

NORWEGIAN BLUE FORESTS NETWORK (NBFN)

ANNUAL REPORT 2023

A competence network established by the Norwegian Institute for Water Research (NIVA), GRID-Arendal and the Institute of Marine Research (IMR)



Letter from the Board and Project Leader

Throughout 2023, we have seen a flurry of international reports relevant to blue forests. Some of the “blue carbon” reports focus on the role of coastal vegetation in climate mitigation, others include not only coastal vegetation but also offshore biota. A common aspect of many is the connectedness of blue forests and coasts with the open ocean. This applies particularly, but not exclusively, to the question of the fate of kelp carbon in deep sea sediments. Over the past year, there has also been stronger focus on blue forests ecosystem services beyond carbon sequestration and storage. We particularly see this change in global processes relating to biodiversity. Initial attempts at economic valuation of such services have shown they can account for more than climate and carbon value.

We are delighted that NBFN will celebrate its 10-year anniversary in 2024. There is good reason to pay tribute to those who took the initiative back in 2014 and how they did it. Their emphasis on blue “forests”, looking beyond climate mitigation alone, gives us the basis we need to apply an appropriate holistic perspective to blue forests. The crucial role of coastal ecosystems in global processes calls for the inclusion of blue forests in global policies for sustainability. However, every blue

forest is either governed or influenced by local decisions. In Norway, all blue forests reside in municipalities. The global/local complexity suggests a continued need for blue forest knowledge development, exchange and dialogue in the years to come.

We would like to thank all contributors to the work of NBFN in 2023. We particularly wish to thank Steven Lutz, who served as interim Board Member for GRID-Arendal during part of the year, Hege Gundersen, who did the same for NIVA, and Gro Njølstad Slotsvik of GRID-Arendal and Barbro Taraldset Haugland of IMR who took active roles in the running of the network and its activities.

In 2024, the Norwegian Blue Forests Network will continue to synthesize the latest research on blue forests, share blue forests knowledge and expertise, and bring the spectrum of actors interested in blue forests together. These three strategic activities have proven relevant to key stakeholders, as we continuously see from the feedback received. During this exciting time for blue forests and with the increased attention on their importance and value, we look forward to taking time in 2024 to revisit the role and strategic positioning of NBFN.



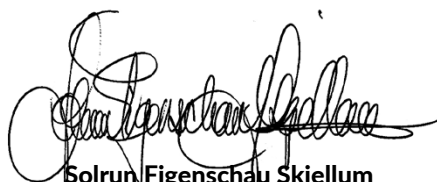
Cecilie Wathne

Project leader of the Norwegian
Blue Forests Network



Peter Haugan

NBFN Board Chair and
Policy Director at the Institute
of Marine Research (IMR)



Solrun Figenschau Skjellum

NBFN Board member and Chief Research
Development Officer at the Norwegian
Institute for Water Research (NIVA)



Torill Sæterøy

NBFN Board member and Head
of Programme Marine Environment
at GRID-Arendal

Pillar 1: Gather

Synthesize latest research on blue forests

Putting the spotlight on kelp

2023 saw the launch of the first ever global synthesis report on kelp forests: [Into the Blue: Securing a Sustainable Future for Kelp Forests](#). The report was jointly produced by the United Nations Environment Programme (UNEP), GRID-Arendal, and the Norwegian Blue Forests Network (NBFN). The global network of kelp experts first convened in 2020, and more than 90 people were involved in this official UN Decade of Ocean Science for Sustainable Development publication setting out:

1. The ecology of kelp forests and their main threats
2. Status, trends and future projections
3. Biodiversity and ecosystem services
4. Economic perspectives on kelp management
5. Kelp forests in law and policy
6. Approaches to managing kelp forests, and
7. Restoring kelp forests

The report includes a special chapter on the global state of kelp farming as well as a series of freely [downloadable infographics](#). In addition, the UNEP website hosts a [visual interactive](#) report. We held two webinars to launch the report, for our global and Norwegian audiences, respectively. We also produced a [short version](#) of the report specifically tailored to the Norwegian context.

Assembling top blue forests trends of 2023

A range of experts on blue forests gave their input and time to produce the second NBFN overview of what is



happening in the field of blue forests. The report sets out the [Top 10 Trends for 2023](#). Each chapter concludes by identifying areas to watch in the coming years. In February 2024, we launched the publication via a well-attended breakfast seminar in Oslo.

BLUE FORESTS TOP 10 TRENDS FOR 2023

FROM SCIENCE TO POLICY
AND MANAGEMENT

- #1 Another step up for blue forests
- #2 Biodiversity takes centre stage
- #3 Taking nature into account

BLUE CARBON

- #4 Deep dive: Decoding Norway's blue carbon cycle
- #5 Blue carbon in high demand, but market issues prevail

SEAWEED CULTIVATION
INDUSTRY

- #6 Record year for Norwegian seaweed industry ...
- #7 ... but challenges remain

MARINE MAPPING
& RESTORATION

- #8 Guardians of the blue: Efforts to strengthen Marine Protected Areas
- #9 Tech waves: Mapping and monitoring blue forests
- #10 Tug-of-war with sea urchins: the battle to restore kelp forests

Addressing the blue carbon knowledge gap

The draft manuscript from the SEAME project on carbon storage in southern Norwegian eelgrass meadows, which started in 2017, is ready ahead of expected publication in 2024. Three key findings from the study are: 1) carbon storage in Norwegian coastal sediments is highly variable, but comparatively higher in eelgrass than in unvegetated sediments; 2) carbon storage is highest in shallow, sheltered eelgrass meadows with high eelgrass biomass and muddy sediments, as these conditions promote trapping and retention of carbon sources from within and outside the eelgrass meadows; and 3) understanding the environmental variables that determine carbon storage potential is important for making management decisions for preserving the carbon storage value of eelgrass meadows.

The NBFN-supported research project on global macroalgae carbon sequestration (Euromarine) was similarly wrapped up. Three papers were published in 2022 (see [2022 Annual Report](#)). The final paper, titled "Carbon export from seaweed forests to deep ocean sinks" was submitted to Nature Geoscience in 2023, where it is in the second round of peer review. We will disseminate the findings once the final paper is accepted.

NBFN also supported the [Filbee-Dexter et al. 2023](#) article "Seaweed forests are carbon sinks that may help mitigate CO2 emissions: a comment on Gallagher et al. (2022)." The authors argue that there were several flaws in the Gallagher et al. paper that suggested seaweed ecosystems were net heterotrophic carbon sources. Their primary concern was that the study conflates very different seaweed ecosystems from a limited data

set, resulting in net ecosystem production measures not being representative. More research is needed to fully understand the role of kelp and other seaweeds in climate mitigation.

Clarifying the full value of the world's kelp forests

The Global Ecosystem services Assessment for Kelp forests (GEAK) network, which consists of over 50 kelp experts and environmental economists, has conducted the first comprehensive assessment of the ecosystem services provided by kelp forests. The assessment includes kelp function and services according to location, and an economic valuation of these services worldwide. The valuation covers kelp as a harvested resource as well as its importance for fisheries, carbon storage, nutrient filtration, biodiversity, and cultural services. In 2022, NBFN helped fund the global study, and in 2023 we supported the production of a Scandinavia-specific analysis. The regional assessments are currently being turned into a manuscript for academic publication.

Setting out kelp industry state-of-play

There is a great deal of excitement about, as well as scepticism towards, the emerging European kelp industry. In response, NBFN produced an impartial [brief](#) in Norwegian on the current state of the industry, the potential for expansion, the remaining bottlenecks, and positive and well as negative environmental impacts that a growing industry will likely have. An English translation is available [here](#). The brief was launched at the NBFN Arendalsuka panel event in August.

Tang, tare og bærekraftig matproduksjon: Muligheter og barrierer for industrien
Altingets Scene

Nærings- og fiskeridepartementet
Kristina Sigurdsdottir Hansen
Statssekretær (AP)

Lerøy
Harald Sveier
Leder og innovasjon

Norges Sjømatråd
Christian Chramer
Administrerende direktør

Norsk Nettverk for Blå Skog
Cecilie Wathne
Leder

NIVA
Gunhild Borgersen
Forsker

Havforskningsinstituttet
Marie Hauge
Kommunikasjonsdirektør

Speakers and panellists at the NBFN Arendalsuka event August 2023.

Pillar 2: Share

Share blue forests knowledge and expertise

Capturing a career's worth of blue forests knowledge on film

NBFN founding member and long-time blue forests researcher Frithjof Moy is nearing retirement. The network produced an engaging video interview to capture his wisdom and expertise from a long and interesting career. The video sets out how Moy and colleagues first noticed anomalies in the kelp forest and the disappearance of kelp



Image from [video clip](#) of Frithjof Moy explaining why we need to put a price on nature, posted on social media 8 January 2024.

from the Skagerrak coast. It highlights the importance of healthy kelp forests, what researchers are doing to restore it, and how researchers and decision-makers can protect and maintain healthy blue forests. The video was cut into shorter clips in early 2024, which will be disseminated throughout the year. The [first clip](#) was posted on social media on 8 January, building on national debates following the NRK article on [piece-by-piece degradation of nature](#). Within the first week, the clip was viewed over 33,000 times and shared over 123 times. By mid-February, it had been viewed over 50,000 times and shared over 200 times. The full video will be released alongside an editorial by Moy.

Sharing bite-sized knowledge: infographics

NBFN produced, with contributing authors, visual representations of new research on blue forests. The first set are a series of [downloadable infographics](#) for the UNEP/NBFN 2023 report [Into the blue: Securing a sustainable future for kelp forests](#). Towards the end of the year, we prepared infographics for the 2023 NIVA brief on Norwegian carbon-rich marine habitats ([Kunnskapsoppsummering om marine områder som er viktige for karbonlagring](#) – Norwegian brief including summary in English).

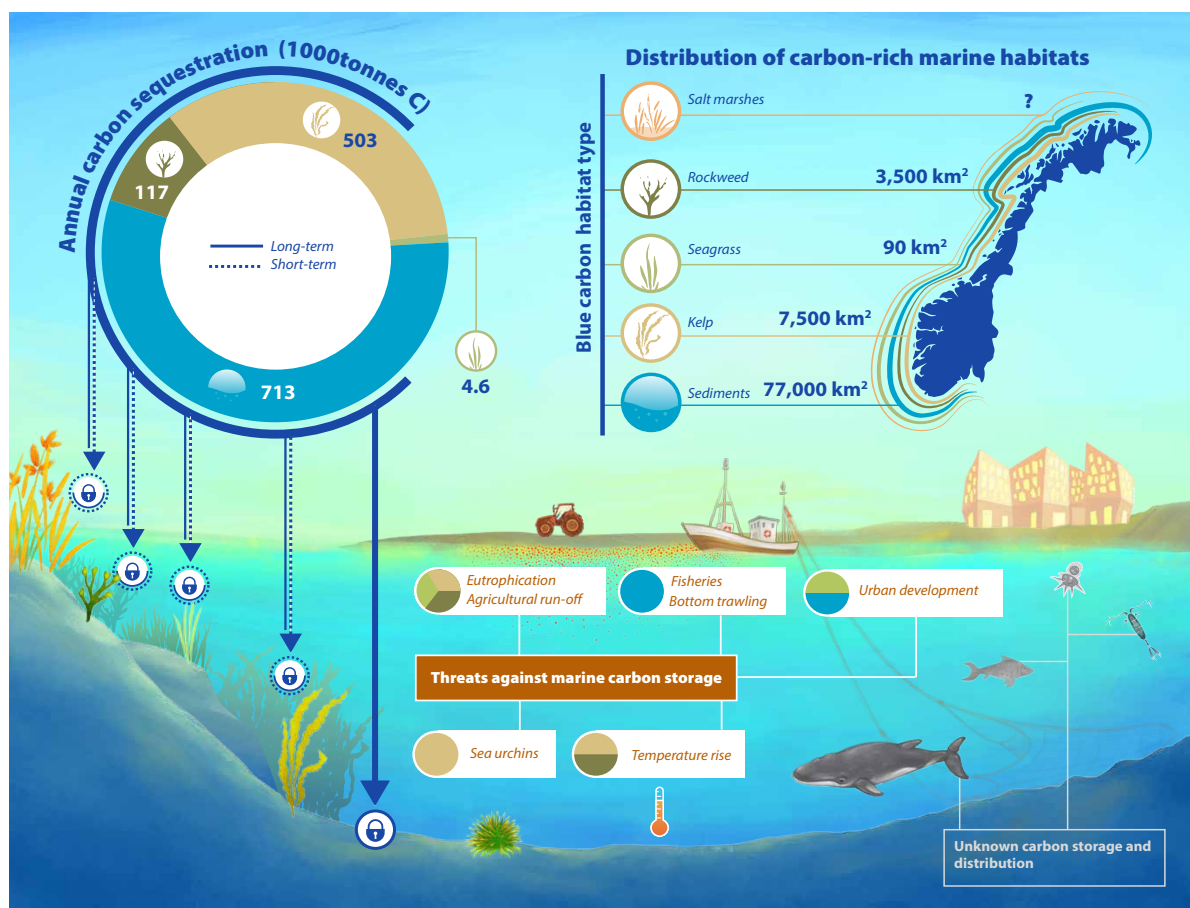


Image by Syed Hasan Abbas, GRID-Arendal. Based on NIVA [Kunnskapsoppsummering om marine områder som er viktige for karbonlagring](#) 2023.

Sharing bite-sized knowledge: Blogs & editorials

Among our 2023 activities, NBFN worked to make existing blue forests research and policy developments easily understandable and actionable. We for instance published blogs focused on major developments and events:

- [Sugar kelp forests on the directorates' rescue list](#)
- [NBFN's Top Ten Trends Article Launched at Oslo Seminar](#)
- [Norway is betting on blue forests](#)
- [NBFN at Arendalsuka 2023](#)
- [30 by 30: How to restore kelp forests?](#)
- [Live blog on oceans & blue forests at COP28](#) hosted on the GRID-Arendal Exposure platform
- [Repost of High integrity nature-based carbon offsetting is vital in the fight against climate change blog](#) originally produced by NBFN member

We also contributed to the Fædrelandsvennen editorial on [We must prioritise the blue forest](#) ("Den blå skogen må prioriteres") on Norway's commitment to the Kunming-Montreal Global Biodiversity Framework and its '30x30' target.

Blue carbon in national & international settings: explainers & foresight brief

Ahead of UNFCCC COP28, we presented on blue forests at the GRID-Arendal hosted webinar on [Blue Carbon Markets for Dummies](#), which was aimed at journalists covering the COP28 blue carbon market discussions and events. For the COP itself, we ran the [live blog on 54 oceans, blue forests and blue carbon events](#) to help Norwegian and international conference attendees navigate the most relevant events on the conference programme. NBFN also started an assessment of the state of blue carbon in Norway, to be published in 2024. Another publication due in the coming year is a UN Environment Programme (UNEP) Foresight Brief on oceanic blue carbon, supported by NBFN, which is under review at UNEP. The brief is currently titled 'The Blue Carbon Market - Opportunities and Challenges'.

Panel discussion at the Ocean conference during One Ocean Week, 'Vegetation of the sea – blue forests', featuring panelists Espen Barth Eide (Minister of Climate and Environment), Cecilie Wathne (NBFN) and Brian Tsuyoshi Takeda (Urchinomics). Photo by Paul S. Amundsen/Ministry of Climate and Environment.



NBFN website makeover

We continued to build the NBFN website as the go-to knowledge hub for impartial, high-quality blue forests information. In addition to the above-mentioned blogs, development started on thematic pages covering climate change and management of blue forests in Norway. The move to a new platform means the website has greater functionality, allowing us to build a resources library and better thematic overviews in 2024.

Dissemination and outreach continued to be a priority

The network continued to extend its reach through social media, primarily engaging with key audiences through X (formerly Twitter). In 2023, NBFN authored 65 tweets shared with 675 followers. We also shared content via YouTube and Facebook. To engage more actively with key audiences, we established our new [NBFN LinkedIn profile](#), which was launched in 2024. NBFN trialled its first newsletter in 2023, which shared the latest blue forests research, events, and policy developments with our 762 subscribers.

We also continued to prioritise direct engagement with stakeholders, including by attending and speaking at external events. The Chair of the NBFN Board, Peter Haugan (IMR), and project leader Cecilie Wathne were both invited to speak at the Norwegian government's ocean conference during One Ocean Week – an invitation-only event attended by the Prime Minister, Crown Prince, and several ministers. Similarly, NIVA researcher Hartvig Christie delivered a talk at the Norwegian Environment Agency (Miljødirektoratet) and Norwegian Institute for Nature Research (NINA) nature restoration conference. The two-day event brought researchers, practitioners and policymakers together to share the latest knowledge and best practice in the field of restoration.

A complete list of NBFN-affiliated talks is provided at the end of this report.

Pillar 3: Convene

Bring the spectrum of actors interested in blue forests together

Convening blue forests interests at Arendalsuka

NBFN was once again active at Arendalsuka, the largest political gathering in Norway. Our event, titled “[Seaweed and sustainable food production: Opportunities for the industry](#)”, brought together government representatives, industry leaders, researchers, and the public to discuss the state of the industry, the barriers to expansion, how they can be overcome, and what opportunities lay ahead.

After a short introductory presentation by NIVA researcher Gunhild Borgersen and NBFN leader Cecilie Wathne, the event’s moderator, IMR Communications Director Marie Hauge, facilitated a panel discussion between the State Secretary for the Ministry of Trade, Industry and Fisheries, Kristina Sigurdsdottir Hansen, the Head of Research and Innovation at Lerøy, Harald Sveier, and the CEO of the Nordic Seafood Council, Christian Chramer. The livestreamed event concluded with Michelin star-awarded chef, Patrik Christopher Hemstrøm, preparing a series of seaweed-based appetisers for participants to enjoy whilst mingling with fellow seaweed enthusiasts.

Approximately 100 people attended the event, which was the maximum the venue could accommodate. The event recording is available on the related [blog post](#). It was viewed more than 200 times by the end of the year.

Events on blue habitats, oceans, and sustainability

NBFN hosted and co-hosted four additional events in 2023: two webinars in connection with the UNEP/ NBFN global kelp report launch (see above); the Top 10 Trends 2022 launch seminar in Oslo; and an ocean resources management seminar in Kristiansand.

The Oslo seminar launched the NBFN Top 10 Trends for blue forests in 2022 report. Five presentations were given by Peter Haugan (IMR), Hege Gundersen (NIVA), Stein Fredriksen (University of Oslo), Gunhild Borgersen (NIVA) and Cecilie Wathne (NBFN). Moderator Torill Sæterøy (GRID-Arendal) then opened the interactive Q&A session with attendees. Approximately 40 targeted individuals attended the event, including representatives from Norad, the Ministry of Climate and Environment, the Norwegian Environment Agency, the Ministry of Foreign Affairs, and the Norwegian Food Safety Authority.

The livestreamed Kristiansand seminar [Blue forests and the ocean’s resources](#) was co-hosted with Bølgen bærekraftsenter, Agder county council, Kristiansand municipality, and GRID-Arendal. The event consisted of a series of presentations with opportunities for questions from the audience followed by a panel discussion with local politicians on how to protect and manage the ocean’s resources. The event was timed to coincide with Kristiansand’s annual environmental week (“Miljøuka”) and had approximately 70 people attending.



Marie Hauge (Communications Director, IMR) hosts a panel consisting of Kristina Sigurdsdottir Hansen (State Secretary, Ministry of Trade, Industry and Fisheries), Harald Sveier (Head of Research and Innovation, Lerøy), and Christian Chramer (CEO, Nordic Seafood Council). Photo: Edward Hinkle, GRID-Arendal.

Publications

The following publications were fully or partly made possible with NBFN support. The list includes papers published in 2023 and papers on track for publication in 2024.

Dalby, M (2023) [Den blå skogen må prioriteres](#) [We must prioritise the blue forest]. Fædrelandsvennen. 4 June.

Filbee-Dexter, K., Pessarrodona, A., Duarte, C., Krause-Jensen, D., Hancke, K., Smale, D. and Wernberg, T. (2023) Seaweed forests are carbon sinks that may help mitigate CO2 emissions: a comment on Gallagher et al. (2022). ICES Journal of Marine Science 80(6), 1814-1819. <https://doi.org/10.1093/icesjms/fsad107>

Filbee-Dexter, K., Pessarrodona, A., Pedersen, M.F., Duarte, C., Wernberg, T., Hancke, K. et al. (forthcoming) Carbon export from seaweed forests to deep marine sinks. In review for Nature Geoscience.

Gagnon, K et al. (forthcoming) Carbon storage capacity of eelgrass meadows across latitudes and environmental gradients. (Draft citation)

Lutz, S. (forthcoming). Oceanic blue carbon: Understudied & undervalued carbon mechanisms (UNEP foresight brief, draft citation)

Moy, F (forthcoming). Editorial; Vi må sette pris på natur - bokstavelig talt [We have to put a price on nature].

Norwegian Blue Forest Network (2023) Norsk sammendrag av Ut i det blå: et veikart for en bærekraftig framtid for tareskogen [Norwegian summary of Into the Blue: Securing a Sustainable Future for Kelp Forests] (policy brief, Norwegian version). Arendal. <https://nbfn.no/nb/ut-i-bla-norsk-sammendrag/>

Norwegian Blue Forest Network (2023). Tareindustrien: Muligheter, barrierer og veien videre [The kelp industry: opportunities, barriers and next steps] (policy brief, English version). Arendal. <https://nbfn.no/kelp-industry-brief/>

Norwegian Blue Forests Network (2023). Top ten trends from 2022, 17 January. <https://nbfn.no/ttt-22/>. Accessed 3 February 2023.

Norwegian Blue Forest Network (2024). Top ten trends from 2023, 14 February. <https://nbfn.no/ttt-23/>. Accessed 20 February 2024.

United Nations Environment Programme (2023). Into the Blue: Securing a Sustainable Future for Kelp Forests. Nairobi, Kenya. <https://www.unep.org/resources/report/blue-securing-sustainable-future-kelp-forests>

The following blog posts were also produced:

Bekkby, T., Rinde, E. and Gundersen, H. (2023). Sugar kelp forests on the directorates' rescue list, 1 March. <https://nbfn.no/kelp-rescue-list/>. Accessed 20 February 2024.

Haugland, B.T. (2023). 30 by 30: how to restore the kelp forests? 1 November. <https://nbfn.no/30-by-30-how-to-restore-the-kelp-forests/>. Accessed 20 February 2024.

Lutz, S. (2023). High integrity nature-based carbon offsetting is vital in the fight against climate change, 12 April (first posted 27 March 2023 by GRID-Arendal). <https://nbfn.no/high-integrity-nature-based-carbon-offsetting/>. Accessed 20 February 2024.

Lutz, S., Slotsvik, G.N. and Norwegian Blue Forest Network (2023). Live blog on Oceans and Blue Carbon at COP28, 2-8 December. <https://news.grida.no/bccop28>. Accessed 20 February 2024.

Norwegian Blue Forest Network (2023). NBFN at Arendalsuka 2023, 25 September. <https://nbfn.no/nbfn-arendalsuka-2023/>. Accessed 20 February 2024.

Wathne, C., Sateroy, T. and Tsuyoshi Takeda, B. (2023). Norway is betting on blue forests, 18 April. <https://nbfn.no/norway-betting-on-blue-forests/>. Accessed 20 February 2024.

Talks

The following talks were given fully or partly on behalf of NBFN and/or presented NBFN-funded research:

Borgersen, G. (2023). Tareindustri på gli [The kelp industry on the move]. NBFN event Topp blå skog trender fra 2022. Seminar. Oslo. 1 February.

Borgersen, G. and C. Wathne (2023). Tang, tare og bærekraftig matproduksjon: Muligheter og barrierer for industrien [Seaweed, kelp and sustainable food production: Possibilities and barriers to industry]. NBFN event, Arendalsuka. Arendal. 16 August.

Christie, H. (2023). Naturrestaurering langs Norskekysten, med eksempler fra våre «blå skoger» [Nature restoration along the Norwegian coast, with examples from our "blue forests"]. Miljødirektoratet og Norsk institutt for naturforskning Conference: Naturrestaureringskonferansen 2023. Trondheim. 31 October.

Filbee-Dexter K. (2023). Kelp forest ecology in the Anthropocene: using distributed experiments to scale up inferences. International Temperate Reefs Symposium. Tasmania. 8-12 January.

Fredriksen, S. (2023). Forskning for fremtiden [Research for the future]. NBFN event Topp blå skog trender fra 2022. Seminar. Oslo. 1 February.

Gagnon K. (2023). Status of seagrass ecosystems in Norway – ongoing and future research. Research seminar. Tjärnö Marine Laboratory, Sweden.

Gagnon K. (2023). Insights from a long-term time series of Norwegian eelgrass. European Marine Biology Symposium. Reykjavik, Iceland. 4-8 September.

Gundersen, H. (2023). Overvåking og restaurering [Monitoring and restoration]. NBFN event Topp blå skog trender fra 2022. Seminar. Oslo. 1 February.

Gundersen, H. (2023). Tareskogen: Viktigere enn man tror [The kelp forest: More important than you think] NBFN event Tare fra A til Å: En presentasjon av den første globale tarerapporten og hva funnene kan bety for Norge. Webinar. 1 June.

Gundersen, H. and A. J. Kvanneid (2023). Kystsonen i Agder – Verdier og Vern [The coastal zone in Agder – Values and Protection]. NIVA event NIVA Sør 40 år - Vannmiljø; utfordringer og løsninger. Seminar. Grimstad. 27 April.

Haugan, P. (2023). Blått karbon [Blue carbon]. NBFN event Topp blå skog trender fra 2022. Seminar. Oslo. 1 February.

Haugan, P. (2023). Hva er Havpanelet og hva er Blå skog? [What is the Ocean Panel and what are Blue Forests?]. Regjeringens Havkonferanse: Norge og havet. Bergen. 17 April.

Norderhaug, K. M. (2023). Tarerestaurering [Kelp forest restoration]. NBFN event Tare fra A til Å: En presentasjon av den første globale tarerapporten og hva funnene kan bety for Norge. Webinar. 1 June.

Piñeiro-Corbeira, C., Norderhaug, K.M., Filbee-Dexter, K., Wernberg, T. (2023). GEAK. The value of kelp forests for supporting fisheries. International Temperate Reefs Symposium. Tasmania. 8-12 January.

Sander, G. (2023). Tareforvaltning [Kelp management]. NBFN event Tare fra A til Å: En presentasjon av den første globale tarerapporten og hva funnene kan bety for Norge. Webinar. 1 June.

Skjellum, S. F. (2023). First global synthesis report on kelp forests. UNEP, GRID-Arendal, NBFN and UNEP-WCMC event launching two global blue forests reports. Webinar. 2 May.

Sæterøy, T. (2023). Hva betyr naturavtalen for havet? [What does the Kunming-Montreal Global Biodiversity Framework mean for the sea?] GRID Arendal, Havforskningsinstituttet, Norsk nettverk for blå skog, Agder fylkeskommune, Kristiansand kommune and Bølgen bærekraftsenter event. Seminar. Kristiansand. 5 June.

Wathne, C. (2023). Temaer verdt å følge i 2023 [Areas to watch in 2023]. NBFN event Topp blå skog trender fra 2022. Seminar. Oslo. 1 February.

Wathne, C. (2023). Hva er blå skog? [What is blue forest?] GRID Arendal, Havforskningsinstituttet, Norsk nettverk for blå skog, Agder fylkeskommune, Kristiansand kommune and Bølgen bærekraftsenter event. Seminar. Kristiansand. 5 June.

Wernberg, T. (2023). Tareskogens omfang, tilstand og trusler [The extent, condition of and threats to kelp forests]. NBFN event Tare fra A til Å: En presentasjon av den første globale tarerapporten og hva funnene kan bety for Norge. Webinar. 1 June.

Wernberg, T., Filbee-Dexter, K., Norderhaug, K.M., Hancke, K., Gundersen, H. (2023). GEAK. The value of the World's Fisheries. International Temperate Reefs Symposium. Tasmania. 8-12 January.

Wernberg T, Filbee-Dexter K, Norderhaug K. M, Hancke K, Gundersen H, GEAK (2023) The Value of the World's Fisheries. International Seaweed Symposium. Tasmania. 19-24 February.

Zimmerhackel, J., Wernberg, T., Filbee-Dexter, K. (2023). GEAK. Valuation methods and evidence for ecosystem services from kelp forests. International Temperate Reefs Symposium. Tasmania. 8-12 January.

In addition, researchers participated in panel events on behalf of NBFN. For example, Cecilie Wathne participated in the Norwegian government's ocean conference discussion "Havets vegetasjon – den blå skogen." Similarly, Karen Filbee-Dexter participated in the Q&A session of the global webinar launch of the kelp report.

