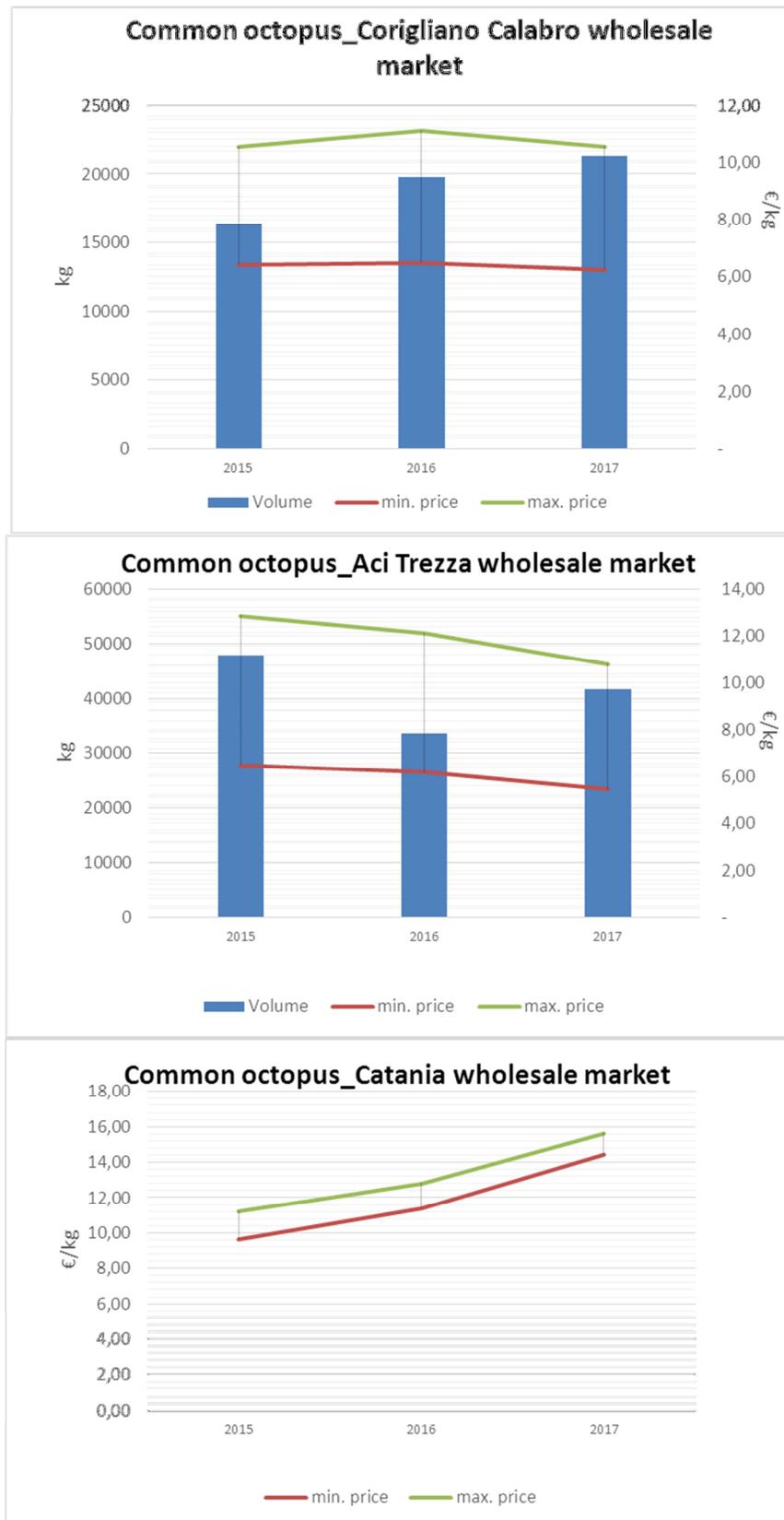
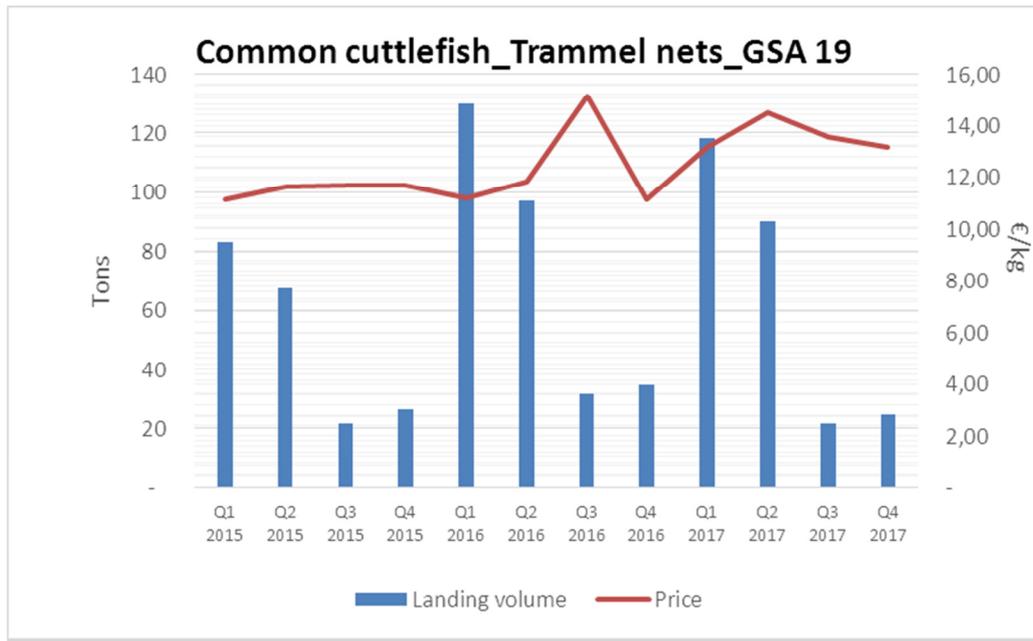


Figure 4.5.5.15 – Traded volume and minimum and maximum price of octopus recorded at the fishermen’s market of Corigliano Calabro (Calabria). Average annual data (2015-2017). Data processed by NISEA.

Octopus are consistently traded in the main fishermen's markets of GSA 19. Although in the Catania mixed market they are a staple product, only price, not volume data, are available. The fishermen's markets record and reflect octopus landings by the different fleets: as landing volumes have been declining, so have the amounts of product that reach the local markets. The average price in 2015-2017 was fairly stable at the Corigliano Calabro market, whereas in the Aci Trezza market it decreased from €12.8 / kg in 2015 to about €10.5 / kg in 2017. Imported octopus reached higher price peaks compared with the local product, from about €11 / kg in 2015 to more than €14 / kg in 2017; however, they are larger specimens compared with those caught in the Mediterranean.

As regards the consumption and import-export data, the reader is referred to the national trends provided in Annex I (GSA 10).

**Common cuttlefish:**



**Figure 4.5.5.16 – Average volumes and production prices of common cuttlefish (CTC) landed by vessels using trammel nets (GTR) in GSA 19 (2015-2017 quarterly [Q] data). Source: MIPAAFT / National Fisheries Data Collection Programme. Data processed by NISEA.**

Both landings and the average first sale price of common cuttlefish caught with trammel nets along the Ionian coast of Calabria and Apulia increased from 2015 to 2017, by 28% and 18%, respectively. Landings peaked in 2016 at about 300 tons.

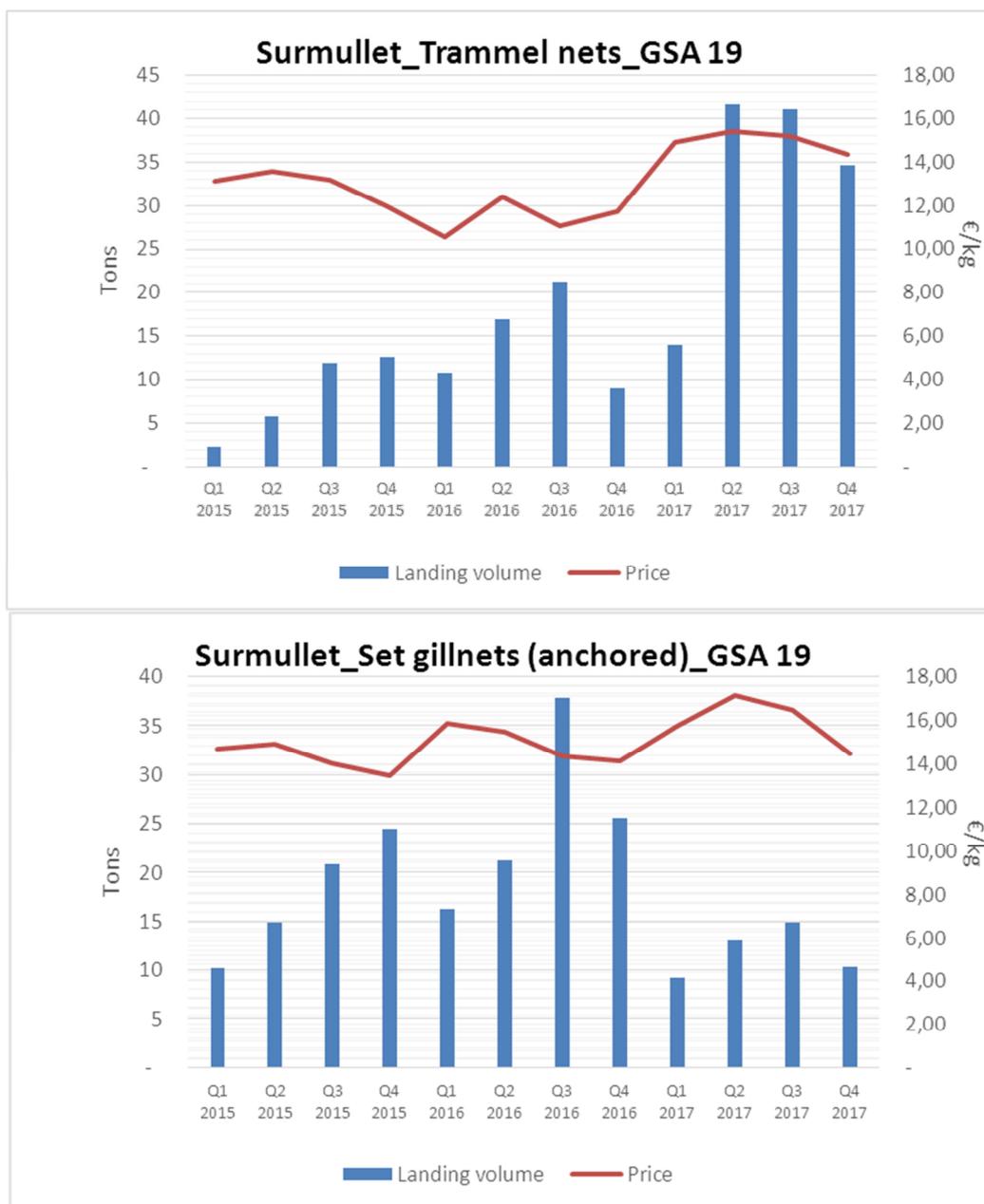
In 2017 the average price was €13.60 / kg.



Figure 4.5.5.17 – Traded volume and minimum and maximum price of anchovies recorded at the fishermen’s market of Corigliano Calabro (Calabria). Average annual data (2015-2017). Data processed by NISEA.

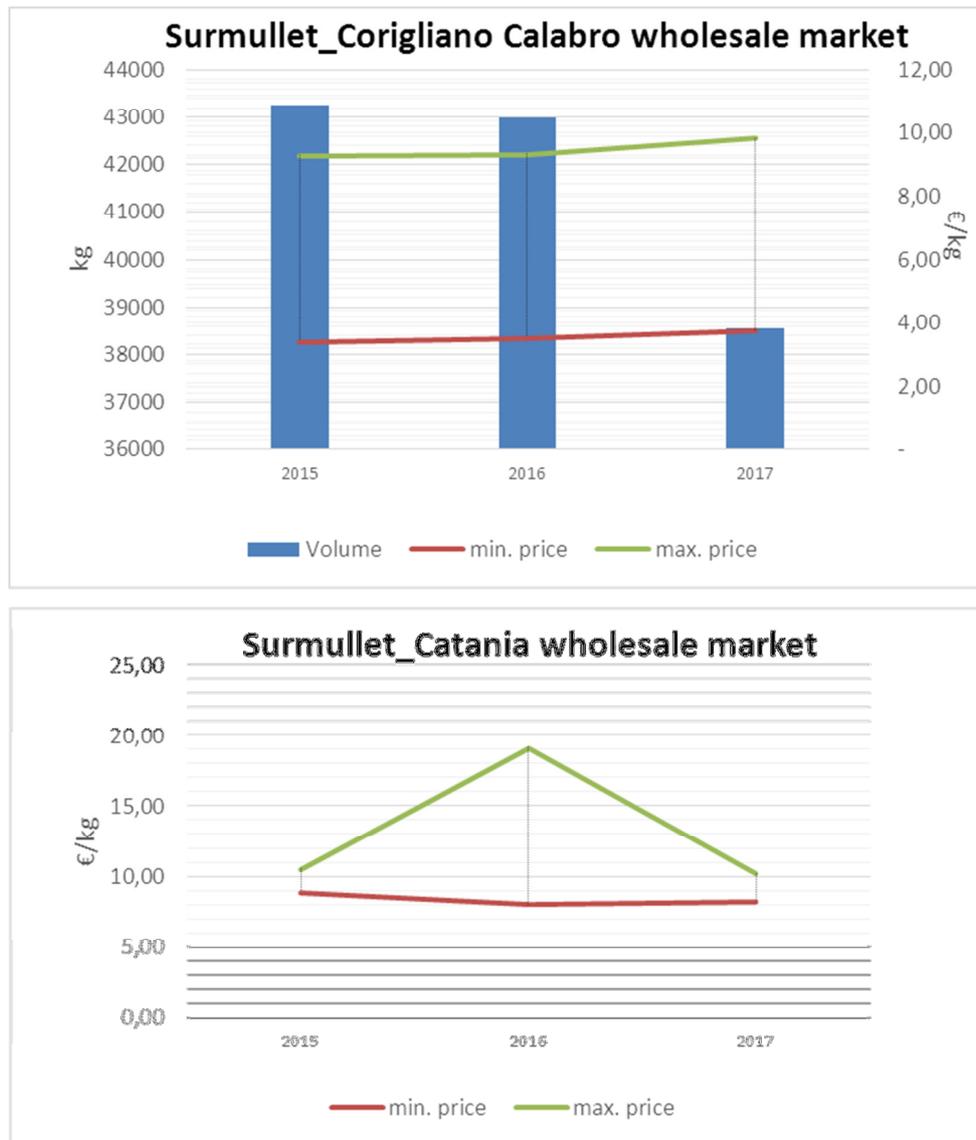
Cuttlefish are in high demand in fishermen's markets, and their price has been fairly stable (€6-12 / kg), despite oscillations in supply. Higher volumes were traded at Corigliano Calabro than at Aci Trezza, whereas at the latter site prices exhibited a wider range (€6-12 / kg). Most of the cuttlefish sold in the two fishermen's markets were locally caught. The narrower size range traded in the Catania market involved a narrower price range.

As regards the consumption and import-export data, the reader is referred to the national trends provided in Annex I (GSA 10).

**Surmullet:**

**Figure 4.5.5.18 – Average volumes and production prices of surmullet (MUR) landed by vessels using trammel nets (GTR) and other set gillnets (GNS) in GSA 19 (2015-2017 quarterly [Q] data). Source: MIPAAFT / National Fisheries Data Collection Programme. Data processed by NISEA.**

Surmullet is a typical species found along the Ionian coast, especially of Apulia, and is targeted with set gillnets, particularly trammel nets. Landings are limited, as is often the case with passive gears, and amount to less than 200 tons a year considering both trammel nets and other set gillnets. However, the species is in high demand and its average price reaches, and sometimes exceeds, €15 / kg.



**Figure 4.5.5.19 – Traded volume and minimum and maximum price of surmullet recorded at the fishermen’s markets of Corigliano Calabro (Calabria). Average annual data (2015-2017). Data processed by NISEA.**

Surmullet are traded in the fishermen’s market in Calabria and are all caught locally. In 2017, reduced landings resulted in reduced traded volumes. Their price is fairly high, since the species is in high demand both by restaurants and by the public. Price in the Catania market peaked in 2016; the price range is generally dependent on fish size and origin, the latter being predominantly from non-Italian Mediterranean waters.