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**Streamlining the establishment of regional work plans in the Mediterranean  
and Black Sea**



**STREAMLINE**

**European Maritime and Fisheries Fund (EMFF)**

**WP2 – Filling information gaps**

**Task 2.2 Collection, processing and analysis of stomach  
contents and monitoring of incidental by catch**

**Deliverable D2.2 – Reports of the workshops and results of  
the updated protocols and guidelines for collection,  
processing and analysis of stomach contents and monitoring  
of incidental by catch**

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## 1. EXECUTIVE SUMMARY

This document, Deliverable D2.2 “Reports of the workshops and results of the updated protocols and guidelines for collection, processing and analysis of stomach contents and monitoring of incidental by catch”, describes the activities performed and the results achieved under Task 2.2 “Collection, processing and analysis of stomach contents and monitoring of incidental by catch” of the STREAMLINE project.

Three workshops were organized under Task 2.2; one of the workshops was co-organized in cooperation with the RCG Med&BS following the RCG 2021 Recommendation n. 4.

The workshops allowed to draft two roadmaps for the drafting of Regional Work Plans (RWPs) in the field of monitoring of the incidental bycatch of PET species and fish stomach contents collection and analysis in the Med&BS.

### **Roadmap for drafting a proposal of a non-binding RWP on the monitoring of the incidental bycatch of PET species in the Med&BS**

STREAMLINE will request to the NCs the following information by Member State:

- the data on fishing effort (e.g., table G of the FDI Data Call, for the period 2018-2020);
- the number of observations foreseen under the biological sampling of commercial fisheries according to the current NWP.

The circulation of the request will be facilitated by the RCG Chairs, with a deadline for providing the requested data on the 16<sup>th</sup> May 2022.

STREAMLINE experts will work on a draft proposal on non-binding RWP on bycatch monitoring (including the preparation of the list of priority species) that will be submitted to the NCs by the 17<sup>th</sup> June for their consideration.

The review process will be performed by means of a written procedure, and a final agreed version will be completed by the end of July 2022.

The final approval will be achieved during the RCG Med&BS annual meeting in September 2022. The RCG Med&BS, supported by STREAMLINE, will then submit the proposal for consideration by the Commission and the STECF (STECF EWG 22-18 Evaluation of Work Plans for data collection and data transmission issues, 24-28 October 2022).

### **Roadmap for drafting a proposal of a non-binding RWP on fish stomach contents collection and analysis in the Med&BS**

STREAMLINE will request to the NCs the following information by Member State:

- The sampling plan on fish stomach contents collection and analysis under the current NWP: source of data (e.g., experimental surveys, biological sampling), number of full stomachs by type of data and size class (European hake in the Mediterranean and turbot in the Black Sea).

The circulation of the request will be facilitated by the RCG Chairs, with a deadline for providing the requested data on the 16<sup>th</sup> May 2022.

STREAMLINE experts will work on a draft proposal on non-binding RWP on fish stomach contents collection and analysis that will be submitted to the NCs by the 17<sup>th</sup> June for their consideration.



The review process will be performed by means of a written procedure, and a final agreed version will be completed by the end of July 2022.

The final approval will be achieved during the RCG Med&BS annual meeting in September 2022. The RCG Med&BS, supported by STREAMLINE, will then submit the proposal for consideration by the Commission and the STECF (STECF EWG 22-18 Evaluation of Work Plans for data collection and data transmission issues, 24-28 October 2022).

## 2. INTRODUCTION

Task 2.2 has been focussing on the sampling strategies and estimates associated to stomach content analyses and incidental by-catch of PET species monitoring.

This task has been aimed at collating inputs towards the filling in of the gaps identified in WP1 regarding stomach content analyses and by-catch monitoring. The updated protocols and guidelines for collection, processing and analysis of stomach contents (STREAM D4.1, see Ligas, 2019) and the updated guidelines, protocols and handbooks for monitoring incidental by catch (STREAM D4.3, see Ligas, 2019) and the recent protocol for monitoring and collecting data on the incidental catch of vulnerable species in a standard way (FAO, 2019), will be taken into account to identify aspects and specific topics to be addressed in the perspective of regional work plans for the Mediterranean and Black Sea.

In the Mediterranean and Black Sea, all the species of seabirds, sea turtles, marine mammals and elasmobranchs included in Appendix II (endangered or threatened species) and Appendix III (species whose exploitation is regulated) of the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (the Barcelona Convention), together with elasmobranch species included in the IUCN Red List of Threatened Species, are considered as vulnerable. In the Mediterranean and Black Seas, even if progress have been made and currently, there are ongoing standard monitoring programmes, still there are important gaps of knowledge (Spedicato, 2016; Ligas, 2019; FAO, 2019). The correct implementation of bycatch monitoring programmes, carried out in standard way in order to make possible comparison between activities and countries, during commercial fishing operations, would allow scientists and decision-makers to obtain a more complete overview of the situation and to set priorities for management and conservation actions. This would also enable stakeholders to apply efficient mitigation measures (where needed), and to increase the protection on vulnerable species while securing the profitability of fisheries.

The focus of this Task has been on designing sampling coverage in order to obtain quantitative estimates of the potential impact of fisheries activities on the vulnerable species. This has been approached downstream the revision work made in WP1.

To increase the understanding on the trophic chains and the pool of resources sustaining the different phases of the life cycles of the most relevant demersal stocks is an important aspect to better evaluate some parameters of population dynamics (e.g. natural mortality) and to provide useful information for the stock assessment of such species. Studies of trophic ecology by means of stomach content analysis are therefore framed in the Ecosystem Approach for the resource evaluation and management, in agreement with the CFP and EUMAP indications. The previous projects MARE/2014/19 Med&BS and STREAM have refined the protocols of sampling and analysis of stomach contents according to a Regional Sampling Program of Data Collection on Fisheries Impacts on the Ecosystem (RSP-DCFIE). These protocols, discussed with primary end-users, were concentrate



on the stocks of European hake, *Merluccius merluccius*, in Mediterranean waters, and turbot, *Scophthalmus maximus*, in the Black Sea. In the previous years, various MS carried out specific Pilot Studies based on stomach context, following the proposed methodology. Task 2.2 was aimed at furtherly refining the methodological aspects, to share them with Member States and to include in the Regional Work Plans.

### 3. OUTCOMES OF THE WORKSHOPS

#### **Online Workshop on the monitoring of incidental bycatch of vulnerable species**

The Workshop on the monitoring of incidental bycatch of vulnerable species organized under the Task 2.2 of the STREAMLINE project met online on Tuesday the 14<sup>th</sup> December 2021 from 9.00 to 12.15 CET (Microsoft Teams platform; see Annex II – Agenda), and was attended by 40 experts from the ten EU Member States of the Mediterranean and Black Sea, plus a representative of DG MARE (see Annex III – List of participants). The Workshop was chaired by Paolo Carpentieri (NISEA, Italy), Task 2.2 Leader, in cooperation with Alessandro Ligas (CIBM, Italy), STREAMLINE Coordinator.

The Workshop opened with a general overview of the main objectives of the STREAMLINE regional grant and the strict cooperation with the RCG Med&BS activities with the common target of achieving the expected results of coordinated regional work for the fisheries data collection in the Mediterranean and Black Seas. This Workshop was intended as to be preparatory to the Joint Workshop of RCG Med&BS and STREAMLINE on data needed to assess the impact of fisheries on the marine ecosystem that shall take place in April 2022, following Recommendation 4 of the RCG Med&BS 2021.

Mr Carpentieri provided an overview of the existing knowledge on the incidental bycatch of vulnerable species in the Mediterranean and Black Sea collecting information from a wide range of sources: most recent EU Member States Annual Reports (period 2017-2019), relevant Pilot Studies, ICES Data Call, FAO/GFCM Regional review. The information collected already allowed identifying possible suitable areas for the implementation of regional work plans on the monitoring of the incidental bycatch, and this will streamline the work towards the Joint Workshop planned in April 2022.

Although some gaps in the availability of data on the incidental bycatch of vulnerable species do exist across GSAs/métiers, it was agreed that this will not affect the inclusion of those areas/métiers in possible proposals of regional work plans on the monitoring of the incidental bycatch.



Tab. 3.1 – Summary table showing the outcomes of the review process; the tables are showing the possible hot spot areas (by gear, GSA, and taxonomic group) in red.

		Sharks and rays								Sea turtles					
GSA	Country	OTB	PTM	OTM	SET NETS	TBB	LLD	GSA	Country	OTB	PTM	SET NETS	PS	LLD-LLS	
GSA 1	Spain	Red					Red	GSA 1	Spain						
GSA 2	Spain						Red	GSA 2	Spain						
GSA 5	Spain	Red						GSA 5	Spain	Red				Red	
GSA 6	Spain	Red					Red	GSA 6	Spain	Red					
GSA 7	France							GSA 7	France						
GSA 8	France							GSA 8	France						
GSA 9	Italy	Red						GSA 9	Italy	Red					
GSA 10	Italy	Red						GSA 10	Italy						
GSA 11	Italy	Red					Red	GSA 11	Italy	Red					
GSA 15	Malta	Red						GSA 15	Malta						
GSA 16	Italy	Red						GSA 16	Italy	Red				Red	
GSA 17	Italy	Red	Red		Red		Red	GSA 17	Italy	Red	Red	Red		Red	
GSA 17	Croatia	Red						GSA 17	Croatia			Red			
GSA 17	Slovenia							GSA 17	Slovenia			Red			
GSA 18	Italy	Red	Red				Red	GSA 18	Italy	Red				Red	
GSA 19	Italy	Red					Red	GSA 19	Italy						
GSA 20	Greece	Red						GSA 20	Greece	Red				Red	
GSA 22	Greece	Red			Red			GSA 22	Greece	Red					
GSA 23	Greece	Red					Red	GSA 23	Greece	Red					
GSA 25	Cyprus						Red	GSA 25	Cyprus			Red			
GSA 29	Bulgaria				Red	Red		GSA 29	Bulgaria						
GSA 29	Romania			Red	Red			GSA 29	Romania						

		Cetaceans						Sea birds			
GSA	Country	OTB	PTM	SET NETS	GSA	Country	OTB	SET NETS	LLD-LLS		
GSA 1	Spain				GSA 1	Spain					
GSA 2	Spain				GSA 2	Spain					
GSA 5	Spain				GSA 5	Spain			Red		
GSA 6	Spain				GSA 6	Spain					
GSA 7	France				GSA 7	France					
GSA 8	France				GSA 8	France					
GSA 9	Italy				GSA 9	Italy					
GSA 10	Italy				GSA 10	Italy					
GSA 11	Italy				GSA 11	Italy					
GSA 15	Malta				GSA 15	Malta					
GSA 16	Italy				GSA 16	Italy					
GSA 17	Italy		Red		GSA 17	Italy					
GSA 17	Croatia				GSA 17	Croatia			Red		
GSA 17	Slovenia				GSA 17	Slovenia					
GSA 18	Italy				GSA 18	Italy					
GSA 19	Italy				GSA 19	Italy					
GSA 20	Greece				GSA 20	Greece					
GSA 22	Greece				GSA 22	Greece					
GSA 23	Greece				GSA 23	Greece					
GSA 25	Cyprus				GSA 25	Cyprus					
GSA 29	Bulgaria			Red	GSA 29	Bulgaria					
GSA 29	Romania			Red	GSA 29	Romania					

It was also pointed out that the sampling scheme based on observation onboard and at landing points that is designed for the monitoring of the commercial fisheries is not ideal for collecting robust and reliable data on the incidental bycatch of vulnerable species. The group agreed on the need of increasing the number of observations at sea and introduce alternative sampling procedures (e.g.,



interviews, self-reporting, etc.) in order to increase the sampling coverage. Cooperation with ICES WKBIOPTIM might be sought in this regard. There are also difficulties in the correct identification of vulnerable species and reporting data at species level (especially for sea birds, sharks and rays).

As concerns drifting longlines, it was agreed that the STREAMLINE grant get in touch with the RCG on Large Pelagics to discuss on the possible support to draft regional work plans on the monitoring of the incidental bycatch of vulnerable species in this fisheries across the Mediterranean and Black Sea.

Finally, a roadmap was agreed on the actions to be taken towards the preparation of the Joint Workshop of RCG Med&BS and STREAMLINE on data needed to assess the impact of fisheries on the marine ecosystem (April 2022) and the submission of draft regional work plans on the monitoring of the incidental bycatch of vulnerable species.

### **Online Workshop on the stomach content data collection and analysis**

The Workshop on the stomach content data collection and analysis organized under the Task 2.2 of the STREAMLINE project met online on the 31<sup>st</sup> January 2022 (Microsoft Teams platform), and was attended by 54 experts from the ten EU Member States of the Mediterranean and Black Sea (see List of participants).

Paolo Sartor, CIBM Italy, provided the participants with a presentation on the main outcomes of the previous regional grants (namely MARE/2014/19 Med&BS and STREAM) and Pilot Studies performed under the EU MSs national Work Plans in Mediterranean and Black Sea. The proposals from the two grants regarded the target species to be investigated through stomach content analysis in the Mediterranean (European hake) and the Black Sea (turbot), possible additional species, as well as the sampling scheme (stratified at level of GSA, size range and quarter). He then provided a synthetic overview on the proposed methodologies for stomach content sampling and analysis in the Mediterranean and the Black Sea and suggestions about the harmonization of the entire process in a regional context. Mr Sartor presented also an overview of the comments received by the EU MSs through the questionnaires launched by STREAMLINE WP1 about the proposals on the fish stomachs data collection. Taking advantage of the information summarized in Deliverable D1.1 “Maps of existing elements and gaps”, a brief overview of the status of implementation of Pilot Studies on stomach contents sampling and analysis along the various EU MSs was presented as well.

Paraskevi Karachle, HCMR Greece, presented a case study in the North Sea, Skagerrak and Kattegat on fish stomachs sampling drafted under the RCG NANSEA ISSG on Stomach sampling. Based on the recommendations of the ICES Working Group on Multi Species Stock Assessment Methods (WGSAM), the ISSG has drafted a sampling plan where two to three fish species will be sampled every year during the International Bottom Trawl Survey (IBTS) in the North Sea, Skagerrak and Kattegat in quarters 1 and 3. The recommendation is to sample 2 stomachs per 5 cm length group in a 5 year rolling scheme, meaning that the same species will be sampled for example in years 1 and 6 and other species in years 2 and 7 and so on. The species to be sampled include species both examined for biology and those not studied for biology within IBTS (Whiting, Megrim, Anglerfish, Horse mackerel, Plaice, Starry ray, Saithe, Grey and Red gurnard, Cod, Mackerel, Turbot, Haddock, Hake, and Halibut). This decision is the first step of the sampling plan. In 2022, MSs will start collecting stomachs, and further steps on processing the collected stomachs and other details of the sampling plan will be discussed at the ISSG. The decision should be incorporated into the national work plans.



Then each EU MS of the Mediterranean and Black Sea provided a short presentation to summarize the status of implementation of fish stomachs sampling and processing under their respective work plans. Most of the MSs included in their work plans sampling schemes in line with the RCG MED & BS 2021 Recommendation 13 “Agreement on priority species and methodology for stomach sampling and analysis”, where RCG Med&BS recommended to introduce stomach sampling for the stocks identified by MARE/2014/19 Med&BS D3.3, e.g. European hake in Mediterranean and turbot in the Black Sea. MSs should align the sampling methodology according to STREAM D4.1 and implement sampling during scientific surveys (MEDITS and Black Sea demersal surveys).

According to the presentations, in most of the MSs, the fish stomach content data collection is based on samplings during scientific surveys (MEDITS and Black Sea demersal surveys), and only in a few cases sampling from biological sampling of commercial fisheries is considered.

It was then proposed a draft roadmap towards the preparation of the upcoming Joint workshop of RCG Med&BS and STREAMLINE on data needed to assess the impact of fisheries on the marine ecosystem (RCG MED & BS 2021 Recommendation 4) to be organized by April 2022. The STREAMLINE consortium, in cooperation with the relevant national experts and the RCG, will continue the discussion offline with the aim of drafting proposals in terms of sampling schemes and species to be monitored. Those draft proposals will be presented for consideration during the Joint workshop and possibly further implemented as regional sampling plans on fish stomachs data collection.

#### **Joint Workshop on data needed to assess the impact of fisheries on the marine ecosystem (Recommendation n. 4 RCG Med&BS 2021)**

The Joint Workshop on data needed to assess the impact of fisheries on the marine ecosystem was held on the 28<sup>th</sup> April 2022, and organized by the Regional Coordination Group for the Mediterranean and Black Sea (RCG Med&BS) and the STREAMLINE regional grant in the context of the Recommendation n. 4 of the RCG Med&BS meeting 2021 and the Task 2.2 of STREAMLINE.

The workshop was attended by 40 national experts from the ten Med&BS EU Member States (MS), the chair of the RCG Med&BS, Jurgen Mifsud (MAFA-DFA, Malta), and four representatives of the EU Commission (DG MARE and DG ENV). The group met virtually on a Zoom platform kindly provided by the RCGs Secretariat, under the chairmanship of Alessandro Ligas (CIBM, Italy), coordinator of the STREAMLINE project.

The STREAMLINE project provided a presentation on the available knowledge on the monitoring of the incidental bycatch of vulnerable species, and on the collection and analysis of fish stomach contents in the Mediterranean and Black Sea:

Paolo Carpentieri, STREAMLINE Task 2.2 leader, provided an overview of the existing knowledge on the incidental bycatch of vulnerable species in the Mediterranean and Black Sea collecting information from a wide range of sources: most recent EU Member States Annual Reports (period 2017-2020), relevant Pilot Studies, ICES Data Call, FAO/GFCM Regional review (including data submitted through Task 3 of the GFCM DCRF), and the outcomes and proposed actions of STREAMLINE WP1. The information collected already allowed identifying possible suitable areas for the implementation of regional work plans on the monitoring of the incidental bycatch. In addition, the presentation provided some key messages:





- Good progress has been made, though there is an urgent need to improve the collection of such data despite several obstacles (e.g., space limitation onboard, security, human resources, etc.);
- Observers onboard are considered as the most reliable mean for recording incidental catches of vulnerable species.

Paolo Sartor, CIBM Italy, provided the participants with a presentation on the main outcomes of the previous regional grants (namely MARE/2014/19 Med&BS and STREAM) and Pilot Studies performed under the EU MSs national Work Plans in Mediterranean and Black Sea. He then provided a synthetic overview on the proposed methodologies for stomach content sampling and analysis in the Mediterranean and the Black Sea and suggestions about the harmonization of the entire process in a regional context. So far, European hake in Med and turbot in Black Sea are the two target species for stomach sampling analysis. In terms of sampling, regional grants proposed to take advantage of both MEDITS and biological sampling of commercial fisheries, and to design a sampling scheme by size class to account for ontogenetic changes in diet and explore seasonal changes. Currently, all MS carry out stomach sampling, but differences exist on: the use of a common protocol, the number of samples, the source of data (MEDITS and/or commercial fisheries) and stratification (seasons monitored). Mr Sartor presented also an overview of the comments received by the EU MSs through the questionnaires launched by STREAMLINE WP1 about the proposals on the fish stomachs data collection. Taking advantage of the information summarized in Deliverable D1.1 “Maps of existing elements and gaps”, a brief overview of the status of implementation of Pilot Studies on stomach contents sampling and analysis along the various EU MSs was presented as well. Additional species were proposed: *Lophius* species for the Med and Mediterranean horse mackerel and sprat for the Black Sea. Med MSs did not agree on *Lophius* species, because of the difficulty of sampling enough stomachs. On the other hand, there is agreement on the additional species in the Black Sea.

In light of the outcomes of the discussion during the plenary session, the group agreed on a roadmap to draft proposals for non-binding regional work plans (RWP) on the monitoring of the incidental bycatch of vulnerable species and on fish stomach contents collection and analysis in the Mediterranean and Black Sea (see Annexes III and IV). STREAMLINE experts will work on the draft proposals that will be submitted to the RCG Med&BS and the National Correspondents for their consideration. The review process will be performed by means of a written procedure, and a final agreed version will be completed by the end of July 2022. The final approval of the draft non-binding RWPs will be achieved during the RCG Med&BS annual meeting in September 2022.

*Roadmap for drafting a proposal of a non-binding RWP on the monitoring of the incidental bycatch of PET species in the Med&BS*

STREAMLINE will request to the NCs the following information by Member State:

- the data on fishing effort (e.g., table G of the FDI Data Call, for the period 2018-2020);
- the number of observations foreseen under the biological sampling of commercial fisheries according to the current NWP.

The circulation of the request will be facilitated by the RCG Chairs, with a deadline for providing the requested data on the 16<sup>th</sup> May 2022.

STREAMLINE experts will work on a draft proposal on non-binding RWP on bycatch monitoring (including the preparation of the list of priority species) that will be submitted to the NCs by the 17<sup>th</sup> June for their consideration.



The review process will be performed by means of a written procedure, and a final agreed version will be completed by the end of July 2022.

The final approval will be achieved during the RCG Med&BS annual meeting in September 2022. The RCG Med&BS, supported by STREAMLINE, will then submit the proposal for consideration by the Commission and the STECF (STECF EWG 22-18 Evaluation of Work Plans for data collection and data transmission issues, 24-28 October 2022).

*Roadmap for drafting a proposal of a non-binding RWP on fish stomach contents collection and analysis in the Med&BS*

STREAMLINE will request to the NCs the following information by Member State:

- The sampling plan on fish stomach contents collection and analysis under the current NWP: source of data (e.g., experimental surveys, biological sampling), number of full stomachs by type of data and size class (European hake in the Mediterranean and turbot in the Black Sea).

The circulation of the request will be facilitated by the RCG Chairs, with a deadline for providing the requested data on the 16<sup>th</sup> May 2022.

STREAMLINE experts will work on a draft proposal on non-binding RWP on fish stomach contents collection and analysis that will be submitted to the NCs by the 17<sup>th</sup> June for their consideration.

The review process will be performed by means of a written procedure, and a final agreed version will be completed by the end of July 2022.

The final approval will be achieved during the RCG Med&BS annual meeting in September 2022. The RCG Med&BS, supported by STREAMLINE, will then submit the proposal for consideration by the Commission and the STECF (STECF EWG 22-18 Evaluation of Work Plans for data collection and data transmission issues, 24-28 October 2022).

## 4. REFERENCES

FAO. 2019. Monitoring the incidental catch of vulnerable species in Mediterranean and Black Sea fisheries: Methodology for data collection. FAO Fisheries and Aquaculture Technical Paper No. 640. Rome, FAO.

Ligas A. (2019). Strengthening REgional cooperation in the Area of fisheries biological data collection in the Mediterranean and Black Sea (STREAM). MARE/2016/22 SI2.770115. Final Report. 86 pp. + Annexes.

Spedicato M.T. (2016). Strengthening regional cooperation in the area of fisheries data collection in the Mediterranean and Black Sea. MARE/2014/19 SI2.705484. Final Report. 32 pp. + Annexes.



## 5. ANNEX I

### **Online Workshop on the monitoring of incidental bycatch of vulnerable species 14<sup>th</sup> December 2021, 9.00-12.15 CET, Microsoft Teams**

#### **Minutes of the meeting**

The Workshop on the monitoring of incidental bycatch of vulnerable species organized under the Task 2.2 of the STREAMLINE project met online on Tuesday the 14<sup>th</sup> December 2021 from 9.00 to 12.15 CET (Microsoft Teams platform; see Annex II – Agenda), and was attended by 40 experts from the ten EU Member States of the Mediterranean and Black Sea, plus a representative of DG MARE (see Annex III – List of participants). The Workshop was chaired by Paolo Carpentieri (NISEA, Italy), Task 2.2 Leader, in cooperation with Alessandro Ligas (CIBM, Italy), STREAMLINE Coordinator.

The Workshop opened with a general overview of the main objectives of the STREAMLINE regional grant and the strict cooperation with the RCG Med&BS activities with the common target of achieving the expected results of coordinated regional work for the fisheries data collection in the Mediterranean and Black Seas. This Workshop was intended as to be preparatory to the Joint Workshop of RCG Med&BS and STREAMLINE on data needed to assess the impact of fisheries on the marine ecosystem that shall take place in April 2022, following Recommendation 4 of the RCG Med&BS 2021.

Mr Carpentieri provided an overview of the existing knowledge on the incidental bycatch of vulnerable species in the Mediterranean and Black Sea collecting information from a wide range of sources: most recent EU Member States Annual Reports (period 2017-2019), relevant Pilot Studies, ICES Data Call, FAO/GFCM Regional review. The information collected already allowed identifying possible suitable areas for the implementation of regional work plans on the monitoring of the incidental bycatch, and this will streamline the work towards the Joint Workshop planned in April 2022.

After the presentation by Mr Carpentieri, a plenary discussion took place.

Ms Kostopoulou, DG MARE, asked clarifications regarding the possibility of including also macro-benthic invertebrates in the monitoring as they are key species for the identification of Vulnerable Marine Ecosystems (VMEs) and are included in the EU MAP. The group agreed that MEDITS surveys can provide information on the abundance of macro-benthic invertebrates and spatial distribution of possible VMEs. A wide range of scientific publications on benthic communities using MEDITS data is already available (similarly as from the ICES Datas database). However, being a fishery independent source of information, MEDITS surveys can only provide possible risk of interaction between fisheries and VMEs. Although data on macro-benthic invertebrates are not reported in the official data calls, data from observation onboard by scientific staff must be available in the national labs involved in the fisheries data collection. In the near future, it would be worth investigating the possibility of gathering this information from national labs to progress towards a better understanding of interactions between fisheries and VMEs.

Ms Kostopoulou also mentioned the EU environmental legislation, in particular the Birds and Habitats Directives and the MSFD, which contain strong requirements on monitoring bycatch of protected species. In addition, she referred to the strong commitments under the Biodiversity Strategy to step up the efforts in bycatch data collection. The DCF can contribute towards these objectives but is not the only means to collect data.

Although some gaps in the availability of data on the incidental bycatch of vulnerable species do exist across GSAs/métiers, it was agreed that this will not affect the inclusion of those areas/métiers in possible proposals of regional work plans on the monitoring of the incidental bycatch.

It was also pointed out that the sampling scheme based on observation onboard and at landing points that is designed for the monitoring of the commercial fisheries is not ideal for collecting robust and reliable data on the incidental bycatch of vulnerable species. The group agreed on the need of increasing the number of observations at sea and introduce alternative sampling procedures (e.g., interviews, self-reporting, etc.) in order to increase the sampling coverage. Cooperation with ICES



WKBIOPTIM might be sought in this regard. There are also difficulties in the correct identification of vulnerable species and reporting data at species level (especially for sea birds, sharks and rays).

As concerns drifting longlines, it was agreed that the STREAMLINE grant will get in touch with the RCG on Large Pelagics to discuss on the possible support to draft regional work plans on the monitoring of the incidental bycatch of vulnerable species in this fisheries across the Mediterranean and Black Sea.

Finally, a roadmap was agreed on the actions to be taken towards the preparation of the Joint Workshop of RCG Med&BS and STREAMLINE on data needed to assess the impact of fisheries on the marine ecosystem (April 2022) and the submission of draft regional work plans on the monitoring of the incidental bycatch of vulnerable species.

The workshop closed at 12.15 CET.

### **Proposed roadmap**

- Finalized the work filling the identified gaps collecting info and data missing (e.g. AR 2020, other sources) (January 2022);
- Refine the tables and produce maps by group of vulnerable species, métier and GSA (January 2022);
- Collect data on fishing effort and planned sampling activities for the identified métier. Questionnaires send to MSs (February 2022);
- Propose draft regional work plan(s), including sampling coverage, candidate group/s of vulnerable species to be monitored, métier/s and areas to be investigated, etc.) (April 2022);
- Propose improvement/modification of existing sampling plans (or new inclusion) into the NPs, with also the adoption of alternative methodologies (e.g. questionnaires, self-sampling, etc.) to achieve higher coverage percentage (April 2022).

### **Agenda**

- 9.00-9.15, Connection to the online meeting
- 9.15, Welcome and opening of the works – A. Ligas (STREAMLINE Coordinator)
- 9.30, Presentation of the STREAMLINE project – A. Ligas
- 9.45, Overview of the available knowledge on incidental bycatch of vulnerable species in the Mediterranean and Black Sea – P. Carpentieri (Task 2.2 Leader)
- 10.30, Coffee break
- 10.45, Plenary discussion
- 12.00, Wrap-up and drafting of the roadmap of the activities under Task 2.2, and cooperation with RCG Med&BS towards the preparation of the joint Workshop on data needed to assess the impact of fisheries on the marine ecosystem
- 12.15, Closing of the works.



**List of participants**

<b>Name and surname</b>	<b>Affiliation</b>	<b>Member State</b>
Alessandro Ligas	CIBM	Italy
Andrea Massaro	CIBM	Italy
Angeliki Adamidou	FRI	Greece
Antonello Sala	CNR-IRBIM	Italy
Antonio Cervantes	IEO	Spain
Archontia Chatzisprou	HCMR	Greece
Branko Dragicevic	IOF	Croatia
Celia Vassilopoulou	HCMR	Greece
Claudia Musumeci	CIBM	Italy
Claudio Viva	CIBM	Italy
Danilo Scannella	CNR-IRBIM	Italy
Evelina Sabatella	NISEA	Italy
Evgenia Lefkaditou	HCMR	Greece
Feriha Tserkova	IFR	Bulgaria
George Tiganov	NIMRD	Romania
Igor Isajlovic	IOF	Croatia
Ioannis Thasitis	DFMR	Cyprus
Ivana Vukov	MPS	Croatia
Ivelina Zlateva	IO-BAS	Bulgaria
Kolyo Zhelev	EAFA	Bulgaria
Kostas Touloumis	FRI	Greece
Madalina Galatchi	NIMRD	Romania
Maria Gonzalez	IEO	Spain
Michele L. Geraci	CNR-IRBIM	Italy
Mifsud Jurgen	MAFA-DFA	Malta
Monica Calabrò	CNR-IRBIM	Italy
Monica Panfili	CNR-IRBIM	Italy
Norbert Billet	IFREMER	France
Paolo Carpentieri	NISEA	Italy
Paolo Sartor	CIBM	Italy
Pierluigi Carbonara	COISPA	Italy
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Vanja Cikes Kec	IOF	Croatia
Vasiliki Kousteni	FRI	Greece
Venetia Kostopoulou	DG MARE	EC
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## 6. ANNEX II

### **Online Workshop on the stomach content data collection and analysis 31<sup>st</sup> January 2022, 9.30-12.30 CET, Microsoft Teams**

#### **Minutes of the meeting**

The Workshop on the stomach content data collection and analysis organized under the Task 2.2 of the STREAMLINE project met online on the 31<sup>st</sup> January 2022 (Microsoft Teams platform), and was attended by 54 experts from the ten EU Member States of the Mediterranean and Black Sea (see List of participants). The workshop was opened by Alessandro Ligas, STREAMLINE Coordinator, who welcomed the participants and thanked for the large attendance. He then provided the participants with a general overview of the main objectives of the STREAMLINE regional grant and the strict cooperation with the RCG Med&BS activities with the common target of achieving the expected results of coordinated regional work for the fisheries data collection in the Mediterranean and Black Seas.

Jurgen Mifsud, chair of the RCG Med&BS, briefly presented the work and functioning of the RCG, the Rules of Procedures, the Recommendations from the 2021 RCG meeting, with particular focus on those related to the cooperation between the RCG and the regional grant.

Venetia Kostopoulou, DG MARE Unit C3, expressed interest in the possible outcomes of the workshop and welcomed the ongoing cooperation between the RCG Med&BS and STREAMLINE.

Paolo Sartor, CIBM Italy, provided the participants with a presentation on the main outcomes of the previous regional grants (namely MARE/2014/19 Med&BS and STREAM) and Pilot Studies performed under the EU MSs national Work Plans in Mediterranean and Black Sea. The proposals from the two grants regarded the target species to be investigated through stomach content analysis in the Mediterranean (European hake) and the Black Sea (turbot), possible additional species, as well as the sampling scheme (stratified at level of GSA, size range and quarter). He then provided a synthetic overview on the proposed methodologies for stomach content sampling and analysis in the Mediterranean and the Black Sea and suggestions about the harmonization of the entire process in a regional context. Mr Sartor presented also an overview of the comments received by the EU MSs through the questionnaires launched by STREAMLINE WP1 about the proposals on the fish stomachs data collection. Taking advantage of the information summarized in Deliverable D1.1 "Maps of existing elements and gaps", a brief overview of the status of implementation of Pilot Studies on stomach contents sampling and analysis along the various EU MSs was presented as well.

Paraskevi Karachle, HCMR Greece, presented a case study in the North Sea, Skagerrak and Kattegat on fish stomachs sampling drafted under the RCG NANSEA ISSG on Stomach sampling. Based on the recommendations of the ICES Working Group on Multi Species Stock Assessment Methods (WGSAM), the ISSG has drafted a sampling plan where two to three fish species will be sampled every year during the International Bottom Trawl Survey (IBTS) in the North Sea, Skagerrak and Kattegat in quarters 1 and 3. The recommendation is to sample 2 stomachs per 5 cm length group in a 5 year rolling scheme, meaning that the same species will be sampled for example in years 1 and 6 and other species in years 2 and 7 and so on. The species to be sampled include species both examined for biology and those not studied for biology within IBTS (Whiting, Megrim, Anglerfish, Horse mackerel, Plaice, Starry ray, Saithe, Grey and Red gurnard, Cod, Mackerel, Turbot, Haddock, Hake, and Halibut). This decision is the first step of the sampling plan. In 2022, MSs will start collecting stomachs, and further steps on processing the collected stomachs and other details of the sampling plan will be discussed at the ISSG. The decision should be incorporated into the national work plans.



Then each EU MS of the Mediterranean and Black Sea provided a short presentation to summarize the status of implementation of fish stomachs sampling and processing under their respective work plans. Most of the MSs included in their work plans sampling schemes in line with the RCG MED & BS 2021 Recommendation 13 “Agreement on priority species and methodology for stomach sampling and analysis”, where RCG Med&BS recommended to introduce stomach sampling for the stocks identified by MARE/2014/19 Med&BS D3.3, e.g. European hake in Mediterranean and turbot in the Black Sea. MSs should align the sampling methodology according to STREAM D4.1 and implement sampling during scientific surveys (MEDITS and Black Sea demersal surveys).

According to the presentations, in most of the MSs, the fish stomach content data collection is based on samplings during scientific surveys (MEDITS and Black Sea demersal surveys), and only in a few cases sampling from biological sampling of commercial fisheries is considered.

Louise Veron, France NC, expressed interest in the approached proposed in the RCG NANSEA Case Study in the North Sea and the need to harmonize methodology (for stomach collection and analysis) between Mediterranean Sea and Atlantic. Mrs Veron also stressed the importance of coordination on stomach analysis among MSs (e.g. through few dedicated platforms in a limited number of countries), with the aim of achieving an efficient tasks and costs sharing.

Mrs Karachle pointed out the need for a robust sampling in terms of length class scheme. She reiterated the example from the RCG NANSEA case study, where a 5-cm length class scheme is implemented. In addition, she stressed further the importance of implementing a rolling scheme that could allow collecting information from a wide range of predators in a quite efficient way.

Mr Sartor highlighted the importance of the harmonization of the entire process of fish stomachs data collection at regional level. Currently, the collection of stomachs is mostly based on experimental surveys; however, the guidelines produced by the previous regional grants recommended the collection of samples also through the biological sampling of commercial fisheries along the whole year in order to guarantee a wider temporal coverage of the sampling, and assure the collection of stomachs from all the size classes, especially the largest ones that are rarely caught by the scientific surveys, such as the MEDITS.

María Valls, IEO Spain, agreed with Mrs Karachle and Mr Sartor, and also stressed the importance of considering for analysis not only full stomachs, but also stomachs with different degrees of repletion in order to avoid bias, and to make the sampling more efficient. She also proposed performing a thorough bibliographic investigation to identify possible additional target species for stomach sampling, or, in alternative, perform additional pilot studies.

Cristina Follesa, University of Cagliari, Italy, informed that the ICES WG on fish stomach sampling and analysis will take place in the second part of 2022 (probably September); she will inform STREAMLINE on the possible dates, when available.

Paolo Carpentieri, STREAMLINE Task 2.2 leader, informed about the work done under GFCM for the publication of an atlas on stomach content analysis. He will inform the STREAMLINE consortium for future steps and liaise for possible cooperation.

Mrs Kostopoulou informed that the national work plans presented by MSs in October 2021 for implementation from 2022 onwards were revised by DG MARE and STECF, who sent several comments on different aspects of the plans to the MSs. In addition, it has been agreed that current work plans could be amended and updated by September-October 2022.

Mr Ligas proposed a draft roadmap towards the preparation of the upcoming Joint workshop of RCG Med&BS and STREAMLINE on data needed to assess the impact of fisheries on the marine ecosystem



(RCG MED & BS 2021 Recommendation 4) to be organized by April 2022. The STREAMLINE consortium, in cooperation with the relevant national experts and the RCG, will continue the discussion offline with the aim of drafting proposals in terms of sampling schemes and species to be monitored. Those draft proposals will be presented for consideration during the Joint workshop and possibly further implemented as regional sampling plans on fish stomachs data collection.

While closing the meeting, Mr Ligas took the chance to thank all the experts for the large participation and proactive support.

The meeting closed at 13.00 CET.

### List of participants

Name and Surname	Affiliation	Country
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Andrea Massaro	CIBM	Italy
Paolo Sartor	CIBM	Italy
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Daniilo Scannella	CNR-IRBIM	Italy
Ilaria Costantini	CNR-IRBIM	Italy
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Voula Karachle	HCMR	Greece
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Eduardo Lopez	IEO	Spain
María Valls	IEO	Spain
Miguel Vivas	IEO	Spain
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Ana Miletic	IOF	Croatia
Iva Žužul Vrgoč	IOF	Croatia
Leon Grubišić	IOF	Croatia





Tanja Segvic	IOF	Croatia
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Luca Pisani	MAFA-DFA	Malta
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Louise Véron	Ministère de l'Agriculture et de l'Alimentation	France
Tim Berginc	Ministry of Agriculture, Forestry and Food	Slovenia
Ivana Vukov	MPS	Croatia
Cristian Danilov	NIMRD	Romania
Daniel Grigoras	NIMRD	Romania
Dragos Diaconu	NIMRD	Romania
George Tiganov	NIMRD	Romania
Madalina Galatchi	NIMRD	Romania
Paun Catalin	NIMRD	Romania
Paolo Carpentieri	NISEA	Italy
Antonello Mulas	University of Cagliari	Italy
Maria Cristina Follesa	University of Cagliari	Italy
Niki P. Chartosia	University of Cyprus	Cyprus

## 7. ANNEX IV

**Joint Workshop on data needed to assess the impact of fisheries on the marine ecosystem  
(Recommendation n. 4 RCG Med&BS 2021)  
28<sup>th</sup> April 2022, 9.00-13.00 CEST, online  
Draft minutes**

The Joint Workshop on data needed to assess the impact of fisheries on the marine ecosystem was held on the 28<sup>th</sup> April 2022, and organized by the Regional Coordination Group for the Mediterranean and Black Sea (RCG Med&BS) and the STREAMLINE regional grant in the context of the Recommendation n. 4 of the RCG Med&BS meeting 2021 and the Task 2.2 of STREAMLINE.

The workshop was attended by 40 national experts from the ten Med&BS EU Member States (MS), the chair of the RCG Med&BS, Jurgen Mifsud (MAFA-DFA, Malta), and four representatives of the EU Commission (DG MARE and DG ENV). The group met virtually on a Zoom platform kindly provided by the RCGs Secretariat, under the chairmanship of Alessandro Ligas (CIBM, Italy), coordinator of the STREAMLINE project.

The STREAMLINE project provided a presentation on the available knowledge on the monitoring of the incidental bycatch of vulnerable species, and on the collection and analysis of fish stomach contents in the Mediterranean and Black Sea:

Paolo Carpentieri, STREAMLINE Task 2.2 leader, provided an overview of the existing knowledge on the incidental bycatch of vulnerable species in the Mediterranean and Black Sea collecting information from a wide range of sources: most recent EU Member States Annual Reports (period 2017-2020), relevant Pilot Studies, ICES Data Call, FAO/GFCM Regional review (including data submitted through Task 3 of the GFCM DCRF), and the outcomes and proposed actions of



STREAMLINE WP1. The information collected already allowed identifying possible suitable areas for the implementation of regional work plans on the monitoring of the incidental bycatch. In addition, the presentation provided some key messages:

- Good progress has been made, though there is an urgent need to improve the collection of such data despite several obstacles (e.g., space limitation onboard, security, human resources, etc.);
- Observers onboard are considered as the most reliable mean for recording incidental catches of vulnerable species.

Paolo Sartor, CIBM Italy, provided the participants with a presentation on the main outcomes of the previous regional grants (namely MARE/2014/19 Med&BS and STREAM) and Pilot Studies performed under the EU MSs national Work Plans in Mediterranean and Black Sea. He then provided a synthetic overview on the proposed methodologies for stomach content sampling and analysis in the Mediterranean and the Black Sea and suggestions about the harmonization of the entire process in a regional context. So far, European hake in Med and turbot in Black Sea are the two target species for stomach sampling analysis. In terms of sampling, regional grants proposed to take advantage of both MEDITS and biological sampling of commercial fisheries, and to design a sampling scheme by size class to account for ontogenetic changes in diet and explore seasonal changes. Currently, all MS carry out stomach sampling, but differences exist on: the use of a common protocol, the number of samples, the source of data (MEDITS and/or commercial fisheries) and stratification (seasons monitored). Mr Sartor presented also an overview of the comments received by the EU MSs through the questionnaires launched by STREAMLINE WP1 about the proposals on the fish stomachs data collection. Taking advantage of the information summarized in Deliverable D1.1 “Maps of existing elements and gaps”, a brief overview of the status of implementation of Pilot Studies on stomach contents sampling and analysis along the various EU MSs was presented as well. Additional species were proposed: *Lophius* species for the Med and Mediterranean horse mackerel and sprat for the Black Sea. Med MSs did not agree on *Lophius* species, because of the difficulty of sampling enough stomachs. On the other hand, there is agreement on the additional species in the Black Sea.

Charis Charilaou, DFMR Cyprus, reiterated the importance of agreeing on a common list of species to be considered for the monitoring of the incidental bycatch of PETs, as well as on common protocols. In addition, she pointed out the need to take into consideration the seasonality and possible temporal closures of the different métiers, that could affect the relative risk of bycatch, as well as the collection and reporting of the data. She stressed the importance of reporting also zero catch information regarding the bycatch of vulnerable species during the observations onboard. She also reminded the group that MS have been required to address the need of improved monitoring of incidental catches in their national workplans 2022-2024, therefore an improvement in data collection of incidental catch is expected. Finally, she reminded the group about the possibility of resubmitting national workplans 2022-2024 with amendments this year.

Ken Patterson, DG MARE, pointed out that priority should be given to monitoring the bycatch of species at high risk of extinction, such as the sand tiger shark, *Carcharias taurus*, rather than focussing on those métiers known to have high catch rates of less vulnerable species (e.g., sea birds and longline fisheries in the Balearic Islands, etc.). Mr Patterson expressed some concern on the fishers self-reporting approach. According to the new law, fishers can be fined for catching vulnerable species, therefore there might be some disincentive in reporting the data. It would be more efficient installing CCTV cameras on board the vessels. There are already some pilot tests on this. Another useful tool would be the use of eDNA.

Mr Ligas acknowledged the point of considering species at high risk of extinction; however, there is the risk of investing a lot in sampling effort to gather very few bycatch information. He also explained that problems with reporting the data can occur also within fleet observer programmes, as fishers may refuse to host observers to avoid the risk of being fined for the bycatch of vulnerable species. Regarding CCTV cameras, most of the vessels in the Med&BS are small sized, and it might be unfeasible to install CCTV cameras on board, because of the lack of sufficient power or space. In addition, there is the reluctance by fishers. The use of new technologies such as eDNA can be further



investigated for future applications. Again, regarding the self-reporting approach, Mr Ligas pointed out that this approach is included in the GFCM handbook, it has been successfully tested by several MSs in their pilot studies providing sound results. Although it is acknowledgeable that this method has some shortcomings (e.g., data quality and reliability), it has been proven as a useful tool in the Med&BS. In addition, this method allows involving fishers and cooperating on the reporting of data. Mr Carpentieri highlighted the improvement in the cooperation with fishers and in the quality of data provided by fishers. Mr Carpentieri stressed the importance of involving fishers in the data collection process through self-sampling/reporting schemes (e.g., logbooks) as methods that can integrate the information collected through fleet observers. It is worth taking into account that for safety and administrative issues, fleet observers are not allowed to go on board small sized vessels (e.g., those employing long-lines, set nets, etc.). There is the need to:

- intensify data collection for specific métiers with questionnaires, logbooks, etc., and validate them against onboard observations;
- increase the number of onboard observations in areas with local importance (where interactions are intense).

Ms Charilaou reminded the group that hake stomachs are collected during the MEDITS survey as agreed as a minimum standard at the RCG Med&BS level.

Mr Sartor highlighted the importance of covering different seasons taking advantage of the biological sampling of commercial fisheries.

Paraskevi Karachle, HCMR Greece, informed the group that northern European MSs started collecting fish stomachs from IBTS surveys according to the rotating scheme agreed at RCGs level. They are focussing on predator species. She proposed to do the same in the Med&BS. There are two options: use the survey to collect also other predator species (even though in few numbers), or continue with hake, but add seasonality (from commercial sampling). She would opt for the first one. It is important to focus on predator species that might provide insights on the mortality of the main species that are assessed (hake, red mullet, shrimps, etc.). It is important to start creating a time series of data, even if based on few specimens per year. A possible solution could be to sample only MEDITS survey and enlarge number of species to be monitored.

Mr Sartor raised the issue related to the difficulty of sampling some species and the budget available for performing this task. Additional resources would be needed to improve the sampling and data collection on stomachs.

Mr Ligas informed the group of the possible cooperation with the RCG LP on the drafting of a regional work plan on the monitoring of the incidental bycatch of vulnerable species in drifting longline fisheries in the Mediterranean. The chair of the RCG LP was invited to this joint workshop, but could not attend.

There will be a discussion between the RCG Med&BS and the RCG LP to explore options regarding the competence for the coordination of this possible RWP.

Venetia Kostopoulou, DG MARE, stressed the importance of taking advantage of the support of the regional grants to help the RCG achieving set goals in the process of regionalization by the end of 2022. To this end, it is important to coordinate also with the RDBFIS grant for the regional database. It is important for STREAMLINE to provide the elements needed for the draft RWPs to the NCs, to help them understand better the content of the proposals. The list of species could be an important starting point for the PET bycatch monitoring.

Mr Patterson informed that COM is working on an Action Plan for the protection of fisheries resources and conservation of marine ecosystems, which will be published as a COM communication before the summer 2022. The aim is to put together fisheries management and conservation of biodiversity, including sensitive species and habitats. This should include also the list of species MSs should focus on. The list will include IUCN red list species and species protected under the EU law (Birds and Habitat directives, Barcelona Convention, and Art. 16J of the Technical Measures regulation).

Pierluigi Carbonara, COISPA Italy, informed that the ICES WGBIOP is planning to organize an exchange exercise on stomach sampling. This could be a possible chance to involve the labs from



Med&BS and provide some training and exchange of experience. The RCG Med&BS should also organize some training in stomach analysis in the future. He also informed that a new meeting of the WKSTCON shall take place in 2022.

Mr Carpentieri informed that GFCM will publish next year a manual on fish stomach content sampling and analysis.

Ms Charilaou reiterated the need of identifying reference labs that could collect stomachs from other labs and perform the analysis. This should also guarantee the standardization of procedures. This was also pointed out in WP7 in the previous STREAM grant.

Susana Ribeiro, RCGs Secretariat, informed that the process of identifying reference labs is still in progress within the northern European RCGs. Funding is one of the main issues.

Maria Gonzalez, IEO Spain, proposed that different species lists for stomach sampling and analysis could be drafted and used at sub-regional level.

Ms Kostopoulou pointed out that the evaluation performed by STECF EWG 22-18 (Evaluation of Work Plans for data collection and data transmission issues, 24 - 28 October 2022) could represent a useful exercise to test and tune the capabilities of the RCG in drafting RWPs.

In light of the outcomes of the discussion during the plenary session, the group agreed on a roadmap to draft proposals for non-binding regional work plans (RWP) on the monitoring of the incidental bycatch of vulnerable species and on fish stomach contents collection and analysis in the Mediterranean and Black Sea (see Annexes III and IV).STREAMLINE experts will work on the draft proposals that will be submitted to the RCG Med&BS and the National Correspondents for their consideration. The review process will be performed by means of a written procedure, and a final agreed version will be completed by the end of July 2022. The final approval of the draft non-binding RWPs will be achieved during the RCG Med&BS annual meeting in September 2022.

#### List of participants

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### Agenda

- 9.00, Welcome and opening of the works, adoption of the agenda – A. Ligas (STREAMLINE Coordinator) and J. Mifsud (RCG Med&BS Chair)
- 9.10, Presentation of the available elements for drafting Regional Work Plans on the monitoring of PET bycatch – P. Carpentieri
- 10.15, Presentation of the available elements for drafting Regional Work Plans on fish stomach contents collection and analysis – P. Sartor
- 10.45, Coffee break
- 11.00, Plenary discussion on possible proposals for draft Regional Work Plans on ecosystem impacts in the Med&BS
- 12.30, Wrap-up and conclusions, roadmap agreement
- 13.00, Closing of the works.

### Roadmap for drafting a proposal of a non-binding RWP on the monitoring of the incidental bycatch of PET species in the Med&BS

STREAMLINE will request to the NCs the following information by Member State:

- the data on fishing effort (e.g., table G of the FDI Data Call, for the period 2018-2020);
- the number of observations foreseen under the biological sampling of commercial fisheries according to the current NWP.

The circulation of the request will be facilitated by the RCG Chairs, with a deadline for providing the requested data on the 16<sup>th</sup> May 2022.

STREAMLINE experts will work on a draft proposal on non-binding RWP on bycatch monitoring (including the preparation of the list of priority species) that will be submitted to the NCs by the 17<sup>th</sup> June for their consideration.

The review process will be performed by means of a written procedure, and a final agreed version will be completed by the end of July 2022.



The final approval will be achieved during the RCG Med&BS annual meeting in September 2022. The RCG Med&BS, supported by STREAMLINE, will then submit the proposal for consideration by the Commission and the STECF (STECF EWG 22-18 Evaluation of Work Plans for data collection and data transmission issues, 24-28 October 2022).

**Roadmap for drafting a proposal of a non-binding RWP on fish stomach contents collection and analysis in the Med&BS**

STREAMLINE will request to the NCs the following information by Member State:

- The sampling plan on fish stomach contents collection and analysis under the current NWP: source of data (e.g., experimental surveys, biological sampling), number of full stomachs by type of data and size class (European hake in the Mediterranean and turbot in the Black Sea).

The circulation of the request will be facilitated by the RCG Chairs, with a deadline for providing the requested data on the 16<sup>th</sup> May 2022.

STREAMLINE experts will work on a draft proposal on non-binding RWP on fish stomach contents collection and analysis that will be submitted to the NCs by the 17<sup>th</sup> June for their consideration.

The review process will be performed by means of a written procedure, and a final agreed version will be completed by the end of July 2022.

The final approval will be achieved during the RCG Med&BS annual meeting in September 2022. The RCG Med&BS, supported by STREAMLINE, will then submit the proposal for consideration by the Commission and the STECF (STECF EWG 22-18 Evaluation of Work Plans for data collection and data transmission issues, 24-28 October 2022).

