

COLLECTION OF APULIAN FISHERY AND AQUACULTURE DATA AT LOCAL LEVEL

Final Version of September 2022

Deliverable Number D.4.2.2

Project Acronym	ARGOS
Project ID Number	10255153
Project Title	Shared Governance of Sustainable Fisheries and Aquaculture Activities as Leverage to Protect Marine Resources in the Adriatic Sea
Priority Axis	3 - Environment and cultural heritage
Specific objective	3.2 - Contribute to protect and restore biodiversity
Work Package Number	WP4
Work Package Title	Knowledge-based decision-making process
Activity Number	4.2
Activity Title	Common scheme for the management of fishery activities at local level
Partner in Charge	PP5 – Apulia Region
Partners involved	All PPs
URL	https://www.italy-croatia.eu/web/argos
Status	Final version
Distribution	Public
Date	September 2022

Report	Deliverable D4.2.2
Description	Collection of Apulian Fishery and Aquaculture Data at Local Level
Version	Final
Authors	PP5 – Apulia Region. Cataldo Licchelli, Mario Pansini, Giuseppe Storelli

TABLE OF CONTENTS

SUMMARY	1
Introduction	2
Project Stakeholders and supporter	2
Preparation for survey activities	2
Survey methodologies:	4
On-site support & logistic	5
Actions on site	6
Detail of Survey Activities	7
Data Analysis	16
1. SHELLFISH FARMING	17
2. SWORDFISH FISHERY	27
3. SMALL PELAGICS FISHERY	38
4. ARTISANAL FISHERY IN MARINE PROTECTED AREAS	46
5. ALBACORE TUNA FISHERY	57
6. ACTION PLAN FOR WHITE SHRIMP FISHERY IMPROVEMENT	67
7. FISHING RED AND PURPLE SHRIMPS	76
Attachements	86

SUMMARY

The collection of data, at a national level, is carried out in the National Data Collection Plan (PRND) that each EU country has to conduct.

During the meetings of the Adriatic Advisory Council (AAC) and the Steering Committee (SC) of the project, the scientific partners (CNR and IOF) prepared two documents: *D4.1 - Survey and comparison of existing data and database* and *D4.2 - Common scheme for the management of fishery activities at local level*. Both documents were approved by the AAC and become the basis for the execution of data collection activities.

In the subsequent interlocutions of the AAC and with the CNR, in particular, it was decided to consider the activation of surveys for case studies which - depending on the peculiarities of the fleet or fish stocks or local/regional needs - could increase the level detail of the local knowledge of the individual Partners and complete the existing data collected in the PRND.

A protocol for the collection of fishing and aquaculture data at local level was thus prepared and the questionnaire schemes for fishing and shellfish farming were shared with the project leader partner, the CNR IRBIM and the Adriatic Advisory Coordination Council, with email of December 9, 2021. The Protocol adopted the following field survey program:

Segment of supply chain	N° Total	Location (in % of ports)	N° Sample (25% if ≥10)	% Ports of detection
1. Shellfish farming	70	Taranto (88%) Foggia (12%)	18	Taranto (88%) Foggia (12%)
2. Swordfish fishing	21	Monopoli (81%) Fasano (14%) Porto Cesareo (5%)	6	Monopoli (81%) Fasano (14%) Porto Cesareo (5%)
3. Fishing for Small Pelagics	4	Bisceglie (75%) Molfetta (25%)	4	Bisceglie (75%) Molfetta (25%)
4. Small-scale fishing in Marine Protected Areas	69	Brindisi (9%) Gallipoli (25%) Torre Cesarea (59%) Leuca (3%) Maruggio (4%)	17	Brindisi (9%) Gallipoli (25%) Torre Cesarea (59%) Leuca (3%) Maruggio (4%)
5. Albacore tuna fishing	9	Monopoli (89%) Fasano (11%)	9	Monopoli (89%) Fasano (11%)
6. Action plan for the improvement of the white shrimp fishing	111	LAG Ponte Lama area (Bisceglie, Molfetta, Trani) (100%)	28	LAG Ponte Lama area (Bisceglie, Molfetta, Trani) (100%)
7. Red and purple shrimp fishing	14	Gallipoli (100%)	4	Gallipoli (100%)
TOTAL	296		85	

The survey program and the related questionnaires were also shared, during the meeting of 25/01/2022, with the fisheries and aquaculture associations composing the “*Network for the training and education of operators towards environmental sustainability*” of the Apulia Region, established on 20/12/2021.

The survey activities were carried out by the team of experts, composed of Cataldo Licchelli, Mario Pansini and Giuseppe Storelli, coordinated by the Project Manager, Giuseppe Scordella.

Introduction

The development of a common approach on fishery between Italian regions and Croatian counties on the management of fish resources in the Adriatic Sea Among is one of the objectives of ARGOS Project “Shared GOVERNANCE of Sustainable fisheries and aquaculture activities as leverage to protect marine resources in the Adriatic Sea”, as part of the Interreg Italy-Croatia Program. Apulia Region is one of the Partners.

This specific objective concerns not only aspects of governance but also those of technical-scientific nature, through the creation of a transversal, common and supranational database, with the aim of preventing the generation of imbalances and preserving and enhancing the biological diversity of the Adriatic Sea.

The construction of this extraordinary common database goes through a real field survey activity of the main data afferent economy, territory and nature with the support of the regional economic operators and their knowledge base.

Project Stakeholders and supporter

Among the Activity 5.1 Network for the training and education of operators towards environmental sustainability, the Stakeholder Map of the Apulia Region have been composed on December 2021.

The participants are representatives of the main trade associations of the related sectors and territories and specifically:

1. Davide di Pinto, COLDIRETTI Puglia
2. Andrea Fabris, ASSOCIAZIONE PISCICOLTORI ITALIANI
3. Donato Fanizza, UNCI Agroalimentare
4. Gennaro Scognamiglio, UNCI Agroalimentare
5. Angelo Farinola, FEDERPESCA Puglia;
6. Vincenzo Patruno, CONFCOOPERATIVE Puglia
7. Pasquale Pappalardo, AGCI AGRITAL

Preparation for survey activities

For the implementation of the collection activities envisaged in WP4 “Knowledge-based decision-making process” of ARGOS, the selected team of experts - composed by the Technicians Cataldo Licchelli, Mario Pansini and Giuseppe Storelli, coordinated by the Project Manager Giuseppe Scordella - have applied the survey protocol D.4.2.2 “Protocol on Fishery and Fish-Related Data Collection at very Local Level” v. 2.02, published and adopted on December 07, 2021.

Before to start of the field survey activities, the Department of Agriculture, Rural and Environmental Development, on the instructions of the Director of the Section Sustainable Management and Protection of Forest and Natural Resources, convened - on 25 January 2022 - a meeting with the members of the “Network for the training and education of operators towards environmental sustainability” of the Apulia Region.

The scope of the meeting was to share the questionnaires scheme and the planned activities with the local partnership, setting also the contact persons in the single harbours.

QUESTIONNAIRE



Company

Company and market characteristics as well as economic data on turnover and costs of activities



Workforce

Staff and operator biographical characteristics



Activities

Production, Diversification, Marketing and more



Climate Change

Potential impacts of climate and invasive species.



An slide from the Presentation to Stakeholders - 25.01.2022 – Bari



Meeting with Stakeholders - 25.01.2022 - Bari

In the meeting, the willingness of stakeholders to support the initiative was acquired as well as to provide a list of regional contexts and production realities, compatible with the project objectives and mission. So

the following list of fishery segments was also integrated with business, cooperative and economic realities to be sampled by the collectors.

Plan of Surveys by Compartment	
Fishery segment	Estimated sample
Action plan to improve the white shrimp fishery	28
Albacore fishery	9
Artisanal fishery in Protected Marine Areas	17
Mussel farming*	18
Red and purple shrimp fishery	4
Small pelagic fishery	4
Other Projects	0
Swordfish fishery	6
Total	86

* A total sample of n.18 surveys was divided into two areas: 4 for the Gargano area and 14 for the Taranto area. Even if the Taranto area was not involved in the Interreg IT-HR Program, it was considered useful to add the Taranto data because of the consistency with the regional policy implemented towards the mussel farming sector, but only for illustrative purposes.

Once the database of potential sampling destinations has been consolidated, the team of experts has established contacts and met the various subjects at the company offices and/or main logistical nodes of the major associations, cooperatives and technicians, according to the internal part of the approved Survey Plan. So, the companies interviewed represent specific fishery and aquaculture sectors, such as: Small-scale coastal fishery with gears, Drift longline fishery, Bottom trawling and Purse seines.

Survey methodologies:

the following methodologies have been performed according to the specific exigence:

- CAPI - (Computer Assisted Personal Interview)
- PAPI - (Paper and Pencil Assisted Personal Interview)
- CAWI - (Computer Assisted Web Interview)
- Hybrid forms (Avvio Personal e perfezionamento Web)

Survey CAPI

The interview is conducted face-to-face by one or more surveyors at the target location using CAPI (computer assisted personal interview) technique, i.e., using a personal computer that manages a digital version of the questionnaire. This technique allows for operator-assisted data management and direct transmission into the project database without the need for transcription.

Survey PAPI

The interview is conducted face-to-face by one or more surveyors at the target location using PAPI (paper and pencil assisted personal interview) technique, that is, using one or more paper questionnaires. This

technique is less preferable to computer technology and is considered necessary in those settings where computer use is not possible (boat, port). It requires subsequent digitization of the questionnaires for data acquisition.

Survey CAWI

The interview is conducted remotely between one or more surveyors and the contact persons of the companies targeted by the survey using a CAWI (computer assisted web interview) technique, i.e., with the use of a personal computer by both the surveyor and the respondent who administers and fills out a digital version of the questionnaire under the guidance and support of the surveyor. This technique allows for operator-assisted data management and direct transmission into the project database without the need for transcription. It is necessary in compliance with Anti-Covid regulations and those contexts where the risk or unavailability of one or more respondents is high.

Hybrid Survey

The interview is initiated in-person or remotely between one or more surveyors and the contact persons of the companies targeted by the survey with one of the above-mentioned CAWI \ CAPI \ PAPI techniques, i.e., with the help of personal computers by the surveyor and/or the respondent who manages and completes a digital version of the questionnaire under the guidance and support of the surveyor, and is concluded with a different mode. This technique combines the best of the aforementioned modes while ensuring maximum flexibility and at the same time the possibility of supplementing and completing the questionnaire at a later time.

On-site support & logistic

The contact persons for the interviews can be summarized as:

- Donato Fanizza (UNCI) for n. 4 companies in the segment *Mussel farming* (Gargano Area)
- Davide Di Pinto (Coldiretti) for n. 8 companies in the segment *Small pelagic fishery* - Bisceglie, Trani, Barletta (BAT)
- Emilio Palumbo (legal representative Società Cooperativa Nuova Mar Jonio) for n. 3 companies in the segment *Mussel farming* – Taranto Area (TA)
- Pasquale Rizzo (accountant cooperative Barabba e società G.M. srl) for n. 4 boats belonging to the segment *red and purple shrimp fishery* – Gallipoli Protected Marine Areas (LE)
- Claudio Longo (legal representative Emma Società Cooperativa) for n. 4 boats belonging to the segment *Artisanal fishery in Protected Marine Areas* - Torre Guaceto Protected Marine Areas (BR)
- Claudio Longo (legal representative La Bussola del Salento Società Cooperativa) for n. 2 boats belonging to the segment *Artisanal fishery in Protected Marine Areas* – Porto Cesareo Protected Marine Area (LE)
- Peluso Simonetta (accountant Pescatori dello Jonio s.c.r.l) for n. 15 boats belonging to the segment *Artisanal fishery in Protected Marine Areas* - Porto Cesareo Protected Marine Area (LE)
- Peluso Simonetta (accountant Pescatori dello Jonio s.c.r.l.) for n. 2 boats belonging to the segment *Swordfish fishery*, Porto Cesareo Areas (LE)
- Cazzella Giuseppe (owner) for n. 1 boat belonging to the segment *Artisanal fishery in Protected Marine Areas* - Porto Cesareo Protected Marine Area (LE)
- Scigliuzzo Vincenzo (legal representative Armatori Jonica s.c.r.l.) for n. 1 boat belonging to the segment *Artisanal fishery in Protected Marine Areas* - Porto Cesareo Protected Marine Area (LE)
- Angelo Farinola (Federpesca) for n. 10 boats belonging to the segment *Action plan to improve the white shrimp fishery* - Molfetta Area (BA)

- Dell'Olio Elisabetta (AGCI Pesca) for n. 10 boats belonging to the segment *Action plan to improve the white shrimp fishery* - Bisceglie Area (BAT)
- Giustino Office (accountant) for n. 5 boats belonging to the segment *Swordfish fishery* – Monopoli Area (BA)
- Giustino Office (accountant) for n. 5 boats belonging to the segment *Albacore tuna fishing*, Monopoli Area (BA)
- Giustino Office (accountant) for n. 7 boats belonging to the segment *Action plan to improve the white shrimp fishery* - Monopoli Area (BA)
- Giancarlo Sardano (Legacoop representative) for n. 6 boats belonging to the segment *Albacore fishery* – Monopoli Area (BA)

Actions on site

Samplings took place, according to the availability of the interviewed companies/fishermen, in the period between February 9, 2022 and June 10, 2022 and consisted of the drafting of n. 87 questionnaires (out of 86 planned by the end of the project), divided among the territories of the provinces of Foggia, BAT, Bari, Brindisi, Lecce and *Taranto* according to this summary table:

Province	Survey at the 23.03	Survey at the 15.04	Survey at the 10.06
Bari	0	8	41
Barletta - Andria - Trani	8	29	10
Brindisi	4	4	4
Foggia	4	4	4
Lecce	23	23	25
<i>Taranto</i>	3	3	3

Plan of Survey with general plan			
Fishery segment	Expected	Effective	Residual
Action plan to improve the white shrimp fishery	28	29	+1
Albacore fishery	9	11	+2
Artisanal fishery in Protected Marine Areas	17	23	+6
Mussel farming (Gargano Area)	4	4	0
<i>Mussel farming (Taranto Area)</i>	14	3	-11
Red and purple shrimp fishery	4	4	0
Small pelagic fishery	4	6	+2
Swordfish fishery	6	6	0
Total	86	87	+1

In the course of the activity, 8 locations were visited, specifically data were acquired from:

- a) Gargano Area (FG)
- b) Bisceglie (BAT)
- c) Brindisi (BR)
- d) Gallipoli (LE)
- e) Monopoli (BA)
- f) Mola di Bari (BA)
- g) Molfetta (BAT)
- h) Porto Cesareo (LE)
- i) Taranto (TA)

Detail of Survey Activities

The companies surveyed by geographic area are shown below in tabular form:

GARGANO AREA

Contact Person: Donato Fanizza

Date	Company name/Owner Company/Fishing boat	Fishery segment	Data collector/s
09.02.2022	Coop. Cagnano Pesca Soc. a.r.l.	Mussel Farming	Pansini/Storelli
09.02.2022	Coop. Tramontana	Mussel Farming	Pansini/Storelli
09.02.2022	Società Agricola Ittica Del Giudice s.r.l.	Mussel Farming	Pansini/Storelli
09.02.2022	Coop. Mare Modus	Mussel Farming	Pansini/Storelli

BISCEGLIE

Contact Person: Davide Di Pinto

Date	Company name/Owner Company/Fishing boat	Fishery segment	Data collector/s
17.02.2022	Mastrapasqua e Abbrescia snc - MP Nuvola	Small pelagic fishery	Pansini/Storelli
17.02.2022	Di Tullio e Mastrapasqua snc - MP Luna Nuova	Small pelagic fishery	Pansini/Storelli
17.02.2022	Veneziano Cesare Antonio - MP Diana Prima	Small pelagic fishery	Pansini/Storelli
17.02.2022	Eredi di Cassano Gennaro snc - MP Spartivento	Action plan white shrimp fishery	Pansini/Storelli
17.02.2022	Mastrapasqua Domenico e C. snc - MP Angela Madre	Action plan white shrimp fishery	Pansini/Storelli
17.02.2022	Fratelli Raffaele Rino e Gaetano snc - MP Fratelli Raffaele	Small pelagic fishery	Pansini/Storelli
17.02.2022	Dell'Olio Pietro sas - MP Nuova Laura Madre	Small pelagic fishery	Pansini/Storelli

		MPA	
--	--	-----	--

GALLIPOLI

Contact Person: Pasquale Rizzo

Date	Company name/Owner Company/Fishing boat	Fishery segment	Data collector/s
12.02.2022	Barabba Società Cooperativa - MP Barabba	Red and purple shrimp fishery	Licchelli
12.02.2022	Barabba Società Cooperativa - MP Anna Maria II	Red and purple shrimp fishery	Licchelli
12.02.2022	Barabba Società Cooperativa - MP Zeus	Red and purple shrimp fishery	Licchelli
12.02.2022	G.M. s.r.l. - MP Santa Rosalia	Red and purple shrimp fishery	Licchelli

MONOPOLI

Contact Person: Cinzia Giustino

Date	Company name/Owner Company/Fishing boat	Fishery segment	Data collector/s
04/04/2022	Marasciulo Cosimo e C. SNC - MP Ghibli	Action plan white shrimp fishery	Pansini/Storelli
04/04/2022	Tropiano Domenico - MP Leonardo Lucia	Swordfish fishery/ Albacore fishery / Action plan white shrimp fishery	Pansini/Storelli
04/04/2022	Comes Onofrio e C. SNC - MP Anna V	Action plan white shrimp fishery	Pansini/Storelli
04/04/2022	Lapadula Enrico - MP Attila II	Swordfish fishery/ Albacore fishery / Action plan white shrimp fishery	Pansini/Storelli
04/04/2022	F.II Comes SNC - MP Galeone	Swordfish fishery/ Albacore fishery / Action plan white shrimp fishery	Pansini/Storelli

04/04/2022	Comes Mario C. Snc - MP Maria	Swordfish fishery/ Albacore fishery	Pansini/Storelli
04/04/2022	Ferretti Leonardo C. SAS - MP Centauro III	Swordfish fishery/ Albacore fishery	Pansini/Storelli
04/04/2022	Tropiano Gianbattista Saverio snc - MP Saverio	Action plan white shrimp fishery	Pansini/Storelli

Contact Person: Giancarlo Sardano

Date	Company name/Owner Company/Fishing boat	Fishery segment	Data collector/s
19/05/2022	Comes Francesco & C. - MP Sandokan III	Albacore fishery	Licchelli
19/05/2022	Tropiano Pietro & C. sas - MP Lupo	Albacore fishery	Licchelli
19/05/2022	Comes Luigi & C. snc - MP Poseidone	Albacore fishery	Licchelli
19/05/2022	Centomani Francesco & C. snc - MP Vitoantonia	Albacore fishery	Licchelli
19/05/2022	Damasco & Letizia snc - MP Duca D'Aosta	Albacore fishery	Licchelli
19/05/2022	Comes Paolo & C. sas - MP Sandokan II	Albacore fishery	Licchelli

MOLA DI BARI

Contact Person: Cinzia Giustino

Date	Company name/Owner Company/Fishing boat	Fishery segment	Data collector/s
04/04/2022	N. Cervara sas Di Bianco Luigi e Co. - MP N. Cervara	Action plan white shrimp fishery	Pansini/Storelli

MOLFETTA

Contact Person: Angelo Farinola

Date	Company name/Owner Company/Fishing boat	Fishery segment	Data collector/s
25/03/2022	Altomare A. & De Gennaro G. sas - MP Bettina	Action plan white shrimp fishery	Pansini/Storelli
25/03/2022	Minervini Domenico & Tatulli Francesco snc - MP Eolo	Action plan white shrimp fishery	Pansini/Storelli

25/03/2022	F.Ili Mezzina di Mezzina Lorenzo e Onofrio snc - MP Galileo	Action plan white shrimp fishery	Pansini/Storelli
25/03/2022	Salvemini Ignazio & C. sas - MP Giovanni Paolo II	Action plan white shrimp fishery	Pansini/Storelli
25/03/2022	Giancaspro Angelo Michele - MP Madonna dei Martiri II	Action plan white shrimp fishery	Pansini/Storelli
25/03/2022	Spagnoletta Paolo & C. snc - MP Marino I	Action plan white shrimp fishery	Pansini/Storelli
25/03/2022	Facchini Domenico & Zaza Giuseppe snc - MP Morfeo	Action plan white shrimp fishery	Pansini/Storelli
25/03/2022	Costantini Carlo & C. snc - MP Orca	Action plan white shrimp fishery	Pansini/Storelli
25/03/2022	De Bari Antonia & Mezzina Vito sas - MP Tonia	Action plan white shrimp fishery	Pansini/Storelli
25/03/2022	Murolo Giuseppe & Cappelluti Marta snc - MP Zosma	Action plan white shrimp fishery	Pansini/Storelli

PORTO CESAREO

Contact Person: Simonetta Peluso

Date	Company name/Owner Company/Fishing boat	Fishery segment	Data collector/s
10.03.2022	Cooperativa Pescatori dello Ionio - MP Andrea Doria II	Artisanal fishery in MPA	Licchelli
10.03.2022	Cooperativa Pescatori dello Ionio - MP Santa Lucia I	Artisanal fishery in MPA	Licchelli
10.03.2022	Cooperativa Pescatori dello Ionio - MP Medusa	Artisanal fishery in MPA	Licchelli
10.03.2022	Cooperativa Pescatori dello Ionio - MP Luigina	Artisanal fishery in MPA	Licchelli
10.03.2022	Cooperativa Pescatori dello Ionio - MP Angelo Bianco	Artisanal fishery in MPA	Licchelli
10.03.2022	Cooperativa Pescatori dello Ionio - MP S. Andrea	Artisanal fishery in MPA	Licchelli
10.03.2022	Cooperativa Pescatori dello Ionio - MP Messalina I	Artisanal fishery in MPA	Licchelli
10.03.2022	Presicce Antimo Damiano - MP Delfino	Artisanal fishery in MPA	Licchelli

10.03.2022	Durante Antonio - MP S. Luigi II	Artisanal fishery in MPA	Licchelli
10.03.2022	Cooperativa Pescatori dello Ionio - MP Alessandra	Artisanal fishery in MPA	Licchelli
10.03.2022	Cooperativa Pescatori dello Ionio - MP Madonna del Perpetuo Soccorso	Artisanal fishery in MPA	Licchelli
10.03.2022	Cooperativa Pescatori dello Ionio - MP Heleanna	Artisanal fishery in MPA	Licchelli
10.03.2022	Cooperativa Pescatori dello Ionio - MP Stella del Sud	Artisanal fishery in MPA	Licchelli
10.03.2022	Cooperativa Pescatori dello Ionio - MP Albatros I	Artisanal fishery in MPA / Swordfish fishery	Licchelli
10.03.2022	Cooperativa Pescatori dello Ionio - MP S. Sebastiano I	Artisanal fishery in MPA / Swordfish fishery	Licchelli

Contact Person: Claudio Longo

Date	Company name/Owner Company/Fishing boat	Fishery segment	Data collector/s
09.03.2022	Peluso Enrico Salvatore - MP Folgore I	Artisanal fishery in MPA	Licchelli
09.03.2022	Peluso Cosimo Damiano - MP S. Rosaria	Artisanal fishery in MPA	Licchelli

Contact Person: Vincenzo Scigliuzzo

Date	Company name/Owner Company/Fishing boat	Fishery segment	Data collector/s
10.03.2022	Cooperativa Armatori Jonica - MP S. Antonio	Artisanal fishery in MPA	Licchelli

Contact Person: Cazzella Giuseppe

Date	Company name/Owner Company/Fishing boat	Fishery segment	Data collector/s
10.03.2022	Cazzella Giuseppe - MP Santa Barbara	Artisanal fishery in MPA	Licchelli

TARANTO

Contact Person: *Emilio Palumbo*

<i>Date</i>	<i>Company name/Owner Company/Fishing boat</i>	<i>Fishery segment</i>	<i>Data collector/s</i>
11.02.2022	<i>Soc. Coop. Nuova Mar Ionio</i>	<i>Mussel Farming</i>	<i>Licchelli</i>
22.02.2022	<i>Soc. coop. Delfino</i>	<i>Mussel Farming</i>	<i>Licchelli</i>
22.02.2022	<i>Soc. coop. Mitil Punta Penna</i>	<i>Mussel Farming</i>	<i>Licchelli</i>

The interviews made it possible to acquire a great amount of information on each segment.

It should be noted that some boats fall into different segments of the supply chain as they carry out different types of fisheries, in certain periods of the year. Consequently, where the fishery vessel carries out its activity in different segment, specific questionnaires have been drawn up for each segment.

Where it was not possible to acquire specific data or information by the will of the fisherman, due to unavailability of the data or for some other reason, the box was intentionally left blank.

The missing information, often of an ancillary nature, did not however jeopardize the processing and subsequent drafting of the reports for each case study.

Evidences

During the survey activities at the main harbours, questionnaires, photos and videos were acquired as evidence of the survey activities.

The material collected is attached at the present report and it was used for related communication and dissemination activities.



An image taken by interviewer Pansini during the survey activity at the port of Manfredonia - 03.03.2022



An image taken by data collector Licchelli during interviews at the port of Gallipoli - 26.02.2022



An image taken by interviewer Storelli during an inspection at the port of Monopoli - 13.03.2022

COLLECTION OF FISHERY AND AQUACULTURE DATA AT LOCAL LEVEL

WP 4- Knowledge-based decision-making process

Activity 4.2 Common scheme for the management of fishery activities at local level

Data Analysis

1. Shellfish farming
2. Swordfish fishing
3. Fishing for Small Pelagics
4. Small-scale fishing in Marine Protected Areas
5. Albacore Tuna fishing
6. Action plan for the improvement of the white shrimp fishing
7. Red and Purple Shrimp fishing

COLLECTION OF FISHERY AND AQUACULTURE DATA AT LOCAL LEVEL

WP 4- Knowledge-based decision-making process

Activity 4.2 Common scheme for the management of fishery activities at local level

CASE STUDY – AQUACULTURE SEGMENT

1. SHELLFISH FARMING

RIFERIMENTI	
Interreg Programme	Interreg V-A Italy-Croatia CBC Programme 2014-2020
Acronym Project	ARGOS
Project Title	ShaARed GOVERNANCE of Sustainable fisheries and Aquaculture activities as leverage to protect marine resource in the Adriatic Sea
Project ID	10255153
Document date	September 23, 2022
Version	2

Project Partner	PP5 APULIA REGION
Apulia Region	DEPARTMENT OF AGRICULTURE RURAL DEVELOPMENT AND ENVIRONMENT
	Sustainable Management and Protection of Forest and Natural Resources Section

Authors	
Data collectors	Cataldo Licchelli, Mario Pansini, Giuseppe Storelli
Project Manager	Giuseppe Scordella
Communication Manager	Alessandra Miccoli

1. GENERAL CHARACTERISTICS OF SHELLFISH FARMING

Shellfish farming in Apulia has always constituted one of the main sectors of regional aquaculture.

Mussel farming, in particular, takes on important historical connotations, especially in the Taranto area, which is also one of the main Italian seed site production.

Mussel farming is conducted in two different areas with different techniques: Taranto farming is characterized by small plants structured on longline in the two seas of the town (*Mar Piccolo* and *Mar Grande*). The production process involves the practices to hang out the mussel ropes on particular structure named drying rack (*stenditoi*). Almost industrial, instead, is the production protocol of the Gargano area, where farms have large extension.

Data on shellfish farms in Apulia were acquired from the latest census obtained in the project “*Apulian Aquaculture 4.0 - Project for the development of sites and infrastructures related to Apulian aquaculture and the reduction of environmental impacts of interventions - Measure 2.51 of the Apulia Region 2014-2020 EMFF Program*”.

2. INTERVIEWED SAMPLE

The work plan included data collection for no. 4 shellfish plants located in the Gargano area and no. 14 plants in the city of Taranto. The involvement of the Taranto, outside the interest area was only for comparison purposes.

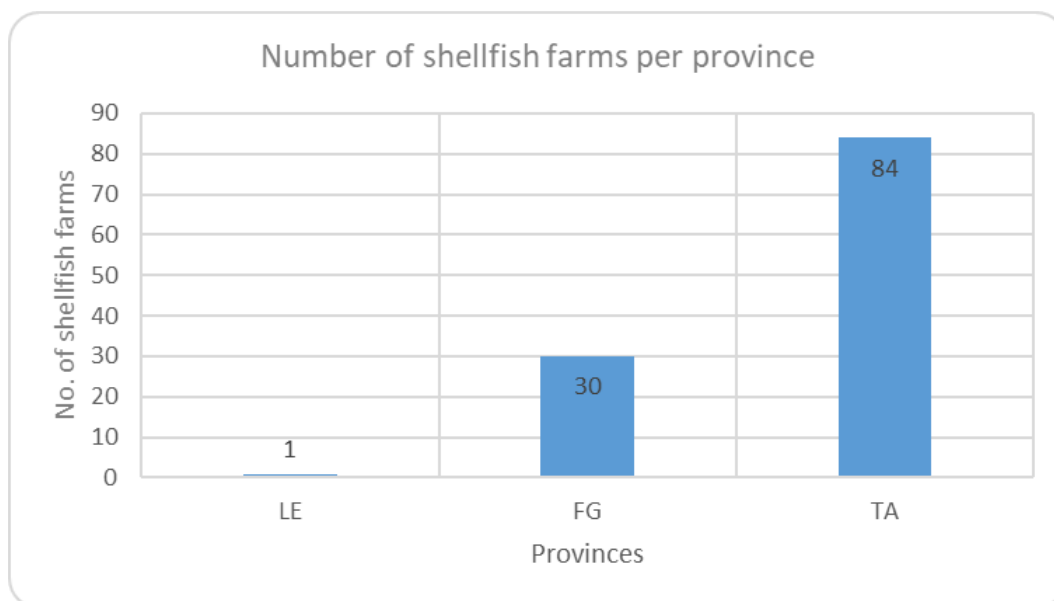
Survey Plan with General Plan		Surveys carried out on 31.05	
General Project	Estimated Sample	Number	Residue
Mussel farming - (Gargano Area)	4	4	0
Mussel farming – (Taranto Area)	14	3	-11

The main data of statistical interest, related to the Gargano area, was completely covered by the surveys, the rest could not be completed due to unavailability of the operators. So, present data analysis were conducted exclusively the Gargano area farms.

3. DATA COLLECTED (reference year 2020)

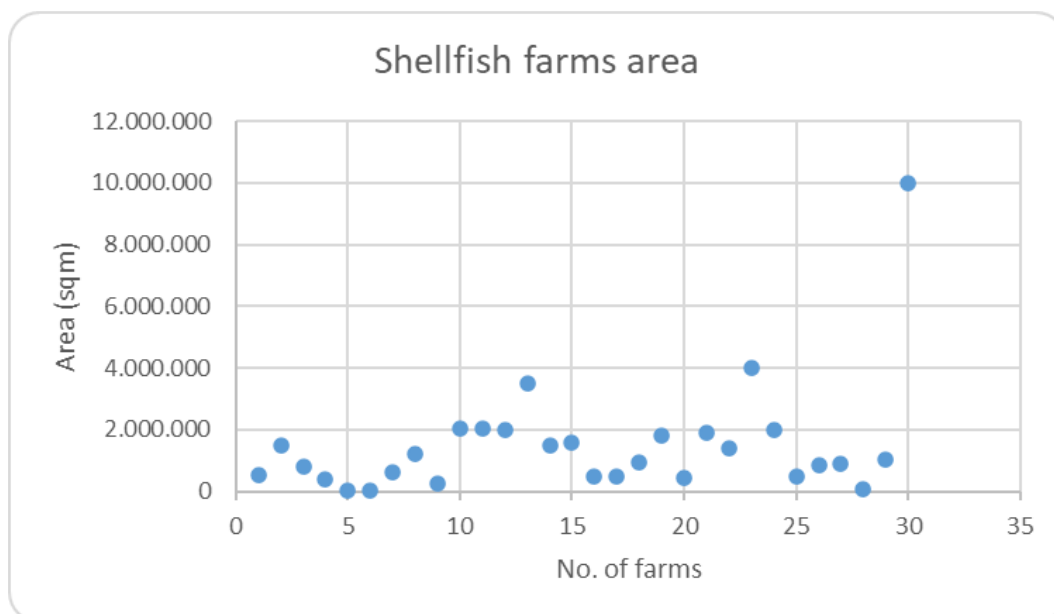
4.1 Number of companies at regional level

Over the entire regional territory no. 115 farms were surveyed: the 70% are located in the province of Taranto, 29% in the province of Foggia and only 1 in the province of Lecce. Surveys were also carried out in the Taranto area to compare and witness the numerical and historical-cultural importance of Taranto mussel farming.



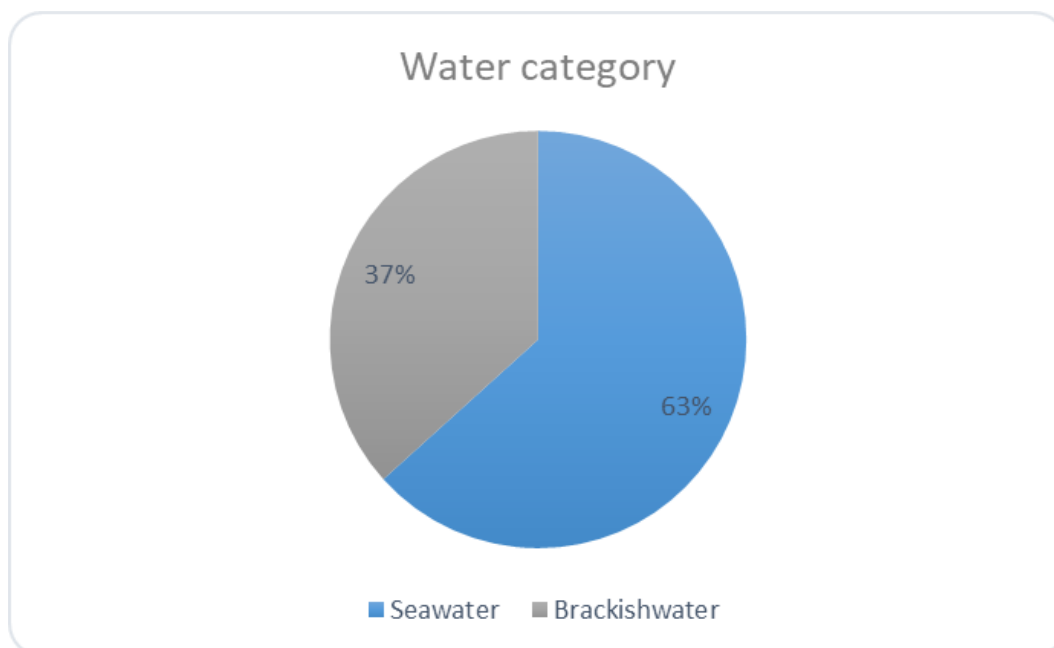
4.2 Concessions extension

Surfaces of the concessions is quite variable in the Gargano area, it ranges from a minimum of 3 hectares to a maximum of almost 1,000 hectares. The average area is 149 hectares.



4.3 Water types

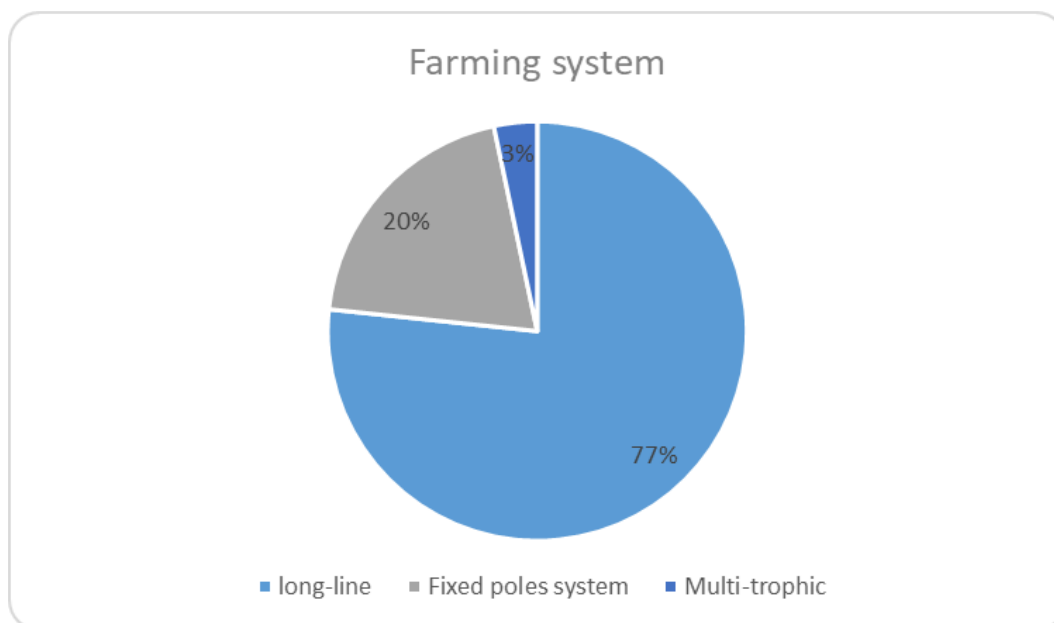
The farms are located both in the open sea or in coastal lagoon (Lesina and Varano), with a prevalence of the marine one:



The largest number of plants are located offshore (63%) and the remaining 37% are located in brackish waters.

4.4 Type of farming - Production address

The farming systems used in the Gargano area are of three types: Long-line or floating row, *Tarantino* or fixed-pole system and Multi-trophic (experimental system). The 77% of the farms use the long-line system, which is used both offshore and in confined waters, while farms using the fixed-poles system (20%) are located only in the lagoon. The only case of multi-trophic approach, consists on shellfish and fish raised together, but it still experimental due to actual regulation.



4.6 Duration of production cycle

Most farmers refer to a duration of the mussel farming cycle around no. 16 month, from seed to commercial

sized product.

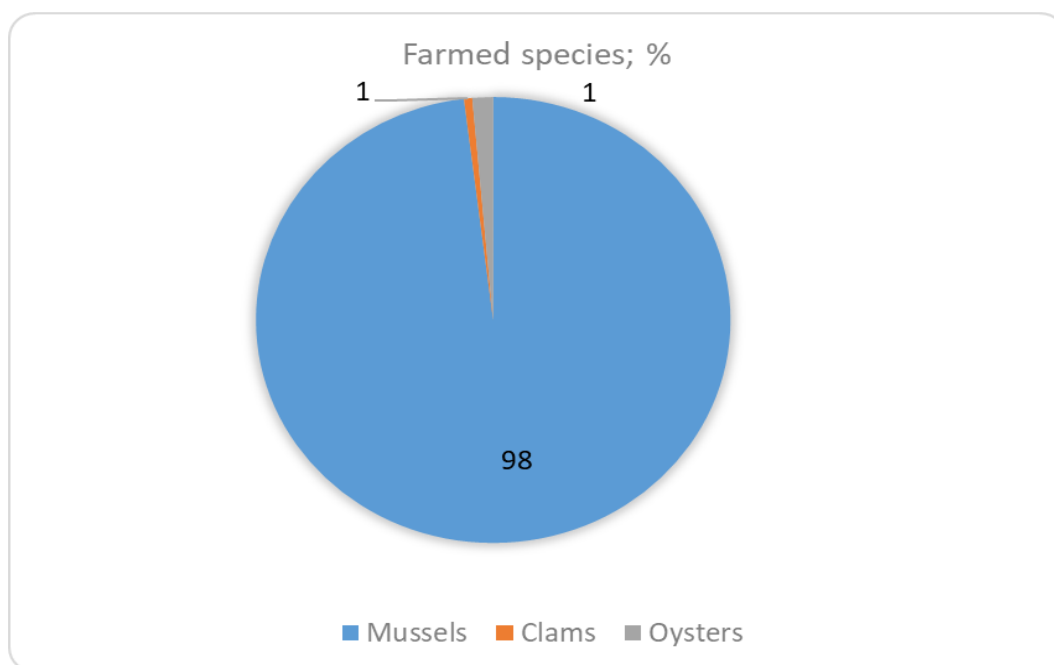
4.8 Other activities carried out

Most farms carry out on-site preparation of live products, such as size sorting, cleaning, etc. No one practices processing.

In all cases, the product is marketed fresh.

4.9 Productions

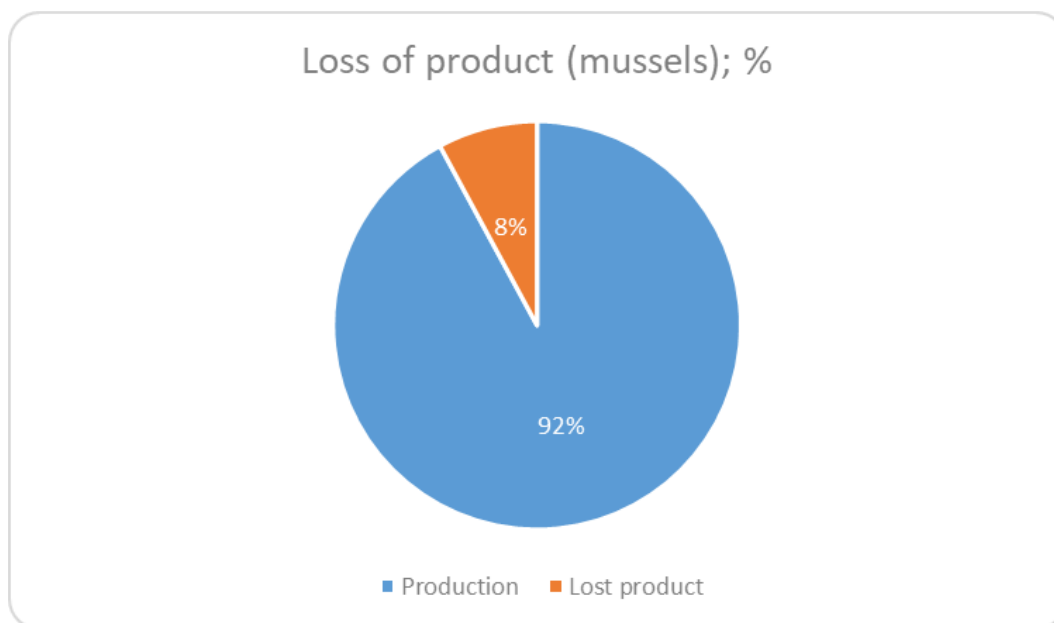
Mostly of the shellfish farms surveyed produce mussels (98%); the other, with fairly limited productions, include oysters (2%) and clams (1%):



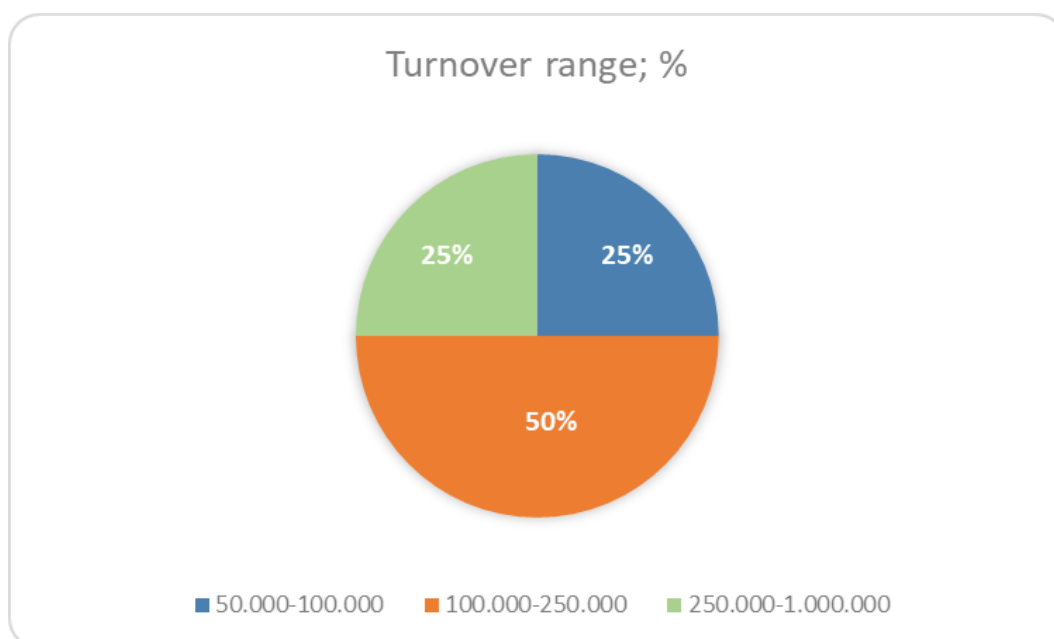
4.10 Marketed quantities and product loss

Molluscs effectively sold is affected by the quantities lost, due to die-offs caused by high temperatures, accounting an average of 8% of the total.

High temperatures and heavy mortalities (up to 60% in some farms) is quite frequent (almost every summer) in closed waters (Taranto and Varano Lagoon) and so, every year, o Regional fund and EMFF spend significant financial resources to indemnify the farmers.

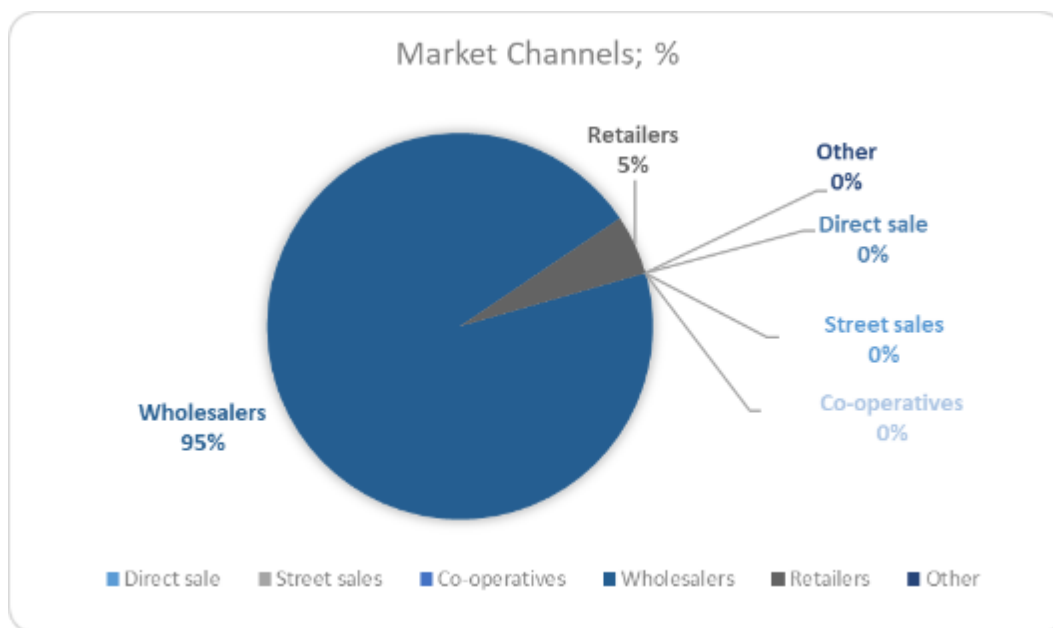


The combined data collected shows average sales results close to €102,000. The turnover ranges declared are essentially three: 50% being in the range of €100,000 to €250,000, 25% in the range of €50,000 to €100,000, and the remaining 25% in the range of €250,000 to €1,000,000.



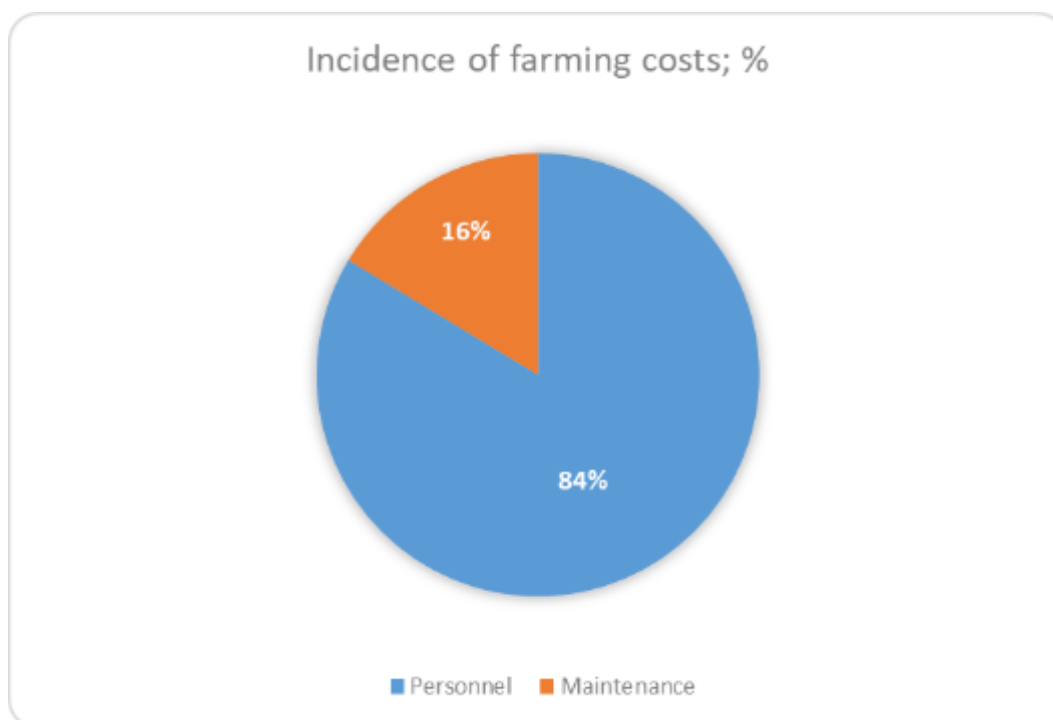
4.11 Commercial channels

Shellfish are delivered almost exclusively to wholesalers (95%); only 5% is delivered to the retail trade.

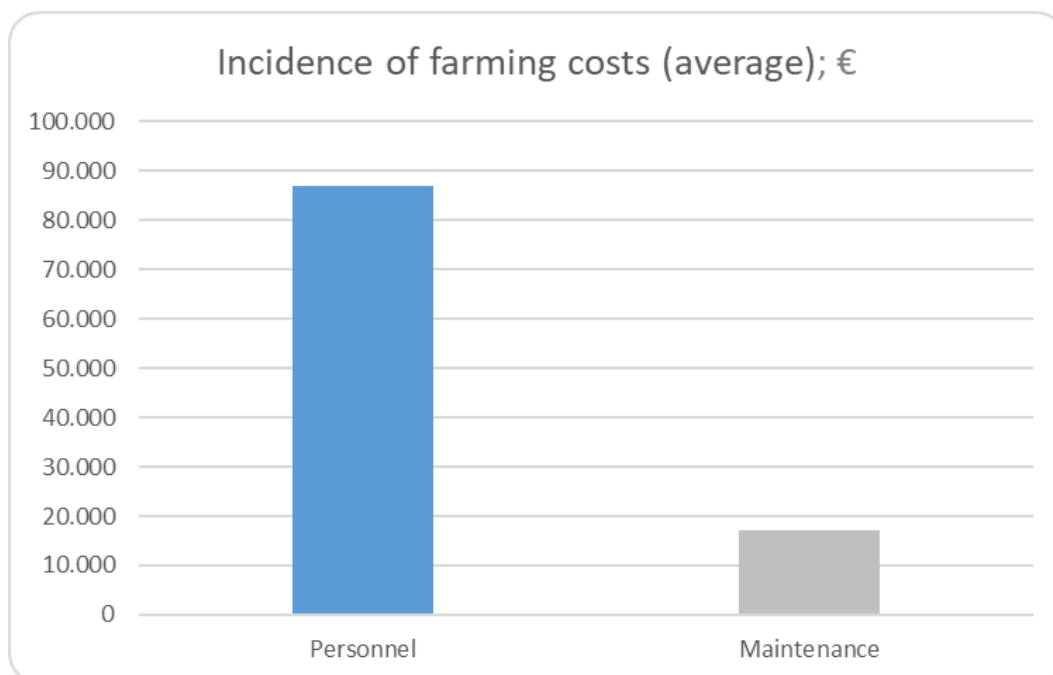


4.12 Costs (crew and maintenance)

The 84% of the expenses are related to personnel costs, with the rest being maintenance costs of 16%.



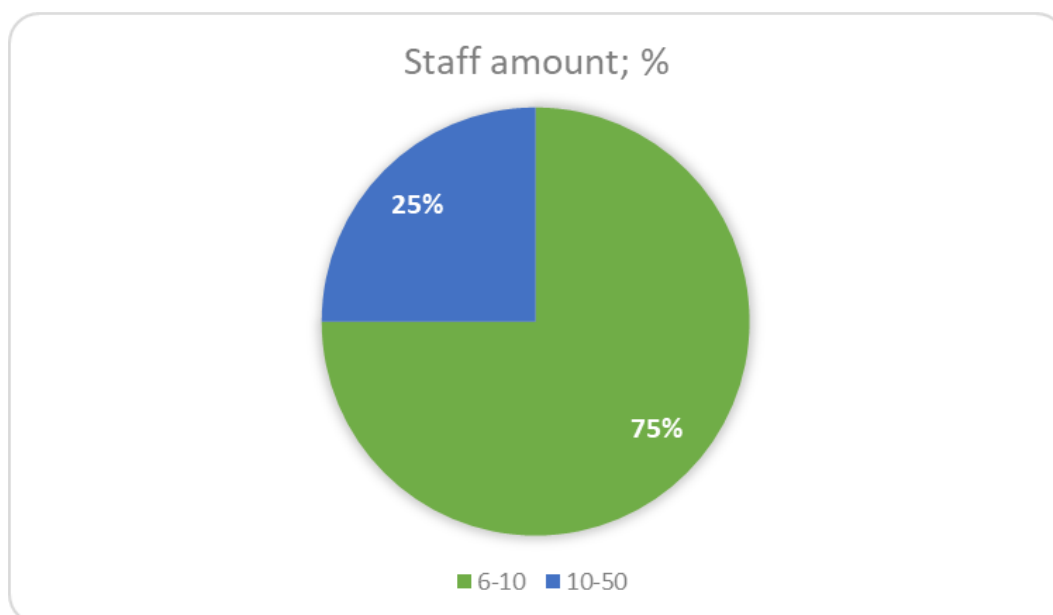
The average costs are €87,500/year/farm for Personnel and €17,000/year/farm for maintenance, for a total of €104,500/year/farm:



4.13 No. employees

Farms need personnel based on the size of the area and the amount of product processed.

Because of high extensions, the 75% of farms require “10-50 employees” and the remaining 25% need “6-10 employees”:

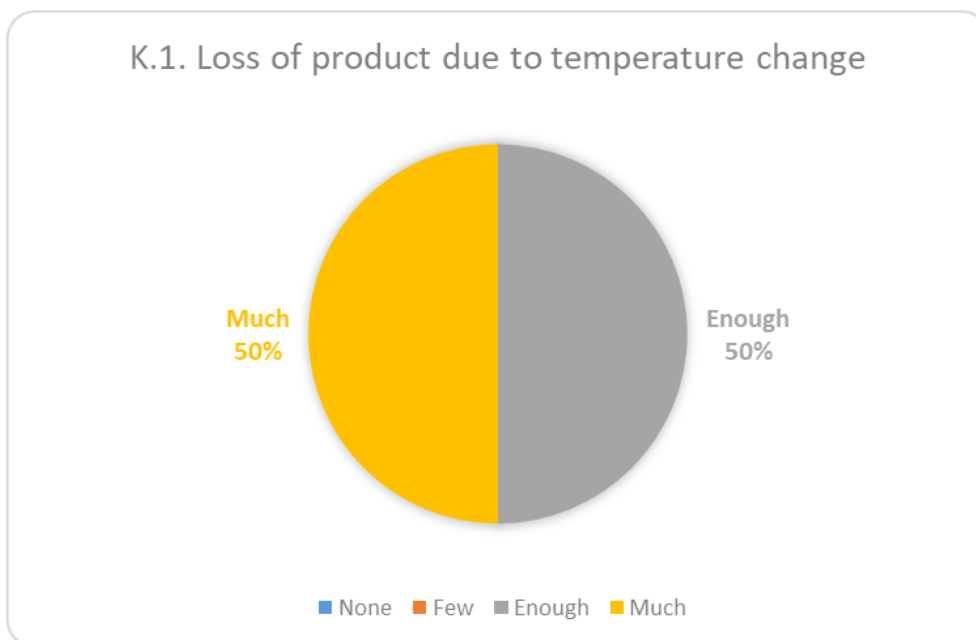


4.14 Aspects related to climate changes

K.1. Loss of product due to temperature change

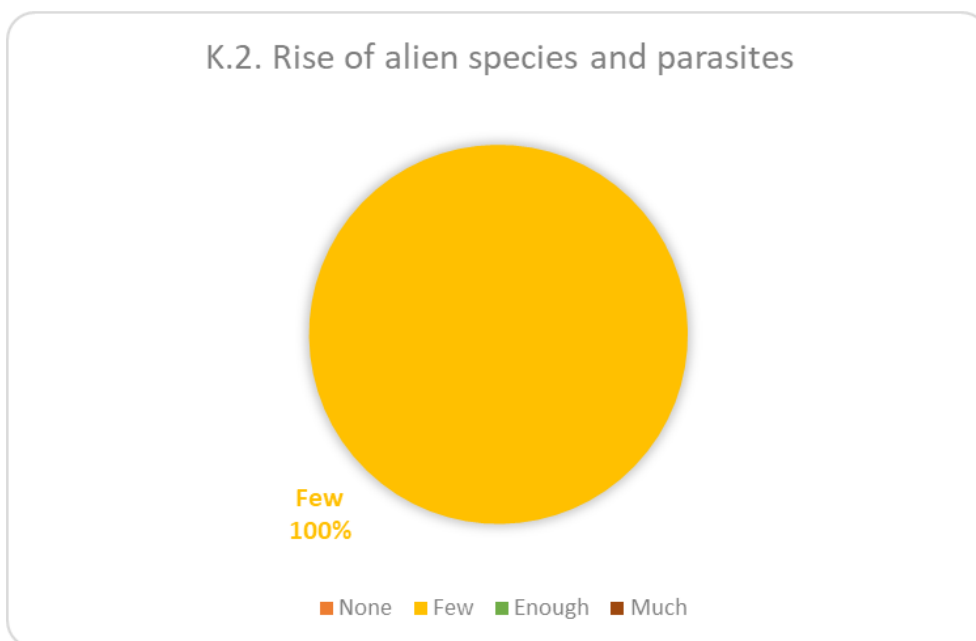
The responsibility of climate change for the loss of product, seems quite obvious to shellfish producers, because of high temperatures during summer.

The graph shows only two distinct categories: 50% fairly agree with this hypothesis and the remaining 50% very much agree with this cause-effect relationship.



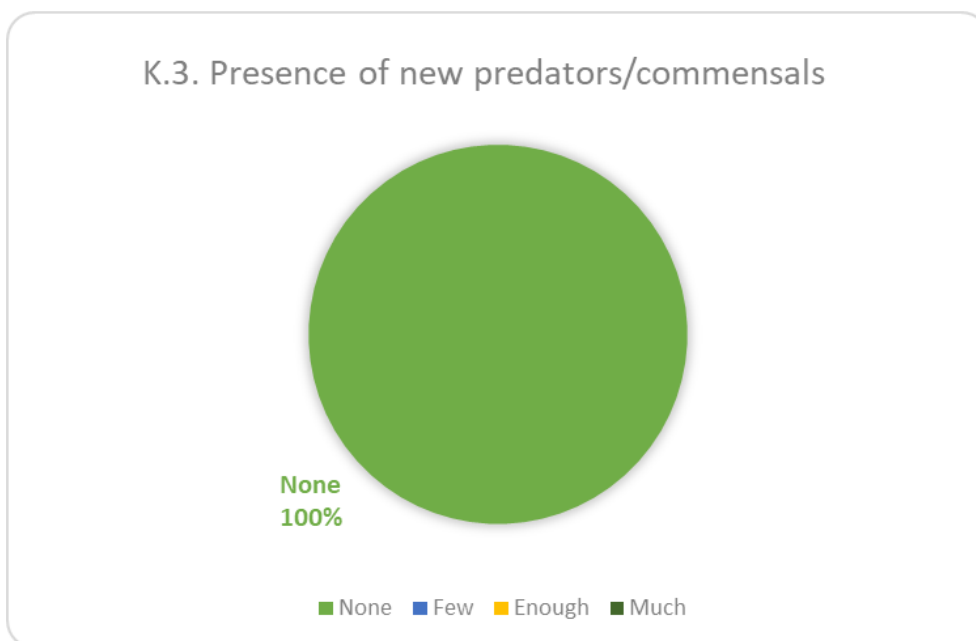
K.2. Rise of alien species and parasites

100% of farmers did not observe an increase in the presence of alien and parasitic species. Even if in the question K4 refers about the presence of blue crab.



K.3. Presence of new predators/commensals

All respondents (100%) did not observe presence of new predators/commensals at all.



K.4. Alien/parasite species

Almost in contrast to what was stated in K.2, when asked about the indication of alien and pest species, almost all indicated the **blue crab**. This invasive species, over the course of a few years has colonized these areas considerably to the extent that it is now stable.

K.5. Species of new predators/commensals

No species belonging to these categories were indicated.

4.15 Good practices exchange

None of the interviewees had ever participated in projects that involved the exchange of best practices with other navies.

Some express interest in participating in initiatives aimed primarily at training interventions targeting fishtourism and ichthyotourism.

COLLECTION OF FISHERY AND AQUACULTURE DATA AT LOCAL LEVEL

WP 4- Knowledge-based decision-making process

Activity 4.2 Common scheme for the management of fishery activities at local level

CASE STUDY – FISHERY SEGMENT

2. SWORDFISH FISHERY

RIFERIMENTI	
Interreg Programme	Interreg V-A Italy-Croatia CBC Programme 2014-2020
Acronym Project	ARGOS
Project Title	ShaARed GOVERNANCE of Sustainable fisheries and Aquaculture activities as leverage to protect marine resource in the Adriatic Sea
Project ID	10255153
Document date	September 10, 2022
Version	3

Project Partner	PP5 APULIA REGION
Apulia Region	DEPARTMENT OF AGRICULTURE RURAL DEVELOPMENT AND ENVIRONMENT
	Sustainable Management and Protection of Forest and Natural Resources Section

Authors	
Data collectors	Cataldo Licchelli, Mario Pansini, Giuseppe Storelli
Project Manager	Giuseppe Scordella
Communication Manager	Alessandra Miccoli

1. GENERAL CHARACTERISTICS OF THE SWORDFISH FISHERY

Almost all of the fleets specialized in swordfish fishery (*Xiphias gladius*) is located in Monopoli (BA) and only 2 vessels are authorized in Porto Cesareo (LE).

There is a national ban on swordfish fishing from the first quarter of each year, established annually by Ministerial Decree of the Director General of Fisheries and Aquaculture of the Ministry of Agriculture. It is a technical measure arranged in application of the provisions of ICCAT Recommendation 16-05, establishing a *Multiannual Reconstitution Plan for swordfish in the Mediterranean* as well as the European Commission Decision no. C(2013) 8635 of December 6, 2013, acting the Action Plan agreed with the Italian Administration. The list of vessels authorized for swordfish fishery in Mediterranean area was established by Ministerial Decree n. 3992 of February 09, 2016 *et sequ.*

Starting from 2016, the Apulia Region has activated “*de minimis*” aid supporting fishermen who observe the period of halt fishing for swordfish.

The sample analyzed, was extracted from the ranking of fish companies that benefited the aid from 2017.

2. INTERVIEWED SAMPLE

The work plan provided for the data collection for n. 6 vessels: n. 4 registered in Monopoli (BA), n.1 in Fasano (BR) and n. 1 in Porto Cesareo (LE).

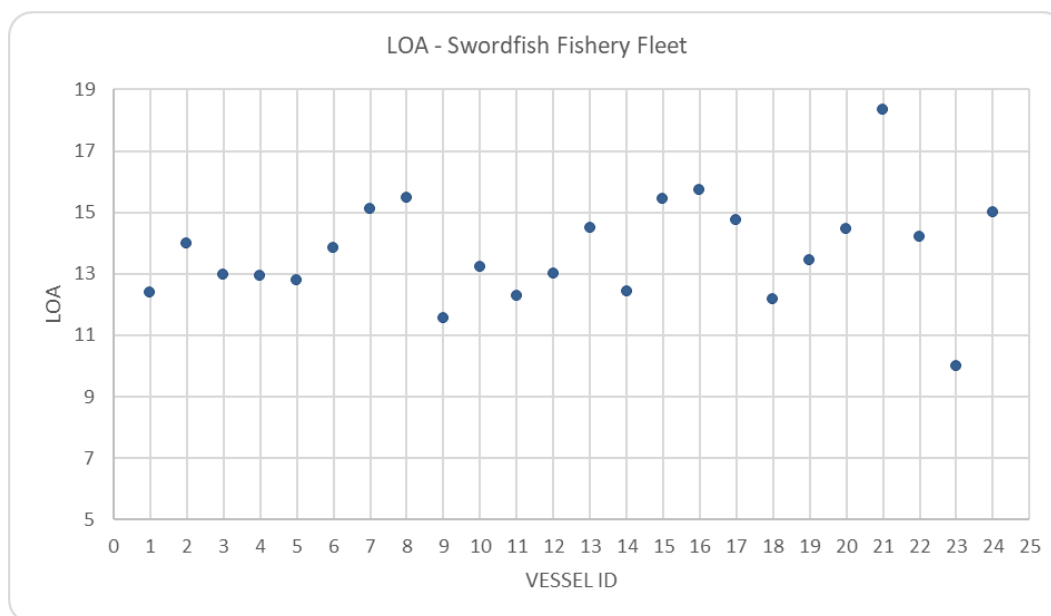
During the activities, the planned sample underwent an ongoing change with the replacement of the boat from Fasano with one from Porto Cesareo. Furthermore, during the activities in the field an additional questionnaire was compiled, bringing the total number to n. 7.

Survey Plan with General Plan		Survey Plan with General Plan	
<i>Fishery Segment</i>	<i>Estimated Sample</i>	<i>N°</i>	<i>Residue</i>
Swordfish fishing	6	7	0 (+1)

3. DATA COLLECTED (reference year 2020)

4.1 Length Over All (LOA)

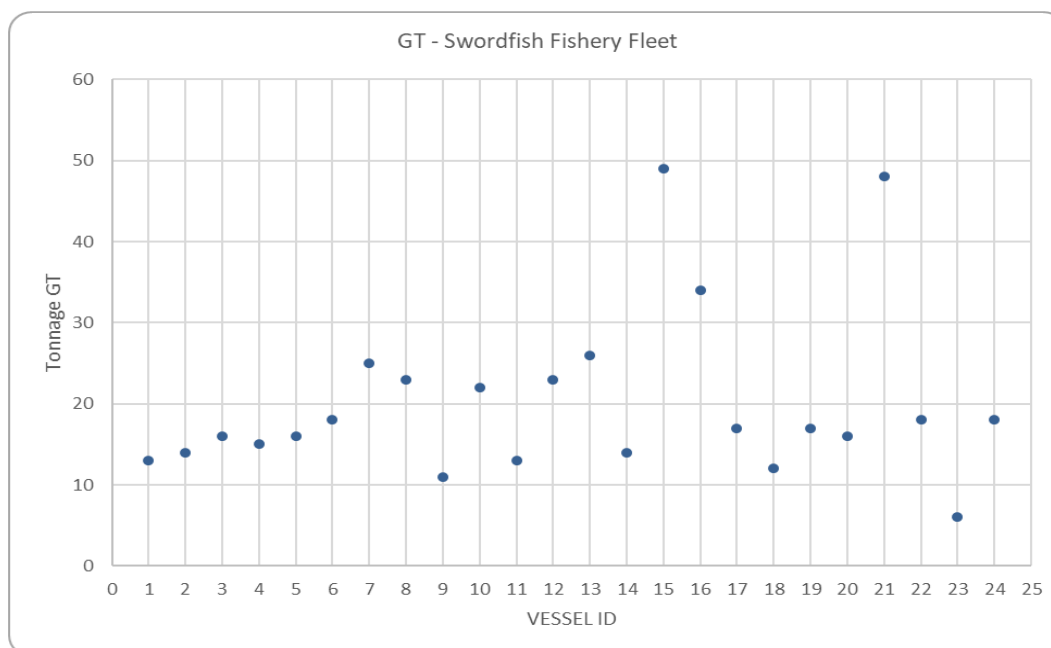
The Length Over All of vessels surveyed ranged between 9.98 and 18.33 m, with an average of 13.80m.



4.2 GT

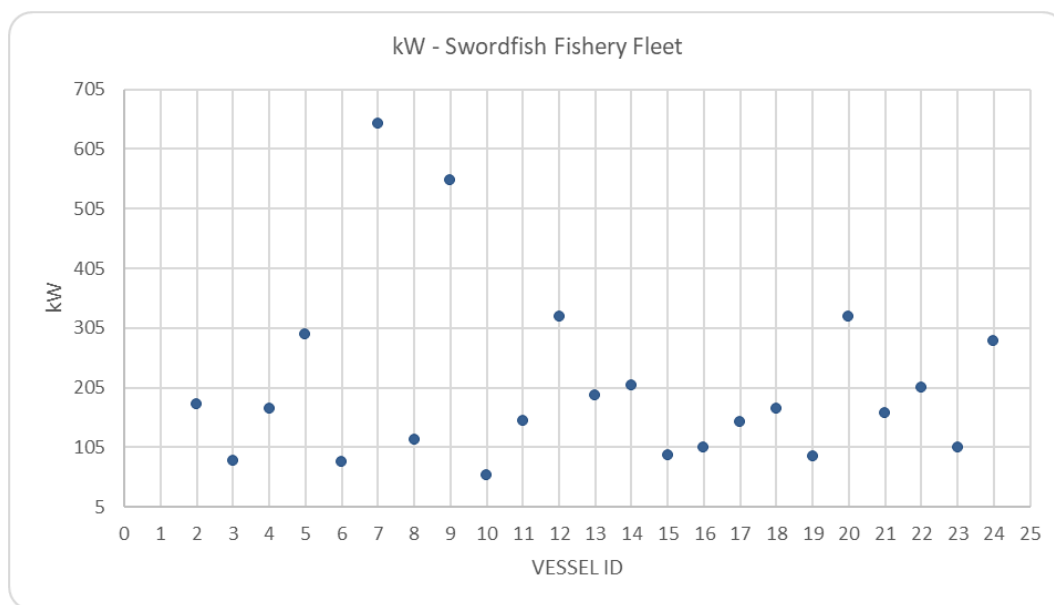
Range of GTs detected is between 6 and 49, with an average of 20 GT.

The graph shows that the gross tonnage of fishing vessels is mostly included in the 10-25 GT range, only three have higher values in line with the greater overall length recorded.



4.3 kW

The range of kW of engine power on the vessels is between 59 and 647, with an average of 206.50 Kw.



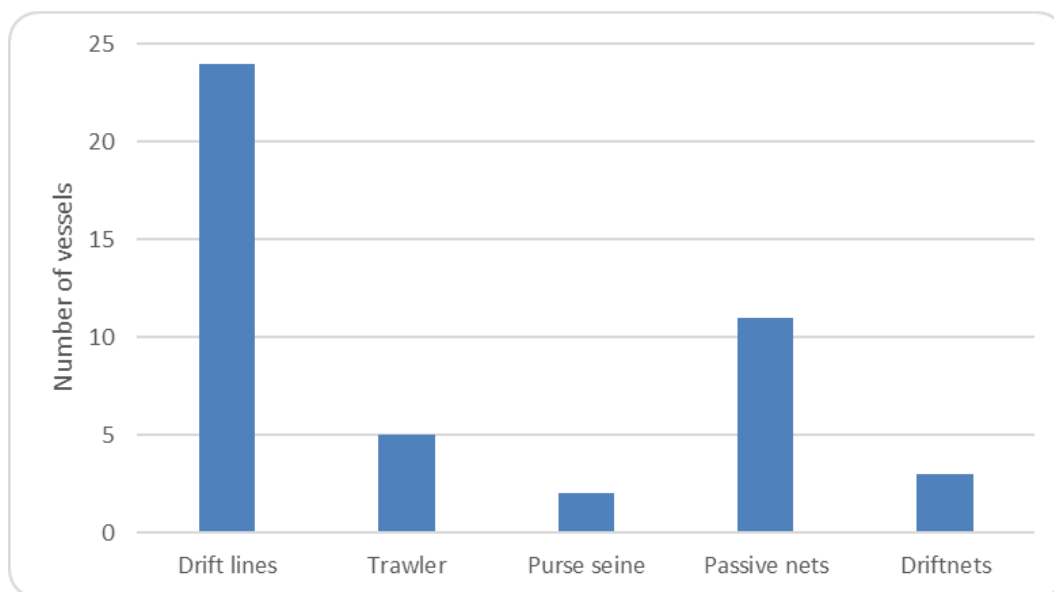
4.4 Operating Port

All fishing boats are registered in the Monopoli and Porto Cesareo ports.

4.5 Most used fishing gear

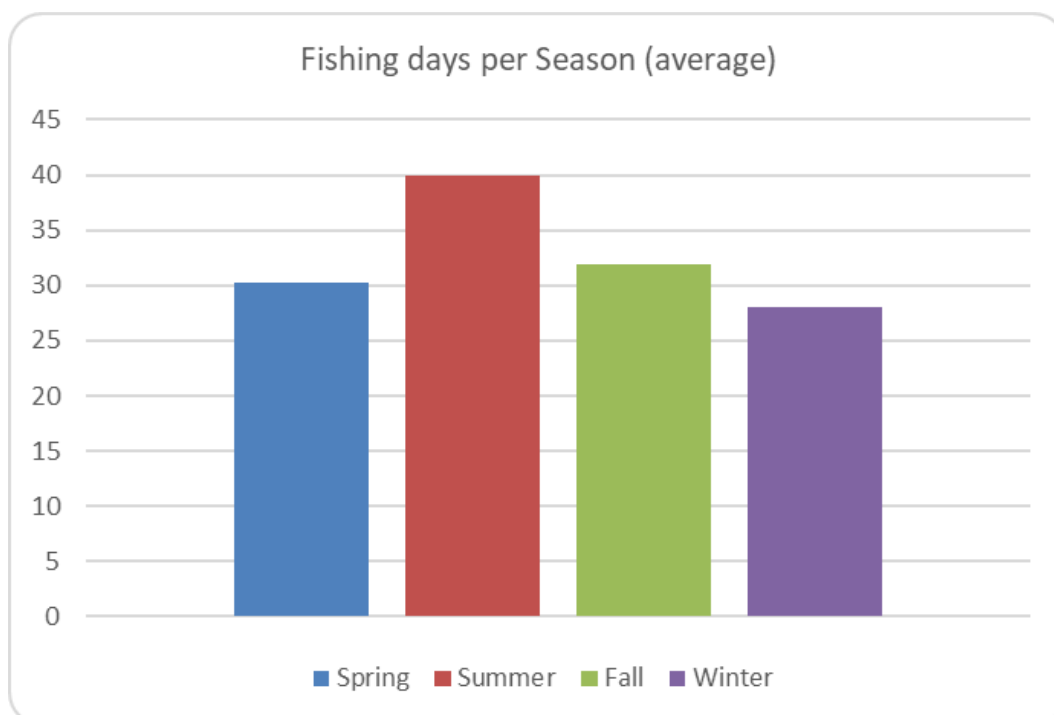
The entire fleet of fishing vessels use Longline as the main fishing gear:

Licensed registered fishing gear	Number of vessels
1. Drift lines	24
2. Trawler	5
3. Purse seine	2
4. Passive nets	11
5. Drift nets	3



4.6 Fishing days per season

During the year 2020, the fishing days are spread fairly evenly at the seasonal level, with a slight prevalence for the summer season.



The average of total fishing days per vessel amount to 130 days/year. Vessels operating swordfish fishery also works all the year with other large pelagic species (such as albacore and tuna).

The Covid-19 pandemic caused in 2020 many restrictions but this type of fishery continued to work while maintaining the pace of work almost unchanged. Probably, this also because the lockdown periods coincided

with those of the swordfish fishing ban established by MIPAAF.

4.7 Daily Fishery duration

Swordfish fishery is carried out in no. 3 hauls per day and in a total time range between 0 and 4 hours.

4.8 Operations carried out on board

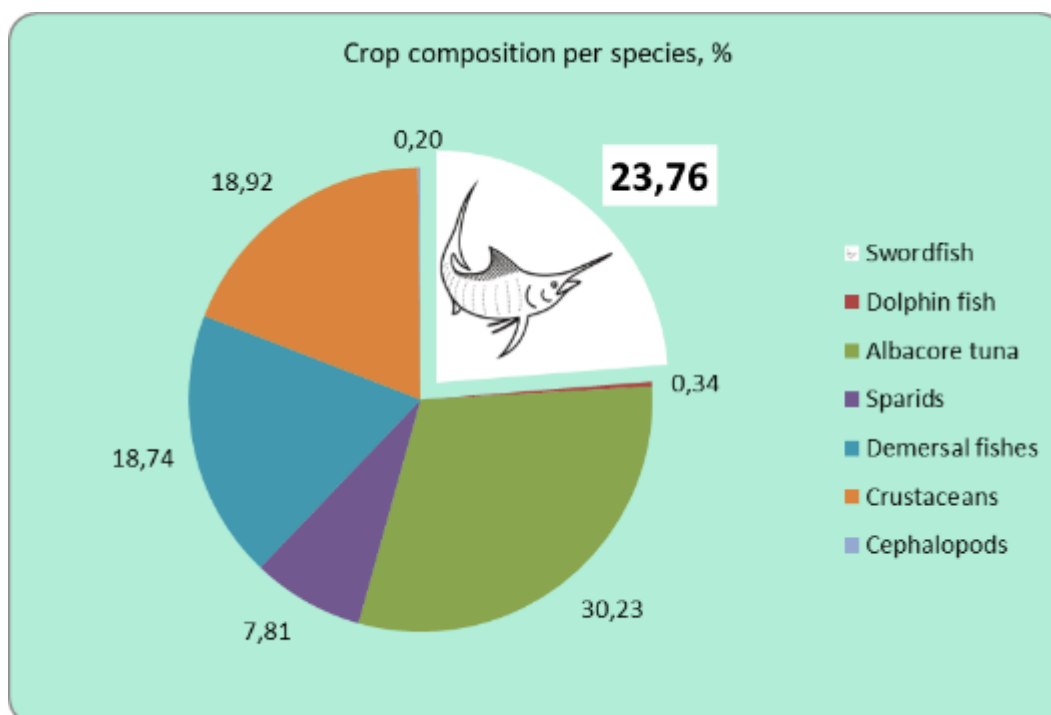
After the hauling operations of the fishing gear, the following operations are carried out on board, which also indicate the respective durations:

OPERATIONS CARRIED OUT ON BOARD									
MANUAL SELECTION		WASH		BOXING		REFRIGERATION		CHILLING	
YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION
YES	3h	YES	1h	YES	1h	YES	1h	NO	\

The lack of blast chillers on board is evident as the product is marketed fresh.

4.9 Percentage of catches of most fished species on seasonal total

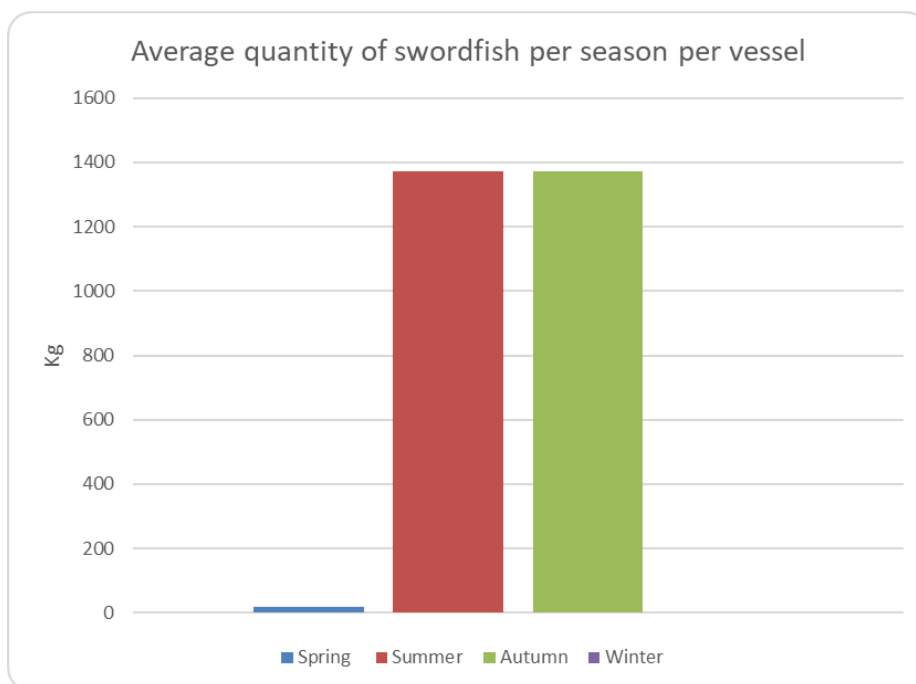
Composition of catches by macro-categories, the average percentages of incidence related to the total are showed in the following graph:



The capture of swordfish represents about a quarter of the total catches.

4.10 Quantities and value of the species caught

The next graphs shows the average quantities of swordfish caught per vessel and per season.



Every year each fishing vessel catches an average of 1,370 kg per season (summer and autumn). The data referred to Spring has been declared only by a vessel and, therefore, occasional.

The average sales price recorded in the wholesale commercial channel is around 10 €/kg.

Swordfish sold on average per year per vessel amounts to 2,740 kg, with an average turnover from this product of € 27,400.

The data reported during the interviews place the overall annual turnover (therefore swordfish and other landed species) for each fishing company in the range between € 100,000 and € 250,000.

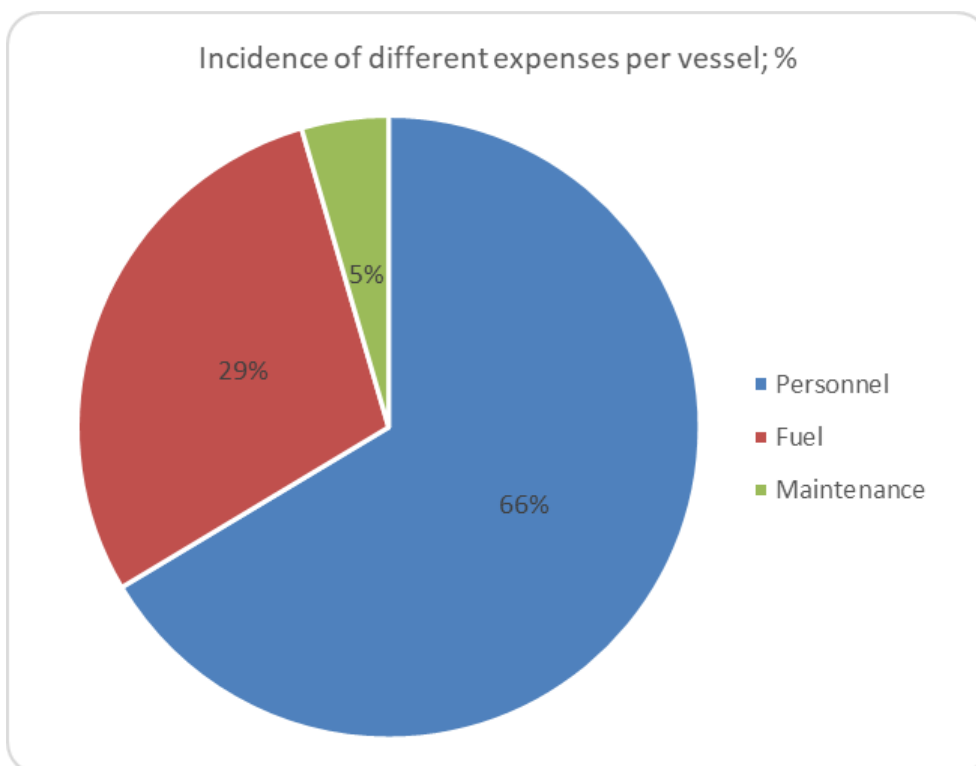
4.11 Commercial channels used

The landed product is delivered exclusively fresh to the wholesale channel.

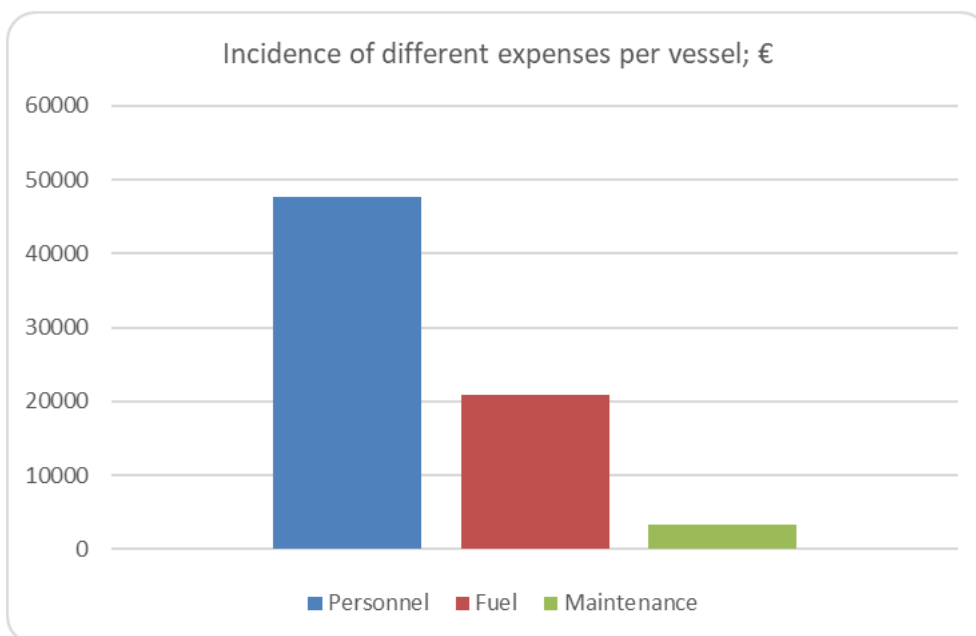
4.12 Costs

Business management involves a series of expenses that have been enclosed in three categories, for simplicity: Crew, Fuel, Maintenance.

The graph below shows that 66% of the expenses concern the cost of personnel, followed by fuel costs equal to 29% of the total, ending with maintenance costs which represent 5%.



The average value for each category is shown in the following graph:



Overall, the annual management costs per vessel are on average around € 71,743.

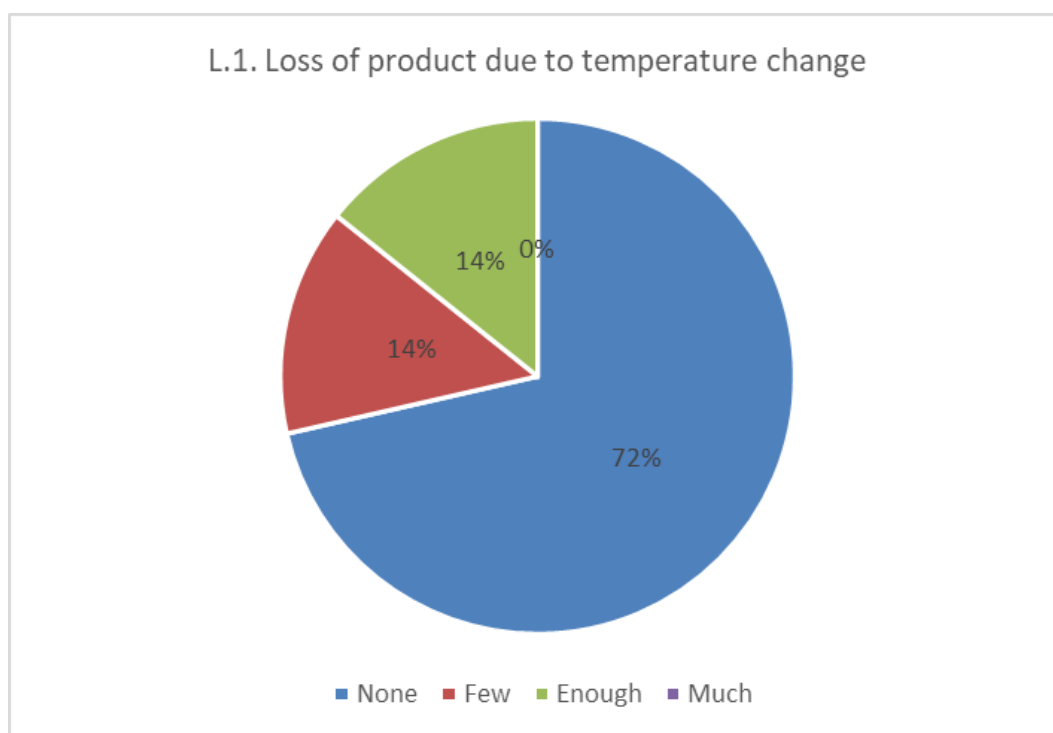
4.13 Number of employees

The crew embarked on each swordfish fishing boat is an average of 3 people.

4.14 Aspects related to climate changes

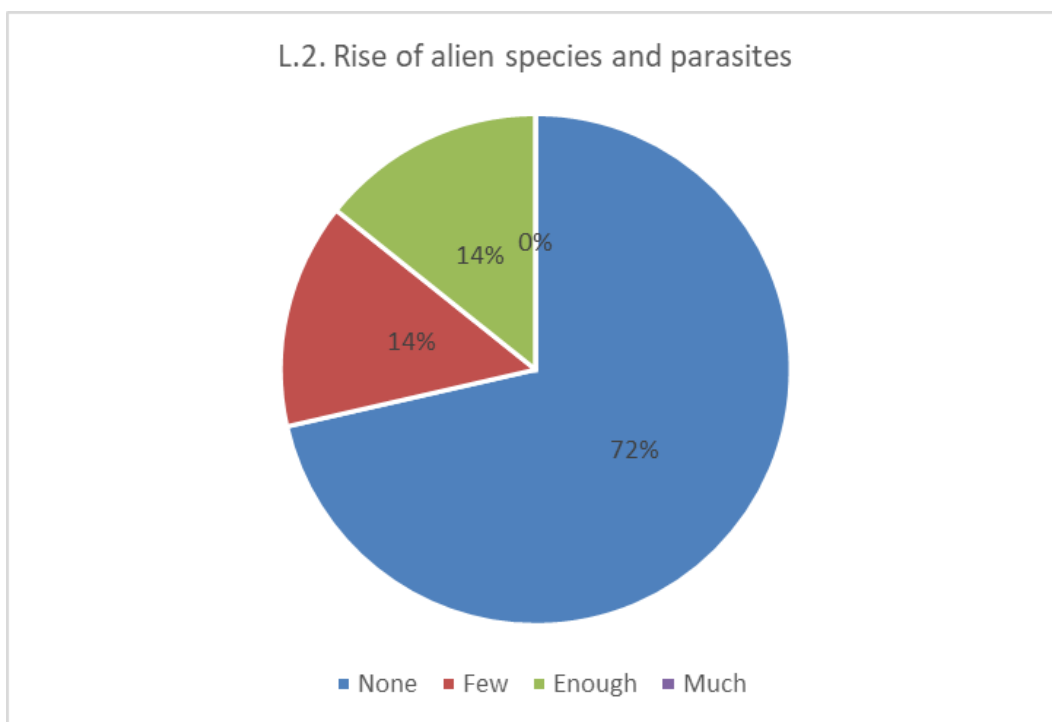
L.1. Loss of product due to temperature change

At the first question, 71% of the fleet believes that product loss due to climate change is unlikely, while the others disagree with this hypothesis.



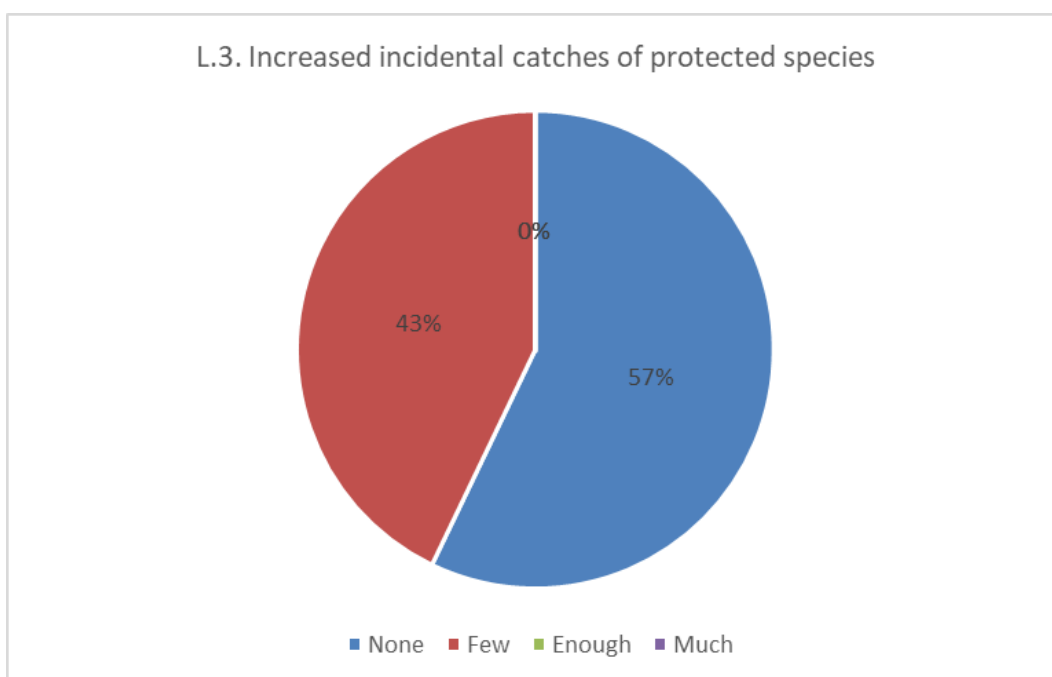
L.2. Rise of alien species and parasites

Almost all believe an increase in the presence of alien species and parasites is unlikely.



L.3. Increased frequency of incidental catches of protected species

The majority of fishermen considers a higher frequency of accidental catches of protected species unlikely.



L.4. Capture alien species

In most cases, this question is not answered, probably due to a lack of knowledge of the species that are the

subject of the question.

L.5. Capture protected species

The only species indicated as object of accidental capture is the sea turtle, which is however occasional.

4.15 Good practices exchanges

Most of the fleet never participated in projects that involved in exchange of good practices with other seafarers and do not show any interest in participating in initiatives aimed at this purpose, except for some entrepreneurs from Monopoli.

COLLECTION OF FISHERY AND AQUACULTURE DATA AT LOCAL LEVEL

WP 4- Knowledge-based decision-making process

Activity 4.2 Common scheme for the management of fishery activities at local level

CASE STUDY – FISHERY SEGMENT

3. SMALL PELAGICS FISHERY

RIFERIMENTI	
Interreg Programme	Interreg V-A Italy-Croatia CBC Programme 2014-2020
Acronym Project	ARGOS
Project Title	ShaARed GOVERNANCE of Sustainable fisheries and Aquaculture activities as leverage to protect marine resource in the Adriatic Sea
Project ID	10255153
Document date	September 17, 2022
Version	2

Project Partner	PP5 APULIA REGION
Apulia Region	DEPARTMENT OF AGRICULTURE RURAL DEVELOPMENT AND ENVIRONMENT
	Sustainable Management and Protection of Forest and Natural Resources Section

Authors	
Data collectors	Cataldo Licchelli, Mario Pansini, Giuseppe Storelli
Project Manager	Giuseppe Scordella
Communication Manager	Alessandra Miccoli

1. GENERAL CHARACTERISTICS OF “SMALL PELAGICS FISHERY”

The anchovy fishery accounts for about 97% of the entire target segment and assumes an important commercial value within the fishing industry, in general, and the canning industry involved.

By Ministerial Decree No. 17581 of August 10, 2017, are established spatio-temporal closures of fishing in GSAs 17 and 18, in order to protect the growth and reproduction of small pelagic fish stocks (*Sardina pilchardus* and *Engraulis encrasicolus*).

The mentioned Ministerial Decree stipulates that “For the years 2017 and 2018, as a partial amendment to what was established in paragraph 1 above, fishing vessels actively fishing for small pelagic stocks in the Adriatic Sea, operating in GSA 17 and/or GSA 18, may not fish for more than 20 days per month and may not exceed 180 fishing days in a calendar year, with a maximum of 144 days of sardine fishing or a maximum of 144 days of anchovy fishing” and specifically:

A) ANCHOVY FISHERY HALT

...

ii) For all fishing vessels actively fishing for small pelagic stocks, registered or operating in the maritime compartments from San Benedetto del Tronto to Gallipoli, the temporary cessation of fishing activities for 15 consecutive days from September 3 to September 17;

B) SARDINE FISHERY HALT

...

iii) For all fishing vessels actively fishing for small pelagic stocks, registered or operating in the maritime compartments from San Benedetto del Tronto to Gallipoli, the temporary cessation of fishing activities for 15 consecutive days from December 16 to December 30;

By Directorial Decree No. 17562 dated 14/08/2018, the General Director of Maritime Fisheries and Aquaculture amended Ministerial Decree No. 17581 dated August 10, 2017 regarding the above-mentioned prohibition periods, stipulating that:

..

b) for all vessels actively fishing for small pelagic stocks, registered or operating in the maritime compartments from Venice to Gallipoli, the temporary interruption of fishing activity for 15 consecutive days is from August 18 to September 1.

The Decree dated 04/30/2018 updated the list of units authorized to fish for small pelagic in GSAs 17 and 18.

By Regional Law No. 67/2018, Art. 47 - Aid under the “de minimis” regime for access to economic support in case of small pelagic fishing stoppage, the Apulia Region provides economic support of enterprises engaged in active small pelagic fishing with the gears mechanical purse seines and purse seines without closure and that have regularly observed the mandatory temporary halt of fishing activity.

The sample analysed, was extracted from the ranking of fish companies that benefited the aid from 2018.

2. INTERVIEWED SAMPLE

The work plan included data collection for no. 4 vessels, operating in the ports of Bisceglie and Molfetta.

No. 6 fishing enterprises operating in the reference area responded to the invitation to be interviewed, of which no. 4 with operational port Bisceglie and no. 2 with operational port Molfetta.

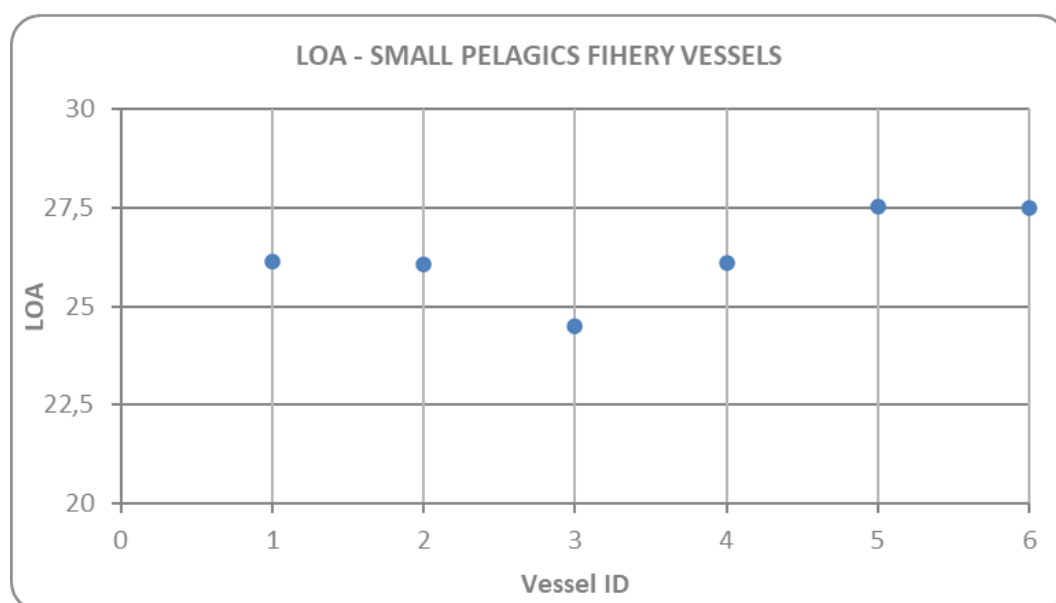
Survey Plan with General Plan		Surveys carried out on 31.05	
Fishery Segment	Estimated Sample	N°	Residue

SMALL PELAGICS FISHERY	4	6	+2
------------------------	---	---	----

3. DATA COLLECTED (reference year 2020)

4.1 Length Over All (LOA)

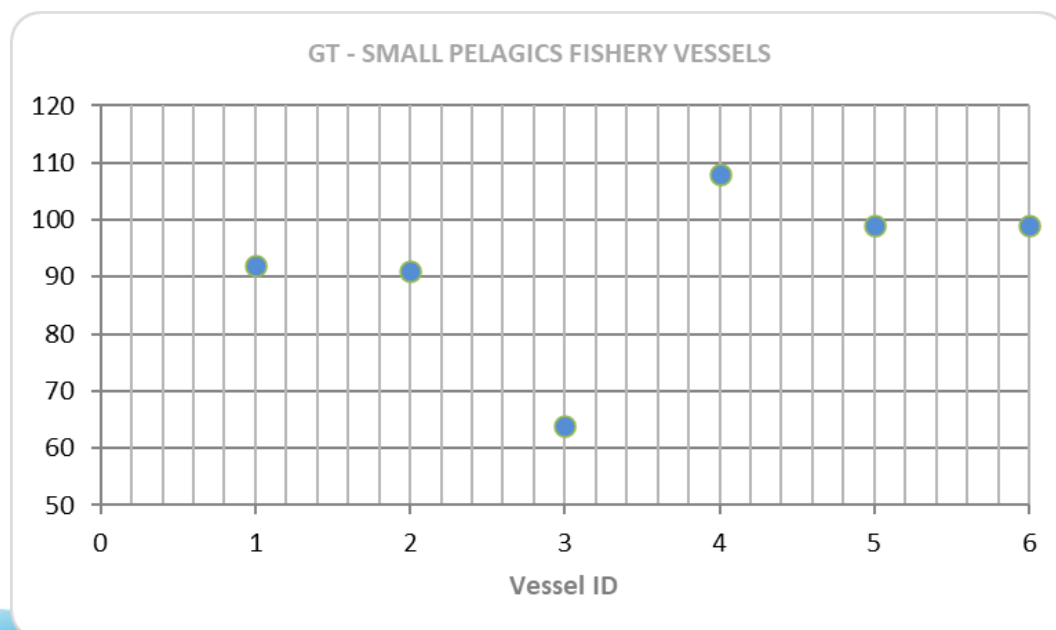
Length Over All of vessels surveyed is between 24.50 and 27.52 m, with an average of 26.30 m.



4.2 GT

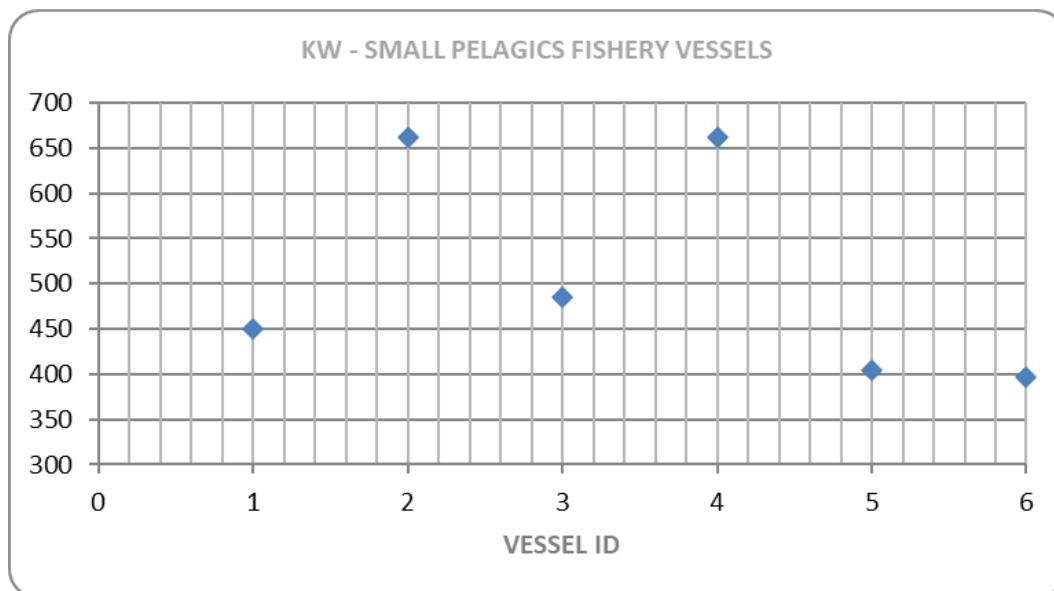
The range of GTs detected is between 64 and 108, with an average of 92.16 GT.

The graph shows that the gross tonnage of fishing vessels is mostly in the range of 90 to 110 GT:



4.3 KW

The range of detected KW is from 397.05 to 662, with an average of 510.04 Kw.



4.4 Operating Port

The 67% of surveyed sample operates in Bisceglie, while the 33% in Molfetta.

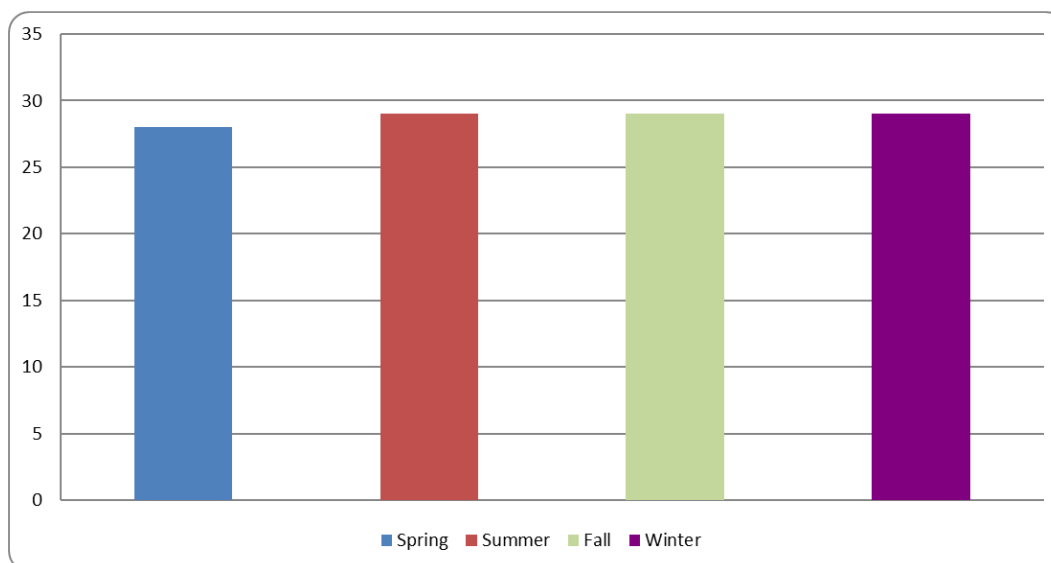
4.5 Most used fishing gear

The fishery fleet regularly use Purse seine and Paired Pelagic trawl:

Licensed registered fishing gear	Number of vessels
1. Longline	6
2. Purse seine	4
3. Paired Pelagic Trawl	2

4.6 Fishing days

In the year 2020, fishing days are seasonally fairly evenly distributed.



The average total fishing days per vessel is 116 days/year.

The Covid-19 pandemic caused in 2020 many restrictions but this type of fishery continued to work while maintaining the pace of work almost unchanged.

4.7 Daily Fishery duration

Fishery of small pelagic fishes is conducted, on average, in No. 2 hauls per day with fishing gear use in a different time range among respondents.

They reported using the gear in the range of 9-12 hours (No. 3 companies) and 17-20 hours (No. 3 companies).

4.8 Operations carried out on board

After the hauling operations of the fishing gear, the following operations are carried out on board, which also indicate the respective durations:

OPERATIONS CARRIED OUT ON BOARD										
	MANUAL SELECTION		WASH		BOXING		REFRIGERATION		CHILLING	
	YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION
1	Yes	n.r.	NO	n.r.	Yes	n.r.	Yes	n.r.	NO	n.r.

The sample interviewed did not indicate the times of individual operations (n.r.), because the values are not standardized.

The lack of blast chillers on board is evident as the product is marketed fresh.

4.9 Percentage of most caught species on the total

No fishermen release this information.

4.10 Quantities and value of the species caught

Annually, each vessel regularly catches an average of 276,899 kg of small pelagic fishes, without any seasonal difference.

The sales price recorded and reported by the respondents is in the range of € 1.40/1.50 per kg.

The data collected place the total annual turnover (pelagic fish + other species landed) for no. 3 fishing enterprises in the range between € 100,000 and € 250,000, and no. 3 enterprises are in the range exceeding € 250,000.

4.11 Commercial channels used

The product is delivered as fresh, almost exclusively to the wholesale trade.

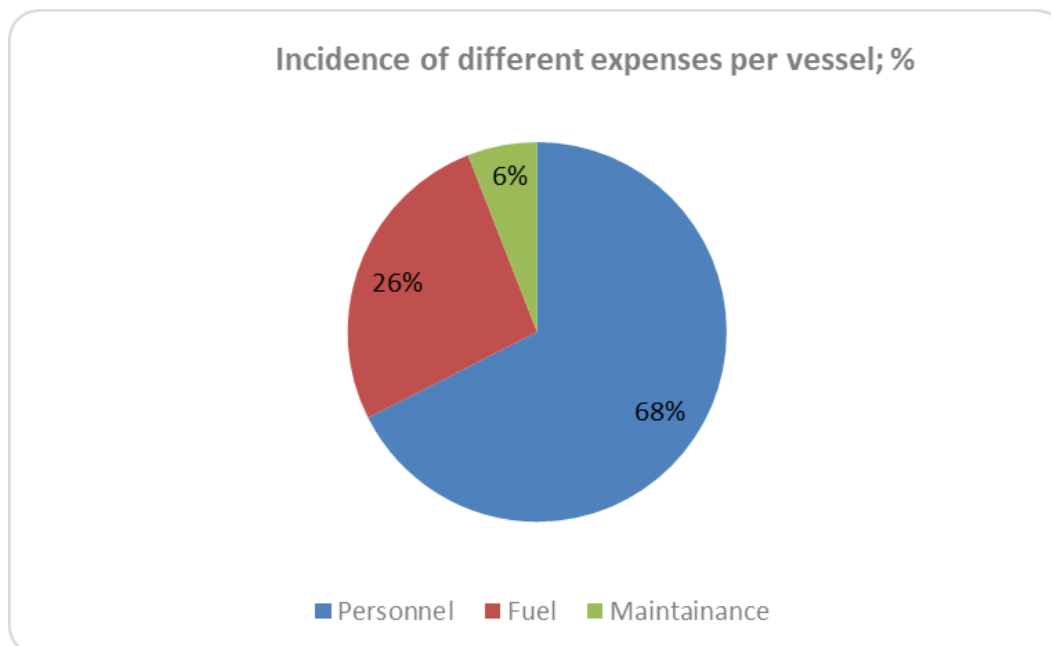
4.12 Costs

Business management involves a number of expenses that have been lumped, for simplicity, into 3 categories: Personnel, Fuel and Maintenance.

Around the 68% of the expenses regards personnel costs, followed by fuel costs, accounting for 26% and ending with maintenance costs accounting for 6%.

During survey, No. 2 vessels in the sample did not provide absolute values but a percentage figure.

So, the average value for each category is represented in the following graph:



Fishermen reported the incidence of operating costs as a percentage value, and for this reason, it was not possible to report the total cost as an absolute value.

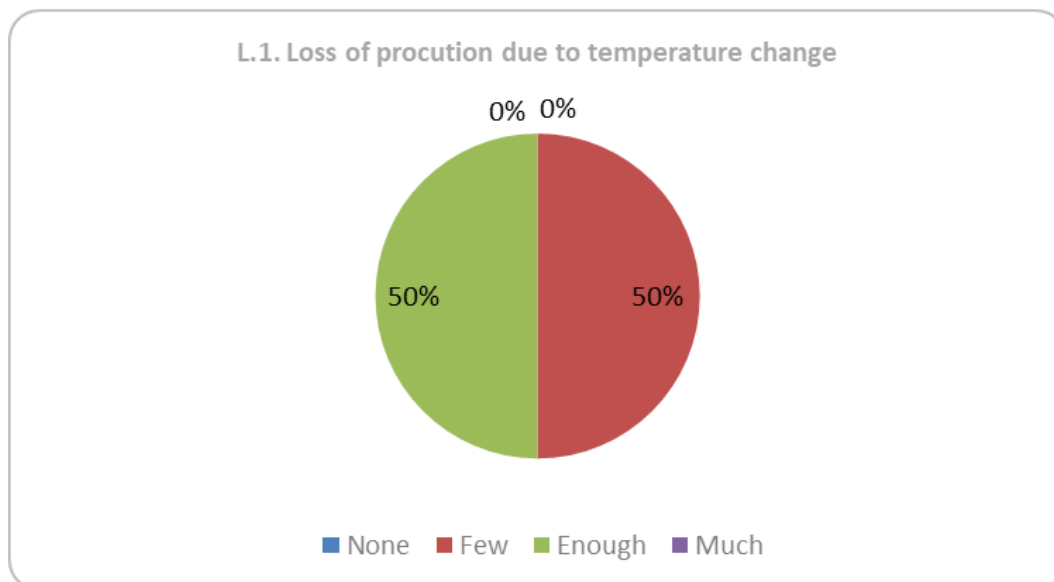
4.13 Number of employees

The crew of each vessel averages on No. 6-10 people according to three companies surveyed; for the other three vessels, the human resources is higher.

4.14 Aspects related to climate change

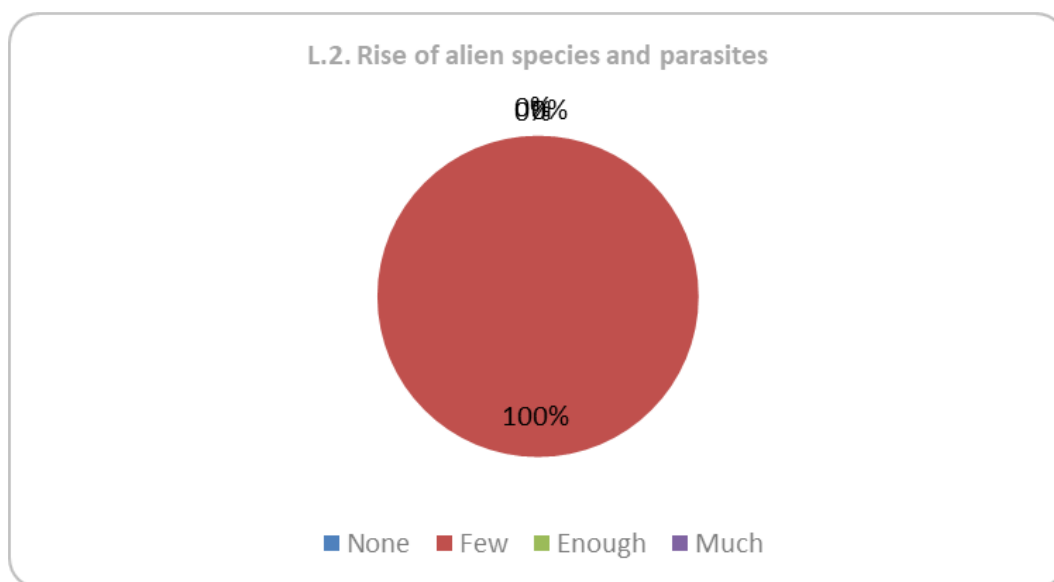
L.1. Loss of product due to temperature change

The 50% of the surveyed fishermen thought it unlikely that they would lose product due to climate change, while 50% fairly agreed with this assumption.



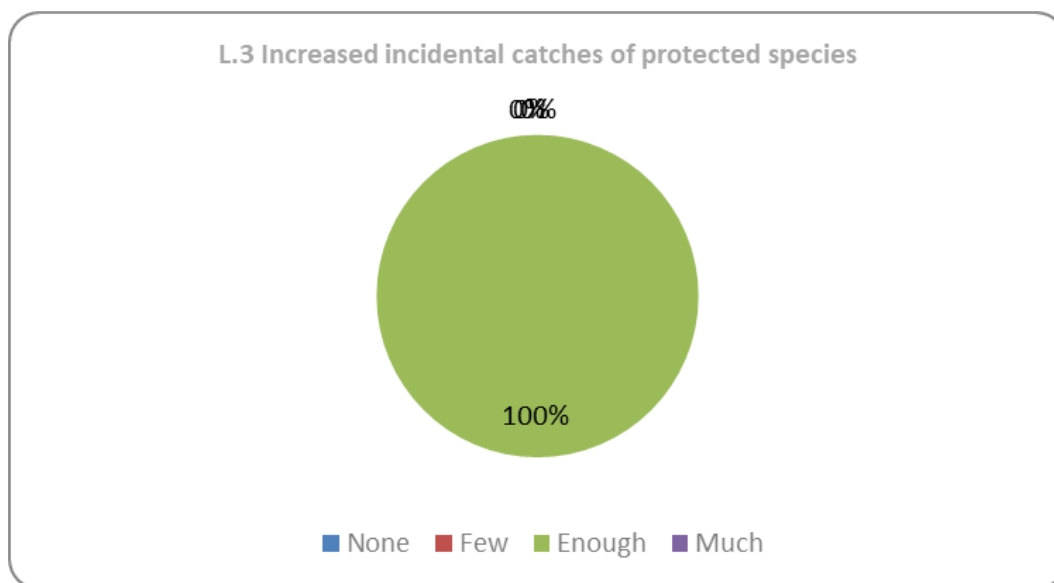
L.2. Rise of alien species and parasites

All the fishermen observed a small increase in alien and pest species.



L.3. Increased frequency of incidental catches of protected species

To this question, all respondents considered the incidental capture of protected species quite likely.



L.4. Capture alien species

Respondents did not encounter any alien species during fishing activities.

L.5. Capture protected species

The species indicated as subject of incidental catch are dolphins and tuna, even if occasionally.

4.15 Good practices exchanges

Most of the fleet has never participated in projects that involved exchanging best practices with other fleets and express interest in participating in initiatives related to catch processing and conservation.

COLLECTION OF FISHERY AND AQUACULTURE DATA AT LOCAL LEVEL

WP 4- Knowledge-based decision-making process

Activity 4.2 Common scheme for the management of fishery activities at local level

CASE STUDY – FISHERY SEGMENT

4. ARTISANAL FISHERY IN MARINE PROTECTED AREAS

RIFERIMENTI	
Interreg Programme	Interreg V-A Italy-Croatia CBC Programme 2014-2020
Acronym Project	ARGOS
Project Title	ShaARed GOVERNANCE of Sustainable fisheries and Aquaculture activities as leverage to protect marine resource in the Adriatic Sea
Project ID	10255153
Document date	September 23, 2022
Version	2

Project Partner	PP5 APULIA REGION
Apulia Region	DEPARTMENT OF AGRICULTURE RURAL DEVELOPMENT AND ENVIRONMENT
	Sustainable Management and Protection of Forest and Natural Resources Section

Authors	
Data collectors	Cataldo Licchelli, Mario Pansini, Giuseppe Storelli
Project Manager	Giuseppe Scordella
Communication Manager	Alessandra Miccoli

1. GENERAL CHARACTERISTICS OF THE “ARTISANAL FISHERY IN MARINE PROTECTED AREAS”

Fishery Marine Protected Areas is regulated for sustainability of the traditional practice that respects the environment.

The MPA of Torre Guaceto and Porto Cesareo are involved in the census; the third one (Tremeti Islands) did not participated at the regional call.

The two referred MPAs have completely different characteristics:

- Torre Guaceto MPA is smaller, with no anthropic disturbance, involve less than 10 fishermen and has a calendarized fishery activity, only one day a week, in the C Area.
- Porto Cesareo MPA is one of the largest MPA of Italy and guests one of the most important fleets of artisanal fishery. The anthropic disturbance is significant, particularly during summer, because of the high number of tourists.

Starting from 2020, the Apulia Region has activated “*de minimis*” aid in support of fishermen who observe the period of fishing halt, established period by the MPA administration.

The sample analysed, was extracted from the ranking of fish companies that benefited the aid from 2020.

2. INTERVIEWED SAMPLE

In the Torre Guaceto MPA the authorized vessels are n. 6, all registered in the port of Brindisi.

For the Porto Cesareo MPA, n. 63 fishing boats are registered in different ports: Gallipoli, Torre Cesarea, Leuca and Maruggio.

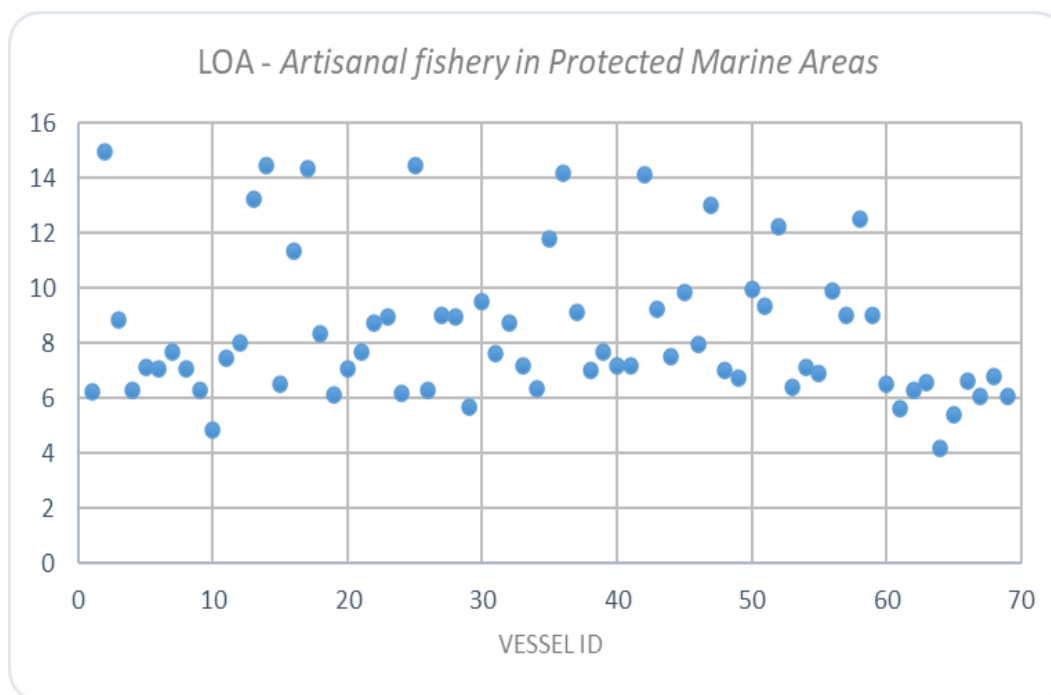
So, the sample to be interviewed was n. 17 vessels registered in the different ports.

Survey Plan with General Plan		Surveys carried out on 31.05	
<i>Fishery Segment</i>	<i>Estimated Sample</i>	<i>N°</i>	<i>Residue</i>
Artisanal fishery in Protected Marine Areas	17	23	0 (+6)

3. DATA COLLECTED (reference year 2020)

4.1 Length Over All (LOA)

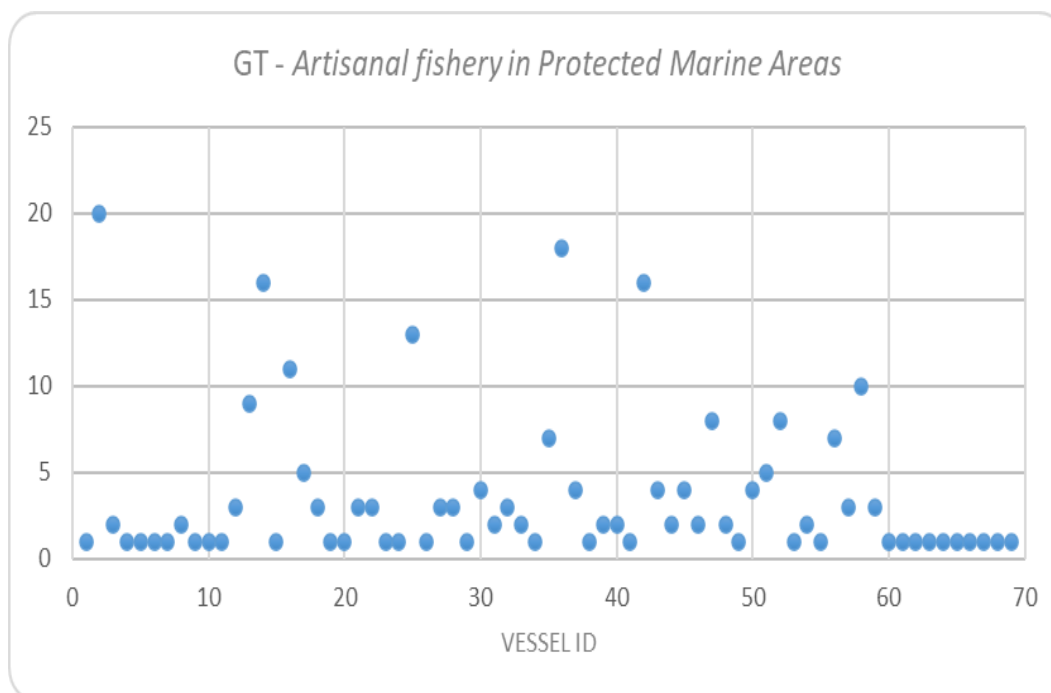
The Length Over All of boats surveyed is between 4.17 e 14.98 m, with an average of 8.41 m.



4.2 GT

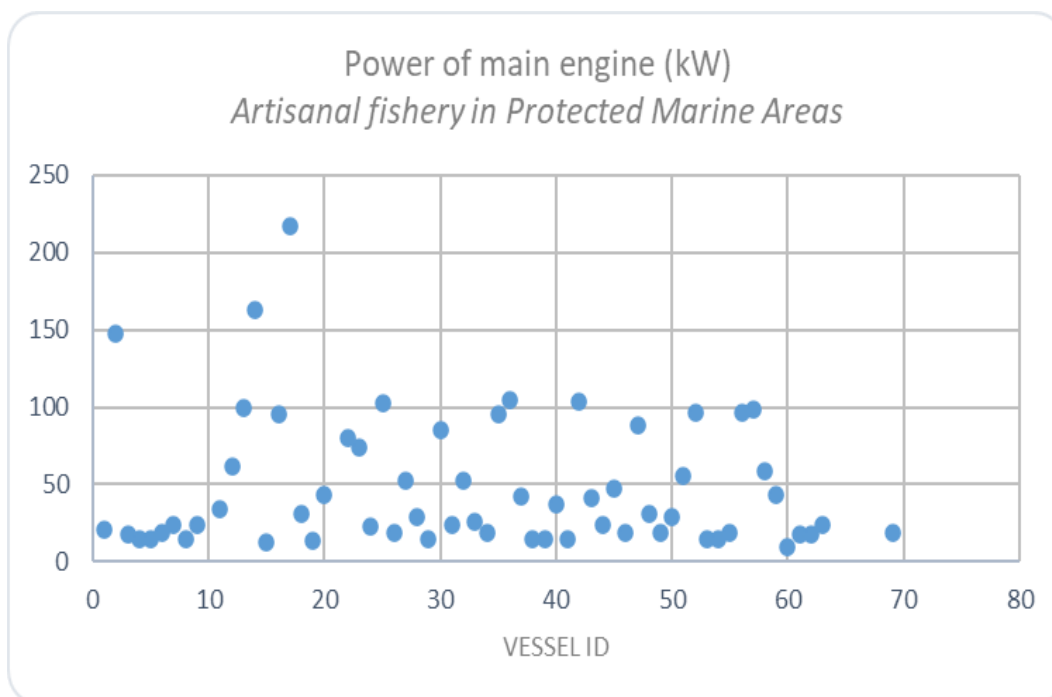
Range of GTs detected is between 1 e 20 GT with an average of 4 GT.

The graph shows that the gross tonnage of fishing vessels is mostly included in the 4-10 GT range, only six have higher values.



4.3 kW

The range of kW of engine power on the vessels is between 10 e 217, with an average of 48.09 kW.



As the graphic shows, the higher number of vessels have engine power lower than 100kW.

4.4 Operating Port

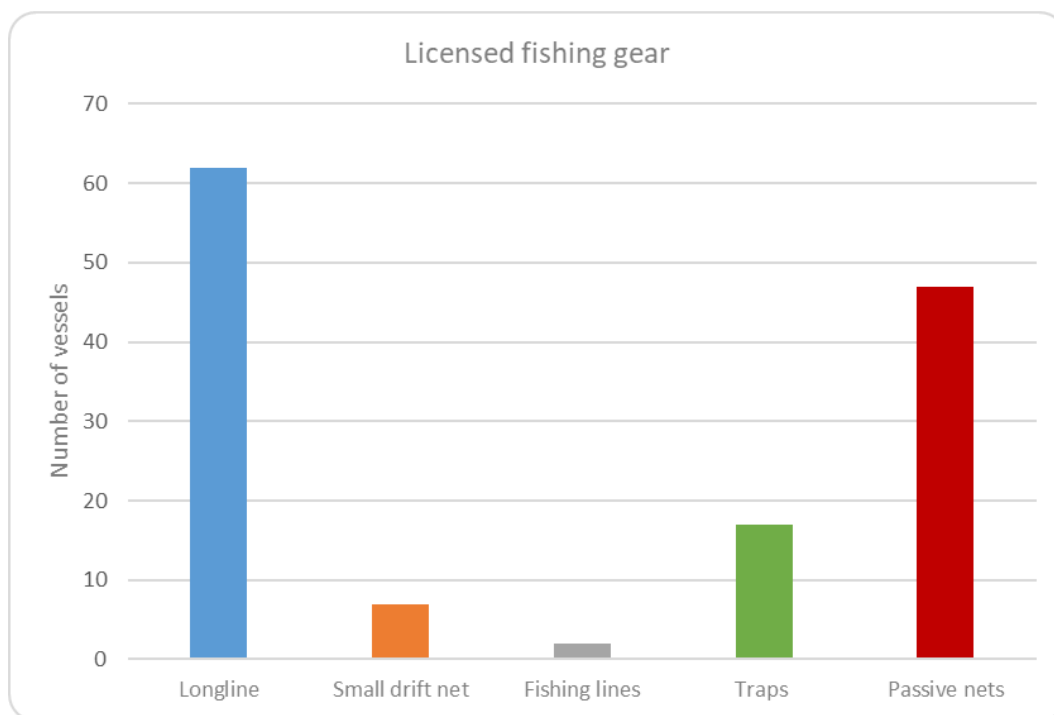
The vessels authorized to work in the Torre Guaceto MPA have as operative ports some docking areas used for small boats: Santa Sabina e Specchiolla. These sites do not have the minimal services required for the role (such as EE, water etc.).

The vessels authorized to work in Porto Cesareo MPA are registered (for the higher number) in the Torre Cesarea port and the others in Gallipoli, Maruggio and Leuca ports. All these ports are well equipped.

4.5 Most used fishing gear

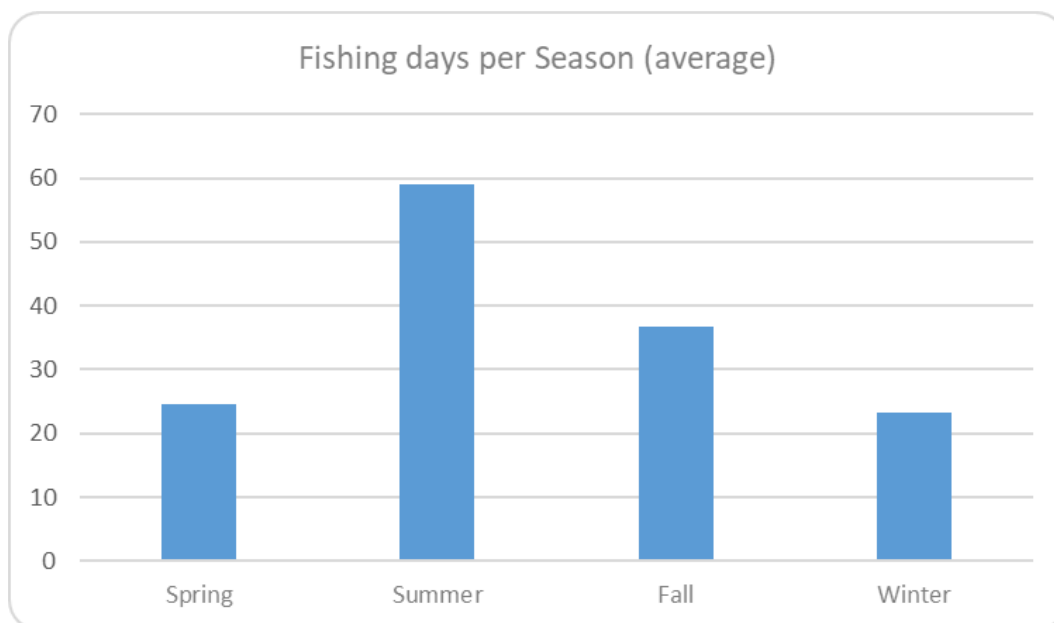
Both the fleets operate with passive nets, longlines and, in small percentage, traps and, in few cases, drift lines and drift nets, as follows:

Licensed registered fishing gear	Number of vessels
Longlines	62
Small drift nets	7
Drift lines	2
Traps	17
Passive nets	47



4.6 Fishing days per season

During the year 2020, the fishing days show seasonal picks, with prevalence in the summer, followed by fall, spring and winter.



The average of total fishing days per vessel amount to 119 days/year.

The Covid-19 pandemic caused in 2020 many restrictions but this type of fishery in the Porto Cesareo MPA continued to work while maintaining the pace of work almost unchanged.

Vice versa, a significant reduction of fishing days has been registered for the Torre Guaceto MPA.

This because the different market of the seafood in Porto Cesareo, mainly addressed to retailer and HORECA markets.

4.7 Daily Fishery duration

Fishery in MPAs commonly occurs using passive gears. According the specific requirements, fishing is carried out in no. 1 haul per day in a total time range of 2-4 hours for longlines, and 9-12 hours for gillnets.

4.8 Operations carried out on board

After hauling, nobody has referred clear data, because extremely variable.

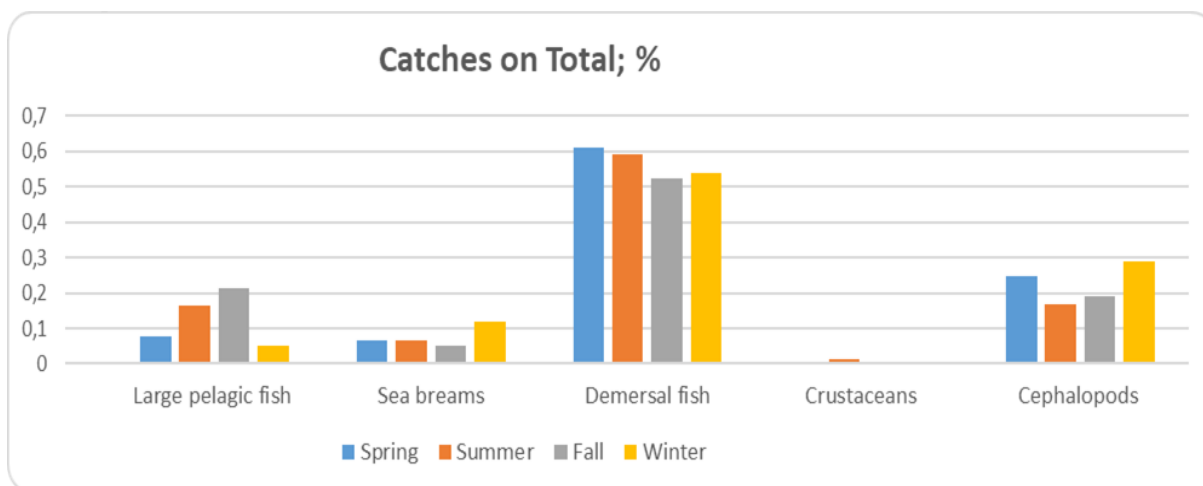
Moreover, only the biggest vessels have a refrigeration system and no blast chillers are recorded.

OPERATIONS CARRIED OUT ON BOARD									
MANUAL SELECTION		WASH		BOXING		REFRIGERATION		CHILLING	
YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION
YES		YES		YES		Both		NO	

All the product is marketed fresh.

4.9 Percentage of catches of most fished species on seasonal total

Dividing catches by macro-categories of species caught, the percentages of incidence related to total catch are as follows:



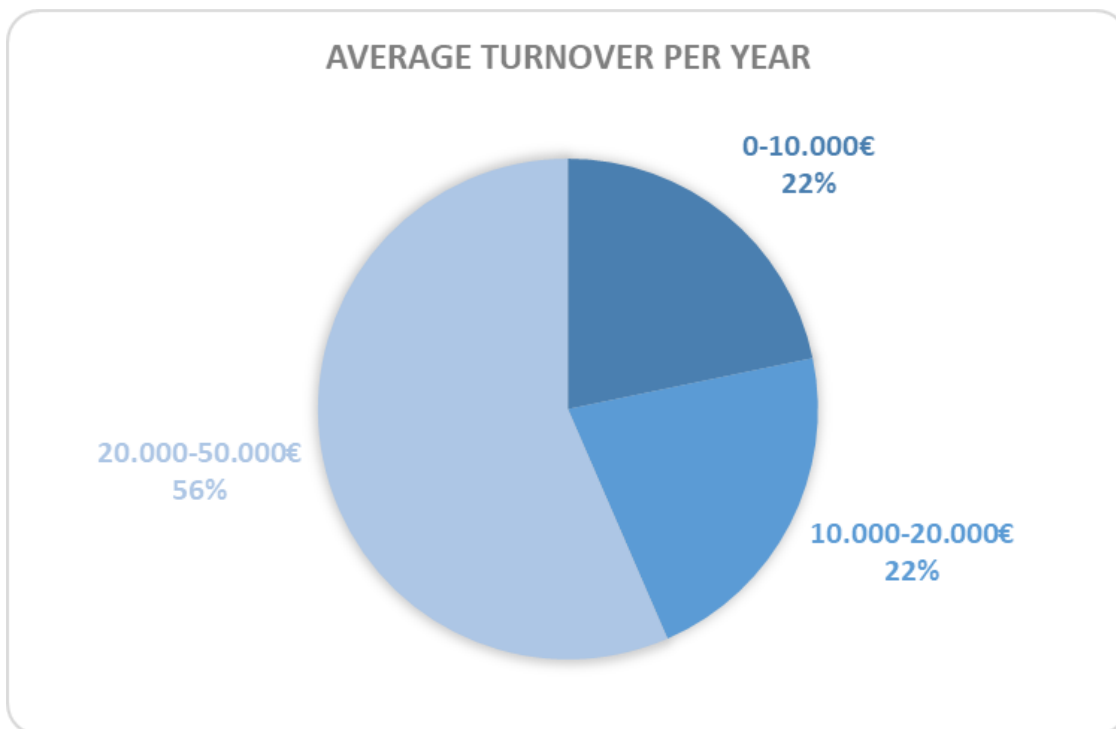
In all the seasons demersal fishes dominate, followed by cephalopods and large pelagic fishes.

For demersal fishes the highest production occurs in spring and summer, while cephalopods and large pelagic fishes occur higher in fall and summer. Sparids are more frequent in winter.

Large pelagic fishes are caught outside the MPAs perimeters.

4.10 Quantities and value of the species caught

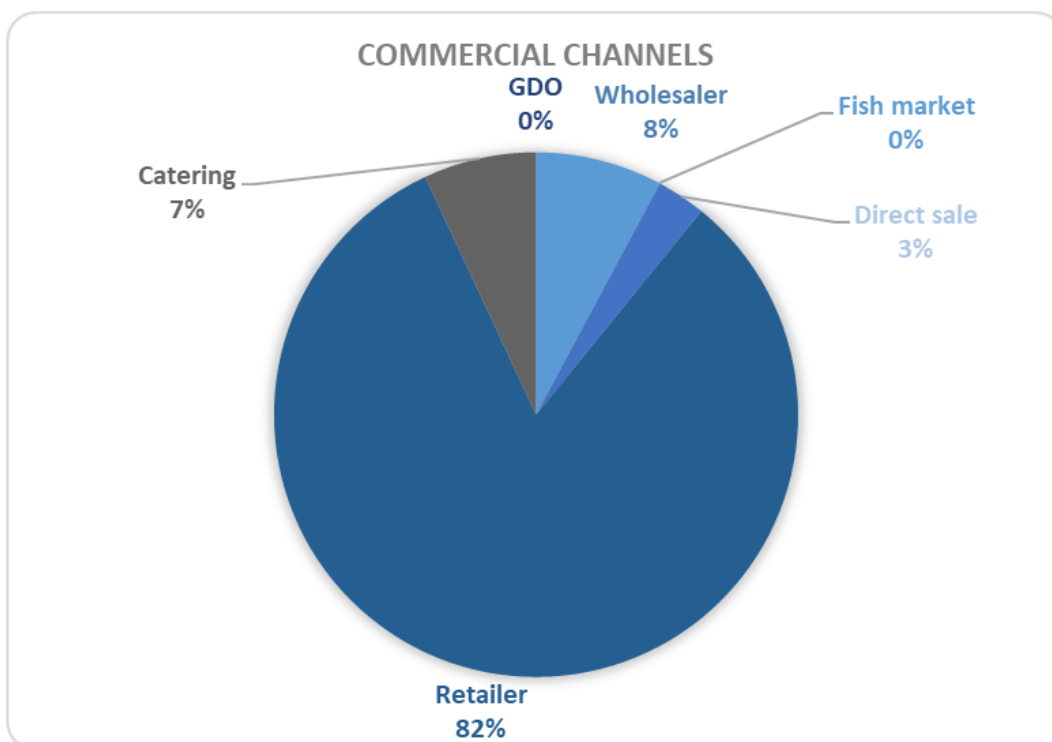
The multi-specific composition of the landings causes market prices very variable. In general, the annual turnover is quite low, with an average per vessel and per year of around €22,500, as showed:



4.11 Commercial channels used

The landed products are commonly sold to the retailer (82%), only small parts are delivered to the wholesale channel (8%), restaurants (7%) and direct sales (3%).

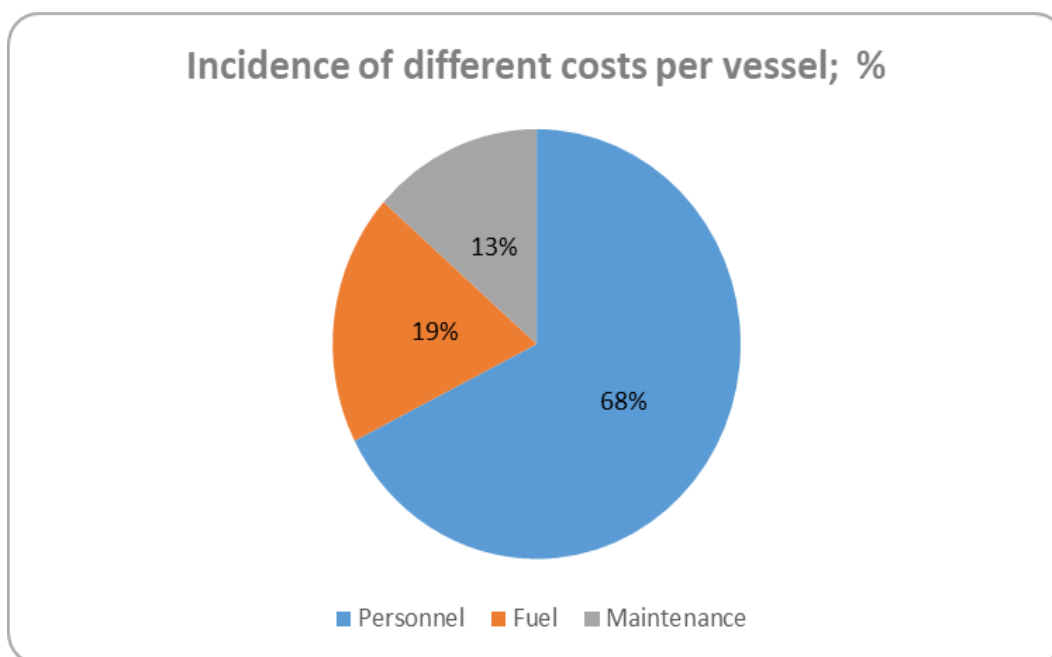
Particularly low is the percentage of product destined to the direct sales even if the MPA context should encourage it.



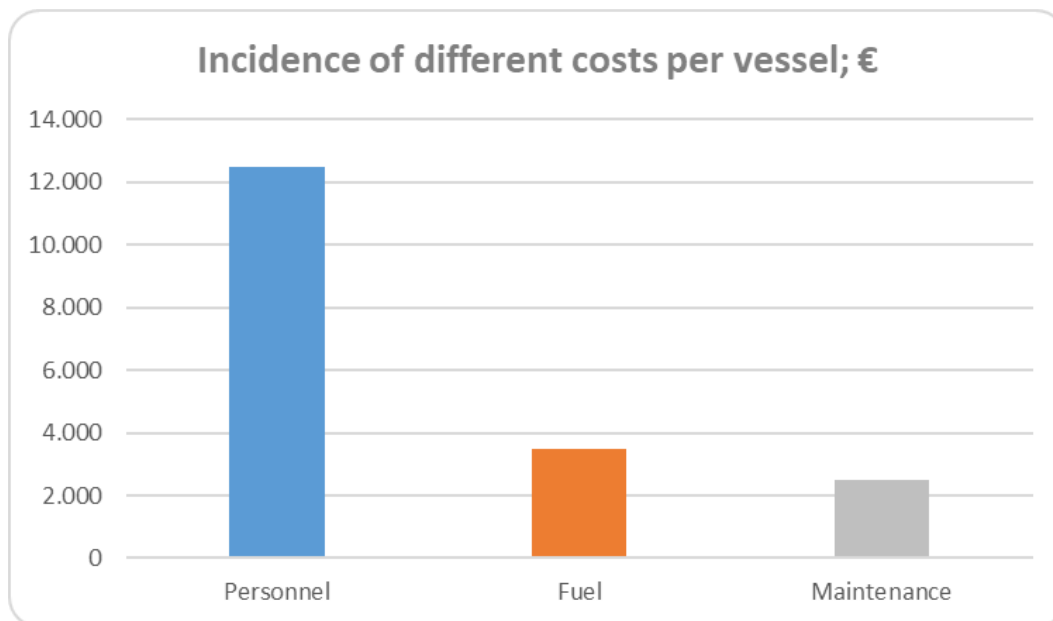
4.12 Costs

Business management involves a series of expenses that have been enclosed in three categories, for simplicity: Crew, Fuel, Maintenance.

The graph below shows that 68% of the expenses concern the cost of personnel, followed by fuel costs equal to 19% of the total, ending with maintenance costs which represent 13%.



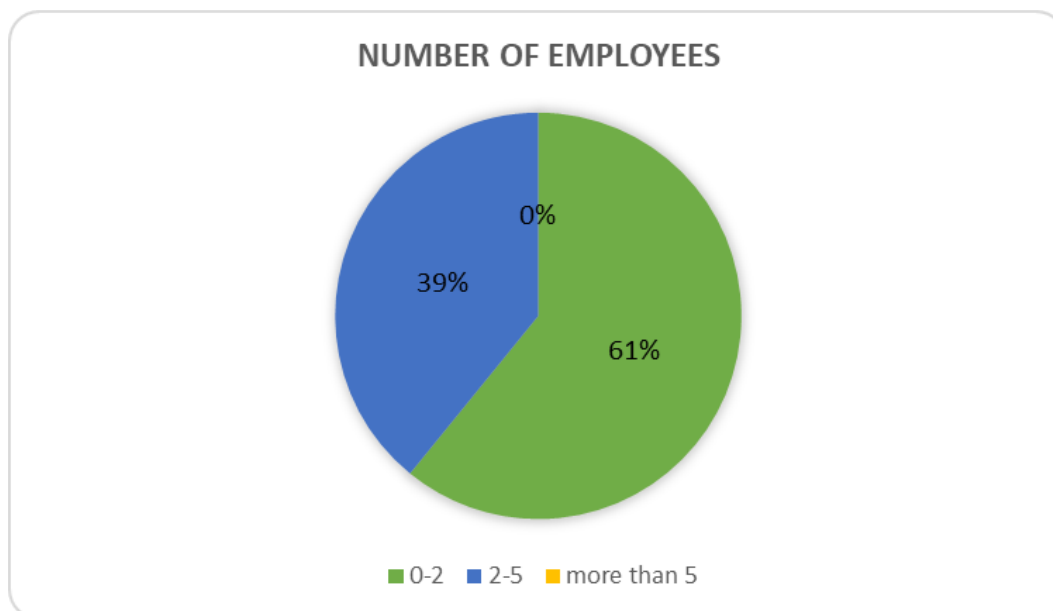
In figures, the average value for each category is shown in the following graph:



Overall, the annual management costs per vessel are on average around €18,500.

4.13 Number of employees

The crew embarked is an average of 2 persons in the 61% of cases; the largest vessels involve 3-5 persons.



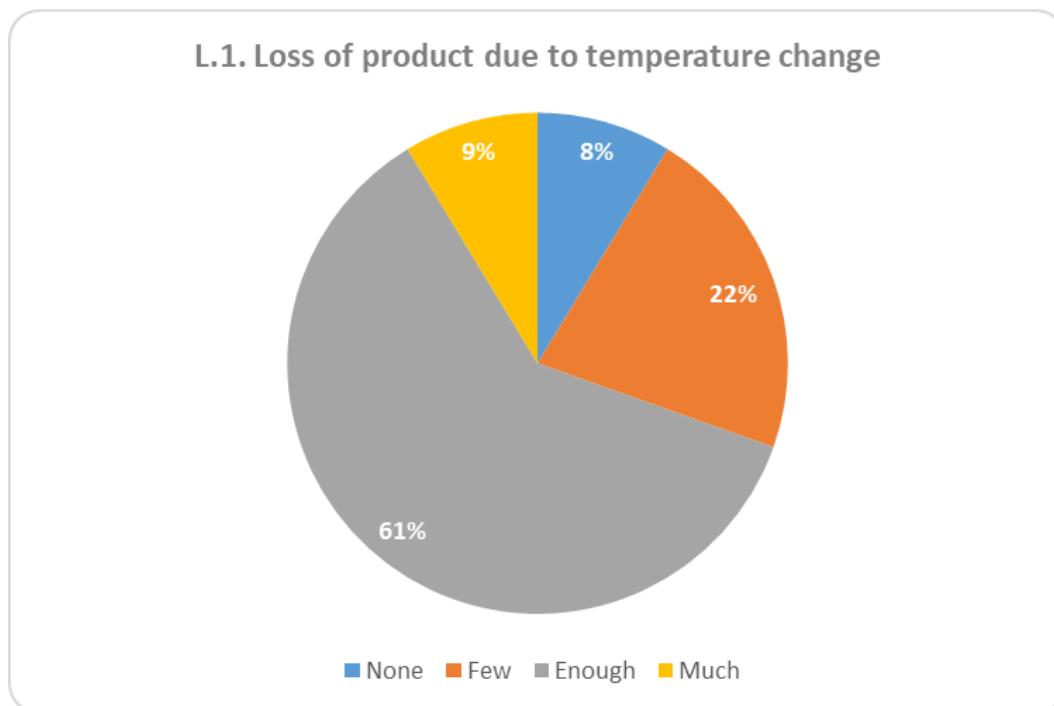
4.14 Aspects related to climate changes

L.1. Loss of product due to temperature change

The 61% of the sample agree on the fact that climate changes affect the fishery production, while the 22%

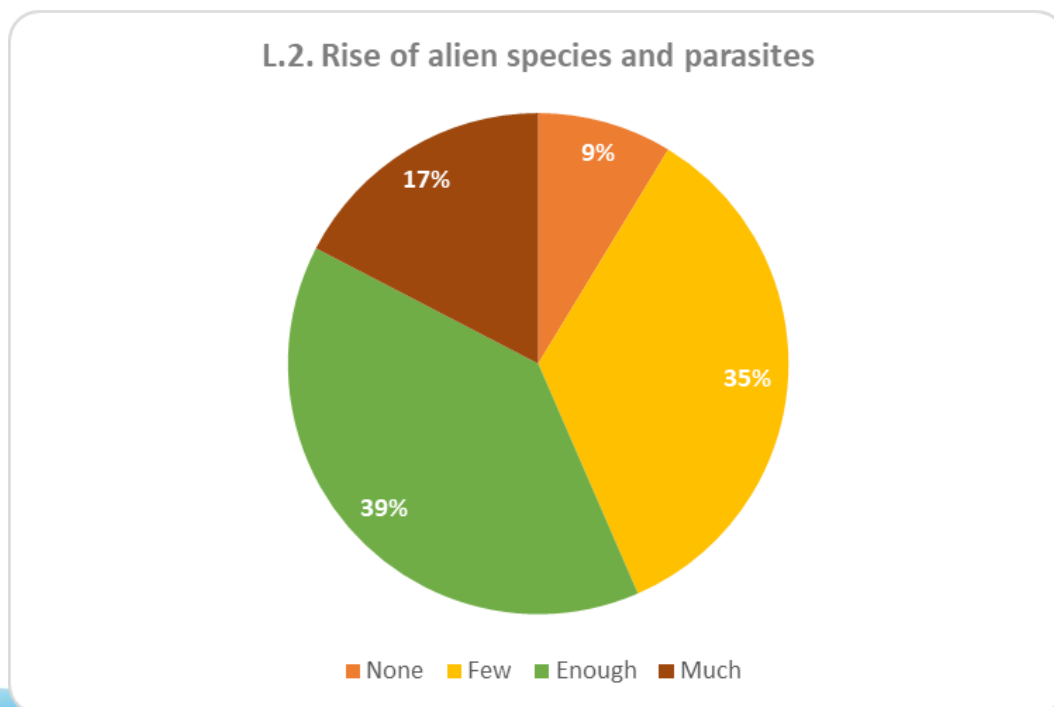
partially disagree on the matter.

Only the 8% believe that that product loss due to climate change is unlikely.



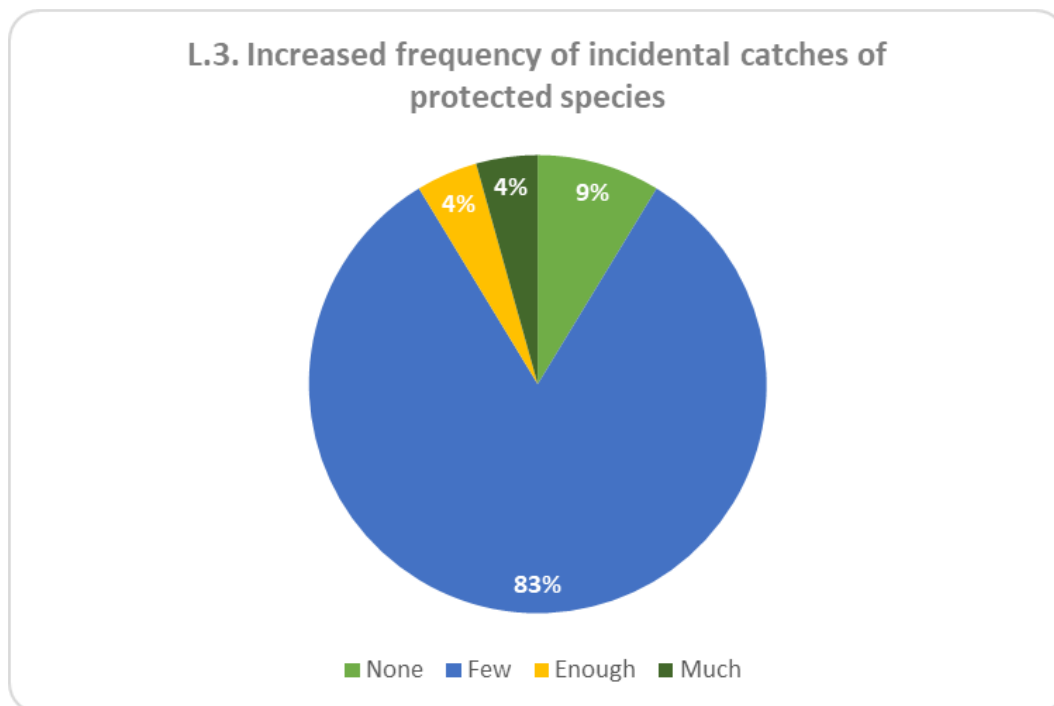
L.2. Rise of alien species and parasites

At the second question, the 39% of the fishermen believe highly significant the increase of alien species and parasites; only the 9% did not observe any changes.



L.3. Increased frequency of incidental catches of protected species

Almost all the fishermen (83%) consider unlikely a higher frequency of incidental catches of protected species. The residue parts of the sample are differently approached, as showed in the following graph



L.4. Capture alien species

In most cases, this question is not answered, probably due to a lack of knowledge of the species that are the subject of the question.

Only some fishermen refer about the increased presence of *Pomatomus saltatrix*; even if this species is not alien but moved from the Southern Mediterranean area and now stably in the Northern part.

L.5. Capture protected species

The only species indicated as object of accidental capture is the sea turtle, which is however occasional.

4.15 Good practices exchanges

Most of the fleet (83%) never participated in projects that involved in exchange of good practices with other seafarers and do not show any interest in participating in initiatives aimed at this purpose.

The others have already participated at projects and exchange of know how regarding processing, fishtourism and ichtyotourism

COLLECTION OF FISHERY AND AQUACULTURE DATA AT LOCAL LEVEL

WP 4- Knowledge-based decision-making process

Activity 4.2 Common scheme for the management of fishery activities at local level

CASE STUDY – FISHERY SEGMENT

5. ALBACORE TUNA FISHERY

RIFERIMENTI	
Interreg Programme	Interreg V-A Italy-Croatia CBC Programme 2014-2020
Acronym Project	ARGOS
Project Title	ShaARed GOVERNANCE of Sustainable fisheries and Aquaculture activities as leverage to protect marine resource in the Adriatic Sea
Project ID	10255153
Document date	September 10, 2022
Version	3

Project Partner	PP5 APULIA REGION
Apulia Region	DEPARTMENT OF AGRICULTURE RURAL DEVELOPMENT AND ENVIRONMENT
	Sustainable Management and Protection of Forest and Natural Resources Section

Authors	
Data collectors	Cataldo Licchelli, Mario Pansini, Giuseppe Storelli
Project Manager	Giuseppe Scordella
Communication Manager	Alessandra Miccoli

1. GENERAL CHARACTERISTICS OF THE ALBACORE TUNA FISHERY

Almost all the fleet specialized in albacore tuna fishing (*Thunnus alalunga*) is located in Monopoli (BA).

There is a ban on swordfish fishing in the first quarter of each year, established annually by Ministerial Decree of the Director General of Fisheries and Aquaculture of the Ministry of Agriculture. It is the technical measure arranged in application of the provisions of ICCAT Recommendations no. 13-04 and 21-06 and related EU Regulation, laying down the prohibition to catch (“target-target” and / or “accessory-bycatch” catches), to keep on board, tranship or land specimens of albacore tuna from 1st October to 30th November and in the month of March of each year (*N.B. this last rule has been introduced in the 2022*).

The list of vessels authorized for fishery of albacore tuna is established by Directorial Decree no. 17110 of 07/31/2017 *et sequ.*

Starting from 2020, the Apulia Region has activated “*de minimis*” aid in support of fishermen who observe the period of halt fishing for albacore tuna between 1 October and November 30 of the reference year.

The sample being surveyed was extracted from the ranking of fish companies that benefited the aid in 2020.

2. INTERVIEWED SAMPLE

The work plan provided for the data collection for n. 9 boats, all operating in the port of Monopoli (BA).

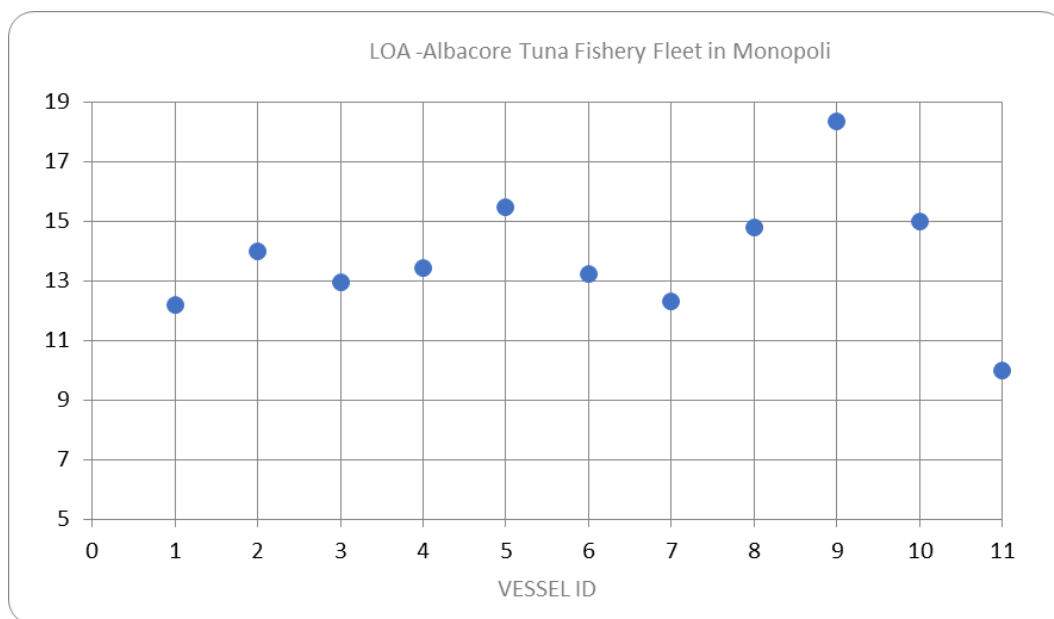
Survey Plan with General Plan		Surveys carried out on 31.05	
Fishery Segment	Estimated Sample	Numbers	Residue
Albacore tuna fishing	9	11	0

The estimated sample have been integrated during the survey with two others companies practicing this type of fishing, for a total of no. 11 interviews.

3. DATA COLLECTED (reference year 2020)

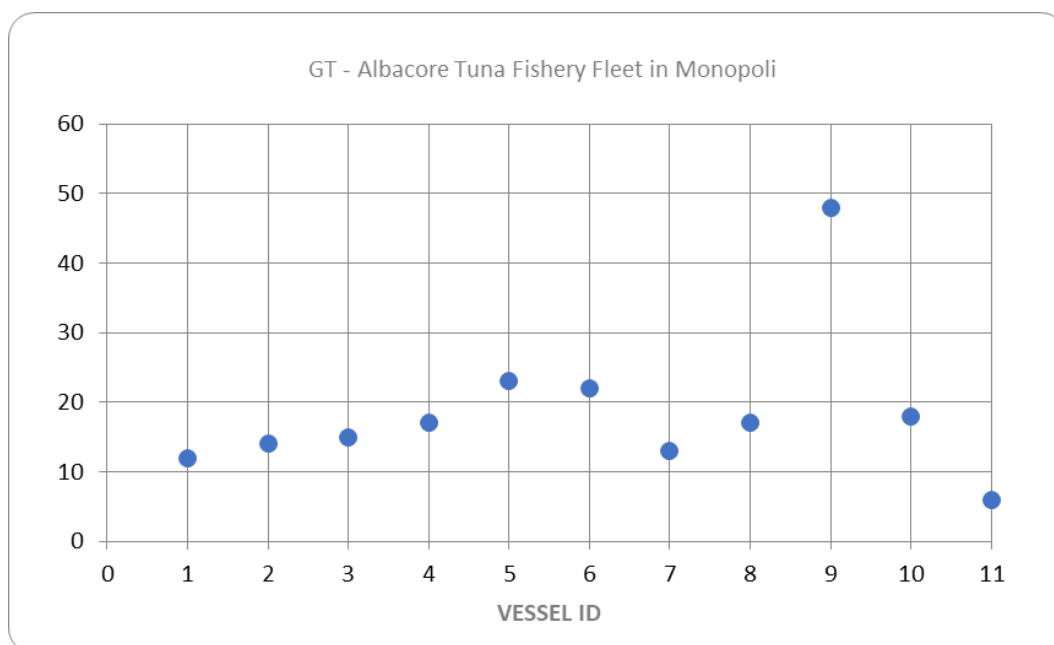
4.1 Length Over All (LOA)

The Length Over All of boats surveyed is between 9.98 and 18.33 m, with an average of 13.78 m.



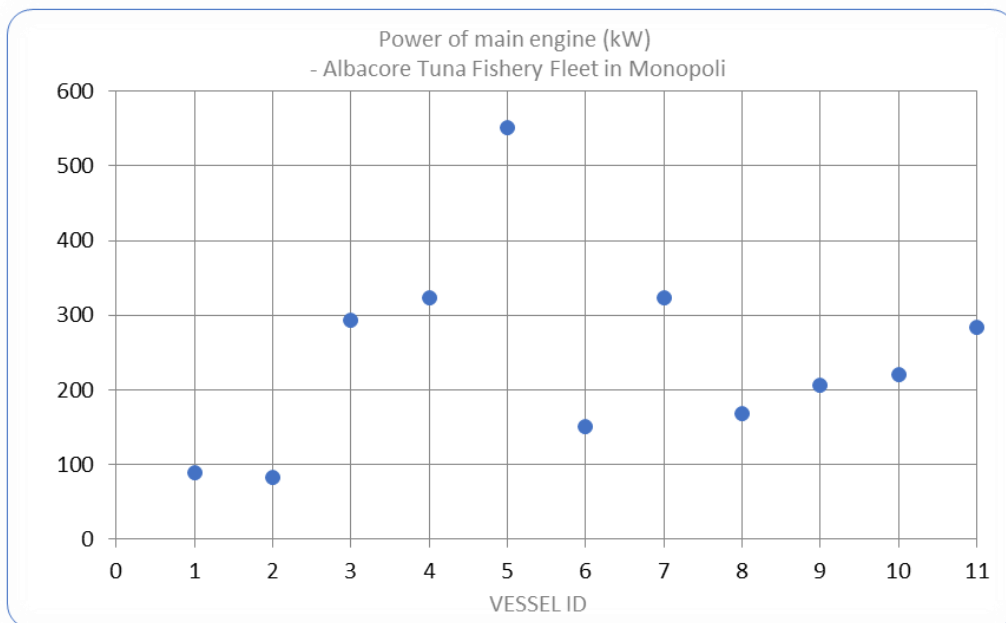
4.2 GT

The range of GTs detected is between 6 and 48, with an average of 18.64 GT. The graph shows that the gross tonnage of Monopoly vessels is included in the 10-20 GT range; only two have higher values in line with the greater overall length recorded.



4.3 kW

The range of kW of engine power on the vessels is between 83 and 552, with an average of 244.96 Kw.



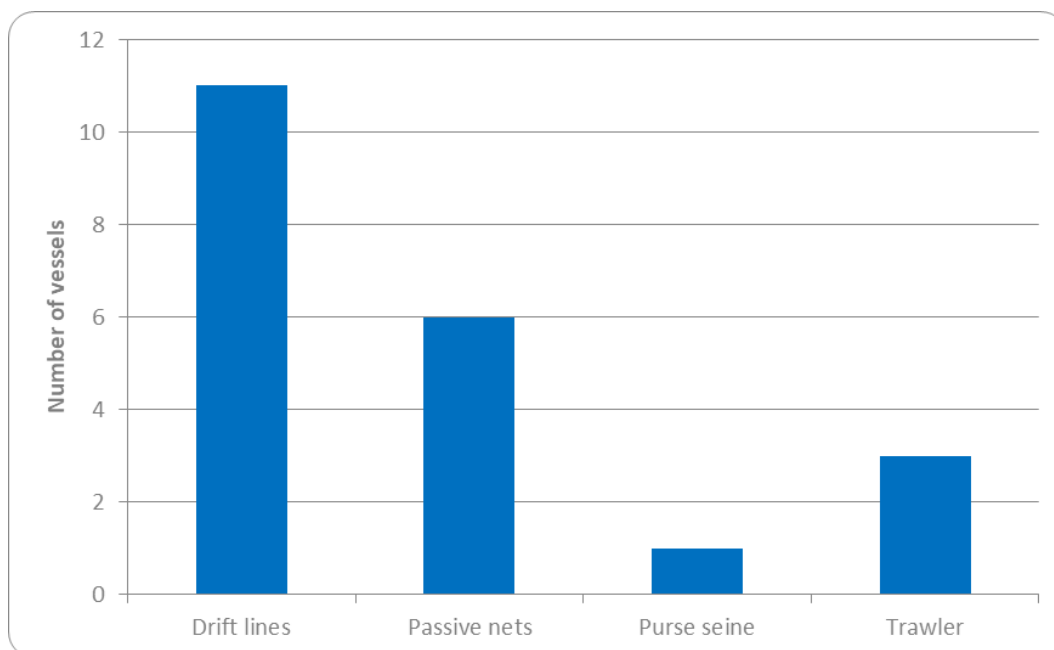
4.4 Operating Port

All vessels have Monopoli as operational port; only one has Ortona (CH) as second operational port.

4.5 Most used fishing gear

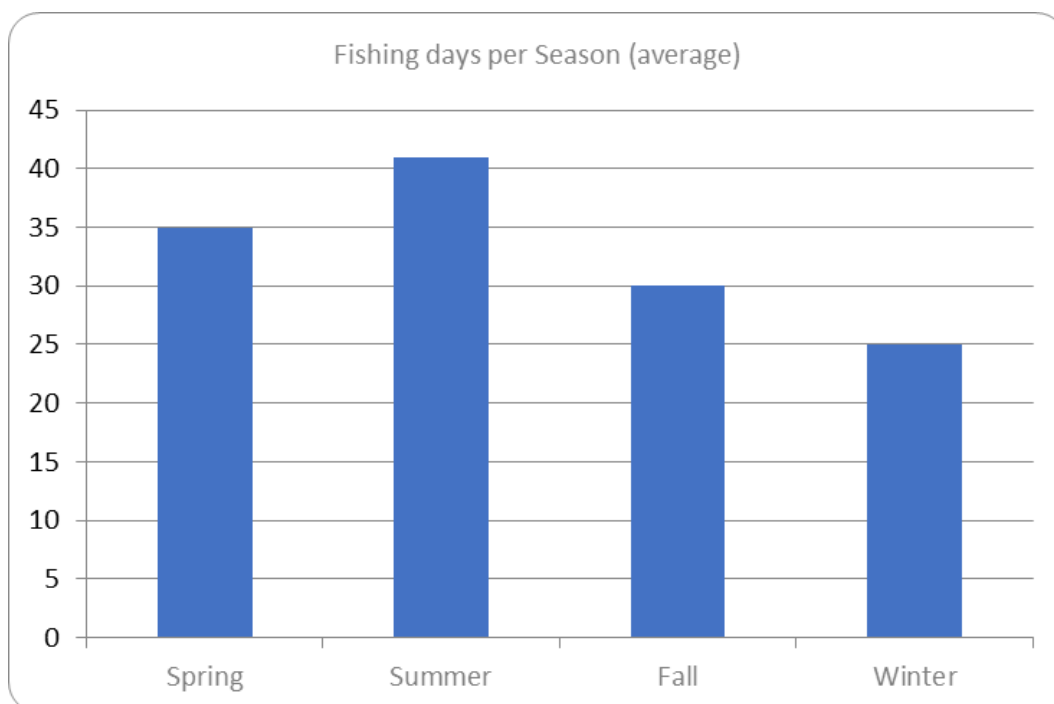
The entire fleet of fishing vessels use Longline as the main fishing gear:

Licensed fishing gear	Number of vessels
1. Drift lines	11
2. Passive nets	6
3. Purse seine	1
4. Trawler	3



4.6 Fishing days

During the year 2020, the fishing days are spread out fairly evenly at the seasonal level, with a slight prevalence for the summer season.



The average of the total fishing days per vessel is 130 days / year.

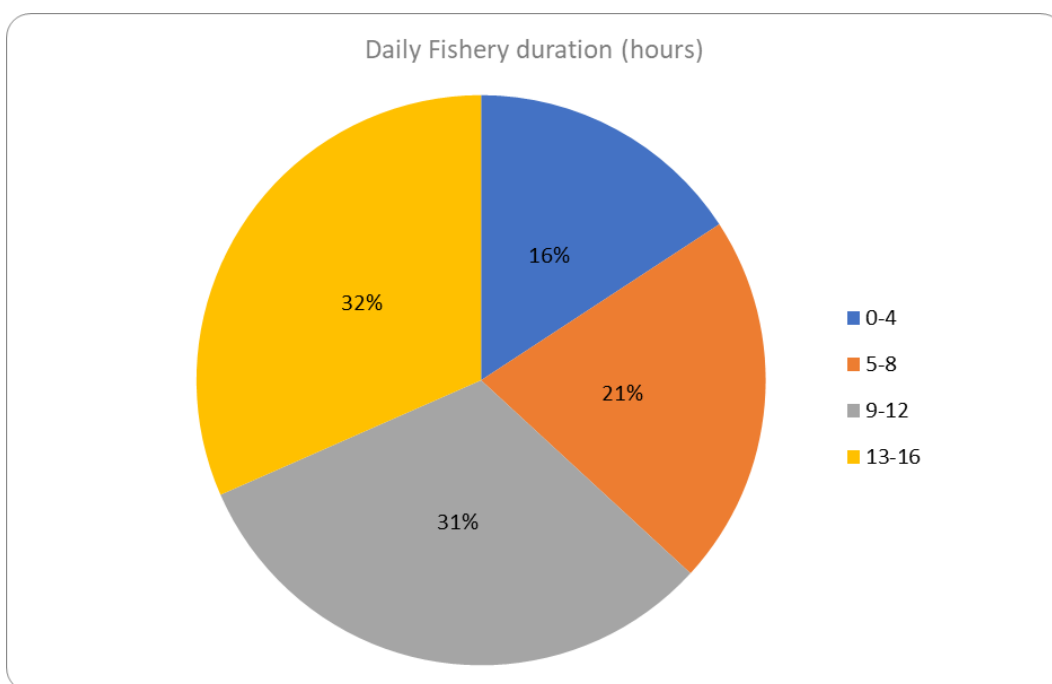
Anyway, Albacore Tuna is not always the target species, so its fishery has been performed only during Summer and Fall.

The Covid-19 pandemic caused in 2020 many restrictions but this type of fishery continued to work while maintaining the pace of work almost unchanged.

4.7 Daily Fishery duration

Fishing of Albacore tuna fish is carried out in no. 2/3 hauls per day with different use of the gear among fishermen:

- only one fisherman declared the use of the tool for less than 4 hours;
- four fishing boats (out of 11) practice fishing for 5-8 hours;
- other four vessels operate between 9 and 16 hours of fishing;
- the remaining two operate in three-time hour ranges: 0-4, 9-12, 13-16.



4.8 Operations carried out on board

After the hauling operations of the fishing gear, the following operations are carried out on board, which also indicate the respective durations:

OPERATIONS CARRIED OUT ON BOARD										
	MANUAL SELECTION		WASH		BOXING		REFRIGERATION		CHILLING	
	YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION
1	Yes	6h	Yes	2h	Si	2h	Yes	2h	No	\
2	Yes	3h	Yes	1h	Si	1h	Yes	1h	No	\

During the interviews, two different operational methods of processing the fish on board emerged; for this reason, the same have been reported in two different lines, more representative of the sample.

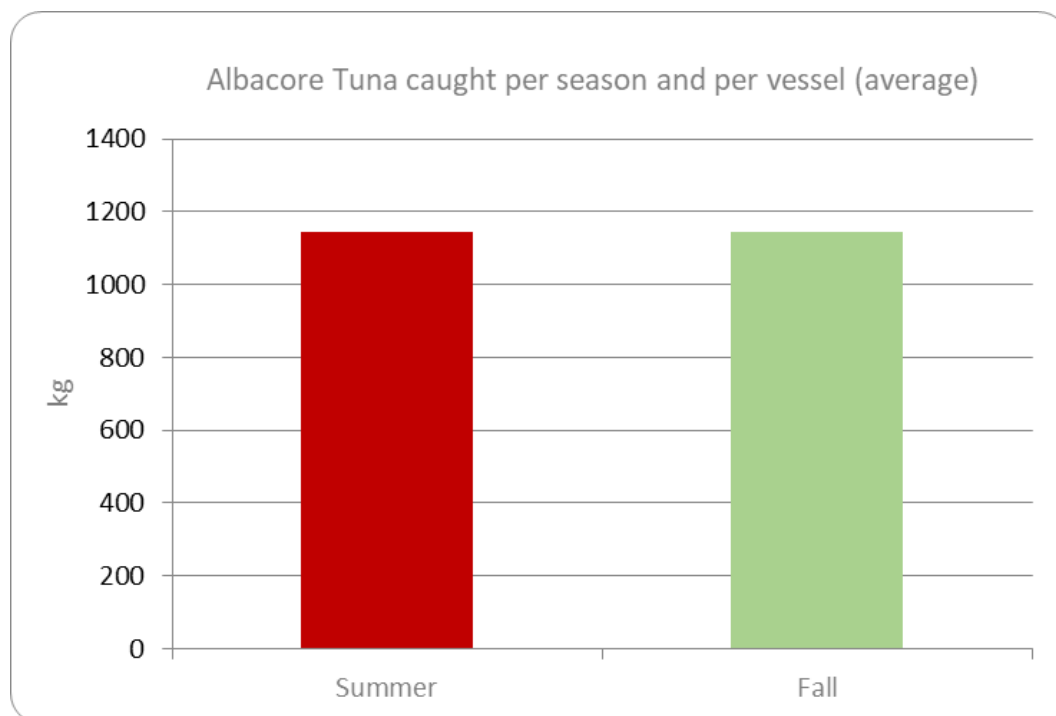
The lack of blast chillers on board is evident as the product is marketed fresh.

4.9 Percentage of most caught species on the total

Fishermen did not consider to release information.

4.10 Quantities and value of the species caught

The average quantities of Albacore Tuna caught per vessel and per year is 2,286 kg; the crop is equally divided between Summer and Fall seasons.



The average sales price recorded is included in a range of € 2 -4 / kg, with an average price of 2.3 kg.

So, the average year turnover from this fish product of about 7,000 € per vessel.

The data reported during the interviews place the overall annual turnover (therefore albacore tuna + other species landed) for 10 fishing companies in the range between € 100,000 and € 250,000; while, only 1 company declared a turnover in the range between € 50,000 and € 100,000.

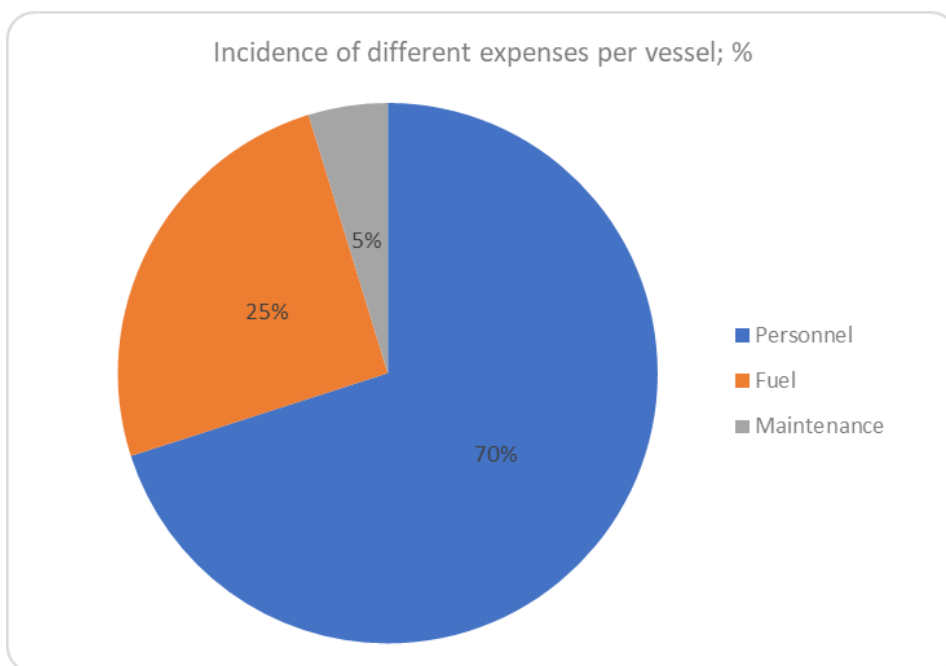
4.11 Commercial channels used

The landed product is delivered exclusively to the wholesale channel.

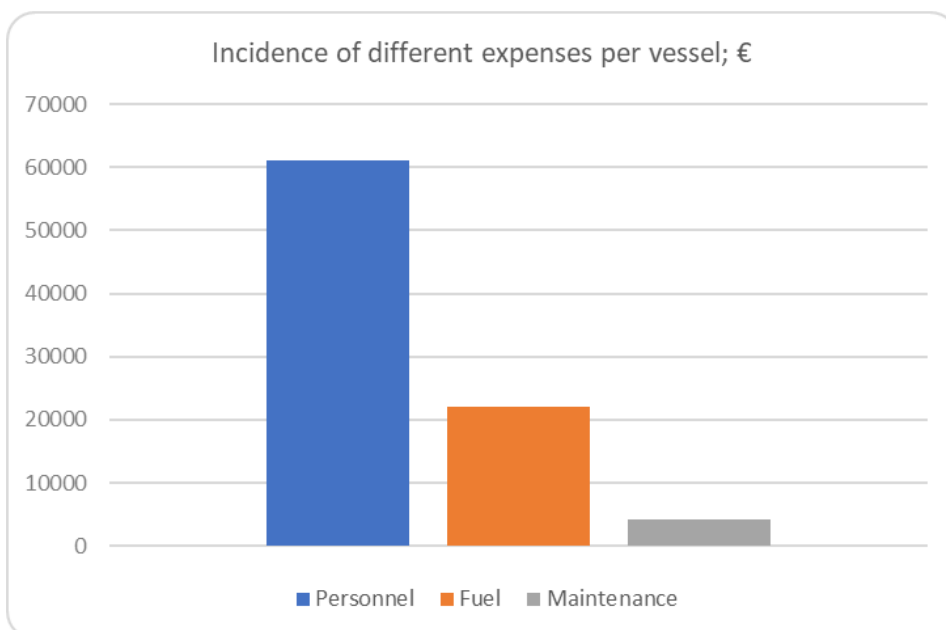
4.12 Costs

Business management involves a series of expenses that have been enclosed in three categories, for simplicity: Crew, Fuel, Maintenance. In particular, 70% of expenses are related to personnel costs, followed by fuel costs equal to 25% of the total, ending with maintenance costs, representing 5%.

Considered also that no. 6 fishermen did not reply the question on personnel cost; so, the average data has been conducted on no. 5 vessel only. The average value for each category is shown in the following graphs:



Overall, the annual management cost per vessel is on average around €70.435.



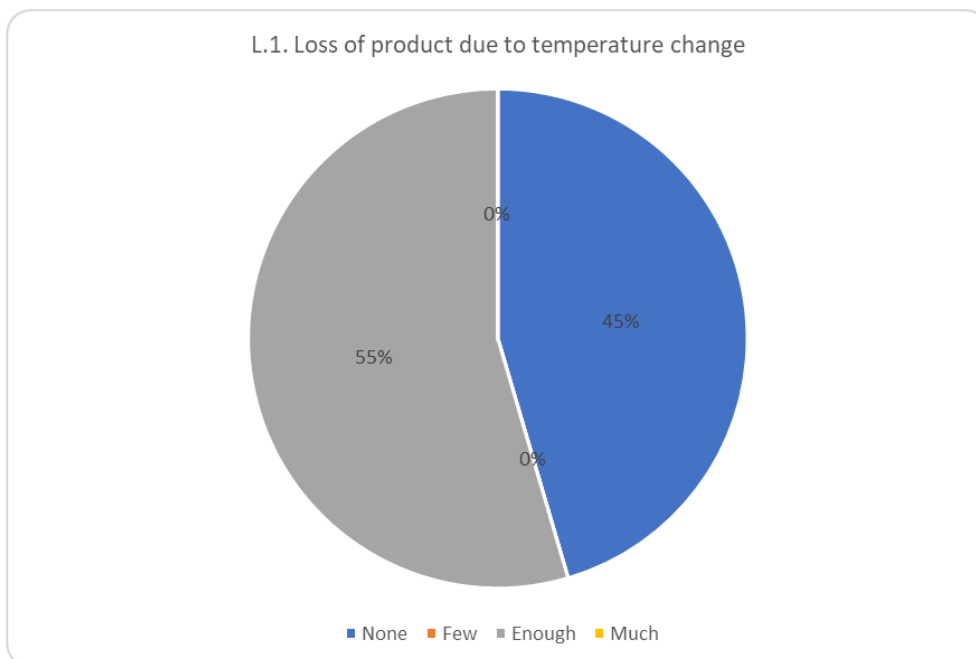
4.13 Number of employees

The crew embarked on each vessel fishing albacore tuna is an average of no. 3 people.

4.14 Aspects related to climate change

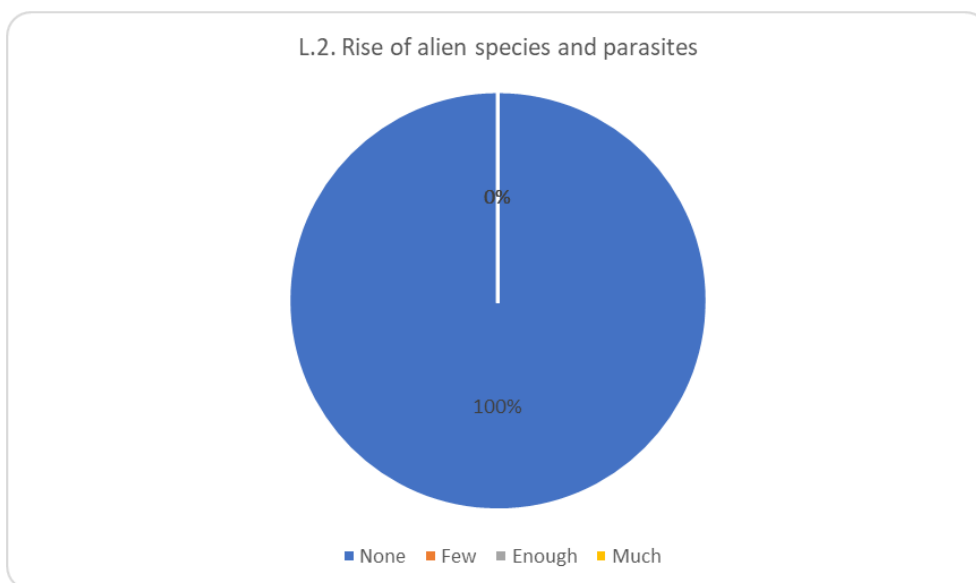
L.1. Loss of product due to temperature change

The 45% of fishermen believes that product loss due to climate change is unlikely, while 55% are quite in agreement with this hypothesis.



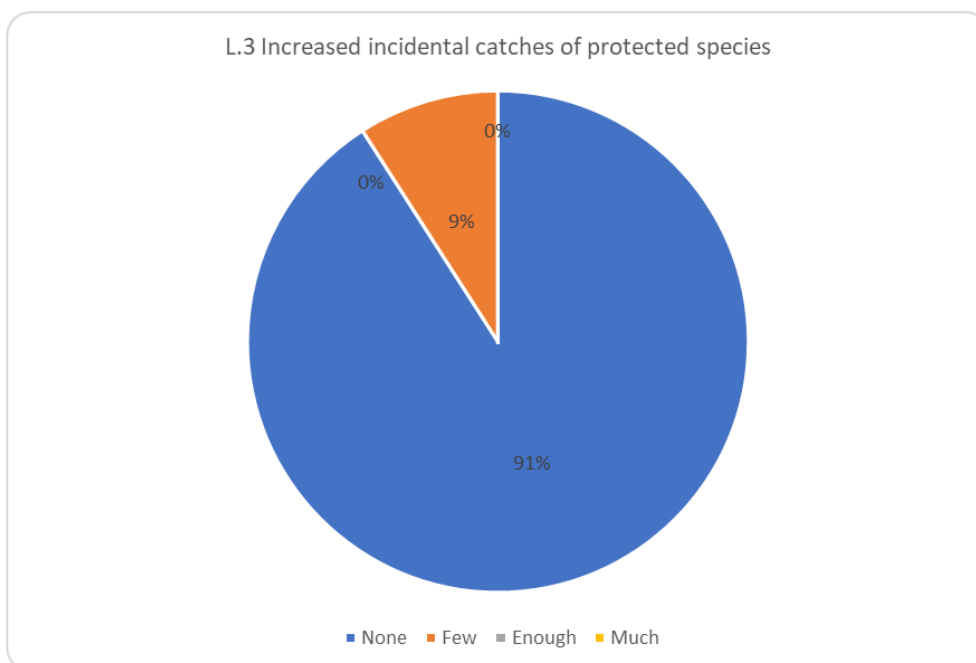
L.2. Rise of alien species and parasites

All the interviewees did not find an increase in alien species and parasites at all.



L.3. Increased frequency of incidental catches of protected species

Almost all the fishermen believes that a greater frequency of accidental catches of protected species is unlikely.



L.4. Capture alien species

In most cases, this question is not answered, probably due to a lack of knowledge of the species covered by the question.

L.5. Capture protected species

The only species indicated as object of accidental capture is the sea turtle, even if occasional.

4.15 Exchanges of good practices

Most of the fleet has never participated in projects that involved the exchange of good practices with other seafarers and do not show any interest in participating in initiatives aimed at this purpose, with the exception of some entrepreneurs.

COLLECTION OF FISHERY AND AQUACULTURE DATA AT LOCAL LEVEL

WP 4- Knowledge-based decision-making process

Activity 4.2 Common scheme for the management of fishery activities at local level

CASE STUDY – FISHERY SEGMENT

6. ACTION PLAN FOR WHITE SHRIMP FISHERY IMPROVEMENT

RIFERIMENTI	
Interreg Programme	Interreg V-A Italy-Croatia CBC Programme 2014-2020
Acronym Project	ARGOS
Project Title	ShaARed GOVERNANCE of Sustainable fisheries and Aquaculture activities as leverage to protect marine resource in the Adriatic Sea
Project ID	10255153
Document date	September 10, 2022
Version	2

Project Partner	PP5 APULIA REGION
Apulia Region	DEPARTMENT OF AGRICULTURE RURAL DEVELOPMENT AND ENVIRONMENT
	Sustainable Management and Protection of Forest and Natural Resources Section

Authors	
Data collectors	Cataldo Licchelli, Mario Pansini, Giuseppe Storelli
Project Manager	Giuseppe Scordella
Communication Manager	Alessandra Miccoli

1. GENERAL CHARACTERISTICS OF THE “ACTION PLAN FOR THE IMPROVEMENT OF THE WHITE SHRIMP FISHERY”

The white shrimp (*Parapenaeus longirostris*) fishery is practiced throughout the year with trawl nets in the Southern Adriatic Sea (GSA18) by the fleets of the Bisceglie, Molfetta and Trani.

Because of the importance of this product, the Ponte Lama Local Action Group (LAG) is leading the project “FIP. GAMBERO BIANCO” which wants to develop an Action Plan for the improvement of white shrimp fishing in the South Adriatic (GSA18) according to the MSC sustainable fishing standards.

The Plan deploys different approaches and actions to be taken to improve the fishery of this resource, which is very important for the sector's economy and for the fresh seafood market in the Southern Adriatic.

So, the ARGOS project survey wants to focus on this fishery segment to find possible “cross-fertilization” between the two complementary projects (ARGOS and FIP.GAMBERO BIANCO).

2. INTERVIEWED SAMPLE

The work plan provided for the data collection for No. 28 vessels, operating in the ports of Bisceglie (BT), Molfetta (BA) and Trani (BT).

No. 21 fishing enterprises operating in the reference area and adhering to the project initiative “Action Plan for the Improvement of the White Shrimp Fishery in the Southern Adriatic (GSA18) according to the MSC Sustainable Fishing Standard” accepted to be interviewed.

Moreover, the possibility to extend the interviewed sample to other similar ports operating in the same GSA18 was evaluated; so, No. 7 vessels operating in Monopoli and No. 1 operating in Manfredonia. This in order to obtain comparative data useful to export the white shrimp fishery best practices.

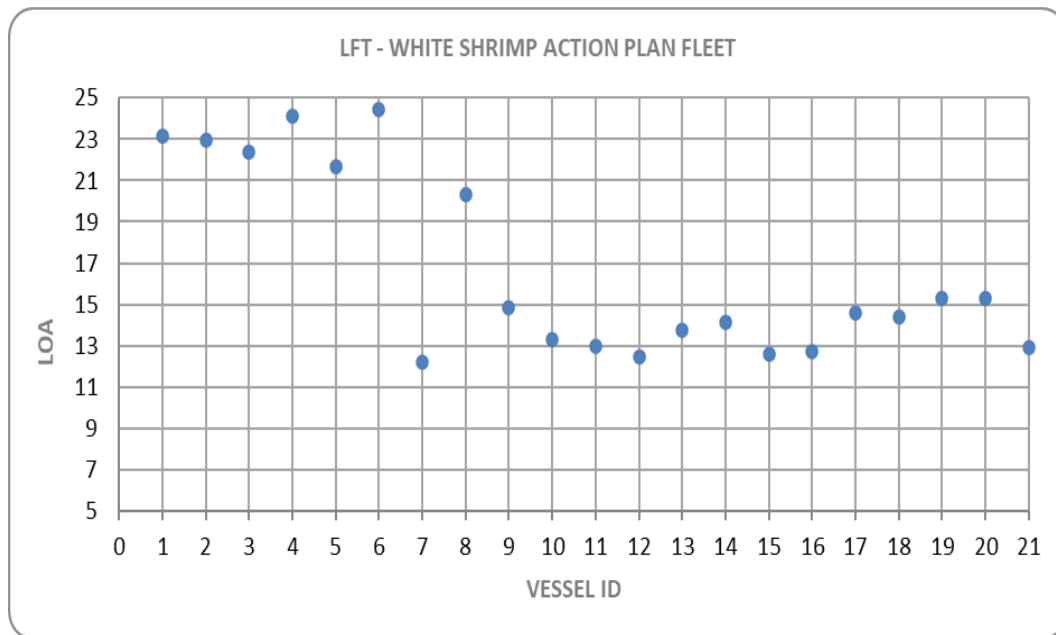
For the purposes of the processing in this paper, only data of No. 21 vessels operating in the ports of Bisceglie, Molfetta, Trani and Barletta were used.

Survey Plan with General Plan		Surveys carried out on 31.05	
Fishery Segment	Estimated sample	Number	Residue
Action plan for improving the white shrimp fishery	28	29	0

3. DATA COLLECTED (reference year 2020)

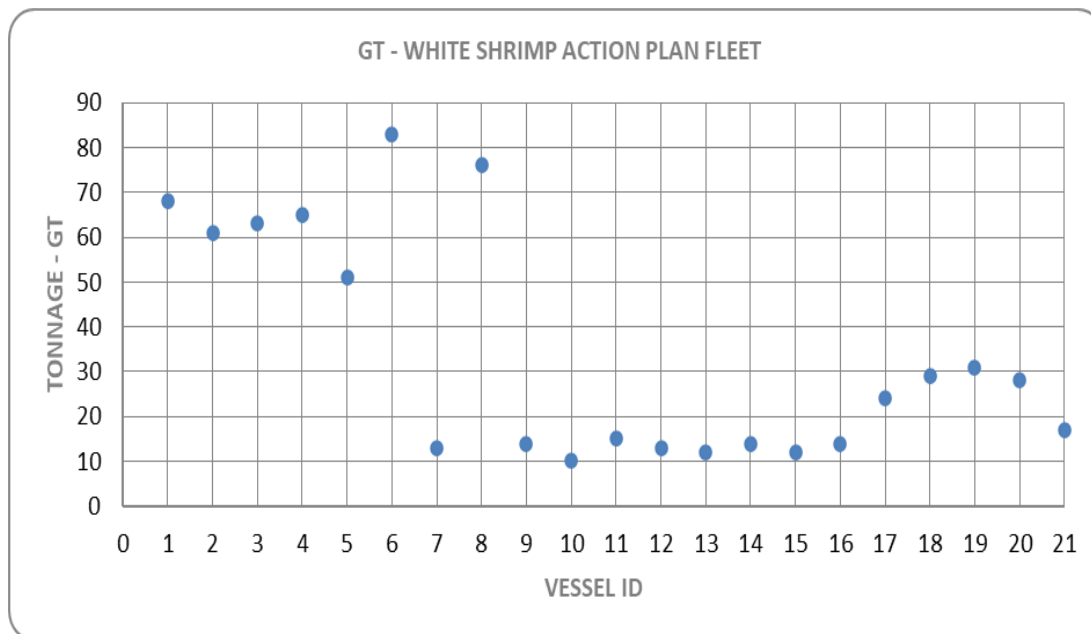
4.1 Length Over All (LOA)

The Length Over All of boats surveyed ranged from 12.22 to 24.45 m, with an average of 16.68 m.



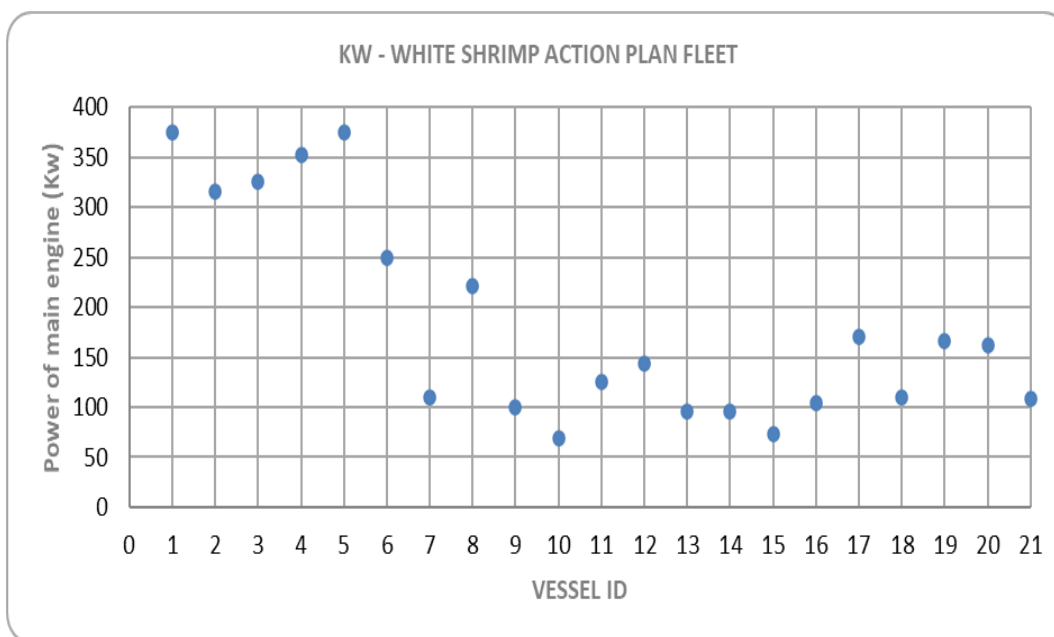
4.2 GT

The range of GT detected is from 10 to 83, with an average of 33.95 GT. The graph shows that the gross tonnage of fishing vessels is mostly in the range of 10 to 30 GT.



4.3 KW

The range of detected KW is from 69 to 375, with an average of 183.27 Kw.



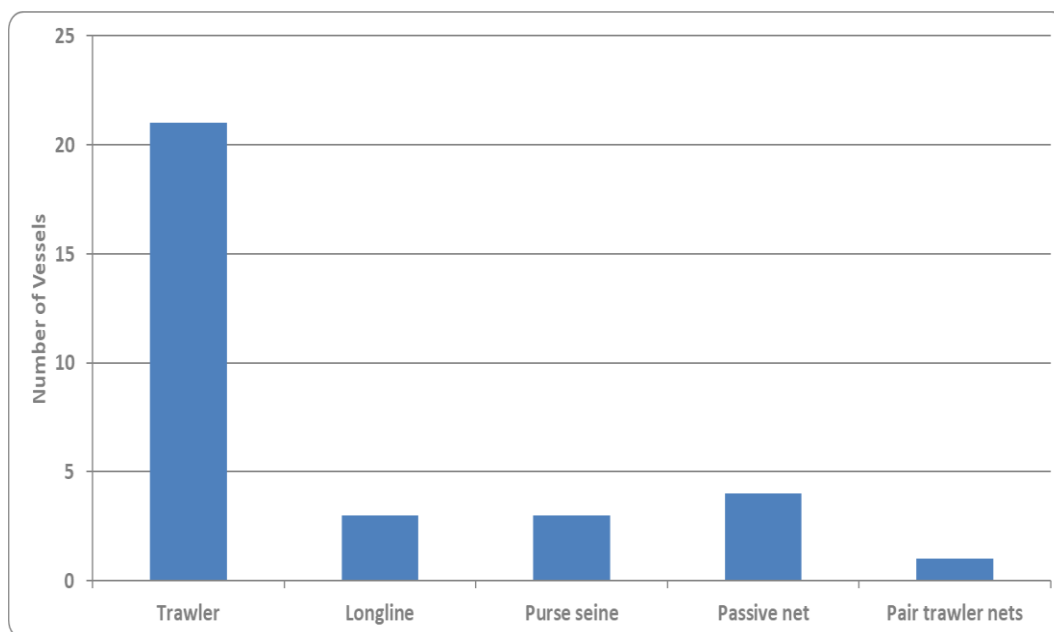
4.4 Operating Port

The 9% of vessel are located in Bisceglie port, 48% in Molfetta, 14% in Trani and 29% in Barletta.

4.5 Most used fishing gear

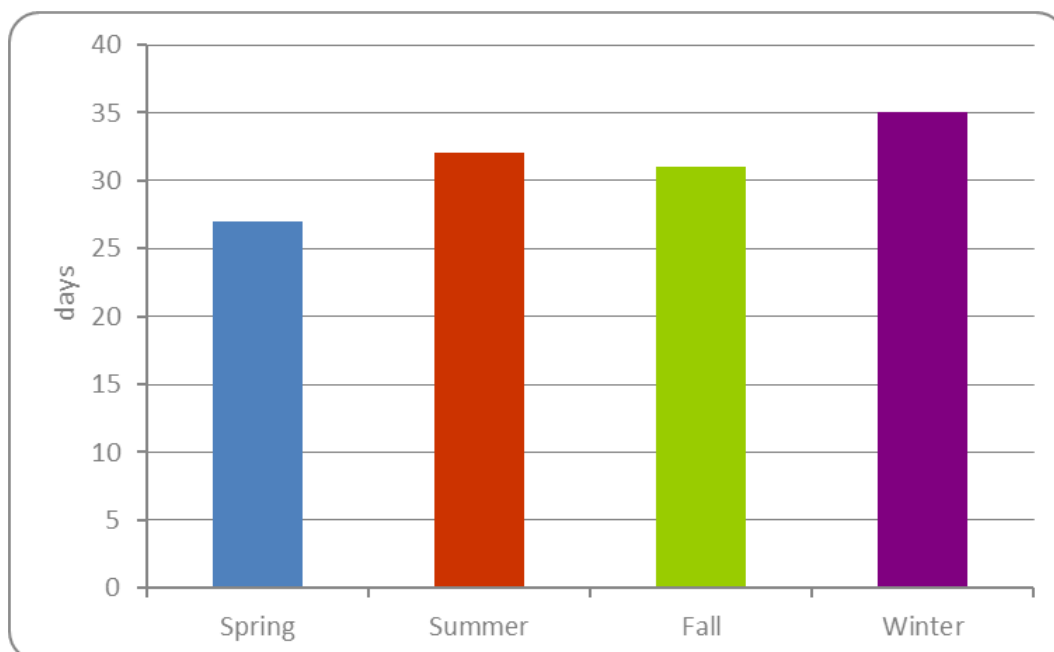
The entire fishery fleet regularly use trawlers as main fishing gear:

Licensed registered fishing gear	Number of vessels
4. Trawler	21
5. Longline	3
6. Purse seine	3
7. Passive net	4
8. Pair trawler nets	1



4.6 Fishing days

In the year 2020, fishing days are fairly evenly distributed seasonally, with a slight predominance for the winter and summer seasons.



The average total fishing days per vessel is 129 gg/year.

The Covid-19 pandemic caused in 2020 many restrictions but this type of fishery continued to work while maintaining the pace of work almost unchanged.

4.7 Daily Fishery duration

White shrimp fishing is conducted in No. 2/4 hauls per day and in a varied time range.

Most vessels reported using the gear in the range of 5-8 hours (No. 9) and 13-16 (No. 10) hours. While only No.2 fishing vessels out of a total of 21 use the gear in the 9-12 hours range.

4.8 Operations carried out on board

After the hauling operations of the fishing gear, the following operations are carried out on board, which also indicate the respective durations:

OPERATIONS CARRIED OUT ON BOARD										
	MANUAL SELECTION		WASH		BOXING		REFRIGERATION		CHILLING	
	YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION	YES/NO	DURATION
1	YES	1h	SI	45min	YES	1,30h	YES	1h	SI	1h
2	YES	1h	SI	45min	YES	1,30h	YES	1h	NO	\
3	YES	1h	SI	1h	YES	1h	YES	1h	NO	\
4	YES	NP	NO	NP	YES	NP	YES	NP	NO	NP

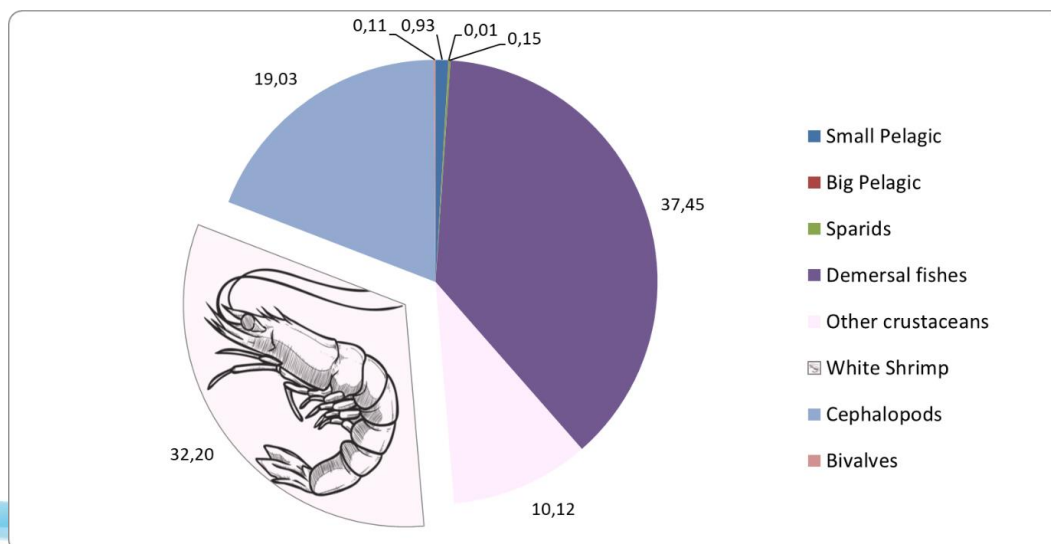
During the interviews, four different operating modes of on-board fish processing emerged; for this reason, they were reported in four different rows, more representative of the sample.

Only No. 6 out 21 vessels have a blast chiller on board.

4.9 Percentage of catches of most fished species on seasonal total

No fishermen release this information. So, the total catch percentage was calculated after careful processing of the absolute values released by the respondents.

White shrimp catch is accounted for 32.20% of the total. The catch of demersal fish accounts the highest percentage on the total (37.45%).



4.10 Quantities and value of the species caught

Annually, each vessel regularly fishing for white shrimp catches an average of 7,429 kg with no seasonal difference.

The sales price recorded and reported only by some respondents is € 1.50 per kg.

The data reported during the interviews place the total annual turnover (thus white shrimp + other species landed) for No. 12 fishing enterprises in the range between € 50,000 and € 100,000, while another No. 9 enterprises are in the range € 100,000 - 250,000; finally, only No. 1 enterprise declared a turnover in the range exceeding € 250,000.

4.11 Commercial channels used

The product is delivered almost exclusively to the wholesale trade.

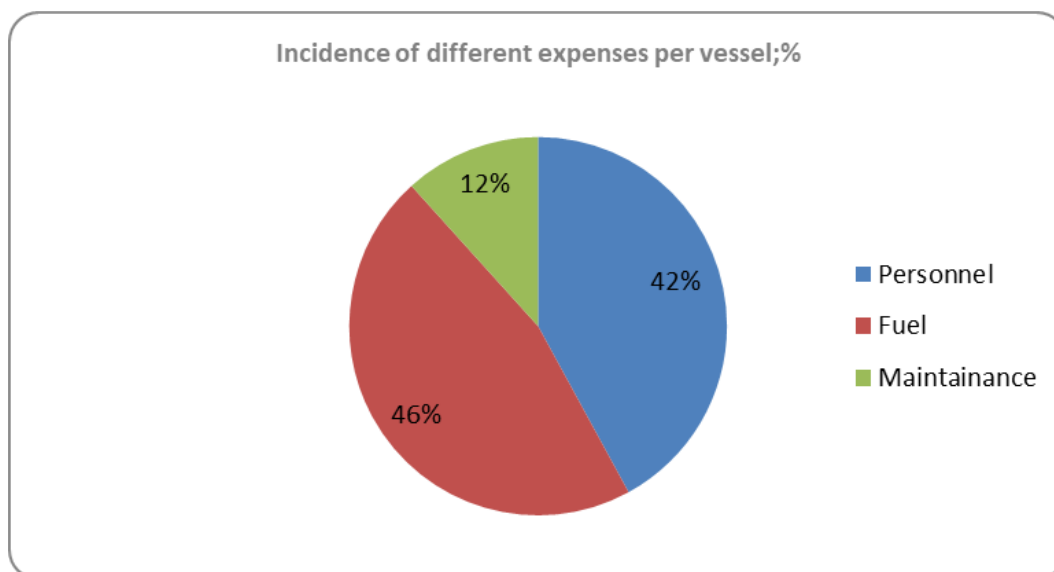
4.12 Costs

Business management involves a number of costs/expenses that have been lumped into three categories for simplicity: Personnel, Fuel, Maintenance.

The following graph shows that 46% of the expenses are related to personnel costs, followed by fuel costs accounting for 42% of the total, and ending with maintenance costs accounting for 12%.

It should be pointed out that No. 2 vessels did not provide absolute values but a percentage figure.

In figures, the average value for each category is represented in the following graph:



Overall, annual operating costs per vessel average around €114,016.

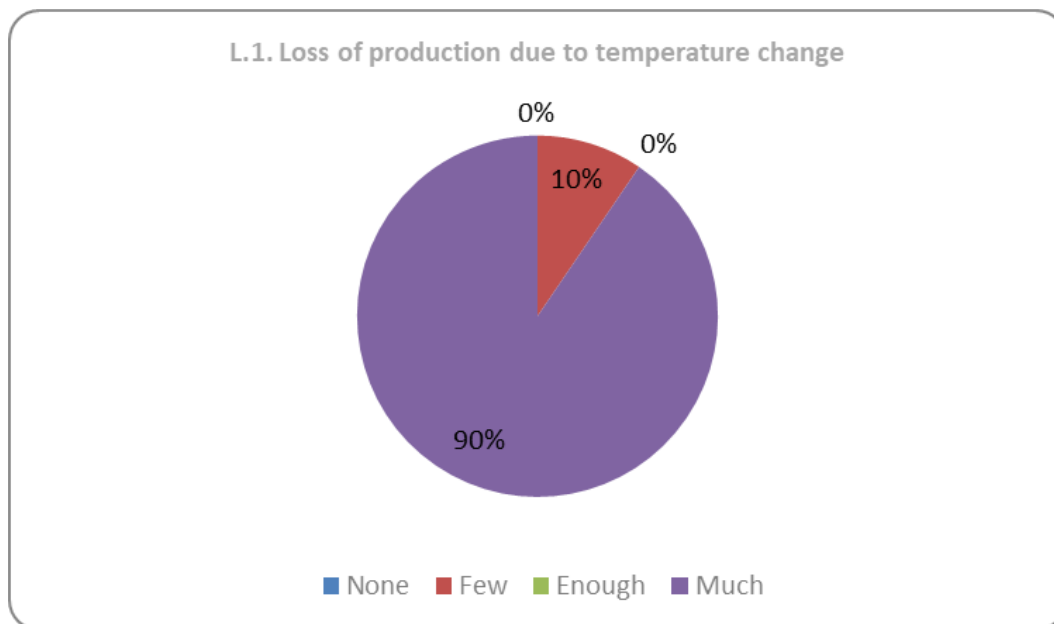
4.13 Number of employees

The crew embarked on each vessel involved on the white shrimp fishing fleet consists of an average of No. 3 people.

4.14 Aspects related to climate changes

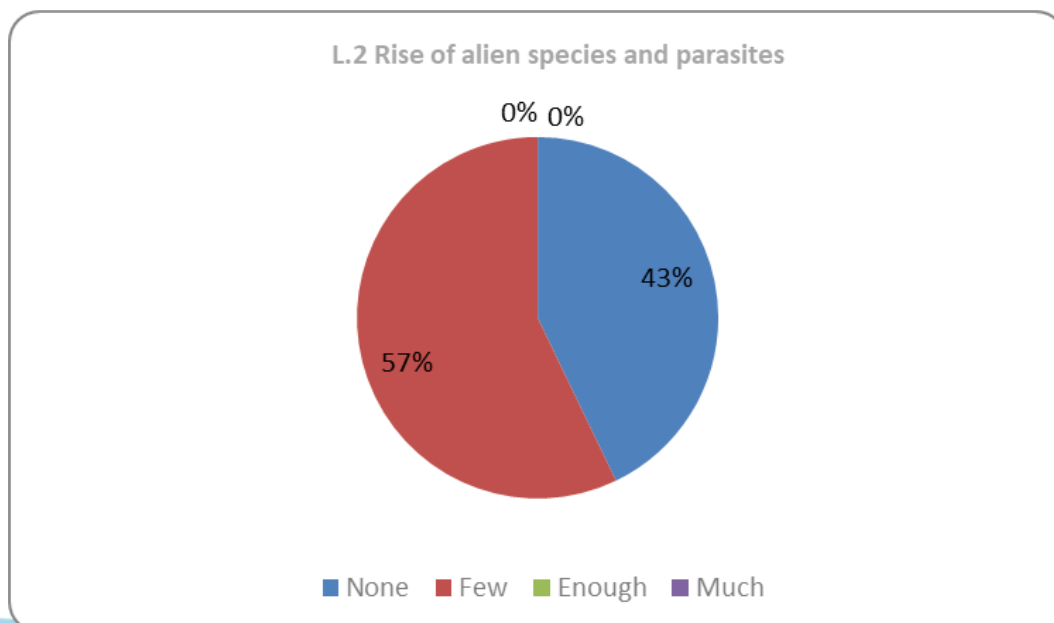
L.1. Loss of product due to temperature change

The 10% of fishermen thought it was unlikely that they would lose product due to climate change, while 90% fairly agreed with this assumption.



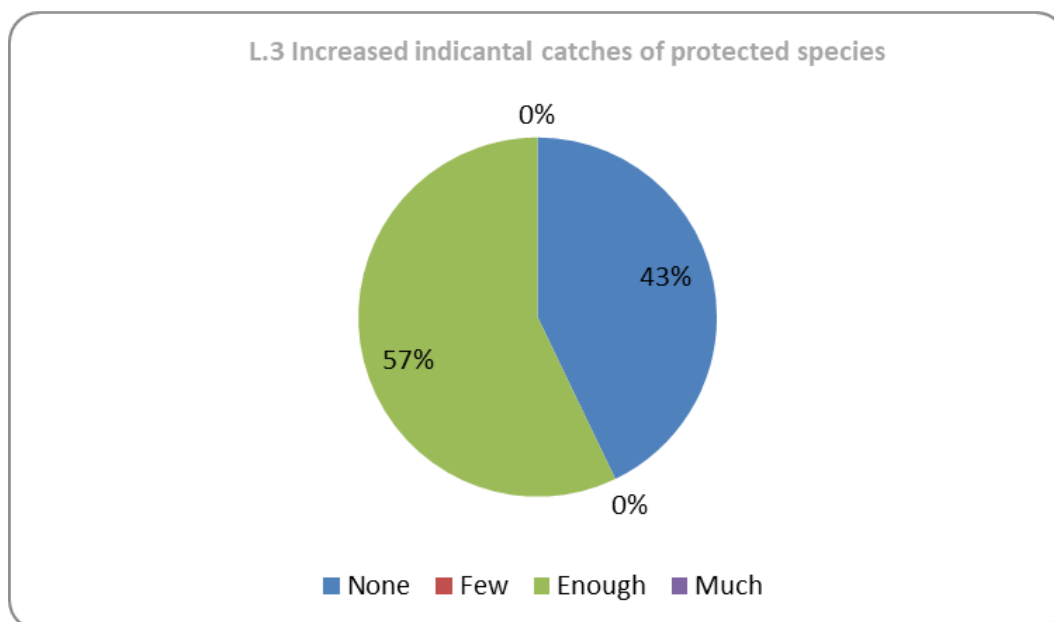
L.2. Rise of alien species and parasites

On the second question, 43% of the fishermen felt that they did not observe increase in alien and pest species at all; in contrast, the remaining respondents felt that they experienced a minimal increase.



L.3. Increased frequency of incidental catches of protected species

More than half of the respondents to this question consider the incidental capture of protected species to be quite likely; whereas, 43% consider the incidental capture to be not at all frequent.



L.4. Capture alien species

In most cases, blue crab is indicated.

L.5. Capture of protected species

The only protected species subject to incidental capture is the sea turtle.

4.15 Good practices exchanges

Most of the fleet has never participated in projects that involved the exchange of best practices with other fleets, and they express interest to participate at initiatives related to catch processing and fish tourism activities.

COLLECTION OF FISHERY AND AQUACULTURE DATA AT LOCAL LEVEL

WP 4- Knowledge-based decision-making process

Activity 4.2 Common scheme for the management of fishery activities at local level

CASE STUDY – FISHERY SEGMENT

7. FISHING RED AND PURPLE SHRIMPS

RIFERIMENTI	
Interreg Programme	Interreg V-A Italy-Croatia CBC Programme 2014-2020
Acronym Project	ARGOS
Project Title	ShaARed GOVERNANCE of Sustainable fisheries and Aquaculture activities as leverage to protect marine resource in the Adriatic Sea
Project ID	10255153
Document date	September 05, 2022
Version	4

Project Partner	PP5 APULIA REGION
Apulia Region	DEPARTMENT OF AGRICULTURE RURAL DEVELOPMENT AND ENVIRONMENT
	Sustainable Management and Protection of Forest and Natural Resources Section

Authors	
Data collectors	Cataldo Licchelli, Mario Pansini, Giuseppe Storelli
Project Manager	Giuseppe Scordella
Communication Manager	Alessandra Miccoli

1. GENERAL CHARACTERISTICS OF THE RED AND PURPLE SHRIMPS FISHERY

Fishery of red shrimp (*Aristaeomorpha foliacea*) and purple shrimp (*Aristeus antennatus*) is practiced by the Gallipoli fleet.

Fishery vessels that regularly practice this type of fishing are n. 13.

2. INTERVIEWED SAMPLE

The work plan provided for the data collection for n. 4 boats, all operating in the port of Gallipoli (LE).

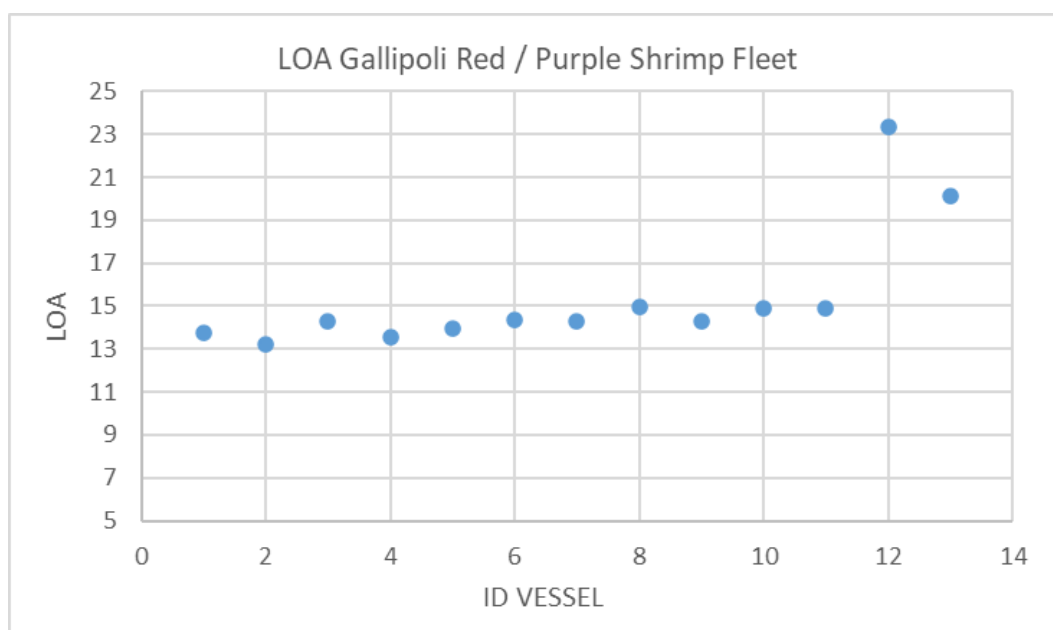
Survey Plan with General Plan		Surveys carried out on 31.05.2022	
Fishery Segment	Estimated Sample	Number	Residue
Red and purple shrimp fishing	4	4	0

3. DATA COLLECTED (reference year 2020)

4.1 Length Over All (LOA)

Most of the boats operating in the port of Gallipoli records values close to 15 m; only two vessels measure longer lengths respectively close to 20 and 23 meters.

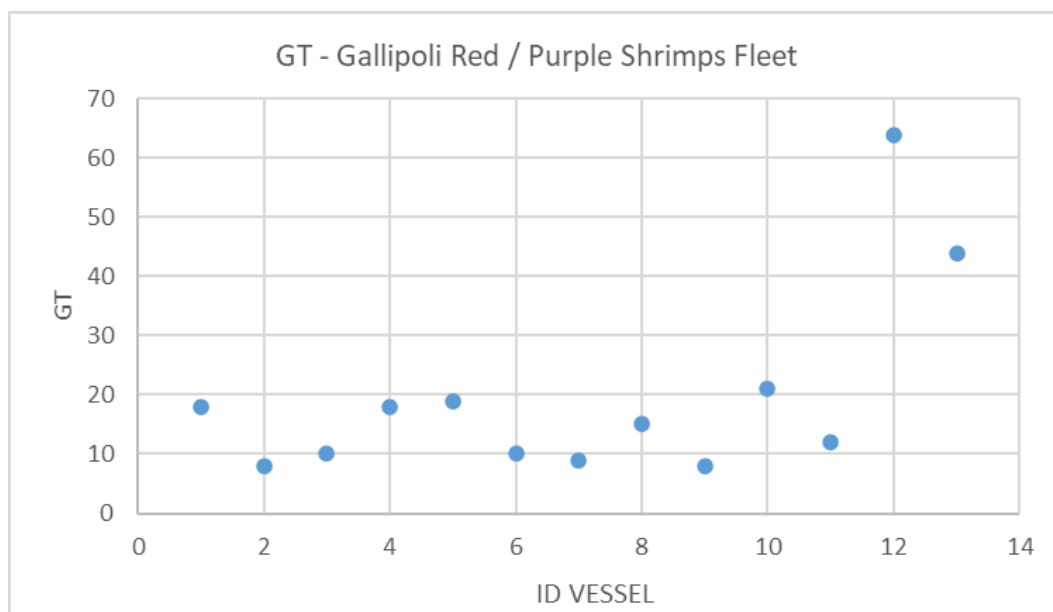
The LOA of the boats surveyed is between 13.21 and 23.35 m, with an average of 15.38m.



4.2 GT

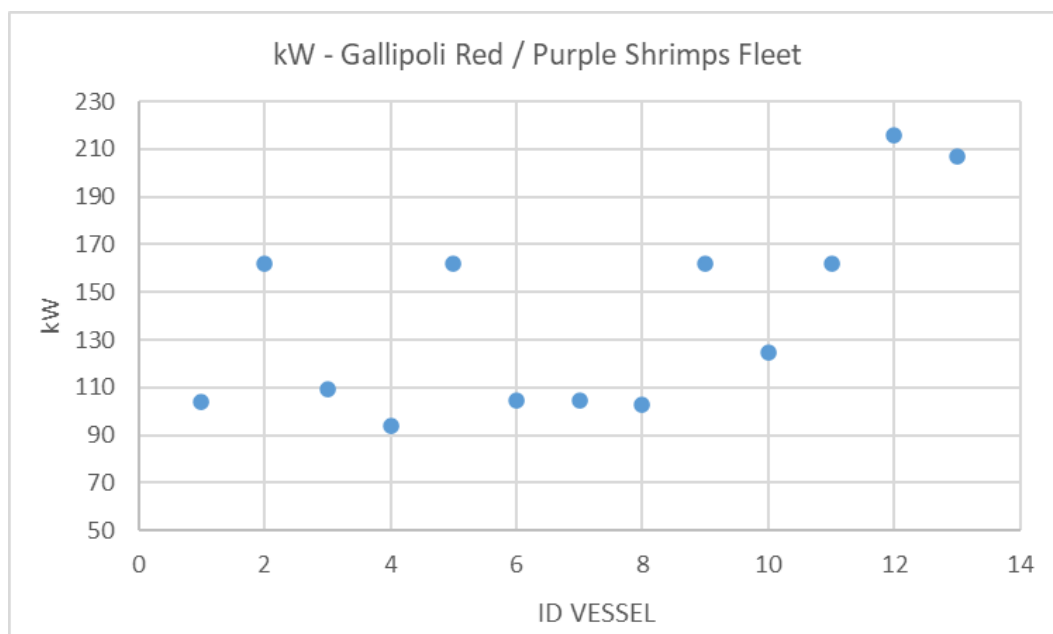
The range of GTs detected is between 8 and 64, with an average of 20 GT. The gross tonnage of Gallipoli

vessels is mostly included in the 10-20 GT range; only two have higher values.



4.3 kW

The range of kW of engine power on the vessels is between 8 and 64, with an average of 19.69 KW.



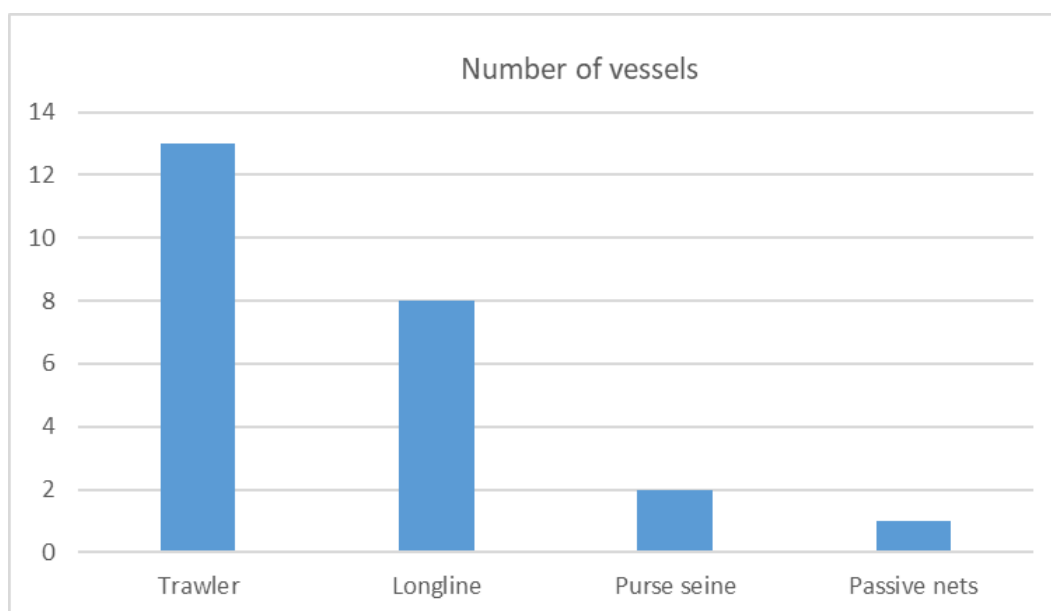
4.4 Operating Port

All fishing vessels have Gallipoli as operational port, the 85% also corresponds to the registration one while the others (15%) are registered in Pescara and Gioia Tauro.

4.5 Most used fishing gear

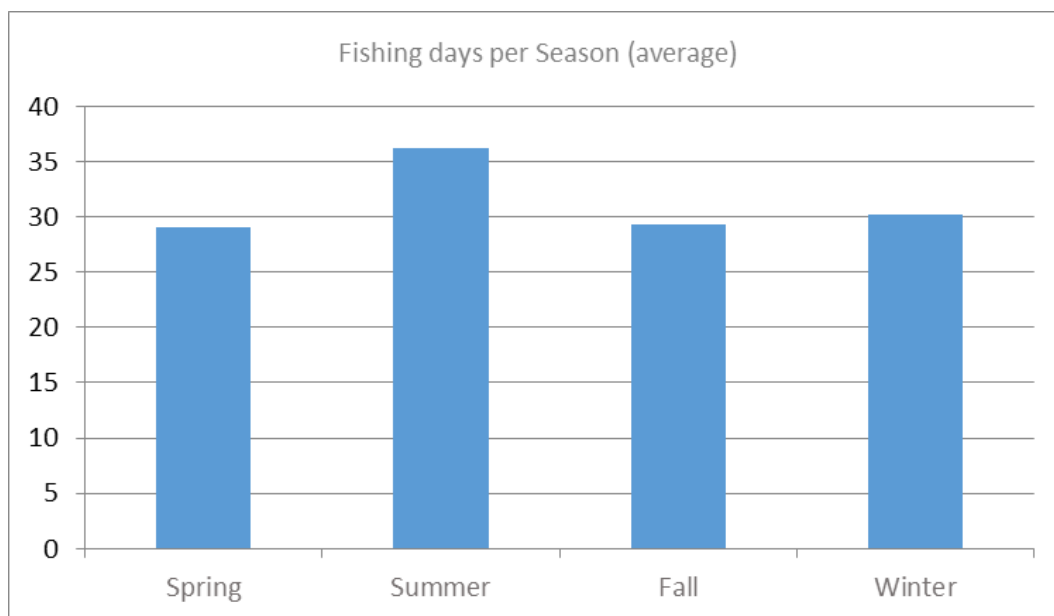
The entire fleet fishing red&purple shrimps use trawler as the main fishing gear:

Licensed fishing gear	Number of vessels
Trawler	13
Longlines	8
Purse seine	2
Passive nets	1



4.6 Fishing days

In the 2020, fishing days were spread out fairly evenly on a seasonal level, with a slight prevalence for the summer season.



The average of the total fishing days per vessel is no.125 days/year/vessel.

The Covid-19 pandemic caused in 2020 many restrictions but this type of fishery continued to work while maintaining the pace of work almost unchanged.

4.7 Daily Fishery duration

Fishing for red / purple shrimps is carried out into an average of n. 2 - 4 hauls per day, for a total time of fishing between 9 and 12 hours.

4.8 Operations carried out on board

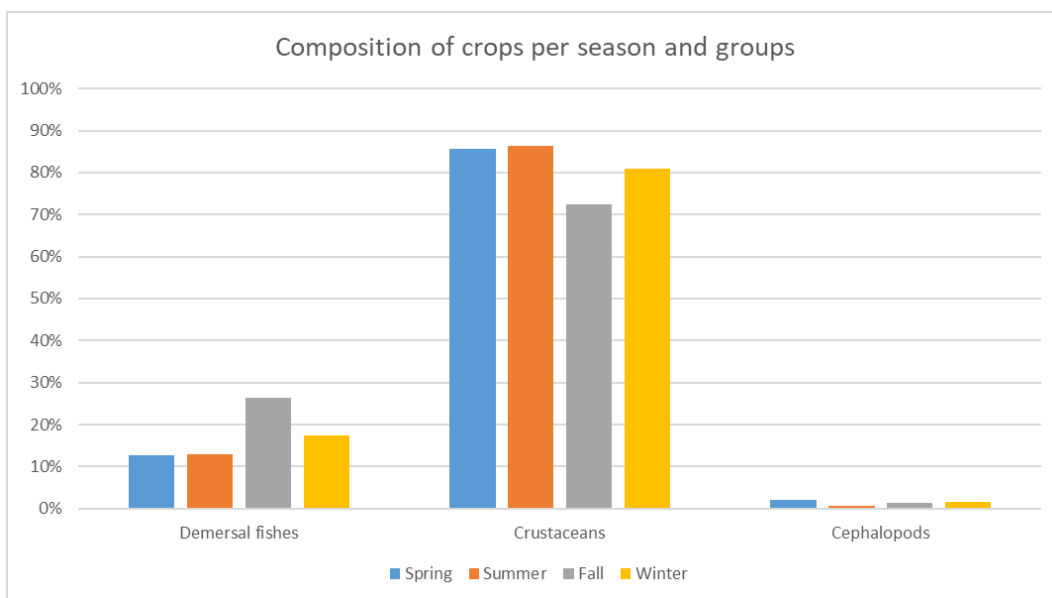
Following the opening of the bag, the following operations are carried out on board, in which the respective durations are also indicated:

OPERATIONS CARRIED OUT ON BOARD									
MANUAL SELECTION		WASH		BOXING		REFRIGERATION		CHILLING	
Y/N	DURATION	Y/N	DURATION	Y/N	DURATION	Y/N	DURATION	Y/N	DURATION
YES	15-30 min	YES	10 min	YES	15-30 min	YES	5-10 min	NO	\\

The lack of blast chillers on board is evident as the product is marketed fresh.

4.9 Percentage of most caught species on the total

By dividing the catches by macro-categories, the incidences of species caught is the following:

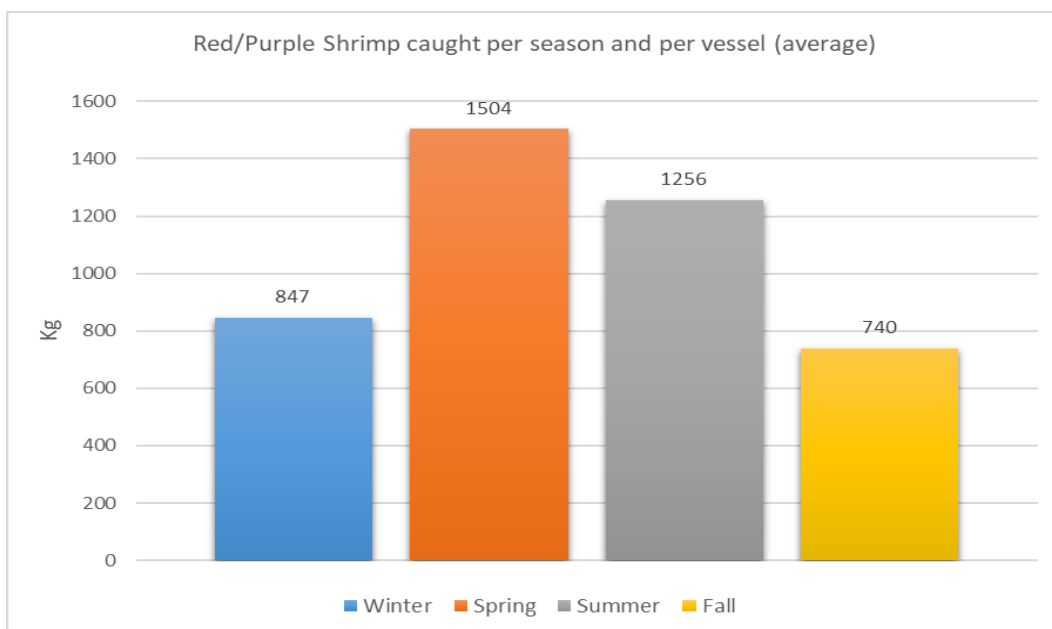


The prevalence of crustaceans is clear in all four seasons.

The percentage of purple shrimp is particularly significant, accounting for 73% of the total.

4.10 Quantities and value of the species caught

The average quantities for each vessel of the target species purple shrimp are indicated below; red prawns seem sparsely present in the records (perhaps because they are not correctly recorded).



So, each year, each fishing vessel that regularly fishes for purple/red shrimps catches an average of 4,300 kg. Because the average sales price recorded is 35€/kg, the combination of the data collected highlights a sales result close to € 150,000 per vessel, although the replies to the questionnaires place the average annual

figure between € 50,000 and € 100,000.

4.11 Commercial channels used

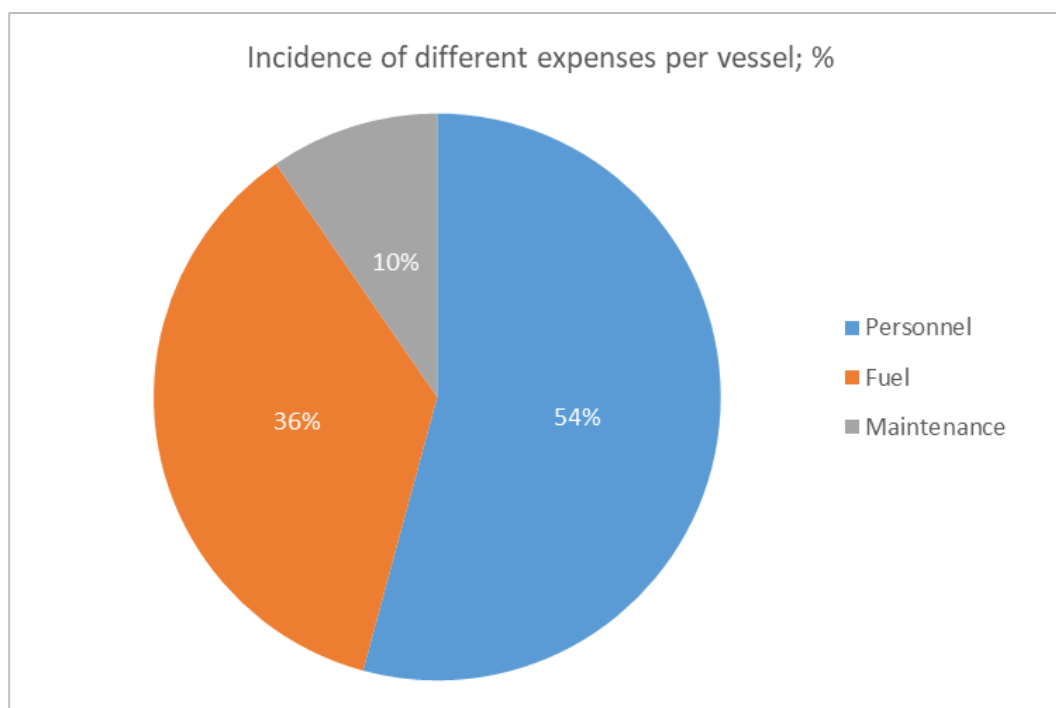
The product caught by the Gallipoli fleet is delivered almost exclusively to the wholesale trade, because there is no market structure.

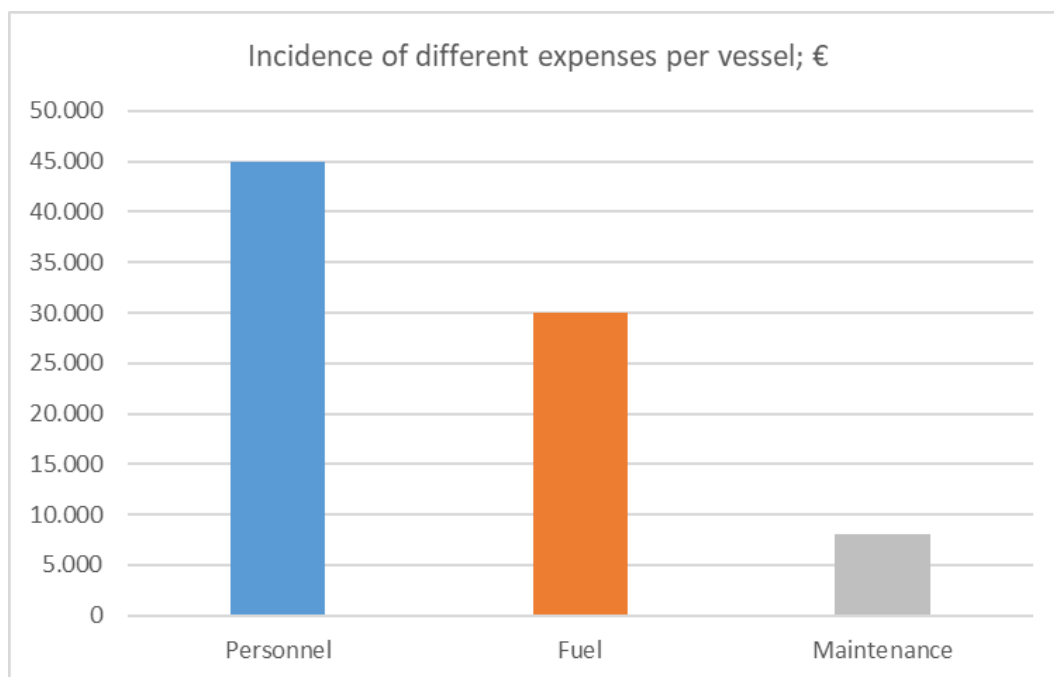
4.12 Costs

Business management involves a number of costs/expenses that have been lumped into three categories for simplicity: Personnel, Fuel, Maintenance.

In particular, 54% of expenses are related to personnel costs, followed by fuel costs equal to 36% of the total, ending with maintenance costs representing 10%.

The average value for each category is shown in the following graphs:





Overall, the annual management cost per vessel is on average around € 83,000.

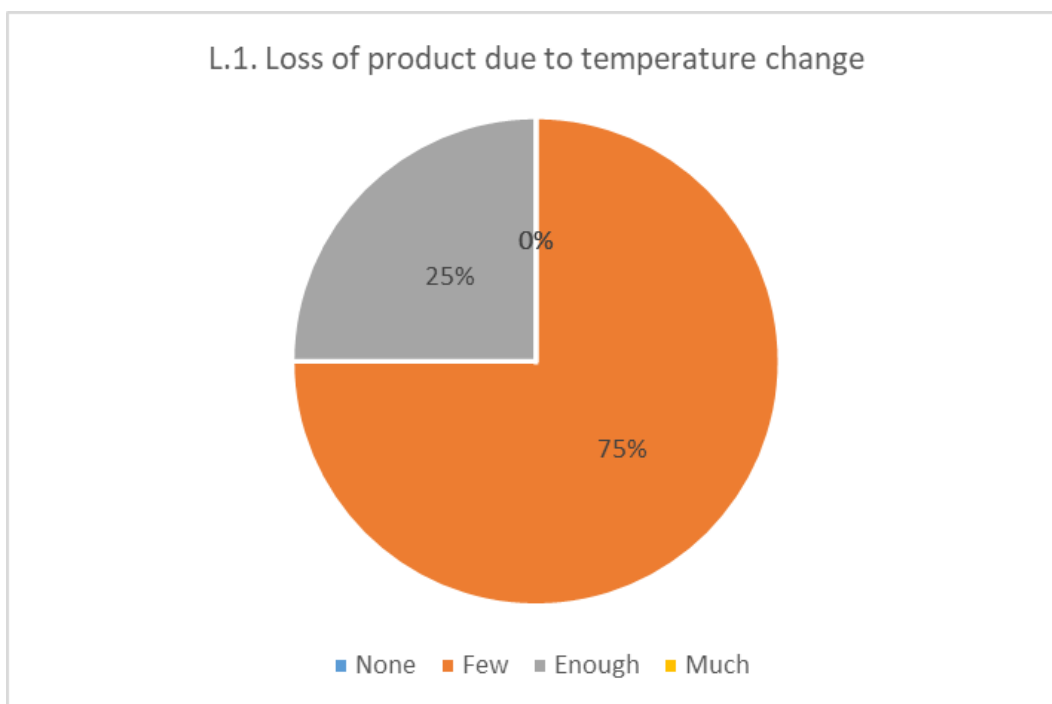
4.13 Number of employees

The crew embarked on each fishing vessel in Gallipoli that practices trawling and, in particular, red&purple shrimps fishing, is composed by an average of no. 3 people.

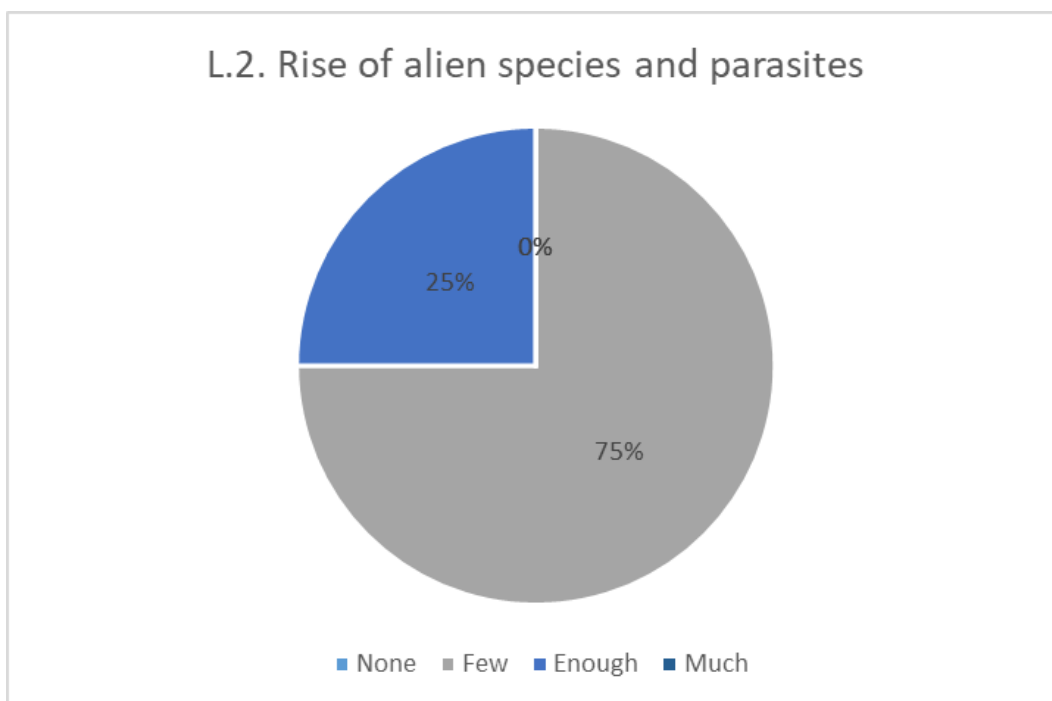
4.14 Aspects related to climate change

L.1. Loss of product due to temperature change

At the first question, 75% of the fleet believes that product loss due to climate change is unlikely, while 25% are quite in agreement with this hypothesis.

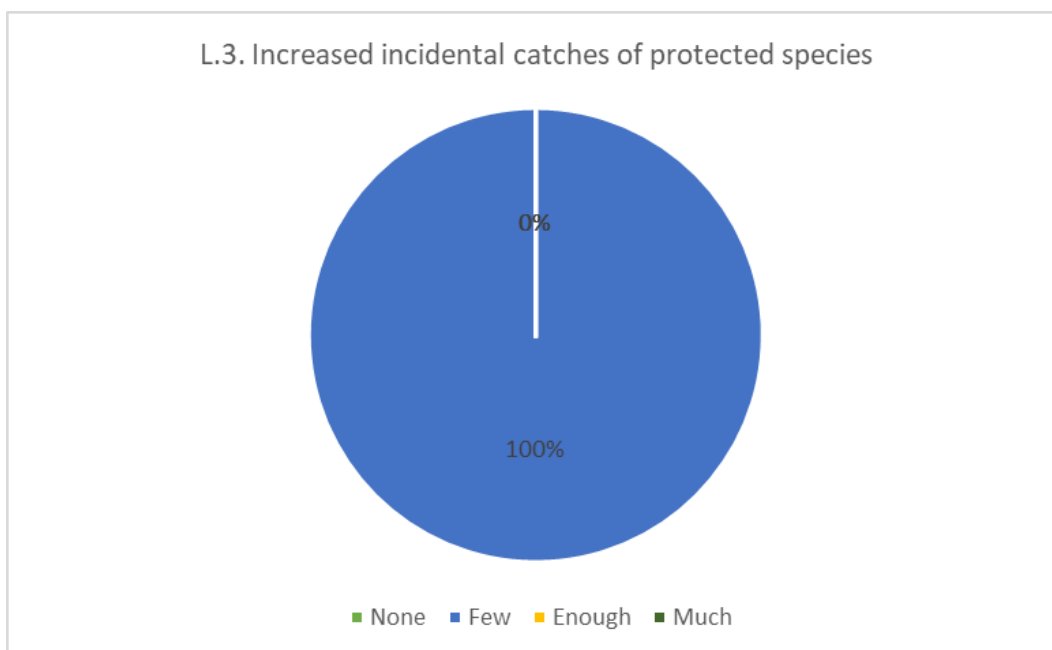


Also, to the second question the percentages are the same as the previous one in which most consider an increase in the presence of alien species and parasites unlikely.



L.3. Increased frequency of incidental catches of protected species

In response to this question, the entire fleet considers unlikely the accidental catches of protected species.



L.4. Capture alien species

In most cases an answer to this question is not given, probably due to lack of knowledge of the species object of the question, only a few have indicated Puffer fish (*Lagocephalus sceleratus*) among the species captured:

L.5. Capture protected species

The only species indicated as object of accidental capture is the sea turtle.

4.15 Exchanges of good practices

Most of the fleet has never participated in projects involving the exchange of good practices with other seafarers and do not show any interest in participating initiatives aimed at this purpose.

Attachements

- a) Edited Questionnaires
- b) Photo gallery