Marine and coastal areas are among the most productive ecosystems on earth and provide a range of social and economic benefits to humans. As much as one third of the world’s population lives in coastal areas, which covers only 4% of the Earth’s total land area. In 2013, 135 million tons of shellfish, seafood and aquatic plants were harvested from the ocean for food and industrial application (FAO 2015), comprising 16% of the global population’s animal protein intake (FAO 2014). Worldwide, nearly 200 million full-time equivalent jobs are found in marine fisheries alone, accounting for about one in every fifteen people employed on the planet (Teh and Sumaila 2013). Furthermore, coastal tourism is one of the fastest growing sectors of global tourism and provides direct and indirect employment for many people and generates local incomes.

On a global scale, all of the Nordic countries, but in particular Norway, have committed to working to achieve a number of international targets, including meeting Aichi targets and the UN Sustainable Development Goals (SDG), which can benefit from using an ecosystem service approach. Aichi Target 2 states that “[b]y 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems”, while SDG 14 calls for the conservation and sustainable use of the oceans, seas and marine resources for sustainable development and provides a comprehensive framework for moving towards sustainable ocean use. By including ecosystem services in these global policy frameworks, these countries have the opportunity to provide leadership and guidance on how to strengthen local and national level policy and planning frameworks through the holistic integration of ecosystem services into these processes.

The different ecosystems of the Nordic coasts together contribute to a long range of important services for the benefit of humans. They are highly productive ecosystems that purify the water, protect against erosion and storm surges, fuel
marine food webs through the capture, storage and export of carbon as well as being important nursery grounds for many species, including commercial fish species. Some of the ecosystems are also proved to be major contributors to carbon storage and sequestration. Traditionally, the resources associated with these ecosystems have been used for direct exploitation (e.g. blue mussels, seaweeds and macroalgae) as food and animal feed. More recently, new applications such as the production of alginate and biofuel are becoming increasingly profitable.

This report gives an overview of the values related to important ecosystems along the Nordic coasts. Four key systems were selected to be examined for their services. These were kelp forests, eelgrass meadows, blue mussel beds, and shallow bays and inlets. The report is based on the common knowledge and network of researchers across the Nordic countries and is conducted under the leadership of the Norwegian Institute for Water Research (NIVA) in collaboration with the Institute of Marine Research (IMR), GRID-Arendal, NIVA Denmark Water Research, and the Swedish AquaBiota Water Research.

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