

MEETING DOCUMENT

Wadden Sea Board (WSB 35)

10 March 2022
Online meeting



Agenda Item:	5.3 Trilateral Monitoring and Assessment Programme
Subject:	Progress Report TG-MA
Document No.:	WSB 35/5.3
Date:	17 February 2022
Submitted by:	TG-MA

This document contains a progress report of the Task Group Monitoring and Assessment since WSB 35. A single regular TG-MA meeting was held as online conference call due to the contact and travel restriction resulting from the COVID-19 pandemic. In addition, two sessions were held as part of the TMAP workshop on data handling (January 26, online).

Proposal: The meeting is invited to note the document.

Task Group Monitoring and Assessment (TG-MA) progress report to WSB 35

Since WSB-34 the TG-MA has progressed on the following specific items:

1. Trilateral Monitoring and Assessment Programme (TMAP) and trilateral data handling

1.1 TMAP

The TG-MA envisaged a series of workshops in 2021/22 with the aim to fill the revealed deficiencies in TMAP but also to explore the integration of new parameters from emerging issues (e.g. climate change, new pollutants, alien species). The workshops would be planned in cooperation with relevant trilateral groups (if applicable) but partly also with external experts. To allow for physical meetings, deemed necessary and conducive in order to produce adequate results, and under consideration of the COVID-19 situation, the events should have been shifted to autumn 2021 or early 2022.

The following conceptual TMAP workshops were originally planned during 2021 to further modernize and develop the programme:

- Subtidal Habitats: scheduled for 1-2 November 2021 in Büsum, Germany. This event needed to be postponed due to insufficient preparation of participants. The organizers were trying to find a date in 2022. TG-MA members were asked to further discuss the event with the nominees from each region to guarantee participation.
- Beaches and Dunes / Salt Marshes: The Expert Group confirmed to include the exercises into their regular meeting schedule and to split these activities into a review of the current TMAP status last autumn and another session on new/adjusted parameters in spring 2022. Information from the regions was pending. Members of EG-Salt Marshes and Dunes noted a general lack of expertise regarding dunes in the group.
- Geomorphology and Hydrology: Although initially planned as a separate workshop, these items were now allocated as sub-topics within an event on climate change foreseen early in 2022. Such workshop was discussed between the chair, Mr Adi Kellermann, the chair of EG-C, Mr Robert Zijlstra, and CWSS with a first concept note in preparation at that time.

Comprehensive proposals on fish and alien species monitoring were under preparation and a similar approach on climate parameters would be expected from the workshop described above. TG-MA would further discuss on how to proceed with additional potential TMAP parameter groups while limiting the workshops to a feasible number.

Proposal: WSB is invited to note the information.

1.2 Trilateral Data Handling

The data delivery, storage and presentation processes would need to undergo further exploration and existing deficiencies needed to be defined more precisely. To further discuss this process, a trilateral workshop on data handling, which was originally planned to be held in Copenhagen during the first week of October, had to be held online on 26 January 2022. Members of TG-MA and EG-Data were involved as well as selected external experts from organizations dealing with relevant, comparable data processes. Regional data experts (mostly members of EG-Data) described the general data situation in the regions with specific focus on TMAP. The expertise of external data repository, storage, handling and exchange facilities with data requirements and data diversity, comparable with those of the trilateral cooperation, was considered as very useful to further explore solutions on data handling, storage, and presentation. The goal of the event was to assess and potentially update the set-ups described in the data handling strategy towards realistic implementation scenarios. At the workshop there was unanimity that the current status quo was not considered as an option/scenario for a future TMAP as there would be too many resources involved with low

efficiency and redundancy; data quality and consistence cannot be safeguarded on the mid- to long-term. On basis of the findings of the data workshop, the developed scenarios would now be further elaborated by TG-MA and EG-Data in order to be able to submit a proposal to WSB36 in April. The detailed workshop report is attached as ANNEX I.

Proposal: WSB is invited to note the information.

2. Quality Status Report (QSR)

2.1 QSR Thematic Reports

The QSR Thematic Reports selected for updating were all in progress and partly finalized (overview as ANNEX I). Final drafts were originally expected by 15 October 2021, in time for a possible presentation of the findings during the 15th International Wadden Sea Symposium. Since the content of a vast majority were available at that time, the results could have been presented during the event.

Some final versions of thematic reports were pending as well as some reviews. The "Energy," "Fisheries," and "Ports and Shipping" reports (also SIMP key topics) were also requested by the TG-M for additional review, some of which was still pending. Due to the delays in the process, the CWSS was facing capacity problems regarding the transfer of the reports to the web page and was therefore exploring options for external contracts as support. The final publication was foreseen for March/April 2022.

Proposal: WSB is invited to note the information.

3. TMAP/QSR conference product

With most of the QSR Thematic Reports being almost finalized, TG-MA and the QSR Editorial Board would discuss the conference brochure in more detail. The aim was to describe the future set-up of TMAP and to summarize the findings of the updated QSR reports. As the focus of TG-MA and CWSS was on the revitalization of the TMAP during the German presidency, the QSR section of the envisaged brochure was seen as an interim product with a proper QSR synthesis expected for the conference at the end of the next presidency.

Proposal: WSB is invited to note the information.

DRAFT WORKSHOP REPORT

TMAP workshop Trilateral Data Handling

- online -

26 January 2022



on behalf of the trilateral Task Group Monitoring and Assessment and the Expert Group Data

Introduction

Within the Trilateral Wadden Sea Cooperation, TMAP is a responsibility of the Task Group Monitoring & Assessment (TG-MA), installed during the German presidency. TG-MA organized this trilateral workshop on data handling with the aim to analyse and discuss the situation in the three countries and to find a way forward how to smoothen the process of data storage, formatting, availability and exchange. The outcomes of the workshop would be presented to the 36th meeting of the Wadden Sea Board on 28 April 2022. Invited were the members of TG-MA, Expert Group Data and international data experts with relevant experience in similar processes. The event was facilitated by Mr Tim Schröder, independent scientific journalist.

To set the scene, Adi Kellermann, chair of the TG-MA, welcomed the participants and introduced the goals of the workshop.

- provide an overview of current regional data systems/structures relevant for TMAP;
- identify solutions for collating the data for trilateral purposes: QSR thematic reports, public access;
- produce a set of scenarios for the future data handling;
- provide an assessment of these scenarios in supply of an informed decision by the WSB;
- increase the visibility of TMAP (e.g. by considering a suitable data portal).

The following criteria apply to the evaluation of the developed scenarios in terms of their suitability:

- ✓ policy compliance at regional/national level,
- ✓ economical settings,
- ✓ sustainability - durability on the long-term perspective,
- ✓ outreach - multi-purpose use of data for experts, public etc.

Sascha Klöpffer, Common Wadden Sea Secretariat (CWSS), provided an overview on the history of TMAP, its recognition in the latest Governmental Declarations and its value within the Trilateral Wadden Sea Cooperation and for the Wadden Sea World Heritage. He also presented the TMAP set-up as agreed in the TMAP Strategy, signed by the Ministers at the Trilateral Governmental Conference (TGC) in Tønder, Denmark, in 2015 and emphasized the lack of the full implementation of the strategy since.

Presentations

The **regional representatives**, mainly also members of the EG-Data, provided overviews on the regional data handling arrangements with focus on TMAP, but also alternative data handling processes applied in the regions. The following questions were asked as guidance for the presentations:

How is the trilateral data handling organized in the regions? What is functioning well, where are the issues? What is the regional vision on trilateral data handling?

Common ground was that the regional monitoring and data provision served the different standards of WFD, OSPAR, MSFD and/or ICES.

Pim van Avesaath (NL): The Dutch marine data language was in transition (the Rijkswaterstaat Authority in charge for the Wadden Sea), which was a chance for innovative initiatives and technical solutions to be developed and to find a common solution also with the trilateral partners: “let the data flow again”. For the future, the added value of specific TWSC data reporting needs was to be demonstrated, EU data policies needed to be adhered to; a common language needed to be chosen while use should be made of existing structures; the workload for data managers needed to be minimized by: one big “data call”. Projects for data exchange should be developed budgets to be allocated to the costs of achieving interoperability (predictability).

Michael Reetz (Lower Saxony)

In an oral presentation, Mr. Reetz strongly recommended to stick to the agreed and established system. He noted that in the future the data handling would be transferred into a web service (with excel download option). The data delivery in LS would continue as formerly agreed.

Gabi Müller (Schleswig-Holstein)

S-H was aiming to continue the data storage and provision as (and for several years now) performed at that time. Agreement would be needed upon trilateral data models with harmonisation as the central exercise. This should result in harmonised data to be delivered to a TMAP data base. The goal would be to provide data via a GIS-based information system to guarantee wide access to multiple users (QSR authors, the general public, multiple stake holders etc.).

Morten Søby Frederiksen and Nils Høgsted (Denmark)

Mr Frederiksen informed on the regional data handling in Denmark with strong reference to the national monitoring programme (NOVANA) and the quality control measures, applied in three steps and different data levels.

The presentation was complemented by Mr Høgsted who informed on the Danish Environmental Portal. Based on the Danish data strategies, he recommended for a sound future TMAP to collect data in national databases by, to the extent possible, using the same or comparable definitions and methodology. The data sets should then be transferred into common data lake where further aggregation and also analysis should be conducted. As a result, these combined new (TMAP) data sets would be made available for a wide audience.

The **international experts** were invited to gain inside in work streams similar to TMAP from their daily business to fuel the discussions and to provide alternative options for the currently stuck trilateral data provision.

Uwe Lange - Brockmann Consult (BC)

Reference was made to the involvement of BC in former TMAP approaches and outline options for a future information system. In order to avoid long-term maintenance, such information system should be independent of any changes within decentral database systems. Therefore, names of web services, tables, layers, columns, which were provided by the four TMAP DMSs, shall be defined and fixed in advance. As a start, Mr. Lange recommended the implementation of a simple "download and mapping only" solution for at first a single parameter for e.g. illustration, practicability & proof of concept, analysis and estimation of effort, establishing local contact points (“data team” -> EG-Data).

Friedhelm Hosenfeld - DigSyLand

He informed on the role of DigSyLand in the data processes in S-H based with several practical examples: the functionality of a data warehouse, the WFD assessment via a waterbody and Nutrient Information System (working with templates) and the use of predefined data import forms with specific data transmission checks based on strict quality rules. His examples showed that either a detailed predefinition of requested data or a specific harmonization process would be needed to obtain comparable data.

Frank Oliver Glöckner - PANGAEA

He informed on the background, history and functionality of the PANGAEA data storage and publishing services. The services were based on the F(indable) A(ccessible) I(nteroperable) R(eusable) principles. He presented the multistage data review and acceptance process within PANGAEA and the accessibility of the system for individual scientists, research institutions and projects.

Neil Holdsworth – ICES

He introduced ICES, its mission, the underlying data management accreditation, and the involved European organizations/bodies. With transparency being the ultimate default, he presented data access and presentations options from the ICES network.

Breakout session I

The international experts kindly agreed to be part of a rather casual Questions & Answers session in four breakout rooms with the aim that workshop participants were able to address their specific interests in the information already presented during the workshop presentations.

Breakout session II

Following this breakout session, Mr Klöpffer introduced the next exercise, also foreseen to be approached in two breakout groups. He presented two potential TMAP scenarios as conceptual boundaries for the discussion to come. One scenario reflected the current TMAP data system (“status quo”) which was critically reviewed already by all involved parties. From the beginning, the aim was to find a compromise for the TMAP data processes, hence the discussion was steered in a way that the scenarios to be presented to the WSB in April 2022 would be located somewhere between these two scenarios.

Each breakout group was requested to assess a single boundary scenario by applying a quick “Strength, Weakness, Opportunity, and Threat (SWAT)” analysis. Based on this analysis, the discussion should lead to alternative ideas on all levels (regional data generation, local storage, provision incl. harmonization, presentation, and potential user groups).

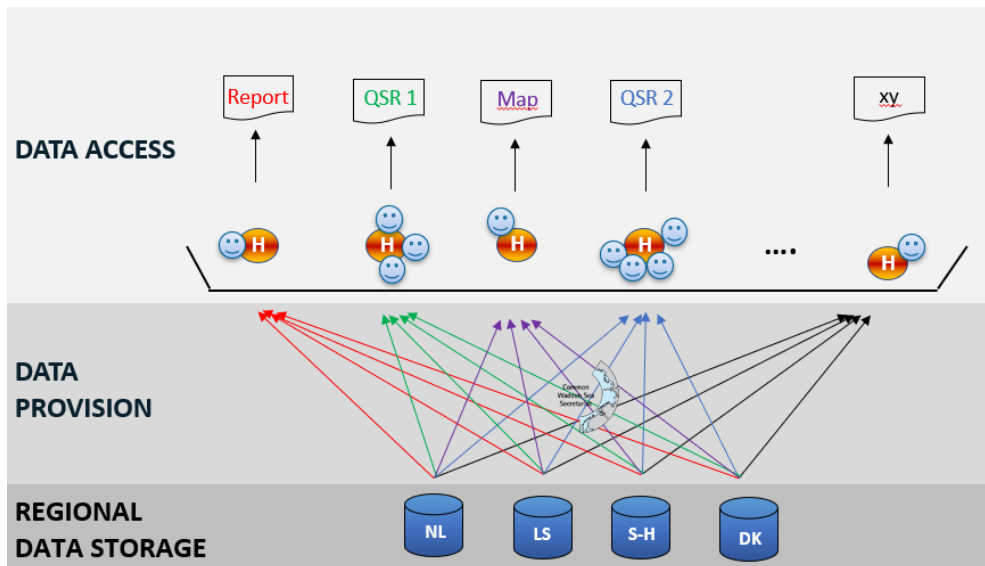


Figure 1: **SCENARIO I.** “Status quo” TMAP scenario with largely improvised ad-hoc data provision for multiple users. This scenario resulted from the collapse trilateral data delivery and processing. CWSS is part of the system but instead of coordinating the process it is reduced to fixing issues and to invest an irrational amount of time in delivering data sets or to connecting stakeholders.

Table 1: SWAT analysis for scenario I

Strength	Weakness
- Low cost at database level	- Heterogenous data for the user
	- No control of data used, no quality check on used data
	- Harmonisation may differ between authors
	- No single-entry point (findability/visibility)
	- Compiled datasets are lost
	- Cost for harmonisation at data user side (repeated demand of resources)
	- Risk of inconsistency in data used by experts
	- Potential of data not exploited; information not findable
	- No synergy in data handling
Opportunities	Threats
- „Room for improvement“	- Loosing QSR experts, since workload for data handling is too high when drafting chapters

The second scenario was presented as a rather favorable constellation with sophisticated data delivery, harmonization, storage, and presentation originally envisioned by the parties and described in the TMAP strategy.

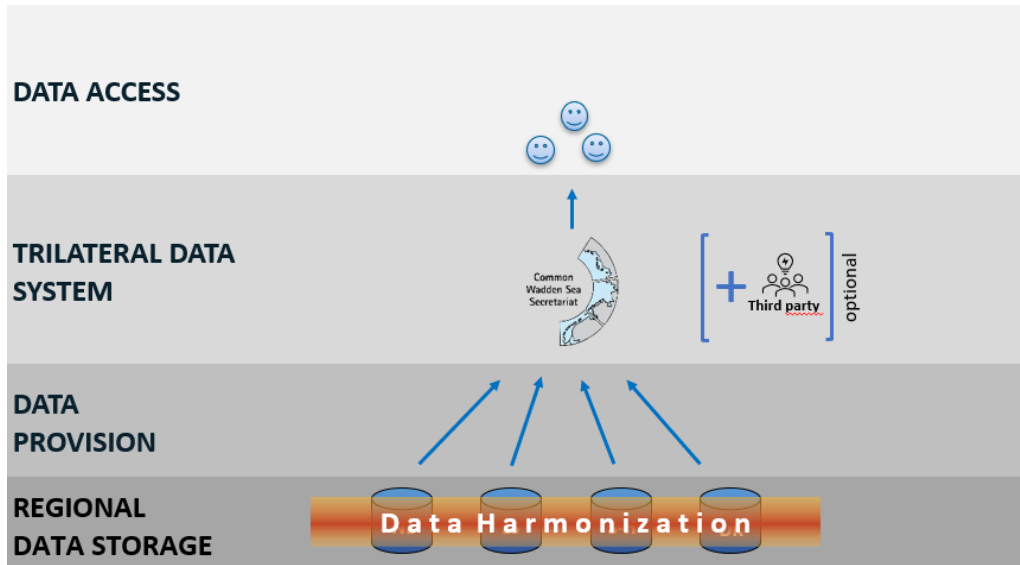


Figure 2: **SCENARIO II.** The second scenario was an approximation of the previously agreed upon TMAP set-up as part of the TMAP strategy. It was built upon fully harmonized data sets provided by the regions applying a common quality control with high standards. CWSS would coordinate the process and would be in control of the trilateral data sets.

Table 2: SWAT analysis for scenario II

Strength	Weakness
- One stop shop, single entry point	
Opportunities	Threats
- The chance to reuse existing data models as a starting point	- Could be very expensive
- Take old data models on board to find out what is possible with new data system	- Outdated systems
- Closer data source	
- Workload for harmonisation is potentially low	
- Best exploitation of expert knowledge in data	

Scenario Discussion

There was unanimity that the current status quo was not considered as an option/scenario for a future TMAP as there would be too many resources involved with low efficiency and redundancy; data quality and consistence cannot be safeguarded on the mid to long term.

Based on the limitations of the data handling under the current conditions, discussion evolved on what would be necessary to appreciably improve the processes. In this respect, reference was made to the formerly agreed local data storage, with an integrated harmonization based on agreed standards, which would feed into a central data warehouse, although this system collapsed due to the insufficient data delivery from some regions. As an alternative, it was discussed if a central data storage would be necessary at all, or if a data lake approach could be applied with already available micro services (e.g. ICES micro-services app) as technical solutions, pending their suitability for the application to trilateral data handling. The interoperability of data, and achieving it via harmonization respectively, would need to be defined across the different levels and scales of data processing and access. For the QSR work, seamless data sets would be required, independent of any sources which could then be processed by the QSR-authors ad-hoc. To gain such data access, participants agreed to continue to work towards a data portal which would be fed from regional sources. Further decision should be made if any approach should be initiated “top-down” (more user orientated) or “bottom-up” (what has to be delivered anyway).

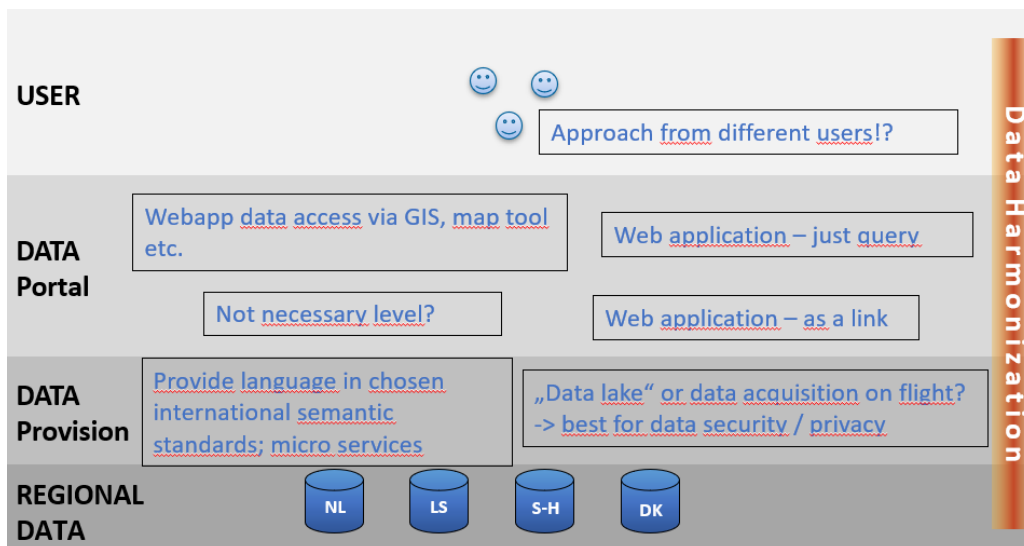


Figure 3: Illustrated elements of the workshop discussion on features of different layers of a future TMAP set-up.

Outcome and next steps

Mr Kellermann summarized that the workshop produced enough common ground and understanding for the EG-Data to resume their work. A meeting of the group was envisaged for the near future to further develop and refine a set of scenarios to be drafted by TG-MA, which would already meet the next day for first wrap-up and to conclude on further steps.

Participants welcomed the workshop, but also critically pointed out that it had the character of a brainstorming session and that large parts of the work would still be ahead of them, so clear agreements would have to be made from the beginning. Particularly to the satisfaction of the organizers, all participants indicated some willingness to participate in the development and implementation of future TMAP data processes. The organizers thanked all participants, especially the international experts, for their fruitful contributions.



TMAP workshop Trilateral Data Handling

- online -

26 January 2022

on behalf of the trilateral Task Group Monitoring and Assessment and the Expert Group Data

Draft Programme

> 09:00	WELCOME ADDRESS AND SETTING THE SCENE <i>Adi Kellermann, Chair of the Task Group Monitoring and Assessment</i>
> 09:10	INTRODUCTION OF PARTICIPANTS <i>Participants</i> are requested to introduce themselves and to express their expectations/interests on/in the workshop
> 09:30	GOAL OF THE WORKSHOP AND OVERVIEW ON TMAP (STRATEGY) AND QSR Summary of goals and expectations on the workshop and overview on TMAP and current activities - <i>Adi Kellermann and Sascha Klöpper, Common Wadden Sea Secretariat</i>
> 10:00	REGIONAL DATA HANDLING How is the trilateral data handling organized in the regions? What is functioning well, where are the issues? What is the regional vision on trilateral data handling? Presentation by <i>regional EG-Data members</i> : Netherlands - Pim van Avesaath / Lower Saxony - Michael Reetz / Schleswig-Holstein - Gabi Müller / Denmark - Morten Søby Frederiksen and Nils Høgsted
> 11:30	<i>Break</i>
> 11:40	FLASH PRESENTATIONS BY EXTERNAL EXPERTS ON THEIR DATA SYSTEMS The <i>external experts</i> are asked to provide brief outlines of their systems with reference to data handling and exchange activities and processes they are involved in or could provide as well as a first reflection on the presented regional visions. Uwe Lange - Brockmann Consult / Friedel Hosenfeld - DigSyLand / Frank Oliver Glöckner - PANGAEA /Neil Holdsworth - ICES
> 13:00	<i>Lunch Break</i>
> 14:00	BREAKOUT SESSION WITH THE EXTERNAL EXPERTS
>14:30	TOWARDS A FUNCTIONAL TMAP – PART I <i>Participants</i> are requested to discuss options for implementing the agreed TMAP strategy or to come forward with effective alternatives. What is needed, how will it improve the trilateral data handling and what are the challenges?
>15:30	<i>Break</i>
> 15:40	TOWARDS A FUNCTIONAL TMAP – PART II <i>Participants</i> are requested to come forward with recommendations for a functional TMAP to the Wadden Sea Board
> 16:50	SUMMARY AND OUTLINE
> 17:00	CLOSING

List of Participants

Participant	Role	Organization
Carsten Brockmann	Int. expert	Brockmann Consult
Julia Busch	CWSS	Common Wadden Sea Secretariat
Kai Eskildsen	TG-MA	National Park Authority Schleswig-Holstein
Frank Oliver Glöckner	Int. expert	PANGAEA
Eugen Faber	Int. expert	Brockmann Consult
Morten Søby Frederiksen/	TG-MA / EG-Data	Danish Environmental Protection Agency
Neil Holdsworth	Int. expert	ICES (also for HELCOM/OSPAR)
Nils Høgsted	Int. expert / DK	Danmarks Miljøportal, DMP
Friedel Hosenfeld	Int. expert	digsyland
Karst Jaarsma	TG-MA	Ministry of Agriculture, Nature and Food Quality
Henrik G. Pind Jørgensen	TG--MA	Ministry of Environment and Food Environmental Protection Agency
Adi Kellermann	TG-MA (chair) / Organizer	Kellermann Consultants Friedrichstadt, DE
Sascha Klöpper	CWSS / Organizer	Common Wadden Sea Secretariat
Uwe Lange	Int. expert	Brockmann Consult
Gabriele Müller	EG-Data	National Park Authority Schleswig-Holstein
Michael Reetz	EG-Data	National Park Authority Lower Saxony
Gregor Scheiffarth	TG-MA	National Park Authority Lower Saxony
Pim van Avesaath	EG-Data	Marine Information and Data Centre, Rijkswaterstaat
Irene van der Stap	TG-MA	Ministry of Infrastructure and Water Management
Gerrit Vossebelt	TG-MA	Ministry of Infrastructure and Water Management

Overview on QSR Thematic Report Status

Tab.1: QSR Thematic report status overview

#	QSR THEMATIC REPORT	Lead author	1st draft received	2nd / final Draft received	FINAL DRAFT COMPLETED
1	Alien Species	Büttger, H.	18/06/2021	17/09/2021 16/12/2021	16/12/2021
2	Breeding Birds	Koffijberg, K.	01/10/2021	29/11/2021	29/11/2021
3	Climate Change	Philippart, K. Zijlstra, R.	pending		
4	Energy	Christoph, S.	01/06/2021	28/01/2022	
5	Fish	Tulp, I.	01/07/2021	17/10/2021	17/10/2021
6	Fisheries	Fock, H.	08/11/2021 15/12/2021 rev.	pending	
7	Flyway	van Roomen, M.	10/10/2021	28/10/2021	13/01/2022
8	Marine Mammals	Unger, B.	31/05/2021	18/10/2021	10/01/2022
9	Migratory Birds	Kleefstra, F.	05/10/2021	30/11/2021	
10	Shipping and Harbours	Bahlke, C.	20/09/2021	02/12/2021	
11	Sublitoral Habitats	Ricklefs, K.	31/10/2021	pending	
12	Tourism	Hartmann, S. Arnegger, J. Gulisova, B.	14/11/2021	pending	