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Support MSFD implementation in the Black Sea through establishing a regional monitoring system of cetaceans (D1) and noise monitoring (D11) for achieving GES Contract No 110661/2018/794677/SUB/ENV.C2

Work Package 4: Capitalization, communication and dissemination of the
project activities and results

Deliverable

Activity 4.2: Capitalization workshop report



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2	Romanian Ministry of Environment, Water and Forests	RMEWF	Romania
3	National Institute for Marine Research and Development "Grigore Antipa" Constanta	NIMRD	Romania
4	Black Sea Basin Directorate under Bulgarian Ministry of Environment	BSBD/BME	Bulgaria
5	Institute of oceanology – Bulgarian Academy of Sciences Varna	IO-BAS	Bulgaria
6	Non-governmental organization Green Balkans	Green Balkans	Bulgaria
7	Turkish Marine Research Foundation	TUDAV	Turkey
8	Scientific Research Institution "Ukrainian Scientific Centre of Ecology of the Sea"	UKRSCES	Ukraine
9	Permanent Secretariat of the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area	ACCOBAMS	Monaco
10	Karadeniz Technical University	KTU	Turkey
11	Iliia State University	ISU	Georgia
12	Improving Environmental Monitoring in the Black Sea – Selected Measures	EMBLAS-Plus	Black Sea Region
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Venue: Rosslyn Central Park Hotel

CeNoS Workshop Report

8th - 10th June 2021

INTRODUCTION

This document is the Report of the Final Workshop on the CeNoBS project, held in Sofia, Bulgaria at Hotel Rosslyn Central Park, 8-10 June, 2021. The event was organized by Green Balkans NGO – project partner. Local arrangements and logistics were organized by Traventuria Ltd. Due to the current circumstances related to the COVID-19 pandemics, the seminar was held in a hybrid mode - both online and in person. Participants from Bulgaria and Romania were present in person with many more joining online via zoom. The agenda is given in Appendix 1. A list of participants is given in Appendix 2. Some of the participants contributed with words that summarize the project's achievements that led to a word cloud:



DAY 1 (08/06/2021) – ARRIVAL OF THE PARTICIPANTS

Arrival and accommodation of the participants participating the event in person. Preparing the conference room for the workshop both online and on site. Checking the system and internet connection.

DAY 2 (09/06/2021) – DESCRIPTOR 1: BIODIVERSITY, MARINE MAMMALS

MAJOR TOPICS, AGENDA

1. **Opening. Introductory speeches and rules of the Workshop. Presenting of all participants. CeNoBS project presentation.**
2. **Presenting results of Black Sea basin-wide aerial survey of cetaceans.**
3. **Presenting of bycatch pilot results.**
4. **Baseline situation and proposal for threshold values for D1: Biodiversity, Cetaceans.**
5. **ACCOBMS Long Term Monitoring Program and Proposal for Black Sea basin monitoring program for cetaceans.**



Day 2 was dedicated to Descriptor 1: Biodiversity, Marine mammals. The workshop started at 10:00 and was attended by 40 participants from 8 different countries. Attendees represented environmental NGOs, regional or national authorities and research institutes. This included participants who are actively involved in activities envisaged in the project and included in the program for Day 2.

1. Opening. Introductory speeches and rules of the Workshop. Presenting of all participants. CeNoBS project presentation.

The Final workshop started with opening speech by representative of the leading partner - **Mihaela Mirea Candea, Mare Nostrum NGO**, welcoming attendees and each of them introduced him/herself and the institution s/he represented to the other participants in the meeting.

In a short presentation Mihaela Candea familiarized participants with the CeNoBS project, highlighted the main activities and aims related to EU Marine Strategy Framework Directive (MSFD) implementation, and last, but not least the partners. Successful implementation of all activities and achievement of all goals was summarized. The key role of the ACCOBAMS Secretariat, also as co-financial partner was mentioned. The main challenges - the lack of background data on distribution/abundance of Black Sea cetacean populations and on the bycatch pressure, the lack of national expertise to implement effective noise monitoring have been described. Challenges, which the CeNoBS project through pilot studies conducted and workshops held, have overcome and found solutions.

Were presented the 3 main objectives of the project related to D1 Cetaceans, D11 Marine noise and improved coordination in the Black Sea region through the dissemination of the project activities, results and outcomes.

Were mentioned the results:

- D1 – State of the art on D1 cetaceans related criteria in Bulgaria and Romania and proposals for further developing regional indicators;
- Aerial survey at basin level including a partnership with Russia as part of ACCOBAMS Survey Initiative (ASI) – three planes surveyed over 12 385 km of transects covering 268710 km² in 18 days;
- Operational pilot on bycatch of cetaceans in fishery – 63 interviews and 43 on-board observations conducted in Bulgaria, Romania, Ukraine and Turkey;
- First proposals for Threshold Values for D1C2 and D1C4. Results on D11 – State of the art on D11 criteria in Bulgaria and Romania and proposals for developing regional indicators;
- Regional training workshop on D11 monitoring;
- Operational pilot(s) on noise monitoring in BG and RO. For noise monitoring for MSFD-D11 in Bulgarian and Romanian waters it was suggested to rather use an approach based on the non-deterioration concept applied to the potential disturbance caused to target species. The harbour porpoise was proposed as the target species since it is one of the most sensitive cetacean species to underwater noise ;
- Communication and dissemination of the project activities/results, Black Sea main stakeholders informed;
- Recommendations for further developing D1 and D11 related criteria;
- Increased coordination among Bulgarian and Romanian MSFD Competent authorities. Attention was paid to all who can benefit from the main outputs of the project, among which: MSFD National competent authorities, National research organizations and NGOs, Black Sea Commission, Regional/local policy makers, Scientific and environmental communities involved in cetacean conservation and noise related activities, Working group on 'Good Environmental



Status' WG GES, Working group on 'Data, Information and Knowledge Exchange' WG DIKE, TG Noise, ACCOBAMS, other projects like MARINA, MBLAS 2, ANEMONE, MARLITTER and others.

Introductory speeches by **Susana Salvador, Executive Secretary of the ACCOBAMS Permanent Secretariat** and **Irina Makarenko, Black Sea Commission** included congratulatory words about the project and team. It was noted complementing of ASI by CeNoBS project and the importance of implementing activities on understanding, researching and protecting marine environment and cetaceans in particular. The close link between CeNoBS and other projects implemented in the ACCOBAMS area was also pointed out which enable to collect remarkable data on cetacean populations.

2. Presenting results of Black Sea basin-wide aerial survey of cetaceans.

To the attention of the attendees were presented results from the CeNoBS aerial survey by **Mihaela Mirea Candea**, due to the inability of the original presenter, **Julie Belmont - ASI Project offices**, to attend. It was noted that this data combines the results from both CeNoBS and EMBLAS aerial surveys in Black Sea in 2019 and extend over marine territories of Ukraine, Romania, Bulgaria, Turkey, Georgia and Russia, thus covering most of the basin. Historical in terms of effort – 9,354.40 km surveyed. The observations from both CeNoBS and EMBLAS surveys show 1988 sightings of cetaceans with 4788 animals in total and 551 sightings of birds in addition. Abundances for the cetacean species were presented for the CeNoBS project only and combined with the results from Russia for greater accuracy. Distribution maps were divided by species for better visualization.

Participants were then invited to watch a short movie about ACCOBAMS Survey Initiative and CeNoBS aerial survey.

Discussion started. Question from the conference room from **Stefania Klayn, IBER-BAS** - whether the results of the aerial survey are combined with maritime traffic data and also with fish abundance data. Those were received as proposals for further projects and activities. It was added by **Dimitar Popov, Green Balkans NGO** that data on fish abundance in the Black Sea is lacking or are insufficient for such analysis, but in model-based analysis in detailed report there are included other factors like visibility, glare, depth, distance from shore, temperature and others. **Marian Paiu, Mare Nostrum NGO** clarified that the aim of the project was to collect specific data on the distribution and abundance of cetacean species and not on the reasons for it, but obviously the data collected under the project can be used for future research and analysis in this direction and this is also a great benefit. There was question from **Pavel Gol'din, UKRSCES** about the right moment for doing the next survey and is the aim to do the next survey in 2025, as the MSFD requires, is too ambitious for the team. **Marian Paiu** added that those issues will be among the main topics discussed with all the stakeholders and authorities, but also it depends on political situation. It is also included in the Monitoring program proposal under CeNoBS and also in ACCOBAMS Monitoring program.

Comment from **Ayaka Amaha Ozturk, TUDAV** for the monitoring cycle and if we want to combine with ASI we have to do it every six years – the same year as ASI or next one, but all this depends a lot on the financial part. Also, being the first such comprehensive survey of the whole basin, a lot is learned about logistics – problems with airports, fuel and etc. and will be useful to have this information in some document for the future experts. **Otilia Mihail, Romanian Ministry of Environment, Waters and Forests** pointed the need of project and conducting such basin-wide survey sooner, due to lack of data about cetaceans in Black Sea and also the need from financial support from ACCOBAMS. Comment from **Susana**



Salvador about that – it will be great to have both surveys together – Black Sea and Mediterranean Sea – but the support of ACCOBAMS depends on Black Sea countries and authorities.

A coffee break took place for both participants in person and online.

3. Presenting of bycatch pilot results.

The meeting continued with the presentation of the results from the pilot on bycatch of cetaceans in turbot fishing nets by **Pavel Gol'din, UKRSCES**. He pointed out the threats (bycatch also) and the condition of the three species in the Black Sea, which determines the need for such monitoring. The rough estimation shows that about 20,000 individuals of harbour porpoises can be bycaught annually. A standard and approved methodology was used – questionnaires, stranding monitoring and on-board observations. The conclusions of the results and the data from the conducted research were presented to the attention of the participants – annual bycatch of harbour porpoise in Black Sea between 11826 and 16200 individuals. That means bycatch level is 4.7% - 21.2% of the total abundance of the species. It was noted that all this shows the bycatch of harbour porpoise far exceeds the sustainable level defined by ASCOBANS and adopted by EU which is no more than 1.7% of population. Possible mitigation measures were identified to be discussed at local level and introduced - the use of pingers and modified nets with glass spheres.

Comment from **Ayaka Amaha Ozturk, TUDAV** – we already know that the level exceeds the recommended numbers and measures are needed, but in addition to the development and introduction of new technologies, it is also necessary to push governments for urgent actions like temporal spatial closures or reduction of fishing grounds and all this, of course, should go together somehow with support and compensations for fishing communities. That means not only to mitigate the bycatch but also do something to prevent it.

Questions from the conference room by **Ekaterina Voynova, WWF Bulgaria** - whether data have been collected, together with cetaceans, on bycatches of other protected species; and are there areas identified for mitigation like for example marine protected areas or some other areas. **Pavel Goldin** clarified that, as far as is known, no data were collected especially for other protected species in Bulgaria and Romania during the on-board observations, but still some data were recorded for bycatch of different species not only protected during questionnaire survey but also sturgeons which are protected. As for the principals for establishing time closure measures this also depends on sub-area and season because in each sub-area/sub-region there is specific good time for time and space closure and this depends on climate and biodiversity of this sub-area. Generally, it can be marine protected areas but also can extend beyond such protected areas. For example, in Ukraine there is more or less stable practice for time closure of some areas which are beyond the marine protected areas network. But generally, all this process is more or less complex procedure which imply not only the effect on cetaceans but also effect on other protected species, because turbot itself also needs time closure and protection measures.

Comment from **Otilia Mihail, Romanian Ministry of Environment, Waters and Forests** about the proposed measures, confirming they will be taken into consideration. Reminding this year and next all EU members should update their programs of measures and in this regard those recommendations are real support. Also question – about the nets with acrylic-glass spheres mentioned earlier, can they stop bycatch and what is the mechanism for that, how they work. **Pavel** explained that the mechanism is simple – the porpoise detects these spheres and this prevents the animal to approach the net, so the net becomes



more visible for the cetaceans. At this moment there are experiments going on with this type of nets in Turkish waters according information by **Arda Tonay, TUDAV**.

Lea David, EcoOcean commented that the numbers for bycatch levels are very high and the percentage of bycatch is probably the highest in the world and thus it is really important to act rapidly. Comment also about discussion of measures – there is correlation between net length and bycatch level and it can be also type of measure. Maybe there is need to study the process more. Mentioning that protecting cetaceans also results in protecting the resource, meaning the turbot.

Pavel added in this regard that best solutions are market solutions or creating positives for fishermen. Example from Ukraine – in the latest years there is good practice of shifting fisheries for Rapana whelk - it is invasive species which is harmful for environment - and these fisheries are highly profitable now due to new market mechanism, due to new agreement about free trade in EU, Turkey and in future in Korea also. Many fishermen stop turbot fishing and switch to catch Rapana. Possible measure – governments to consider tax bonuses for fishermen which do not catch turbot or who catch Rapana whelk instead of it.

Addition from **Mihaela** – also in Romania there was a switch from turbot fishery to Rapana fishery due to the commercial interest. But due to Rapana overfishing the individuals are now small and commercially not attractive and is not recommended to rely on this kind of measure since fishermen go back to fishing turbot.

Comment from **Ertug Duzgunes, KTU** – turbot stocks are declining and RO and BG quota for turbot is at critical stages not being fully utilized. About Turkey, there are activities such as attempt to use shorter nets less than historical levels in order to keep their nets undestroyed by the dolphins. This is the case with red mullet fishery and Whiting fishery. They use different type of gillnets operating at the surface and at the bottom. The main issue is not to have penalty if the fisherman catches a dolphin incidentally, but we need official data about bycatch levels. Otherwise, only stranding information is not enough. There is also need to change to fishing pattern of small vessels that fish for shorter period. There is need of collaboration of fishermen and conservationists and evaluating implementation of proposed measures.

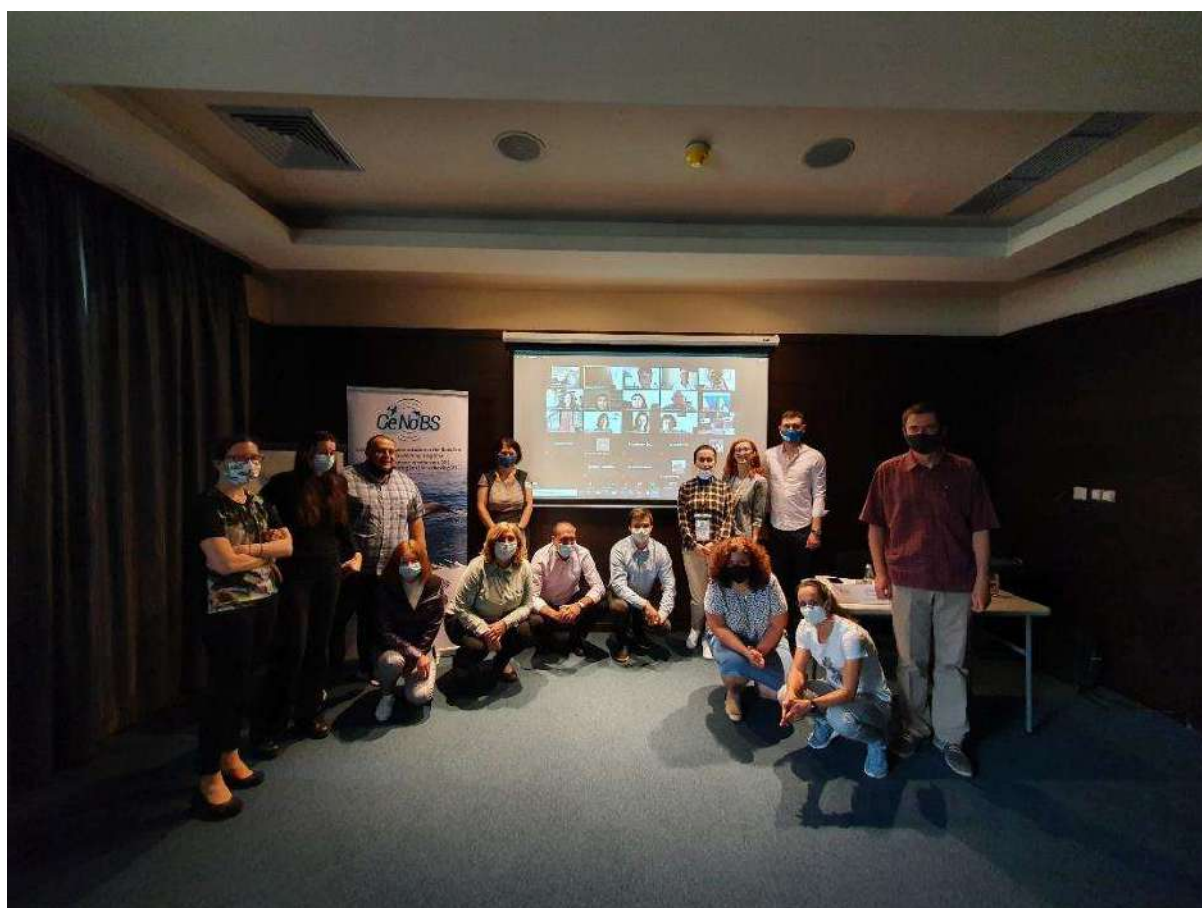
Comment from **Dimitar Popov, Green Balkans NGO** about time closures. From the conducted studies it is quite clear that the bycatch rate is considerably higher in the summer turbot fishing season compared to the spring. One of the good things in that point is that few fishermen are fishing also in summer, and most of them concentrate their effort in spring. Because the official turbot fishing ban is from 15th of April to 15th of June. There is proposal to GFCM from Romania to change the period of the ban – from 1st of April to 1st of June. From the experience that is gained during CeNoBS activities it can be concluded that earlier start of summer season for turbot fishing will have a negative effect on harbour porpoise. Concerning the mitigation measures and pingers we have tried two types and there were some other studies here from previous years reporting better results compared to our studies. The most important conclusion of all this is that the net length seems to be very important because the longer the net the mitigation measures seem to be weaker and the pingers are losing their effect. Different fishermen use different strategies for fishing. Some have more or less the same total length of nets, up to 20-30 km, but while some fishermen prefer to install them altogether, others prefer to have them dispersed at larger areas in smaller strings. It is up to their own statistics that they make that decision. But it is observed that in the shorter strings of nets the effect of measures and pingers is higher. And as Lea mentioned earlier, we need more studies and understanding of the mechanism, because also the results from different years show some differences of bycatch levels. Regard the comment by Ertug concerning that we cannot rely very much on strandings, it is confirmed by the data. For example – in 2019 were recorded more harbour porpoises in

the nets of only five vessels compare to the total number of strandings we had managed to record from different sources. There are data (France) that the number of carcasses that reach the coast is very low, about 1% and even lower according to other sources.

Mihaela clarifies that the proposal for shifting the ban period for turbot is made from BG and RO fishing agencies to GFCM.

Question from the conference room by **Ekaterina Voynova, WWF Bulgaria** – is this ban basin-wide; and how do you evaluate its implementation. **Dimitar Popov** – the ban is for BG and RO, but in Turkey the ban period is even longer. **Pavel** – for Ukraine there are different periods for the territorial waters and EEZ. It is shorter than two months. Now it is one month for territorial waters and one month for the EEZ. **Arda Tonay, TUDAV** about Turkey – from 15th of April to 15th of June.

Lunch break including a photo of the participants



4. Baseline situation and proposal for threshold values for D1: Biodiversity, Cetaceans.

Presentation from **Marian Paiu, Mare Nostrum NGO**. Setting threshold values for such a mobile species is a challenge. Setting baseline is practically setting the beginning of data knowledge of cetaceans, at least for EU members RO and BG. There are pragmatic options for setting threshold values – a boundary for a criterion or an element being in good status or not. In this case it can be fixed threshold value or a range.



Going for a range is the chosen option. Principals for threshold setting were presented. For setting the baseline a comparison between known state in the past and current state is proposed, and the available data for RO and BG are based on the assessment performed in 2013 and 2019. Comparison between 2013 and 2019 for BG and RO, at Member States level and for Black Sea range level is presented for each species. Seems that harbour porpoise keeps most stable abundance compared to other two species which are declining. Presenting proposals of baseline for D1C2 and D1C4 in regional (Black Sea) and national level by species. Recommendations were made for further assessment against baseline.

Comment by **Pavel Goldin, UKRSCES** regarding these figures, which are not corrected by $g(0)$ value. When we switch to D1C1 and calculate the proportion of bycatch we should make the correction before doing it because in this case we could obtain exaggerated value. It is very fine to use uncorrected values but we should always keep in mind that at some point for some calculations we need to do it.

Marian Paiu replied there is proposal for correction factor that should be included in the report. In relation to bycatch we are not sure about bycatch rate and probably these will need correction and that is something to be made after further discussions in working group.

Otilia Mihail, Romanian Ministry of Environment, Waters and Forests – supports taking reference condition for threshold values, considering lack of information. Question related to D1C4 – D1C4 is related to species distribution or other. Answer by Marian – distribution range is taken from IUCN proposal for range and advice is to include GIS tools for species distribution taking into account also habitat.

Intervention from **Lea David** – shared experience from France and clarified it is not an easy work so congratulations.

Intervention from **Ayaka Omaha Ozturk, TUDAV**: there is a big difference regarding harbour porpoise in 2013 and 2019, is it clear what is the reason for that. Answer by **Marian** – the answer is not clear but probably is related to shift of distribution and after more surveys are conducted it will be clearer. We choose precautionary approach and select higher density as baseline.

5. ACCOBMS Long Term Monitoring Program and Proposal for Black Sea basin monitoring program for cetaceans

Presentation by **Chedly Rais** of **ACCOBAMS** about ACCOBAMS Long Term Monitoring Program for estimating trends in abundance and distribution of cetaceans (LTMP). Explained the need of such program and relation to the Agreement's objectives. Few words about the First synoptic survey in the Mediterranean in 2018 and the methodology applied, problems of political nature and results. LTMP will build on the achievements of this First synoptic survey in the Mediterranean and the CeNoBS project in the Black Sea. The main objectives of this program include, in addition to accurate estimates of abundance and distribution of the species, also data collection about anthropogenic threats as traffic, fishing, marine litter etc. The program is based on periodic synoptic surveys mainly based on aerial surveys (shipboard surveys for specific areas or species) in the Agreement's area, implemented by national teams, multispecies monitoring protocols, coordinated seasonality.

Next is presentation by **Dimitar Popov, Green Balkans NGO**, Bulgaria, about the Proposal for Black Sea basin monitoring program for cetaceans. Brief describing the need of such program. Again, the point is on the lack of data about cetaceans in the Black Sea, about trends of abundance and distribution, habitat



use, measures etc. Brief description of different criteria in MSFD Descriptor 1: Biodiversity, Marine mammals – D1C1 accidental bycatch; D1C2 abundance; D1C3 demographic characteristics; D1C4 distributional range; D1C5 habitat use. And the working methodology for each of the criteria described – onboard surveys, questionnaires, stranding monitoring, carcass drift modelling, bycatch mitigation measures; aerial survey; photo-identification, population genetics, vantage points observations; vessel visual and acoustic surveys; FPODs. Describing the main advantages for each of the methodology proposed.

Question from the conference room by **Stefania Klayn, IBER-BAS** – if you consider for using drones for these activities. **Dimitar** explains that up to now we don't have drones that are able to fly more than 15-20 min, which is the usual duration of the batteries. Pilot studies by ACCOBAMS on the use of the drones is under way. Most of the researchers around the world are using them more like complementary technic for behavioral studies in addition to vessel studies. Very useful in vessel studies for detecting and estimating the group size.

Another question from the conference room by **Stefania Klayn, IBER-BAS**, about the satellite tags, are they useful for estimating the habitat use or range. Answer by **Dimitar**, explaining the tricky part which is to tag them. Satellite tags are more common for use about large cetaceans, whales. It is much easily to deploy the tag on them. Here in Black Sea, there are only small cetaceans and the only chance is to accidentally catch the animal in fishing gear, trapping them alive is hard to do.

Comment from **Pavel Goldin, UKRSCES** points the need for collecting biological samples for studying age structure and modelling. This is powerful tool and is critically important for estimating the bycatch risk and population dynamic. Few words addressing previews questions – the need for new technologies like using drones for stranding surveys, biopsy samples etc.

Intervention from **Ayaka Omaha Ozturk, TUDAV**. May be, it should be included in the monitoring program something like studying the contamination in cetacean tissues, as complementing technic for the stranding and bycatch monitoring.

Mihaela Candea presenting to the attendees and those online the CeNoBS project's website.

Intervention from **Otilia Mihail**. Asking question about the cost of such monitoring program. Some numbers from Mihaela about the cost of the CeNoBS aerial survey which in total seams not o expensive if you consider the all five countries, the stuff, the plains, the methodology and experts' analyses, and the fact it is conducted not annually. Addition by **Dimitar** concerning the financial part, example of the most reliable monitoring program for cetaceans for the Western Europe for the North Sea named SCANS, there is SCANS, SCANS 2, SCANS 3 already. First two were funded through LIFE projects. But in the 3rd ten years cycle the countries' governments decided that dealing with LIFE budgets is very complicated and is better each country to separate their own budget and to fund this huge survey. And as we have seen also with the Mediterranean part of the ASI there were the governments of Italy, France, Spain and Slovenia that were co-financing that. And they have not co-finance it simply because are very generous. They do it because this is something very much useful and required for the monitoring and for the reporting under the directives – MSFD and the Habitat directive. And we can learn from their example. Finally, it is a matter of priorities and to mark the most important things.

Intervention from **Pavel**: funding joint basin-wide project will be more cost effective than funding a lot of minor projects.



Intervention from **Lea David**. Not to forget that with aerial survey we can also collect data about marine litter, birds and other components and to cover different descriptors under the MSFD.

Closing the day.

DAY 3 (10/06/2021) – DESCRIPTOR 11: MARINE NOISE

MAJOR TOPICS, AGENDA

- 1. Opening. Introductory speeches and rules of the Workshop.**
- 2. Invited speakers' speeches – Fabrizio Borsani (EU TG on Underwater Noise), Nicolas Entrup (OceanCare).**
- 3. State of the Art of Descriptor 11: Marine Noise.**
- 4. Results from pilot on marine noise monitoring.**
- 5. QUIETMED 2 and QUIETSEAS projects presentation.**
- 6. Monitoring program proposal/Noise register.**

The third day of the seminar was dedicated to Descriptor 11: Marine noise. The workshop's day 3 started at 9:00 AM and was attended by 42 participants from 10 different countries. Attendees represented environmental NGOs, regional or national authorities and research institutes. This included participants who are actively involved in activities related to Descriptor 11 and included in the program for Day 3.

1. Opening. Introductory speeches and rules of the Workshop.

As new participants join the meeting online in its second day, there were few minutes to introduce themselves.

2. Invited speakers' speeches – Fabrizio Borsani (EU TG on Underwater Noise), Nicolas Entrup (OceanCare).

Presentation by **Fabrizio Borsani, TG Noise** started with few words about the nature of the TG-Noise's work. Differences between continuous and impulsive noise, their different sources and effects caused, as they require also different frameworks to assess the impact have been explained. That was followed by presenting the Work plan of TG-Noise deliverables – Assessment frameworks for impulsive and continuous noise, targeted to be delivered in 2021 and Options for thresholds values for impulsive and continuous noise in 2022. Some more details about those two frameworks. Comparison between the four methods for achieving GES have been made – Based on UK; TNO; BSH and QuietMed. Showing some important papers published by EU Directive 2008/56/EC; Decision 2017/848 and Commission Staff Working Document. Explaining the not easy process of setting the thresholds values.



Question from **Dragos Niculescu, NIMRD**. Do you have some examples for the fauna which would be impacted by the noise, how they will be affected and what the result will be? Some papers, data regarding this.

Answer from **Fabrizio**. The answer is Yes to both things. We have taken the ecological habitat definition and a habitat is where a species lives. If you change species, you change habitat. We continue to find new animal species in some particular habitat which are affected by the noise. Underwater noise is just mechanical wave that moves through the water and have two components – pressure and particle movement. Thus, it really mixes up the floor, the bottom, so if you have a herring larva it will get killed from the particles moving and smashing around. It can be found in the literature and TG-Noise have done a couple of studies that can be sent to whom is interested. There are studies that describe the reactions by bivalves to the noise and for black mussels that grow in Black Sea and when exposed to the shipping noise they grow with 50% less. There are also studies about crustaceans by the University of Barcelona or Japanese and Australian colleagues describing reactions of some crustaceans to seismic and impulsive noise. There are studies about fishes, including species living in the Black Sea, summarized in Workshop Report from BOEM. And of course, a huge number of studies on cetaceans. The problem is that studies on cetaceans are usually studies on single individuals and not groups or populations which is the limit. Because the definition says „effect on population“, but we can only somehow extrapolate from individuals to population level. The floor is open for scientific community to develop. What we do have now is number of EU portals that summarize scientific information such as WISE, EModNet, etc. A lot of progress in issue with noise modeling – transmission loss, propagation – and can extrapolate to wider areas. And there is a list of public scientific researches about noise sensitive species. The progress in future should include the study of species which are easy to study at level of population.

Intervention from the conference room by **Stefania Klajn, IBER-BAS**: information to share – Natural history museum in Berlin have really nice animal audio database where there is information also about the hearing of these animals.

Question from **Ertug Duzgunes, KTU** about bycatch mitigation – is it possible to manufacture new type of pingers to reduce bycatch rates, is there a new technology for new generation of acoustic devices. The answer from **Fabrizio** is that from his technical perspective pingers are useless and it does not matter what kind of pinger you can invent it is proven that in the end after couple of days dolphins become attracted. There is data that even the intelligent type of pingers that transmit the scary sound turn to be attractive for dolphins. And all this combined with the fact that they are very cost expensive and represent additional noise pollution.

Intervention from **Otilia Mihail, Romanian Ministry of Environment, Waters and Forests** congratulating Fabrizio and his presentation.

Next is the presentation from **Nicolas Entrup** from **OceanCare** about the threat posed by ocean noise pollution to Europe's cetaceans. Interesting experiment done in early 1990s – researches have put devices in the Indian ocean emitting signal in 200 dB low frequency to see where it arrives and the farthest destination was British Columbia, about 17000 km. The impact from ocean noise is documented for about 150 species so far. Focusing on shipping noise. 15% of the global fleet predominate the larger vessels and create 15% of all the noise emissions in the ocean. Simple rule – the larger the ship and the faster ship more sound emits. Considers different type of measures to reduce the pressure. Presenting publication about the link between the speed of the vessels and the risk they possess for the marine fauna and environment. Talking about the effect of noise on different groups of animals and measures developed.



Words about the ACCOBAMS noise Guidelines. Pointed out the definition of GES regarding noise and failure of EU members to achieve the objective set by 2020.

Intervention from **Ayaka Omaha Ozturk, TUDAV**. We have some problem in the Mediterranean and Black Sea regarding noise and seismic surveys. A lot of impact and probably it is the reason for not seeing animals at those locations. Asking for information from those companies conducting the seismic if they have MMOs. In the most of the cases they even don't know what MMOs are. Usually, they explain that somebody will do the job. How can we deal with that? Answer from **Nicolas** – it is important for management authorities of the country to ask for impact assessment before the license for seismic survey. Current practice for granting seismic license does not fulfill the need for conservation measures. They are more commercially oriented. **Lea David** added that within ACCOBAMS there have been request from the parties to create something about MMO and PAM. And ACCOBAMS launched certificate for highly qualified MMO/PAMs and it is very clear how to train people, which people can be trained and at this point there are about 40 people qualified. Countries must be aware that this exists. Countries must be aware that it is better to use MMOs trained for the specific conditions of the Mediterranean or Black Sea. In the working group for MMO/PAM there are representatives of oil and gas companies and they are aware of those ACCOBAMS MMOs and they willing to use them. But they need to know that this exists. There is ACCOBAMS Resolution for use of local MMO/PAMs.

Intervention from **Otilia Mihail, Romanian Ministry of Environment, Waters and Forests**. Some congratulatory words about Nicolas' presentation. Comment about statement that member states fail to achieve GES for D11 in 2020. Otilia's opinion is that this is due to objective causes. This descriptor is unknown in a way, member states have to get new knowledge, to develop methods and did all efforts to improve activities for achieving GES but for next cycle the work will be improved. Otilia added that from her point of view achieving GES in 2020 was too ambitious because the lack of information. Clarification from **Nicolas** that his statement does not criticize individual country. It criticizes all member states and as some member states have been particularly progressive in certain industries such as renewable energy, and in other respect they have been done less. It's not about good country, bad country, but hope that EU member states can learn from each other and use measures that have been improved being successful. Example with Belgium done shipping trial and similar work is done within QUIETSEAS. It is very promising that Black Sea is considered to be included also in these trials. What we want to see is incentives by port authorities for slower speed that create lower impact on environment.

3. State of the Art of Descriptor 11: Marine Noise in Romania and Bulgaria.

Next is presentation from **Dragos Nicolescu, NIMRD** about the state of the art for D11 and the monitoring conducted in Romania. Explaining the timing, equipment and methods they use.

Question from **Stela Barova, BSBD** about the frequency of the monitoring program, is it each year regularly. **Dragos** explains that it's just started and with the new equipment they hope to conduct it regularly.

Comment from **Mihaela Candea, Mare Nostrum NGO** – on website cenobs.eu there is the deliverable State of the art for D11 and it can be downloaded if it's needed.

Comment from **Lea David, EcoOcean** – if during the recording biological sounds are also recorded, as whistles and clicks of dolphins. **Dragos** clarifies that they don't do that.



Coffee break.



4. Results from pilot on marine noise monitoring.

Presentation from **Veselka Marinova, IO-BAS**, about results from pilot on marine noise monitoring. Main objectives are ambient noise monitoring in Bulgaria and Romania, C-POD pilot study in Turkey and reporting. The study covers Bulgarian, Romanian and Turkish waters. The equipment includes SM3M Submersible System for capturing high level anthropogenic noise. Few words about the method used; the data processing and analysis procedure. The results presented and explained for each country.

Question from **Dimitar Popov, Green Balkans NGO** related to the F-POD results from Turkey – it was shown on the graph that total DPMs are lowering with the increase of the ships per 10 min. Is this meaning there is a positive correlation or more vessels are passing less cetaceans are detected, some clarification about that is needed.

Answer from **Ayaka Omaha Ozturk, TUDAV** – correct, less detections when more ships usually. The reason for no such correlation in this result is may be the season, there is migrating fish in that area and the dolphins are constantly present, no matter what. That was the situation in that moment the study is done. It has to be conducted regularly to make more detailed and exact conclusions.

Another question from **Dimitar** concerning the pilot study in Bulgaria – it wasn't very clear from the graph whether some unexpected noise levels were detected or not. **Veselka** answer that there were not unexpected noise levels, but a lot of dolphin vocalisations.

Question from **Otilia Mihail** – if in Bulgaria there is the same problem as in Romania related to the program of monitoring – frequency, equipment. **Veselka** answered there is no such problem, the monitoring started in 2016 to 2018, a lot of records with good quality. Another question from **Otilia** about the frequency of the sampling. And the answer was the register was just created and only continuous noise is recorded.

Another comment from **Ayaka** about Turkey. There is constant ship traffic in that area, but ships follow exact route, don't move aside, meaning it's predictable and at very constant speed. Which may be another reason for no correlation between ship traffic and dolphins' presence. Also, F-POD doesn't record the noise and that's why the data from the F-POD is compared with Marine traffic data by Ship Control System.

Lunch break including a group photo for all participants:



5. QUIETMED 2 and QUIETSEAS projects presentation.

Presentation from **Maylis Salivas, ACCOBAMS** presenting briefly two projects on noise, involving ACCOBAMS – QUIETMED 2 and QUIETSEAS. First presented was QUIETMED 2 project, funded by DG Environment. It is for GES assessment on D11 in the Mediterranean Sea. There were participants from 11 countries. The objectives of the project are to propose framework for a risk-based assessment of impulsive noise; create a common methodology to establish threshold values; create a joint data and information tool to support the MED Region assessment; and to reinforce regional cooperation. **Alessio Maglio, SINAY and expert of ACCOBAMS** explains the framework for a risk-based assessment of impulsive noise and the common methodology to establish threshold values. **Maylis** describes the Impulsive noise register for the MED, training sessions organized within the project. Next presented is the project QUIETSEAS – Assisting regional cooperation for the practical implementation of the MSFD second cycle by providing methods and tools for D11.

Comment from **Dimitar** – is there in the QUIETSEAS project also plan to collect data on D1. **Maylis** clarifies that it is for the modelling.

6. Monitoring program proposal/Noise register.



Presentation from **Alessio Maglio, SINAY and expert of ACCOBAMS** about monitoring program proposal on D11. Consists of two parts – Summary of the regional training workshop on D11 monitoring; and main element of the Report on setting up of noise monitoring for MSFD-D11 in RO and BG waters.

Question from the conference room by **Stela Barova, BSBD** about developed noise register in Romania and is it following the format of MED register? Second question for **Veselka Marinova, IO-BAS** about Bulgarian register which is under development and is it follows too the MED register. And question to Alessio about the differences of data processing. **Alessio** answers – at the time of developing the report at the end of last year the information was there were no registers in place, they are under development and yes, they follow same way and same requirements to be consistent with already developed registers in other countries. **Alessio** explains the question about the data processing – acoustic files collected during the pilot projects should be analyzed with different algorithms – those developed in Bulgaria and Romania and also with algorithms developed in QUIETMED. This recommendation is included in the report aiming to evaluate is results are consistent.

Final conclusive words by **Mihaela Candea, Mare Nostrum NGO**: next step of CeNoBS is understanding the need of more actions and we hope to continue in the same format or even wider. We are glad the project created a panel of experts on D1 and D11 that are available for authorities to consult with them. We shall get back to authorities with finalized deliverables of the project that will be accessed openly at the project website: cenobs.eu. Hopefully soon we shall have the chance to meet face to face all and not only online!

End of the workshop.



Annex 1

CeNoBS CAPITALIZATION WORKSHOP

Support for EU Marine Strategy Framework Directive's regional monitoring system of Descriptor 1: Biodiversity, Marine mammals and Descriptor 11: Marine noise in the Black Sea

**June 8-10, 2021
Sofia, Bulgaria**



ACCOBAMS
SURVEY
INITIATIVE



DENİZ BİLİMLERİ FAKÜLTESİ





**Venue: Rosslyn Central Park Hotel
June 8-10, 2021
Sofia, Bulgaria**

Link to Zoom meeting for online participation:

<https://zoom.us/j/92934475446?pwd=RkYwSm1TWW0wV09OSkZSdWlVdkdCdz09>

Meeting ID: 929 3447 5446

Passcode: 408132

IMPORTANT: ALL TIMES ARE LOCAL (EEST, GMT +3:00 HOURS)

Day 1, 8 June 2021	
ARRIVAL OF PARTICIPANTS IN SOFIA, BULGARIA	
Hotel Rosslyn Central Park, https://www.centralparkhotel.bg/	
Day 2, 9 June 2021	
DESCRIPTOR 1: BIODIVERSITY, MARINE MAMMALS	
10:00-11:15	Opening
10:00-10:15	Introductory speeches and rules of the workshop – <i>Mihaela Mirea Candea, Mare Nostrum NGO</i>
10:15-10:30	Presenting of participants
10:30-10:45	CeNoBS project presentation – <i>Mihaela Mirea Candea, Mare Nostrum NGO</i>
10:45-11:15	Susana Salvador, ACCOBAMS Secretariat Irina Makarenko, Black Sea Commission
11:15-11:45	Presenting results of Black Sea basin-wide aerial survey of cetaceans (Mihaela CANDEA, Mare Nostrum NGO)
11:45-12:00	Discussion
12:00-12:30	Coffee break – Press conference
12:30-13:00	Presentation of bycatch pilot results (Pavel GOL`DIN, Ukrainian Scientific Centre of Ecology of the Sea)

13:00-13:15	Discussion
13:15-14:00	Lunch break – Family photo – online and offline
14:00-14:30	Baseline situation and proposal for threshold values for D1: Biodiversity, Cetaceans (Marian PAIU, Mare Nostrum NGO)
14:30-14:45	Discussion
14:45-15:00	Coffee break
15:00-15:30	ACCOBAMS Long Term Monitoring Program (Chedly RAIS, ACCOBAMS) Proposal for Black Sea basin monitoring program for cetaceans (Dimitar POPOV, Green Balkans NGO)
15:30-16:00	Discussion and closing of the first day
19:00	Dinner – Staria Chinar Restaurant, 71 Al. Dondukov blvd, http://www.stariachinar.com/sofia4/
Day 3, 10 June 2021 <u>DESCRIPTOR 11: MARINE NOISE</u>	
09:00-10:00	Opening
09:00-09:15	Introductory speeches and rules of the workshop – <i>Dimitar Popov, Green Balkans NGO</i>
09:15-10:00	Invited speakers' speeches DG Environment – Maud Casier EU TG on Underwater Noise – Fabrizio Borsani OceanCare – Nicolas Entrup
10:00-10:30	State of the Art of Descriptor 11: Marine noise (National Institute of Marine Research and Development, Romania)
10:30-10:45	Discussion
10:45-11:00	Coffee break

11:00-11:30	Presenting results from pilot on marine noise monitoring (Institute of Oceanology-Bulgarian Academy of Sciences)
11:30-11:45	Discussion
11:45-13:00	Lunch break
13:00-13:30	QUIETMED 2 and QUIETSEAS project presentation (Maylis SALIVAS, ACCOBAMS)
13:30-13:45	Discussion
13:45-14:00	Coffee break
14:00-14:30	Monitoring program proposal/Noise register (Alessio MAGLIO, SINAY/ACCOBAMS expert on noise)
14:30-15:00	Discussion and closing
14:30-14:45	Discussion
14:45-15:00	Conclusions: Official handing over of project products (Report on threshold values of D1 + Black Sea basin monitoring program for cetaceans) to national authorities
15:00-15:10	Closing
15:30	Departure

Annex 2

CeNoBS CAPITALIZATION WORKSHOP

Rosslyn Central Park Hotel, Sofia, Bulgaria and Online via ZOOM

9-10 June 2021

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