

concept covers aspects of the environment that are fundamental to human survival. The ecosystem produces goods that we value, such as wild fish and algae for nutrition. It also contributes to the regulation and maintenance of the ecosystem that we live in, through processes like carbon sequestration. Interacting with nature also provides non-material benefits, like recreation and cultural values. Analysing the environment using an ecosystem services approach is helpful for understanding and clarifying the connections between ecosystems and human well-being. The ecosystem services approach can thus support decisions and policy-making to ensure the sustainable use of resources (Martin-Ortega *et al.* 2015). Analyses of ecosystem services can help clarify potentially complex relationships between nature and society. As ecosystem services link the state of the ecosystem with societal well-being, such analyses are an effective tool for evaluating the trade-offs between alternative sea uses, and between different management and protection options. However, both the ecosystem services approach and its branch, ecosystem accounting, are fairly new concepts in comparison established environmental assessment tools. Further development of their knowledge base, information base and appropriate application is needed.

A mapping approach building on the data layers developed for use in the assessment of the spatial distribution of pressures and impacts demonstrates the potential contribution of ecosystem services in the Baltic Sea region (Figure 5.5). An aggregated map of ecosystem service potential was created using an extension of the Baltic Sea Impact Index calculation tool (Ruskule *et al.* 2023). This updated evaluation used 54 different ecosystem component layers, including benthic habitats, pelagic species, habitat-building species, mobile species and their key habitats. The tool aggregates the spatial extent of the ecosystem components contributing to the provision of a particular ecosystem service and combines the results for all the layers. The precision of the resulting map is still comparatively low because it only considers the presence or absence of ecosystem components, not their quantity or quality, and it only reflects the ecosystem services that were included in the exercise. Nevertheless, it provides a rough illustration of potential key areas for ecosystem services in the Baltic Sea, thus supporting key management actions, such as protection and the determination of acceptable levels or locations of pressures to achieve good environmental status.

#### 5.4. How can maritime spatial planning support the Baltic Sea environment?

Maritime spatial planning (MSP) is the spatial planning of activities at sea. The processes used in MSP involve a holistic, multisectoral effort at national scales and can serve as a key component in the implementation of several shared environmental objectives for the Baltic Sea. Maritime spatial planning is thus becoming an increasingly important instrument for the development of ecosystem-based management, facilitating or enabling work towards reaching a good environmental status of the Baltic Sea environment (Box 5.3).

#### The current state of maritime spatial planning in the Baltic Sea

All Baltic countries that are also members of the European Union have implemented their first (or, in some cases, second) generation of maritime spatial plans, in alignment with the EU Maritime Spatial Planning Directive (EC 2014). Important topics for future iterations of the plans are dealing with climate change, meeting the visions of the European Green Deal (EC 2019), monitoring and evaluating the existing plans, and the cooperative development of coherent plans to better support an ecosystem-based approach towards reaching good environmental status.



#### BOX 5.3.

##### What is maritime spatial planning?

Maritime spatial planning (MSP) is spatial planning at sea using a holistic, multisectoral effort. A key aim of MSP is to delineate human uses in such a way that sensitive environmental areas are not significantly negatively affected. Furthermore, the MSP process should serve as a platform for the involvement of all relevant stakeholders in determining how society should use the sea.

The Baltic Sea Action Plan includes MSP as a horizontal topic. Through the Baltic Sea Action Plan, HELCOM countries have agreed to:

- Utilize maritime spatial planning (MSP) applying an ecosystem-based approach to support BSAP objectives and targets and contributing to sustainable sea-based activities

The maritime spatial plans are implemented nationally. Thus, the inclusion of coastal areas or related sectors, and the formal status of the plans, varies between countries in HELCOM. International cooperation between neighbouring countries and within regional seas is of high importance in MSP and is a cornerstone of the formation of a coherent framework. In HELCOM, the HELCOM-VASAB MSP working group addresses a number of joint challenges for MSP in the Baltic Sea with its regional MSP roadmap for 2021–2030, including knowledge development, regional collaboration, environmental considerations, a sustainable blue economy and climate change (EC 2022).

#### How can MSP make a difference for ecosystems and societies?

Maritime spatial planning can potentially have positive or negative effects on the marine environment, depending on where and how space is allocated for different uses. It is essential that knowledge about how different human activities may affect both the local and the broader ecosystem are included in the planning process in order to ensure long term sustainability.

Because planning considers social, economic, cultural and other relevant aspects while also aiming to enhance marine nature values, it can help countries integrate key environ-

mental considerations into their planning in a holistic way. When applied optimally, MSP can make a difference for Baltic Sea ecosystems and society by guiding or directing the locations of different types of human uses of the sea in a way that maximizes the possibility for a positive sustainable future. For example, planning efforts can enhance nature conservation by facilitating a Baltic Sea network of marine protected areas or can improve marine ecosystem services by securing space for different sea uses in a manner that protects and improves long-lasting ecosystem functions and the provisioning of key ecosystem services.



Figure 5.6. Operational wind farms in the Baltic Sea during 2016–2021. Several more offshore wind farms are currently in planning. The expansion of offshore wind is a key topic for sustainable environmental management, in which MSP plays a central role. Please note that the symbols in the map are enlarged to make them visible at this scale. Source: HELCOM 2023e.



Figure 5.7. Several human activities coexist within the Baltic Sea, interacting with or affecting the marine environment.

### The role of maritime spatial planning in HELCOM

HELCOM plays an important role as a regional anchor that can help countries around the Baltic Sea harmonize their national MSP processes. This is important because most fundamental aspects of MSP are actually transboundary, including the distribution of human activities, as well as environmental pressures and biodiversity. The regional perspective on the Baltic Sea provided in HELCOM, its data coordination, resources and the institutionalized knowledge of its community all support maritime spatial planning.

Successful planning in alignment with the ecosystem approach is vital to our prospects of reaching a healthy and long-term sustainable Baltic Sea environment. The development of ecosystem-based approaches in MSP can also support the implementation of ecosystem-based management efforts more widely.

The Baltic Sea Action Plan includes measures to be implemented by countries by 2030, at the latest, to support our shared objectives for the Baltic Sea environment. The BSAP gives an important role to maritime spatial planning and outlines both the direct and indirect ways that Baltic countries should carry out planning towards this aim (HELCOM 2021).

Key topics where work in HELCOM could support regionally harmonized maritime spatial planning include the development of cumulative impact assessments of the plans on a regional scale, which would supplement the national coverage of impact assess-

ments by countries, facilitating their coherence. Work in HELCOM should also contribute to the general development and exchange of knowledge about cumulative impact assessment in relation to strategic environmental objectives. In this regard, HELCOM also serves as a common point for collaborations with other regional seas by actively sharing information and knowledge. Dedicated projects shared by countries around the Baltic Sea to support MSP have been instrumental in strengthening regional coordination in recent years and in opening connection points between marine protection, regional development and maritime spatial planning.

Joint efforts to increase the resilience of our aquatic ecosystems to climate change is a cornerstone question for maritime spatial planning in countries around the Baltic Sea, as well as globally. This runs in parallel with necessary actions to reduce the loss of biodiversity and reach environmental protection targets (see Chapter 4), and needs to be harmonized with them. Current key challenges to which maritime spatial planning can contribute are to take areas vulnerable to climate change into consideration in spatial planning, facilitate management of coastal areas to minimize damages caused by extreme weather events, identify areas for renewable energy, and make sure that environmental pressures caused by human activities are minimized (Figure 5.6-5.8). All of these challenges will benefit from regional work in HELCOM.

### Shipping density (2020, all ship types)

High : 30753  
Low : 1

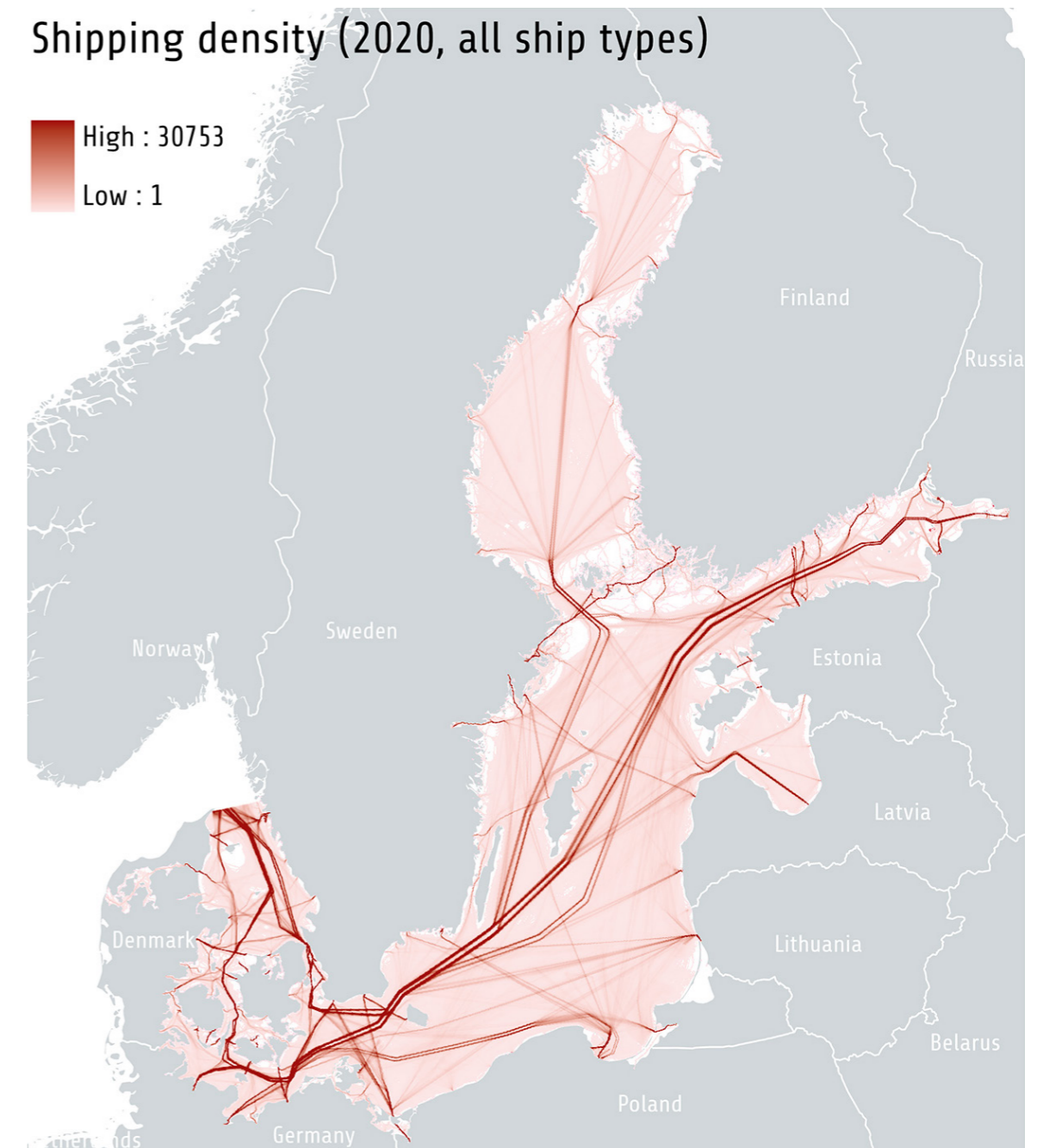


Figure 5.8. Key shipping lanes in the Baltic Sea.