

National Parks in the context of sustainability

Wadden Walks Lecture Series

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Structure

- 1. Sustainability – Definition & early contexts
- 2. National Park Concept (IUCN)
- 3. Wadden Sea



The notion of sustainability

- As old as mankind
- Old tales of sustainable thinking and acting, especially of people living close to nature from all continents
 - → underfocussed role of *idigenous knowledge!*

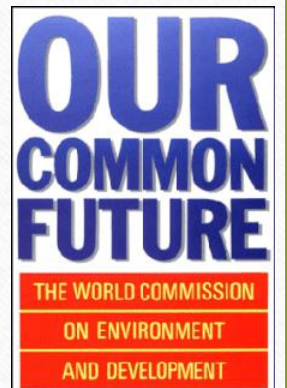


Sustainability – first formal definition

- It first appeared in 1980 in the **World Conservation Strategy**, a little later in the **Study Global 2000** and in the **Brundtland Commission Report** (aka "Our common Future"). In the latter, the term is defined as follows:

„Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.“

(Brundtland Commission Report , 1987, in: Redclift 2005, p. 213).



Sustainability - Early contexts

- e.g. Bible / in Genesis (2, 15): "And God the Lord took man and put him in the Garden of Eden, that he cultivated and **preserved** him". The **conservatio** in the sense of preserving the world and the continuation of creation is a central concept in this context. This central concept, steeped in history, has been preserved almost uninterrupted in the English and French languages for centuries (Grober 2010, p. 55).
- With the help of the *International Union for **Conservation** of Nature* (IUCN), **sustainability has become the counter-concept for overexploitation and environmental degradation.**
- The term sustainable has its word origin in Latin **sustinere** and **sustenare**. For the verbs, a Latin dictionary offers the following translation: "endure, endure, upright, stand" (PONS 2019). → This etymological origin can thus be understood as a kind of early anticipation of the sustainability discourse in the 20th and 21st centuries.



Sustainability - Forest Management

- **In October 1662 → sustainability strategy for England's forests →** First publication of the Royal Society was published, entitled **Sylva** (Latin for forest).
- The author of the Sylva, Evelyn (1664), calls in his book: "Let us arise and plant"
This is also the case with the legislation in Luxembourg, "**where no farmer may cut down a tree without having proven that he has planted another**" (translated from Grober 2010, p. 96). The obligation to provide for the well-being of **future generations** is also taken up in Sylva. The core ideas of sustainable development are therefore written down in this publication, 315 years before the term "Sustainable Development" appeared at the World Conference in Rio de Janeiro.
- In Germany, Hans **Carl von Carlowitz →** In 1713, von Carlowitz presented his knowledge and practical experience in dealing with the resource in a 450-page publication, the **Sylvicultura oeconomica** in Leipzig (Grober 2010).



Sustainability & Forest Management

- [5tefanie \(vimeo.com\)](#)
- Movie by
Stefanie Egger



National Park Concept

“A national park is a relatively large area:

- 1) where one or several ecosystems are not materially altered by human exploitation and occupation, where plant and animal species, geomorphological sites and habitats are of special scientific, educative and recreative interest or which contains a natural landscape of great beauty; and
- 2) where the highest competent authority of the country has taken steps to **prevent** or to eliminate as soon as possible exploitation or occupation in the whole area and to enforce effectively the respect of ecological, geomorphological or aesthetic features which have led to its establishment; and
- 3) where visitors are allowed to enter, under special conditions, for inspirational, educative, cultural and recreative purposes.”

(IUCN 1973, p. 14)



Definitions of the IUCN Protected Area Management Categories

CATEGORY Ia

Strict Nature Reserve: protected area managed mainly for science

Area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.

CATEGORY Ib

Wilderness Area: protected area managed mainly for wilderness protection

Large area of unmodified or slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.

CATEGORY II

National Park: protected area managed mainly for ecosystem protection and recreation

Natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

CATEGORY III

Natural Monument: protected area managed mainly for conservation of specific natural features

Area containing one, or more, specific natural or natural/cultural feature which is of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance.

“TUCN defines a protected area as: An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.”

(Chape et al. 2013, p. 2)

CATEGORY IV

Habitat/Species Management Area: protected area managed mainly for conservation through management intervention

Area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species.

CATEGORY V

Protected Landscape/Seascape: protected area managed mainly for landscape/ seascape conservation and recreation

Area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area.

CATEGORY VI

Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

Area containing predominantly unmodified natural systems, managed to ensure long-term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs.

Chape et al. (2013, p. 12)



The World's First National Park

- **Yellowstone Park (WY, MT, ID // USA)**
 - [Yellowstone National Park \(U.S. National Park Service\) \(nps.gov\)](https://www.nps.gov/yell/)
- “On March 1, **1872**, Yellowstone became the first national park for all to enjoy the unique hydrothermal and geologic features. Within Yellowstone's 2.2 million acres, visitors have unparalleled opportunities to observe wildlife in an intact ecosystem, explore geothermal areas that contain about half the world's active geysers, and view geologic wonders like the Grand Canyon of the Yellowstone River.” (website accessed 05.05.2022)



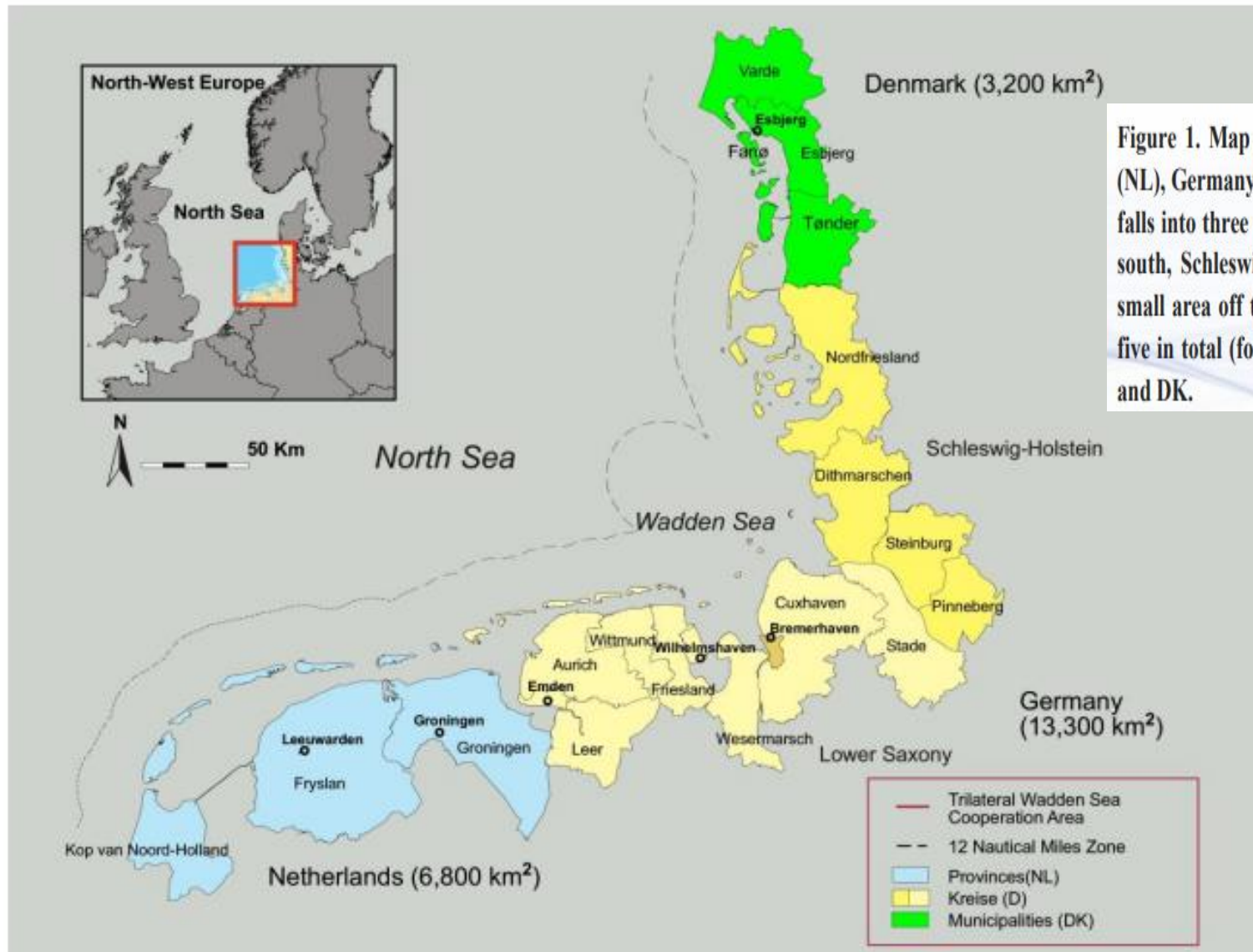


Figure 1. Map of the Wadden Sea, showing regional structure in The Netherlands (NL), Germany (D) and Denmark (DK) (). Note: the German part of the Wadden Sea falls into three German states (Länder): Niedersachsen or Lower Saxony (LS) in the south, Schleswig-Holstein (SH) in the north and Hamburg National Park (HH), a small area off the Elbe estuary. Since Germany is a federal republic, there are thus five in total (four main) autonomous management areas – NL, LS, HH (minor), SH and DK.



Nationalpark Wadden-Sea

- Stretching for over **500 km** along the **North Sea coast of Denmark, Germany and the Netherlands**, the Wadden Sea has evolved over the last 8,000 years and is therefore a quite **young ecosystem in geomorphological & evolutionary terms**.
- Outstanding example of development of a temperate-climate sandy barrier coast under conditions of rising sea level in the Holocene. The **Wadden Sea is unique** in that it consists entirely of a sandy-muddy tidal system with minor river influences on morphodynamics.
- The Wadden Sea ecosystem is **characterized by tidal flats and a barrier island system with extensive salt marshes**.
- **It is the only tidal flat and barrier island depositional system of this scale and diversity in the world!** For that reason, major parts of the Wadden Sea Conservation Area have inscribed on the UNESCO World Heritage List.

(for all: Klöpper et al. 2017)



Nationalpark Wadden-Sea

- [Introduction | Wadden Sea Quality Status Report \(waddensea-worldheritage.org\)](https://waddensea-worldheritage.org/)
 - [Geomorphology and climate | Wadden Sea Quality Status Report \(waddensea-worldheritage.org\)](https://waddensea-worldheritage.org/)
 - [Habitats and communities | Wadden Sea Quality Status Report \(waddensea-worldheritage.org\)](https://waddensea-worldheritage.org/)
 - [Species | Wadden Sea Quality Status Report \(waddensea-worldheritage.org\)](https://waddensea-worldheritage.org/)
 - [Human activities | Wadden Sea Quality Status Report \(waddensea-worldheritage.org\)](https://waddensea-worldheritage.org/)
 - [Pollution | Wadden Sea Quality Status Report \(waddensea-worldheritage.org\)](https://waddensea-worldheritage.org/)

Source: Klöpffer, Sascha/Baptist, Martin/Buschbaum, Christian/Gutow, Lars/Janssen, Gerard/Jense, Kai/Jørgensen, Henrik Pind/Schwarzer, Klaus/Thieltges, David/de Jong, Folkert/Lüerßen, Gerold (Hrsg.) (2017): Wadden Sea Quality Status Report 2017. Wilhelmshaven: Common Wadden Sea Secretariat.



Threats to the Wadden Sea

- High Threats:
 - Chemical contamination from industry and agriculture
 - Air traffic
 - Invasive Species
 - Fisheries
 - Harbours, industrial facilities and maritime traffic
 - Wind farms
 - Climate change (“**very high threat**”)

Source: Ecopotential Projects (2022): Wadden Sea and Dutch Delta. Text abrufbar unter: <http://ecopotential-project.eu/site-studies/protected-areas/25-the-wadden-sea-dutch-delta-area.html> (Zugriff am 15.05.2022).



Thanks for your attention!



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