

WWF

Compiled
by WWF
Germany

WORLD HERITAGE TEACHING KIT

Sustainable tourism in the Wadden Sea



United Nations
Educational, Scientific and
Cultural Organization



The Wadden Sea
World Heritage
since 2009



WADDEN SEA
WORLD HERITAGE



CONTENTS

	Preface	Page 3
INTRODUCTION TO THE TEACHING MATERIAL	WORLD HERITAGE TEACHING KIT - SUSTAINABLE TOURISM IN THE WADDEN SEA	Page 4
	OVERVIEW: TOPIC MAP	Page 5
	LESSON INTRODUCTION: THE WADDEN SEA	Page 6
	SUPPLEMENTARY INFORMATION	Page 8
LEARNING STATIONS	1 DESTINATION NORTH SEA	Page 10
	2 WADDEN SEA WORLD HERITAGE	Page 12
	3 TOURISM AND NATURE PROTECTION	Page 15
	4 CLIMATE-FRIENDLY TOURISM	Page 17
	5 BUSINESS AND PEOPLE	Page 19
	6 POLICY: A STRATEGY FOR THE REGION	Page 20
	Imprint	Page 22
PUPILS	Master copies: Learning station 1 to 6	Pages 1 to 19
	Master copy for overhead transparency	Page 20

FOREWORD

■ Dear Teachers,

The Danish-Dutch-German- Wadden Sea on the North Sea coast is a globally unique and important natural area. Protected in all three countries and inscribed on the World Heritage List, it is on a level with such well-known natural wonders as the Grand Canyon in America or the Great Barrier Reef in Australia. The Trilateral Cooperation on the Protection of the Wadden Sea has been responsible for the cross-border protection and joint management of the Danish-Dutch-German- Wadden Sea for over 30 years. This cooperation was a key factor in enabling the Wadden Sea to become a World Heritage Site - for the benefit of present and future generations. For more than three decades the WWF has also been committed to encouraging and supporting effective Wadden Sea protection.

Approximately 50 million tourists – day trippers and overnight visitors – travel to the Wadden Sea region every year. Kilometres of beaches, vast mudflats, picturesque islands and a well-developed tourist infrastructure offer a wealth of recreational opportunities and possibilities to experience the Wadden Sea. A comprehensive range of information centres and nature experience offers bring visitors closer to the fascinating nature of the World Heritage Site and sensitize them to its protection.

For many visitors, the beauty of nature as well as its preservation through protected areas, such as national parks, is a major reason for selecting a holiday destination. And in many regions tourism is the main economic activity. Nature conservation and tourism in the Wadden Sea should therefore go hand in hand. In many places this is already happening. But tourism can also lead to avoidable damage to nature. Entering sensitive bird breeding areas, over-development in sensitive natural areas, too much vehicle and air traffic, or kite surfing without regulations are some cases in point. There are many other threats, including pressure from, fisheries, industry, energy production, shipping, to name a few examples, as well as climate change.

Thus, to show that it is possible to protect the Wadden Sea and at the same time to offer a wide range of tourism experiences and potential for economic gain through tourism in the region, the three Wadden Sea countries adopted a strategy for Sustainable Tourism in the Wadden Sea World Heritage Destination in 2014. Developed through close co-operation between the tourism industry and nature conservation, this strategy and the accompanying Action Plan form the future framework for the development of tourism to balance environmental needs and economic interests. Tourism can therefore recognize its responsibilities and its special role in the protection of this World Heritage Site.

With this [WORLD HERITAGE TEACHING KIT - SUSTAINABLE TOURISM IN THE WADDEN SEA](#), we want to give you practical teaching material with which you and your students can get to know the Wadden Sea as a natural area and at the same time learn the importance of sustainable tourism for the Wadden Sea World Heritage region.

On pages 8 and 9 we will introduce more material for the Wadden Sea science lessons and the planning of nature-friendly field trips. If you have the opportunity for a field trip to the Wadden Sea World Heritage Site, this is definitely the best way to supplement the subject - get out into nature and practice what you teach. A field trip is also a form of tourism in which you yourself get to know its facets and can find out how easy - or difficult - it is to contribute via sustainable travel to the preservation of World Heritage!

We hope you enjoy exploring, discovering and experiencing the Wadden Sea World Heritage Site.



Rüdiger Stempel
Head of the Common
Wadden Sea Secretariat



Anja Szczesinski, WWF
Coordinator of the International
Wadden Sea School Network

WORLD HERITAGE TEACHING KIT

SUSTAINABLE TOURISM IN THE WADDEN SEA

Objective

The Wadden Sea is a globally unique habitat that is protected – among others – as National Parks and recognized as a UNESCO World Heritage Site. Every year approximately 50 million visitors come to this region to relax, play sports or to discover nature. In many regions, tourism is the main economic activity. But although tourism and nature protection already go hand in hand in many places, the fragile ecosystem can still be negatively influenced. In this Teaching Kit the pupils study aspects of the conflict between tourism and nature conservation. They not only learn about the Wadden Sea as a habitat, but also as a model region for sustainable tourism.

What is in the material?

This material includes worksheets for a total of six different learning stations. Each station examines one aspect of tourism in the Wadden Sea and raises questions about it from different angles. Stations 1 and 2 look at natural space as a basis for tourism. Stations 3 to 5 look deeper into the topic and provide an opportunity to prioritize. Station 6 looks at the prospects for future developments. You as a teacher receive recommendations on the use of worksheets as well as relevant background information and answers.

Who is the material suitable for?

The Teaching Kit was designed for use in the fields of geography and social studies, politics and business. However, it can also be used in conjunction with the field of biology, when the Wadden Sea ecosystem is the subject. The teaching material is suitable for lower secondary education in all types of schools. We recommend using it in class level 7 and 8. Each worksheet includes tasks of varying difficulty, which are symbolized by the number of gears. The more gears a task has, the more complex it is. As a teacher you can allocate the task to pupils individually (according to proficiency level). However, it is also possible to work on the tasks in succession. All work assignments build on each other and gradually lead the pupils into complex inter-related topics.

What skills are promoted?

- ▶ **Self reliance:** The Teaching Kit encourages independent work and ownership of learning success. The pupils motivate themselves and plan at their own discretion.
- ▶ **Social skills:** The tasks can be solved in partnership or group work. Collaborative work and planning promotes social interaction.

- ▶ **Factual and methodological skills:** The pupils use interdisciplinary knowledge and gain insights from different perspectives. The work results encourage them to look ahead.

How can a Teaching Kit lesson be designed?

We recommend common teaching instruction for each work learning station. In Teaching Kit lessons the pupils receive a number of tasks to work on independently. The advantage of this method is a stimulating and relatively free-learning atmosphere. As a teacher you have a great deal of freedom of design and can consider the individual personalities and competence levels within the class. First, you specify the structure in which the pupils work:

- ▶ alone
- ▶ work with a partner
- ▶ in teams or groups.

Then you can decide whether all pupils should work on all learning stations or on a few individual stations. This determines how long the series of lessons lasts.

- ▶ **Example 1:** After common teaching instruction all pupils work simultaneously at the same station (either in groups or alone). After a set time (that can be one or more teaching unit) discuss the results and then go on to work together at the next station.
- ▶ **Example 2:** After common teaching instruction divide the class into groups. Stations 1 and 2 are worked on by all groups because they impart basic knowledge about the Wadden Sea habitat. Then, each group receives a consolidation task (stations 3-5). As a teacher you can decide how task allocation is done (specified, lottery, student choice). In the discussion of results, the groups tell the rest of the class their ideas and the results of their work. Station 6 summarizes all the findings and is again worked on by all groups. To conclude a series of lessons, the work results can be presented from task 13 in station 6 ('Create an advertisement').

OVERVIEW: TOPIC MAP

The topic map provides you with an overview of the topic and the contents of the learning stations. You can let your pupils use the topic map as an orientation guide or use it for lesson planning.

LEARNING STATION	WORKSHEET	KNOWLEDGE AND AWARENESS ACQUISITION The pupils learn that ...
1 DESTINATION NORTH SEA	Which holiday type are you?	... there are various holiday types.
	Holiday types in the Wadden Sea	... different holiday types have different requirements.
	A destination for all	... needs vary in a resort area. ... tourist infrastructure is required.
2 WADDEN SEA WORLD HERITAGE	Are the mudflats only mud?	... the Wadden Sea is a habitat at second glance. ... the Wadden Sea is a special natural environment.
	Where exactly is the Wadden Sea?	... the Wadden Sea extends over three countries. ... many Wadden Sea islands and coastal towns are popular destinations.
	Award winning? Why?	... identify three criteria for designation as a UNESCO World Heritage Site. ... World Heritage Sites are often magnets for visitors and the many visitors can also cause problems.
3 TOURISM AND NATURE PROTECTION	Marc should surf somewhere else – why?	... tourism affects nature in the Wadden Sea.
	Migratory birds threaten kite surfers	... the interests of tourism do not always match protection objectives. ... the Kitesurf World Cup in St. Peter-Ording is an example of the balance of tourism-economic and environmental interests.
4 CLIMATE- FRIENDLY TOURISM	Climate-friendly tourism – what is that supposed to be?	... tourism affects the climate through the production of CO ₂ different modes of travel have varying degrees of impact.
	Climate protection on holiday – how does that work?	... there are ways to make your journey climate-friendly.
5 BUSINESS AND PEOPLE	How do visitors affect the lives of the locals?	... the Wadden Sea region is a cultural and economic area. ... tourism is the main economic activity and livelihood of many locals.
	Which profession would you prefer most?	... tourism influences the lives of the locals. ... tourism offers take into account economic, social and ecological interests.
6 POLICY: A STRATEGY FOR THE REGION	Tourism and Nature – can they work together?	... the 'Wadden Sea' natural area is a valuable basis for tourism in the entire Wadden Sea region. ... conservationists and tourism experts from the three Wadden Sea countries have developed a tourism strategy to make tourism sustainable and in harmony with nature conservation.

What tasks does the teacher have?

As a teacher you provide a framework for working at the learning stations. You give the class common teaching instruction and then are mainly moderating. During the work phase you help in understanding problems and guide the learning process by moderating discussions and encouraging initiative.

LESSON INTRODUCTION: THE WADDEN SEA

Photos

To introduce a lesson you can use the photos that accompany this teaching material as a template for an overhead transparency. You might also have your own pictures from your last North Sea holiday. It is best to show images that reflect the special character of the Wadden Sea. Project the image on the wall and let the pupils describe what they see. Ask about holiday experiences. Work your way up step by step:

- ▶ Where is the Wadden Sea?
- ▶ In which country?
- ▶ Which sea?
- ▶ Has anyone been a tourist in the Wadden Sea?
- ▶ Which animals live in the Wadden Sea?
- ▶ On each image you can see 'the Wadden Sea,' but what are the differences?
- ▶ etc.

The master copy for overhead transparency in this teaching material shows:

- ▶ **Pictures 1–3** (circles in the middle): The pictures show impressions of the natural aspects of the Wadden Sea: beaches, seals, flocks of birds.
- ▶ **Picture 4** (top left): A woman lies in a bathtub. Candles stand on the edge. The picture is a symbol of the spa holidays which tourists can enjoy in the Wadden Sea.
- ▶ **Picture 5** (top right): A couple in a deck chair by the sea. The picture is symbolic of a beach holiday, which is very popular for North Sea tourists.
- ▶ **Picture 6** (bottom left): A person with binoculars standing on an empty mudflat area. At the bottom a lugworm cast can be seen. The picture represents the nature holiday, which many tourists aspire to in the Wadden Sea.
- ▶ **Picture 7** (bottom right): A surfer riding the waves. The picture shows one of the sports that can be enjoyed in the Wadden Sea.

BACKGROUND INFORMATION

Location

The Wadden Sea extends along the Dutch, German and Danish North Sea coasts from Den Helder in the Netherlands along the German Bight to the Danish peninsula of Skallingen. It is the largest contiguous mudflat area in the world. The entire coastal area of mudflats, tidal creeks and sandbars, islands and Halligen, dunes and salt marshes covers more than 11,500 square kilometres. The term mudflat refers to the 4,500 square kilometres of silt and sand areas that dry out twice a day at low tide. In Germany, the Wadden Sea extends over three federal states: Lower Saxony, Hamburg and Schleswig-Holstein.

Protection status

The species-rich, sensitive and unique landscape is subject to the highest possible level of protection by law in all the neighbouring countries. The German Wadden Sea is protected as a National Park and is divided accordingly into the Lower Saxony, Hamburg and Schleswig-Holstein Wadden Sea National Parks. The Danish Wadden Sea is also a National Park and is also protected as a nature reserve and wildlife reserve. In the Netherlands, the regional planning decree (PKB) 'Derde Nota Waddenzee' and the National Ecological Network (EHS) form the basis of protection and management of the Wadden Sea. The entire Wadden Sea (Germany, Netherlands, Denmark) is a UNESCO World Heritage Site. However, the granting of this

award by UNESCO does not constitute an additional protection instrument in the legal sense.

Trilateral cooperation

Since nature knows no borders, the three countries of Germany, the Netherlands and Denmark are working together in the 'Trilateral Cooperation on the Protection of the Wadden Sea'. To coordinate this they founded the Common Wadden Sea Secretariat in Wilhelmshaven in 1987. In 1991, it opted for the common Guiding Principle of the Wadden Sea to "achieve, as far as possible, a natural and sustainable ecosystem in which natural processes proceed in an undisturbed way". In 1997 the three countries signed the first Trilateral Wadden Sea Plan with measures and projects to preserve the ecosystems.

'Hub' of bird migration

Every year around ten million wading birds and waterfowl use the Wadden Sea as a resting place and 'filling station'. Some stay only temporarily to build up their fat reserves for their migration, while others use the Wadden Sea as a breeding area. There is abundant food on offer, consisting of among others worms, mussels and fish. If they didn't rest in the Wadden Sea, many migratory birds would not survive the long journey to their wintering or breeding grounds. Many species migrate con-

stantly between wintering and breeding areas, back and forth and each way cover several thousand kilometres. The Wadden Sea is often used as a stopover between breeding or wintering areas and is therefore also called a 'hub' of bird migration. Common bird species in the Wadden Sea are, for example, Brent Goose, Arctic Tern, Bar-tailed Godwit, Knot, Dunlin, Oystercatcher, Avocet, and Spoonbill.

■ Biomass production

In the Wadden Sea there is very high production of plant biomass, mainly in the form of single-celled algae. These tiny plants form the basis of an enormous variety of invertebrate mudflat inhabitants. Plant biomass is thus converted relatively quickly into animal biomass. A single square metre of mudflat can contain 100 lugworms, 300 cockles or 60,000 sandhoppers. The high biomass production is possible because of the dynamics of the Wadden Sea: the sea water, but also the brackish waters of estuaries which wash back and forth on the tides. Thus, living or dead organic matter goes into the mudflats. Apart from the tiny algae, zooplankton (e.g. larvae, small crustaceans, etc.) are also an important food source for the Wadden Sea inhabitants.

■ North Sea nursery

The Wadden Sea is a pleasant 'nursery' for many species of North Sea fish, such as Plaice, Herring or Sole. The shallow water is warmer than the open sea and the animals can dig into the soft sand for protection. Predators of small fish are less common in the Wadden Sea. The young fish find abundant food in the Wadden Sea. But they also have to tolerate the inconvenience of recurring tides. When the seabed falls dry, many young fish have to stay in the tidal creeks and wait for high tide. For many birds, common seals and grey seals, the Wadden Sea is also a nursery.

■ Wadden Sea economic area

Tourism is by far the most important industry in the Wadden Sea. It brings in approximately 3 to 5 billion Euros every year. Not so much in the Wadden Sea itself, but certainly in the region surrounding the Wadden Sea, other industries play an important role, in particular shipping, agriculture, fisheries and energy production. For a while oil and gas will still be supported, but much more wind and solar energy is being generated on the North Sea coast now.

■ Tourism in the Wadden Sea

Every year, about 40 to 50 million people visit the Wadden Sea. In comparison, the Colosseum in Rome has 5 million visitors each year, and about 7 million travel to the Black Forest. The coastal and island residents have adapted to this and many of them make a living from it. The first seaside resort was opened in 1797 and since then the lives of most locals have revolved around visitors. But it is not only hotels, holiday homes, restaurants and souvenir shops that feed on tourism. Guided nature or town tours and, more recently, sustainable holidays also make the region interesting for visitors. Statistics show that most holidaymakers want to spend a beach holiday on the North Sea, where they can swim in the sea and lie on the beach. Other common holiday activities on the North Sea are eating out, relaxing and walking, followed by cycling and shopping. Experiencing nature is also an important holiday theme.

SUPPLEMENTARY INFORMATION

World Heritage Site & National Park

- ▶ **Wadden Sea World Heritage Site**
www.waddensea-worldheritage.org
- ▶ **German Wadden Sea-National Parks**
www.nationalpark-wattenmeer.de (de)
- ▶ **Schutzstation Wattenmeer (NGO)**
www.schutzstation-wattenmeer.de (de)
- ▶ **WWF**
www.wwf.de/watt (de)
- ▶ **Dutch Wadden Sea**
www.ecomare.nl/en
www.waddenvereniging.nl (nl)
- ▶ **Danish Wadden Sea**
www.vadehav.dk/en

Material for teachers

- ▶ **Wadden Sea Poster – Discover and protect diversity**
This poster invites you to search and discover: over 40 characteristic animal and plant species of the Wadden Sea are pictured and labelled in their typical habitats in four languages (DE, EN, NL, DK). Available free of charge at: husum@wwf.de



- ▶ **Poster series Plants and Animals of the Wadden Sea**
Bring the diversity of life in the World Heritage Site and National Park into the classroom with these posters of birds, plants and marine life, as well as the whales and seals of the Wadden Sea. Available in German, Danish and Dutch. Download at www.wwf.de/watt/natur, printed copies see "Experience booklet".



- ▶ **East Atlantic Flyway of Coastal Birds Poster**
A colourful illustration of bird migration is the WWF poster about the East Atlantic Flyway of Coastal Birds representing the Wadden Sea as a hub of bird migration. Download under www.wwf.de/watt/natur, printed copies see "Experience booklet".



- ▶ **Experience booklet "The mudflats are full of wonders"**
Exciting info texts, brain-teasing questions and a variety of activity tips make you want to experience the mudflats up-close. Have a look at www.wwf.de/watt/education. Available in German, Danish and Dutch. Printed single copies for tuition are available for free at husum@wwf.de, larger orders (for a fee) at www.naturentdecken-shop.de/WWF-Produkte
- ▶ **International Wadden Sea School**
An extensive and complimentary downloadable range of games, activities and worksheets about the Wadden Sea are available in the Teacher's Lounge of the International Wadden Sea School. Many materials are available in multiple languages and suitable for bilingual teaching. www.iwss.org

■ Sustainable tourism

- ▶ **Planning Guide for nature-friendly school trips**
The guide provides background information and practical tips for travel planning as well as useful checklists and worksheet templates. A catalogue section with specific offers presents best-practice examples from the German, Danish and Dutch Wadden Sea-region.
Available in German.
Download at www.wwf.de/watt/klassemfahrten, or printed copies can be ordered for free at www.naturentdecken-shop.de/WWF-Watt-Produkte



- ▶ **Feasibility study for climate-friendly tourism in the Wadden Sea Region**
www.wwf.de/watt/klitouwatt



- ▶ **Strategy: Sustainable Tourism in the Wadden Sea World Heritage Site Destination**
www.waddensea-worldheritage.org/de/downloads



■ Films

- ▶ **Welcome to Wadden Sea World Heritage Site**
www.waddensea-worldheritage.org
- ▶ **National Park film**
www.nationalpark-wattenmeer.de/sh/service/mediathek/nationalparkfilm
- ▶ **Animated film**
'Wadden Sea World Heritage Site – A unique experience'
www.waddensea-worldheritage.org

■ Natural history activities

Live experience shows the diversity of the Wadden Sea on the North Sea coast - on holiday or a school trip. Almost everywhere along the coast and on the islands of the Wadden Sea there are nature tours and lectures. In addition, there are many information centres.

- ▶ **Overview of the information centres in the Wadden Sea World Heritage Site**
www.waddensea-worldheritage.org/experience-the-waddensea/visitor-centres

LEARNING STATION 1

DESTINATION NORTH SEA

CENTRAL QUESTION

Which type of person goes for a North Sea holiday in the Wadden Sea?

KNOWLEDGE AND AWARENESS ACQUISITION

- ▶ There are various holiday types.
- ▶ Different holiday types have different requirements.
- ▶ The requirements for the recreational area will vary depending on holiday type.
- ▶ Holiday areas require tourism infrastructure.

MATERIAL

- ▶ Worksheet: Which holiday type are you?
- ▶ Worksheet: Holiday types in Wadden Sea
- ▶ A destination for all

BACKGROUND INFORMATION

About this learning station

The Wadden Sea is a tourist magnet. According to the latest results of the German 'Travel Report' (Reiseanalyse 15), the North Sea coast is number three in the list of most popular tourist regions of Germany. The North Sea destination is also at the forefront in the Netherlands and Denmark. The Wadden Sea destination attracts very different holiday types. In marketing, they are treated as individual target groups, while in reality it is a complete mixture. Students use a hands-on way to find out which holiday type corresponds to their preferences and recognize that different holiday types have different preferences.

Holiday type 1: Sportsmen and sportswomen

This holiday type likes to do a lot of sport in their spare time, often as compensation for desk work. In the Wadden Sea a variety of sporting activities are possible, including: jogging, hiking, sailing, swimming, kite surfing, beach sailing, cycling, Nordic walking. Many holidaymakers appreciate the open landscape and the special climate. On beaches and dikes there are suitable routes for hiking or walking. Particularly wide beaches with firm, open sand are designated as areas for beach sailing, such as at St. Peter-Ording or on the island of Fanø.

Holiday type 2: Health and spa

This holiday type attaches great importance to relaxing the body and soul. For many holidaymakers the effect of nature alone suffices - the sea air, the sound of the sea and the wide open views. Others seek out hotels and recreational facilities

with spa treatments such as massages, aromatherapy, beach yoga, fasting cures and Ayurveda. A specialty of the North Sea is thalassotherapy treatments with sea water, mud or algae. Sauna complexes are also an important component of spa trends. Numerous hotels and spas at the Wadden Sea have large sauna complexes.

Holiday type 3: Nature lover

For this type, nature is the main incentive for a trip to the Wadden Sea. The classic nature experience in the region is a walk across the mudflats with a certified tour guide. Salt marshes border the mudflats: information trails have display panels to explain the flora and fauna of this unusual habitat. For birdwatchers, the Wadden Sea is attractive because of the numerous opportunities for bird watching. Popular events are Migratory Birds Days in Lower Saxon Wadden Sea National Park in autumn, and Brent Goose Days on the Halligen in Schleswig-Holstein in the spring. Similar nature festivals are held in Denmark and the Netherlands. With binoculars you can spot common seals on many islands. Indoor nature experiences are possible in the National Park houses and stations on almost all of the islands as well as in many places on the mainland coast.

Holiday type 4: Families

Family holidays are often focussed on the youngest family members. The spacious island beaches are a popular adventure playground for children. Crabs are sought, seashells collected and sandcastles are built. Many holiday offers in the Wadden Sea are tailored to families with children. These include National Park adventure trips by boat, arts and crafts, mudflat

safaris or the offers of the numerous information centres.
Holiday farmhouses are spread throughout the region and cater mainly for families

■ Tourist infrastructure

Tourist infrastructure is needed for holidays in the Wadden Sea. The natural area is accessed and buildings are built to meet the needs of tourists, whilst the protection of the area must be considered. Depending on the holiday type, visitors to the Wadden Sea region place emphasis on different offers.

The tourist infrastructure includes:

- ▶ Hotels
- ▶ Souvenir shops
- ▶ Walking trails
- ▶ Information points
- ▶ Rental points
- ▶ Bad-weather shelters
- ▶ Adventure trails
- ▶ Supermarkets
- ▶ Accommodation
- ▶ Restaurants
- ▶ Transport services
- ▶ and many more

LEARNING STATION 2

WADDEN SEA WORLD HERITAGE

CENTRAL QUESTION

What exactly is the Wadden Sea?

KNOWLEDGE AND AWARENESS ACQUISITION

At second glance, the Wadden Sea is a habitat. The Wadden Sea is a special natural area extending over three countries. Many islands and coastal towns of the Wadden Sea are popular destinations. The 'Outstanding Universal Value' is a global feature of World Heritage Sites and often makes them visitor magnets, and these many visitors can also cause problems.

MATERIAL

- ▶ Worksheet: Are the mudflats only mud?
- ▶ Worksheet: Where exactly is the Wadden Sea?
- ▶ Worksheet: Award winning? Why?
- ▶ Worksheet: Fact sheet, both sides
- ▶ Own atlas

BACKGROUND INFORMATION

About this learning station

The pupils learn that the Wadden Sea is international, spreading over three countries (Germany, Netherlands, Denmark). With an atlas they find out where the borders are and where to find popular holiday areas. In addition to simply identifying popular holiday destinations, the pupils discover that all of these places are in the middle or on the edge of the Wadden Sea conservation areas. The pupils also learn that the mudflats are a particularly sensitive habitat. Designation as a UNESCO World Heritage Site puts the Wadden Sea alongside such internationally known natural phenomena as the Grand Canyon or the Great Barrier Reef. This worksheet can be used as repetition of the introductory teaching because some terms appear here again.

Answers for the gap-fill text

Worksheet: 'Are the mudflats only mud?':

LUGWORM / CENTIMETRES / ORGANIC
 WADDEN SEA / COCKLES
 BRENT GOOSE / HUB
 WATER LEVELS / NURSERY
 SALT MARSHES / GLASSWORT

International dimension

Information about the international position of the Wadden Seas and trilateral cooperation can be found in the material in 'Lesson introduction'.

Wadden Sea World Heritage Site

In 2009 the Dutch Wadden Sea Nature Reserve and the Wadden Sea National Parks of Lower Saxony and Schleswig-Holstein were designated as a World Heritage Site by the 'United Nations Educational, Scientific and Cultural Organization' (UNESCO). In 2011 the Hamburg Wadden Sea National Park was added. In June 2014, the UNESCO World Heritage Committee decided to expand the German-Dutch World Heritage Site to include the Danish part of the Wadden Sea.

A prerequisite for the inclusion on the list of World Heritage Sites is 'Outstanding Universal Value'. It is a natural treasure that is of significance for present and future generations - and its damage would be an irreparable loss for all mankind. (For information on the characteristics of the Wadden Sea habitats, see the material under 'Lesson introduction'.)

Contenders for the title of World Heritage Site are checked by UNESCO according to various criteria and by an on-site visit. Thus, the integrity of a request must be secured, i.e. it must include all the crucial parts. The protection and management of a potential World Heritage area must also be guaranteed. In Germany, classification as a National Park as well as the regulated cooperation with neighbouring countries in the 'Trilateral Wadden Sea Cooperation' was the decisive basis for designation as a World Heritage Site.

There are ten possible criteria for designation as a World Heritage Site; at least one of them must be met. The Wadden Sea has actually met three of criteria to get onto the World Heritage Site list:

1. **'Geology criterion':** geological processes as well as geomorphic or physiographic features
2. **'Ecology criterion':** ecological and biological processes in the development of ecosystems
3. **'Biodiversity criterion':** importance for the conservation of biological diversity and endangered species around the world

There are currently 1,007 World Heritage Sites in 161 countries (779 cultural monuments and 197 natural monuments). Another 31 monuments are both cultural and natural heritage sites (as of April 2015).

With around 10,000 species, the biodiversity in the Wadden Sea and the very high animal biomass are outstanding for such a habitat. The Wadden Sea influences nature far beyond its borders. Its function as a resting, moulting and breeding area for more than 10 million waterfowl is globally significant. In a unique way the Wadden Sea shows how nature, animals and plants continuously adapt to changing circumstances. Tides, sun and wind, fresh and salt water, summer heat and winter frost - extreme environmental conditions demand special abilities from plants and animals. Over the millennia, a diverse range of creatures have evolved that can cope with the constant changes. The dynamics of the area are unique. The Wadden Sea is an expansive and dynamic coastline, where natural processes operate largely undisturbed over vast areas. Wind and tides are forever reforming the Wadden Sea.

As a World Heritage Site, the Wadden Sea is on a par with other natural sites around the world:

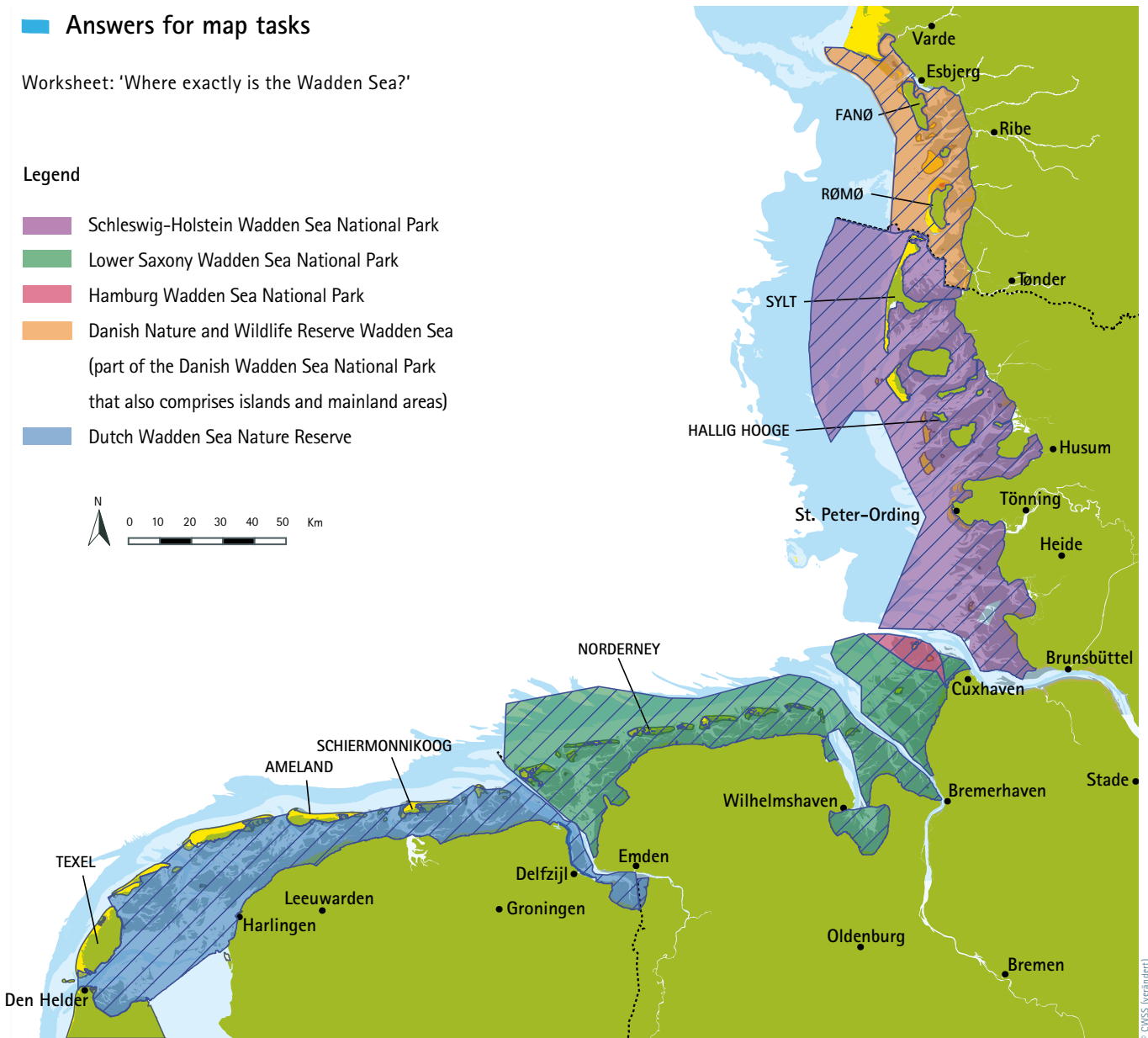
- ▶ **Grand Canyon, Arizona, USA:** a 450-kilometre-long canyon, formed over millions of years by the Colorado River
- ▶ **Great Barrier Reef, Australia:** at approximately 2,300 kilometres, the world's largest coral reef system
- ▶ **Central Amazon, Brazil:** an Amazon rainforest region, covering more than 60,000 square kilometres, the largest protected area in South America and one of the most biodiverse regions of the world
- ▶ **Banc d'Arguin, Mauritania:** a tidal wetland on the edge of a sandy desert, significant bird breeding area and wintering grounds for millions of migratory birds - also from 'our' Wadden Sea
- ▶ **Coto de Doñana, Spain:** a wetland in Andalusia, important stopover for migratory water birds
- ▶ **Yellowstone, USA:** a volcanic area in Wyoming in the Northwest of the USA, the first National Park in the world, founded in 1872
- ▶ **Serengeti, Tanzania:** a savannah, one of the most outstanding wildlife areas of Africa with huge herds of animals (wildebeest, zebra, antelope) as well as lions

Answers for map tasks

Worksheet: 'Where exactly is the Wadden Sea?'

Legend

- Schleswig-Holstein Wadden Sea National Park
- Lower Saxony Wadden Sea National Park
- Hamburg Wadden Sea National Park
- Danish Nature and Wildlife Reserve Wadden Sea
(part of the Danish Wadden Sea National Park that also comprises islands and mainland areas)
- Dutch Wadden Sea Nature Reserve



LEARNING STATION 3

TOURISM AND NATURE PROTECTION

CENTRAL QUESTION

Tourism and nature protection: can they work together?

KNOWLEDGE AND AWARENESS ACQUISITION

- ▶ Tourism affects nature in the Wadden Sea.

The interests of tourism do not always match protection objectives.

The Kitesurf World Cup in St. Peter-Ording is an example of the balance of tourism-economic and environmental interests.

MATERIAL

- ▶ Worksheet: Marc should surf somewhere else – why?
- ▶ Worksheet: Migratory birds threaten kite surfers
- ▶ Worksheet: Fact sheet 1

BACKGROUND INFORMATION

About this learning station

Pupils learn that tourist activities exert an influence on the region visited. Using the example of the Wadden Sea region they will work out the causes of existing potential for conflict and take different positions. The conflict between tourism and conservation is illustrated with the example of the fashionable sport of kite surfing. The annual 'Kitesurf World Cup' in St. Peter-Ording creates a real starting point. The pupils recognize the conflict between tourism as an economic activity and as a threat to the local nature.

Zones in the National Park

The subdivision into different protection zones regulates land use in the Dutch and Danish Wadden protected areas as well as in the German Wadden Sea National Parks. Depending on the country or the German state, the number of protected areas varies. But they all agree on one: the 'core zone', 'quiet zone' or 'zone 1' should be reserved just for nature. People are forbidden to go there, or only on marked trails, and sporting activities are prohibited. There are important breeding grounds for shorebirds and resting areas for common seals.

Schleswig-Holstein has two areas of the National Park: zone 1 (1,570 km²) is strictly protected, of which only 125 km² are completely free for use; in zone 2 (2,840 km²) limited use is permitted.

National Park vs. World Heritage Site

On the previous pages of this material you will find information on the topics of 'National Parks' and 'World Heritage Sites'. The relationship between these two terms is as follows: the designation of the German Wadden Sea as a National Park

represents the highest level of protection which is possible under German law. Based on the National Park as a protection instrument, the Wadden Sea was designated as World Heritage Site. This award does not offer additional legal protection. In the Netherlands and Denmark there are the relevant national legal measures to protect the Wadden Sea. In all three countries, the Wadden Sea receives the highest possible legal protection. This approach is the basis for the joint award by UNESCO, because it ensures that all three countries attach equivalent safeguards.

Kite surfing as a sport

With kite surfing, sportsmen are drawn through the water by a large kite on a surfboard. The sport requires not only strength and balance but also a certain amount of skill. Experienced kite surfers can manage daring jumps, where they can be borne through the air by their kite. The wide beaches of the North Sea coast and the often strong winds attract many kite surfers every year, so that the sport has become fashionable. In the Wadden Sea National Park, tourist and economic interests therefore come into conflict with the conservation objectives of the National Park. Kite surfing does not have to be harmful to the environment, but in the Wadden Sea the sport still causes problems. In part, this is because specific regulations do not exist everywhere. Another reason is that, although there are regulations, individual kite surfers go into areas which they should not use.

The Kitesurf World Cup in St. Peter-Ording

At the annual Kitesurf World Cup in St. Peter-Ording (SPO) the conflict between tourism and conservation is particularly clear. The event attracts crowds to the beaches, causing a lot of noise and waste. The municipality, the organizers and the local

conservationists are trying to jointly develop rules to make the event nature-friendly in future.

■ The sporting and tourist point of view

The Kitesurf World Cup in SPO, which has taken place every summer since 2006, has developed into probably the biggest kite event in the world. In 2014 there were 122 surfers from 26 nations at the start. From the perspective of the North Sea resort and the organizers of the World Cup, it is economically very profitable, and from the perspective of the kites and visitors it is a highlight of the year. Christine Bönninger, 2013 champion in slalom, enthused: 'The World Cup in St. Peter-Ording is the largest event ever and a really great event for us kites.' In particular, many young spectators are attracted to the sandbank of St. Peter-Ording to experience the casual surfer scene in connection with professional sports. There is a large area of stalls and shops, as well as an extensive supporting programme, with BMX and skate shows, Segway trips, a kite exhibition with material to test, as well as daily concerts and parties.

■ The 'bird's perspective' and the conservation point of view

Kites can be widely seen and heard as they go up to 30 metres above sea level. The surfers travel at up to 100 km/h across the water. Birds can mistake them for predators. Flocks of birds have been seen to fly in panic in many places in the Wadden Sea. As a result, the breeding success of birds may be reduced because they leave their nests alone. Migratory birds lose time for eating and use a lot of energy by constantly flying up, energy which they should be saving for their vast migration journeys.

During the ten days of the World Cup in St. Peter-Ording, the number of kites in the air is considerable, with countless kites in the air at the same time. On the ground it is no less turbulent. The event needs a 20,000 square metre beach area, which is transformed into an amusement park – in the heart of the National Park. Heavy vehicles roll across the beach during assembly and dismantling. Excavators and bulldozers are used to create a dike for flood protection. The World Cup in 2014 had a total of 215,000 spectators. The parties attracted up to 40,000 people each evening. Hours of traffic jams are normal on such days. The music is audible for kilometres till late at night. Some visitors dispose of their waste in the sea and the dunes are misused as toilets or illegal camping areas. The organizers do publicize the request to consider of nature, but there are no controls.

■ The legal situation

In Wadden Sea there are no standardized regulations for kite sports. The Netherlands, Denmark and the German National Parks in Lower Saxony, Hamburg and Schleswig-Holstein have different protection. According to the Lower Saxon National Park Act it is prohibited to fly kites as well as to kite surf, kite skate and kite buggy in the 'quiet' and 'intermediate' zones of the National Park. In the quiet zone no exceptions to this rule are possible. In the intermediate zone, however, the National Park Authority grants exemptions if this is compatible with the conservation objectives. In the 'transition zone' of the Lower Saxony Wadden Sea the neighbouring municipalities determine where kite sport is allowed or not. In 2012, 14 kite zones were approved in the Lower Saxony National Park on this basis. The National Park Authority in Schleswig-Holstein has less control options. In the Hamburg Wadden Sea National Park kite sport is only permitted on a dike section of the island of Neuwerk. It is not possible to surf there, however.

■ Solution to the conflicts?

Environmental organizations such as the Wadden Sea Conservation Station, NABU and WWF have made constructive suggestions for kiting in the Wadden Sea and also for the World Cup in St. Peter-Ording. A selection:

- ▶ All kites receive a water map, on which the permitted areas are marked. All other areas are to be avoided.
- ▶ Leaflets explain the rules in the National Park: for example, avoiding groups of birds and observing car parking limits. Waste has to be disposed of or put into the correct container.
- ▶ Signs, barriers and inspectors keep visitors from entering protected areas on beaches, salt marshes and dunes.
- ▶ Employees of the National Park or conservation organizations operate an information booth at the event; voluntary ecological year participants and federal volunteers spread out to raise awareness among kites.
- ▶ Light and volume are reduced somewhat. All costs incurred for the environment must be met by the organizer.
- ▶ A general legal regulation is needed for kiting in the Wadden Sea: in the protected area it should only be allowed in specifically designated areas, but not otherwise. So the sport would be allowed to continue, without compromising the nature of the Wadden Sea.

LEARNING STATION 4

CLIMATE-FRIENDLY TOURISM

CENTRAL QUESTION

What is climate-friendly tourism?

KNOWLEDGE AND AWARENESS ACQUISITION

- ▶ Tourism affects the climate through the production of CO₂.
- ▶ Different modes of travel have varying degrees of impact.
- ▶ There are possibilities to make your journey climate-friendly.

MATERIAL

- ▶ Worksheet (2 pages): Climate-friendly tourism – what is that supposed to be?
- ▶ Worksheet: Fact sheet 1

BACKGROUND INFORMATION

About this learning station

The concept of 'holiday' is known to the pupils from their own everyday lives. At this learning station, the pupils learn that a holiday trip produces 'greenhouse gases' and thus has an impact on our planet's climate. They will learn the meaning of 'climate footprint' and realize that the design of a holiday has an influence on climate friendliness. It is then possible for students to use their own ideas to test their theoretical design of a climate-friendly holiday.

Climate issues

Greenhouse gases such as carbon dioxide (CO₂), methane and nitrous oxide contribute to the greenhouse effect and promote global warming. The subsequent melting of the ice at the Earth's poles increases the water volume of the oceans and sea levels rise. For the coastal regions of the Wadden Sea, this means an increased risk of flooding. If sea levels rise permanently, the shoreline will change. Coastal landscapes and even whole islands could thus be lost. Climate change also has other consequences for the Wadden Sea (as it does for the whole world); for example, natural biological communities will change. For these reasons, climate protection is also a requirement to help protect the Wadden Sea World Heritage Site in the long term. Therefore, the reduction of greenhouse gases is considered to be climate protection as well as Wadden Sea protection.

The Netherlands, Germany and Denmark have a common target: by 2030, the entire Wadden Sea-region should be carbon neutral. To do this, many sectors of the economy and their behaviour have to adapt. Wadden Sea tourism is also concerned because it produces 1.5 million tons of CO₂ equivalent every year. This corresponds to an average of 15 kilogrammes of CO₂ equivalent per person per day, or 150 kilogrammes for an average trip. Tourism in the Wadden Sea is already climate-friendly

compared to others: a two-week all-inclusive trip to Mexico, for example, produces on average 516 kg of CO₂ equivalent per person per day. Nevertheless, there are still many opportunities for improvement for Wadden Sea tourism.

The 'climate footprint' of a trip rates the emission of greenhouse gases and is made up of five parts: arrival and departure, mobility, accommodation, food, leisure activities.

As part of a study on climate-friendly tourism in the Wadden Sea, WWF calculated the proportion of each part compared to total CO₂ emission. The most relevant therefore are arrival and departure (34%) and local mobility (30%). This is followed by accommodation (23%) and food (11%). The leisure programme produced the lowest emissions (2%). You can find comprehensive information on the WWF study at: www.wwf.de/watt/klitou watt

Note: In order to create a certain level of comparability, the effects of other greenhouse gases, such as methane or nitrous oxide, are often converted into 'carbon effect'. Several greenhouse gasses are therefore summarized in the term 'CO₂ equivalents'.

Mobility

About 80 percent of tourists travel to the North Sea by car. Climate-friendly travel by train and bus is less popular because it is considered uncomfortable or inconvenient. An example of climate-friendly mobility on site is the 'holiday bus' in East Friesland, where each ticket costs two Euros. Other regions allow the use of public transport with a tourist card. Baltrum, Juist, Langeoog, Spiekeroog, Wangerooge and Neuwerk are car-free islands. They provide infrastructure that makes the car unnecessary: island railways, horse-drawn carriages or bicycle rental. On larger islands, like Sylt and Amrum, visitors can rent electric vehicles.

■ Food

The choice of local, seasonal foods saves transportation and thus CO₂. It also applies to fish: purchasing from the local fishing boats is usually climate-friendly compared to imported goods from a factory ship. However, the fishing method should be environmentally sustainable. The WWF 'seafood guide' gives tips on the best choice. When it comes to meat consumption there are large differences in carbon footprint. What amount of greenhouse gases is discharged depends among other things on the species in question, the method of farming and cultivation, and the origin of the feed. Organic meats from local farms cause the lowest emissions.

■ Accommodation

High resource consumption and CO₂ emissions are associated with accommodation with un-insulated rooms or very extensive facilities (e.g. spa area, golf course, air conditioning). Thanks to increased environmental awareness in society, the Wadden Sea also has more and more well-equipped and yet climate-friendly accommodation. Ideally, the hosts have their house well insulated, work with green energy and use energy-saving appliances, as well as offer organic food from the region. Tents usually have the smallest climate footprint because they consume little or no electricity.

■ Leisure

Mudflat walks, swimming, horse riding, cycling, surfing, building sandcastles, collecting shells, watching birds. Most of the activities in the Wadden Sea only need a bit of muscle power and produce limited climate-damaging gases. Trips by motor boat on the other hand need fuel and thus produce CO₂. Leisure facilities such as swimming pools consume relatively large amounts of energy. To achieve the climate objective of the Wadden Sea region by 2030, many technical improvements are needed in these areas. For example, pleasure boats could use electric engines and green electricity.

■ National Park Partner

Many companies, including boat companies, landlords, mudflat guides or tour guides, as well as restaurateurs have already connected to the 'National Park Partners' programme. They support the protection goals of the Wadden Sea National Park by offering quality products and sustainable business in the region. They promote understanding of the rules of the National Park and offer their visitors a nature-compatible holiday experience.

LEARNING STATION 5

BUSINESS AND PEOPLE

CENTRAL QUESTION

What is the impact of tourism on the lives of people living in the holiday areas?

KNOWLEDGE AND AWARENESS ACQUISITION

- ▶ The Wadden Sea region is a cultural and economic area.
- ▶ Tourism is the main economic activity and livelihood of many locals.

- ▶ Tourism influences the lives of the locals.
- ▶ Tourist offers take into account economic, social and ecological interests.

MATERIAL

- ▶ Worksheet: How do visitors affect the lives of the locals?
- ▶ Worksheet: Which profession would you prefer most?

BACKGROUND INFORMATION

About this learning station

Tourism today represents the most important economic activity in the Wadden Sea region. Through interviews with six real coastal residents, pupils learn how tourism characterizes the lives of people and they compare their everyday life with the inhabitants of the coast. Official population figures and numbers of visitors from various coastal villages illustrate to the pupils how strongly these places are affected by tourism. Tourism creates many specific jobs in the coastal regions. The pupils look at the variety of career opportunities and develop ideas for their own tourism offers.

Wadden Sea tourism

In 1797 the first seaside resort opened on Norderney, Germany. The subsequent intensive development and expansion of the infrastructure changed the face of the region and local life. About 75,000 people now live on the islands of the Wadden Sea, and on the mainland coast around 3.3 million. They share their home with a significantly higher number of visitors: every year, more than 10 million people spend their holidays in Wadden Sea and, in addition, there are some 30-40 million day visitors.

The high number of visitors means that many coastal residents earn their living from tourism-related industries. In almost all of the regions there is a distinct difference between winter and summer seasons. Many of the businesses use the good financial income of the summer in order to compensate for times of lower visitor numbers, especially the winter.

The region as an economic area

The region bordering the Wadden Sea lives mainly from tourism. In the three Wadden Sea countries it is estimated that annual tourism amounts to 3.5-5.5 billion Euros.

The second most important economic activity in the region is agriculture. The marshland is used to rear dairy and beef cattle, or to grow grains and vegetables. The 'rural idyll' is also rare in the Wadden Sea region, as the industrialization of agriculture progresses. Grassland is rare and oilseed rape or maize dominates in many places.

In most places the fisheries of the North Sea coast are of relatively low economic importance today. But for the Wadden Sea protected areas it is an area of conflict. For example, the shrimp trawlers work with beam trawls and bottom trawls. This produces a lot of by-catch of young fish and invertebrates, as well as damaging the seabed. Protecting a natural underwater world is very difficult, even within the National Parks.

Other activities of high significance for the Wadden Sea region are shipping, port industries and power generation. Over the last 20 years the production of renewable energy has become increasingly important. Wind energy has had a particularly big impact on the North Sea coast.

LEARNING STATION 6

POLICY: A STRATEGY FOR THE REGION

CENTRAL QUESTION

How can tourism and nature protection be brought together?

KNOWLEDGE AND AWARENESS ACQUISITION

- ▶ The 'Wadden Sea' natural area is a valuable basis for tourism in the entire Wadden Sea region.

- ▶ Conservationists and tourism experts from the three Wadden Sea countries have developed a tourism strategy to make tourism sustainable and in harmony with nature conservation.

MATERIAL

- ▶ Worksheet: Tourism and Nature – can they work together?

BACKGROUND INFORMATION

About this learning station

The Wadden Sea has a high protection status and a high ecological value. At the same time, tourism on the coasts and islands of the Wadden Sea is one of the most important economic activities in the region. The pupils work on the contents of the strategy document 'Sustainable Tourism in the Wadden Sea World Heritage Destination'; this was developed and agreed on in 2014 through the joint work of representatives of the tourism sector and of conservation in all three Wadden Sea countries, i.e. trilateral and cross-sectoral.

Why a strategy?

Surveys have shown that for many visitors the beauty of nature is a decisive factor in their choice of resort. Motivated by the National Parks, tourism in the German part of the Wadden Sea generates an annual income of 150 million Euros. An intact natural landscape thus contributes to stable tourism and to employment and income for the region. To deal with the desired level of tourism and the resulting risks to the natural environment of the Wadden Sea, the three Wadden Sea countries have developed a common strategy. The objective is to protect the 'Outstanding Universal Value' of the Wadden Sea World Heritage Site and to keep it permanent. What was special about the collaboration was its trilateral (cross-border) and cross-sectoral (multi-disciplinary) character. Tourism organizations worked on the project together with government agencies and ministries, as well as conservation organizations such as WWF and the Dutch Waddenvereniging (Wadden Association) – quite a novelty!

The following texts are based on the 'Sustainable tourism in the Wadden Sea World Heritage Destination' strategy (www.waddensea-worldheritage.org).

The vision

The strategy should provide a framework to develop long-term and cross-border tourism in the entire Wadden Sea World Heritage Site.

Objective

Nature conservation and sustainable tourism development go hand in hand across the Wadden Sea World Heritage Destination. This relationship is characterized by appreciation, understanding, experience and active participation of all committed partners.

People who visit, live or work in any part of the Wadden Sea World Heritage Destination are aware of and appreciate the 'Outstanding Universal Value' and the unique landscape. They are committed to preserving these assets for the benefit of present and future generations. Local businesses and communities benefit both economically and socially from the high quality offers that support the integrity of the Wadden Sea and the ecological requirements of its World Heritage status.

World Heritage Site – opportunities and challenges

"The World Heritage status is the most prestigious award for natural and cultural heritage recognized worldwide. Most people living in proximity to or associated with the World Heritage site are proud of it. The inscription can also be a catalyst for partnership, civic pride, social capital and investment.

Its status as a World Heritage Site also provides local people with significant potential for the promotion of tourism. [...]

World Heritage is increasingly seen by visitors all over the world as evidence of quality and extraordinary experiences. The UNESCO designation brings considerable media attention and is a tremendous opportunity for the marketing and economic development and the entire Wadden Sea World Heritage Destination.

[...]

The evidence suggests that World Heritage visitors are more likely to be international, to be affluent, to spend more in the destination, to stay longer, and more interested in the values and the 'Outstanding Universal Value' of the destination (including how they can contribute to conservation or sustainability).

[...]

World Heritage tourists are also more discerning, and more demanding of higher quality standards. They expect a world-class destination to match its World Heritage credentials. The Wadden Sea as one coherent World Heritage property offers a host of new opportunities. The globally acknowledged value and unique selling point linked to the World Heritage status present a new opportunity for the tourism sector and local economies, which can only be exploited through a consistent, transboundary approach – underpinned by independent monitoring, strategic evaluation and cutting edge research."

■ Strategic objectives and measures in the Tourism Strategy

Strategic objectives

FIRST STRATEGIC GOAL

To ensure all stakeholders have a transnational understanding and appreciation of the values of the Wadden Sea World Heritage.

SECOND STRATEGIC GOAL

To ensure stakeholders take responsibility for and contribute to the protection of the 'Outstanding Universal Value' through involvement in tourism management and product development.

Measures

1. Awareness raising and visibility amongst stakeholders of the World Heritage and its benefits for conservation, economy and society.
2. Providing stakeholders with the capacity and tools to manage tourism efficiently, responsibly and sustainably based on the local context and needs (for example, qualification and training, best practice examples, education, information sharing, networking).
3. Developing educational resources and to enhance (local) pride in the Wadden Sea World Heritage.
4. Common tourism management and planning schemes for the entire World Heritage in line with the 'Outstanding Universal Value' of the property and using a destination approach.
5. A strong Wadden Sea World Heritage brand as a starting point for development of quality products, services and facilities (common standards and quality schemes).
6. A sustainable Wadden Sea World Heritage Destination, building upon transboundary cooperation and partnerships.

THIRD STRATEGIC GOAL

To ensure the tourism sector provides consistent communication and marketing and promotes the high quality tourism offers of the Wadden Sea World Heritage Destination.

7. Development of a joint marketing approach (products, services, facilities) for the Wadden Sea World Heritage Destination, which contributes to the aims of World Heritage.

8. Integration of World Heritage marketing in existing regional and national marketing activities.

9. Continuation of joint communication and information activities to raise profile and visibility of the Wadden Sea World Heritage Destination locally, nationally and internationally.

FOURTH STRATEGIC GOAL

To ensure nature conservation, tourism and local communities benefit from the World Heritage Status.

10. Increased engagement of stakeholders in transnational activities on World Heritage (transboundary partnership and networking, cooperation with other World Heritage sites and UNESCO programmes).

11. Promoting World Heritage and sustainable tourism as an instrument to maintain and enhance quality of life in local communities and sustainable regional development.

12. Generating financial revenue from high quality tourism to stakeholders and to the protection of the Wadden Sea World Heritage.

IMPRINT

- ▶ Publisher: WWF Deutschland, Berlin
www.wwf.de
- ▶ Editor: Anja Szczesinski, WWF
Evelyn Schollenberger, National Park Administration
Schleswig-Holstein
- ▶ Concept: .natureConcept. Peter Szekeres
Collaboration: Ilka Wäsche, Peter Szekeres, Jutta
Kiesewetter, Melina Wiedera, Lena Fuhlbrügge
- ▶ Text: Noline Haas, Florian Wichers, Dr. Johanna Prinz
- ▶ Expert advice:
Dr. Harald Marencic, Common Wadden Sea Secretariat
Ulrik Geldermann Lützen, Vadehavets Formidlerforum
Dr. Hans-Ulrich Rösner, WWF, Jaco Spek, Ecomare Texel
Marc ter Ellen, Informatiecentrum De Noordwester
- ▶ Photos: Unless otherwise stated, the photo rights
belong to WWF
Cover photo: Martin Stock
- ▶ Layout: skalierbar Barbara M. Duraj
- ▶ Translation: Mark Sixsmith, Environmental English
- ▶ Available from: WWF Wattenmeerbüro
Hafenstraße 3 / D-25813 Husum
Tel. +49 (0)4841 668530 / husum@wwf.de
- ▶ Download: www.wwf.de/watt/bildung
- ▶ © May 2015 WWF Deutschland, Berlin
- ▶ Climate neutral printing, mineral oil-free inks,
100% recycled paper

Thanks to Bingo-Umweltlotterie
Schleswig-Holstein for their support
in the financing of this material.

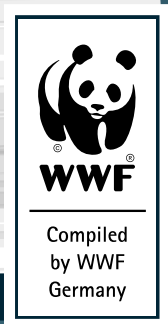


The publication is part of the Interreg IVB PROWAD
project - Protect & Prosper co-financed by the
European Regional Development Fund.



NAME: _____

CLASS: _____



WORLD HERITAGE TEACHING KIT

Sustainable tourism in the Wadden Sea



United Nations
Educational, Scientific and
Cultural Organization



The Wadden Sea
World Heritage
since 2009



WADDEN SEA
WORLD HERITAGE






YOUR TASK CHECK LIST








KEEP TRACK

■ Tick which tasks you have already completed.







LEARNING STATION 1 – DESTINATION NORTH SEA

- TASK 1**  Identify your holiday type.
- TASK 2**  Make a list of activities of North Sea holidaymakers.
-  Write a list of the infrastructure that is necessary for it.
-  Match the holiday types to the various infrastructure.





LEARNING STATION 2 – WADDEN SEA WORLD HERITAGE

- TASK 3**  Read the fact sheet and fill in the gaps in the text.
- TASK 4**  Draw the national borders using an atlas.
-  Label the popular places on the map.
-  Label the protected areas of the Wadden Sea.
- TASK 5**  Write down the special features of the Wadden Sea World Heritage Site.
-  Write a text for someone who has never been to the Wadden Sea.
-  Write down the problems that can be caused by tourists.

LEARNING STATION 3 – TOURISM AND NATURE PROTECTION

- TASK 6**  Explain why Marc should not kite surf on the beach.
-  Read the fact sheet and explain what a core zone is.
-  Find out the difference between a National Park and World Heritage Site.
- TASK 7**  Read the newspaper article and explain the headline.
-  Discuss with others the advantages and disadvantages of the Kitesurf World Cup.
-  Write a letter to the editor with your opinion of the Kitesurf World Cup.

LEARNING STATION 4 – CLIMATE-FRIENDLY TOURISM

- TASK 8**  Write down the features of climate-friendly tourism.
- TASK 9**  Compare the journeys and identify the ones with high CO₂ emissions.
-  Write down ways of improving holiday travel.
-  Compare the CO₂ emissions and put together a climate-friendly holiday.

LEARNING STATION 5 – BUSINESS AND PEOPLE

- TASK 10**  List the differences in daily life between you and one of the interviewees.
-  Read all the interviews and write the similarities and differences between you and the interviewees.
-  Compare the number of tourists with the number of inhabitants and think about the impact of the tourists.
- TASK 11**  Write down what profession you would prefer most in the Wadden Sea.
-  Create a tourist offer for holidaymakers in the Wadden Sea.
-  Plan an offer that is nature and tourist friendly at the same time.

LEARNING STATION 6 – POLICY: A STRATEGY FOR THE REGION

- TASK 12**  Assign a statement to each strategic objective.
-  Think about measures that you can use to achieve the goals of the tourism strategy.
-  Put together the challenges that result from the cooperation between three countries and two sectors.
- TASK 13**  Use all the previous information and create an advertising poster for a holiday in the Wadden Sea.

LEARNING CHECK

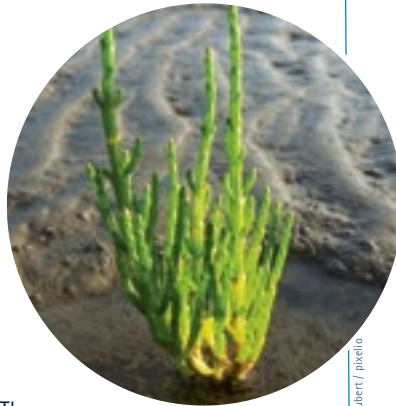
-  Learning Check: Check your knowledge.

FACT SHEET 1

BACKGROUND INFORMATION

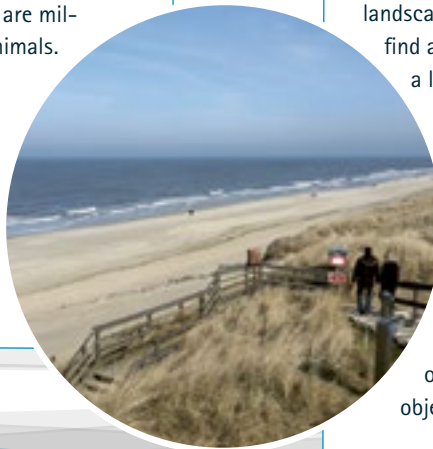
WADDEN SEA NATURAL AREA

On the dike, overlooking the North Sea, you are on the edge of the Wadden Sea. Before you are salt marshes and the beach. Because they are flooded from time to time, the soil is saline. Only a few highly adapted plants such as glasswort can survive here.



At high tide the sea returns. Then only a few sandbars protrude out of the water. Common seals and birds gather on them. At low tide the sea pulls back, revealing approximately 4,500 square kilometres of sand and silt: the mudflats. There are millions of shells, worms, crustaceans and other animals.

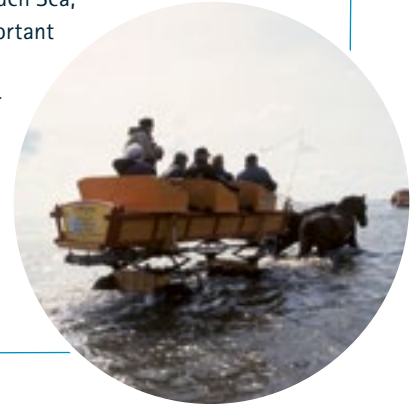
The North Sea islands form the outer border of the more than 11,500 square kilometres of Wadden Sea, which stretches along 500 kilometres of the coast. Tides constantly change this landscape. They move tidal creeks and sandbars, shape coastlines and even move islands.



© Thomas Schüner / pixelio

WADDEN SEA ECONOMIC AREA

Tourism is by far the most important industry in the Wadden Sea. It brings in approximately 3 to 5 billion Euros every year. Not so much in the Wadden Sea itself, but certainly in the region surrounding the Wadden Sea, other industries play an important role, in particular shipping, agriculture, fisheries and energy production. For a while oil and gas will still be supported, but much more wind and solar energy is being generated on the North Sea coast now.



NATIONAL PARKS

National parks are the most strictly protected areas in many countries. In them you can find unique and rare landscapes. Many plant and animal species can only find a home in National Parks. Humans can learn a lot here about nature, but may not intervene because in a National Park the motto is 'Let nature be nature'.

The Wadden Sea also has National Parks, with three in Germany alone. There is always conflict with oil production, which has been approved at one location, but at the same time violates the goals and ideas of National Parks. Fishing also does not fit the objectives of National Parks.

WORLD HERITAGE SITE

The World Heritage Site title is awarded by a committee of the 'United Nations Educational, Scientific and Cultural Organization' (UNESCO). World Heritage Sites also include cultural heritage - currently more than 700 buildings or other cultural sites. A detailed application must show that an area has 'Outstanding Universal Value', is largely undamaged and has effective long-term protection. The information contained in the application is checked thoroughly. If a country neglects the protection of a World Heritage area, UNESCO can also take back the award. The successful protection of the Wadden Sea means it can wear this badge. Apart from the Wadden Sea, Germany's other World Natural Heritage Sites are the oldest and most valuable Ancient Beech Forests of Germany and Messel Pit, a unique archaeological site with many fossils.



CLIMATE FOOTPRINT

The WWF tourist climate footprint shows how many climate-influencing gases are passed into the atmosphere by certain journeys. The main part is made up of CO₂, but the effect of other gases is added. The coloured areas show the influence that arrival and departure, accommodation, food and local activities have respectively. The more climate-changing gases that are produced, the greater the surface and the total footprint. Thus, various journeys can be compared at a glance.

FACT SHEET 1

BACKGROUND INFORMATION

TOURISM IN THE WADDEN SEA

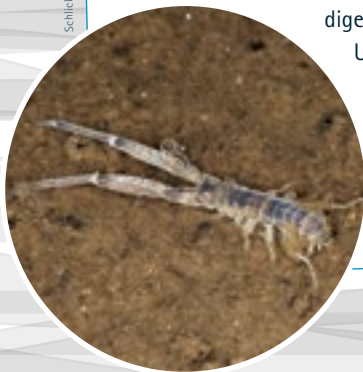
Every year about 40 to 50 million people visit the Wadden Sea. The 3 million coastal and island residents have adapted to this and many of them live from it. Since the mid-19th century enough visitors have come to make tourism good business. The first seaside resort was opened in 1797 and since then the lives of most locals have revolved around visitors. They spend their money on hotels and holiday homes, restaurants and souvenir shops, guided nature or town tours. And, more recently, sustainable holidays have also made the region interesting for visitors. Many people appreciate the treasures of nature and come because of the coast, so nature tourism is becoming increasingly important.



ON THE SEABED

A single square metre of mudflat can contain 100 lugworms, 300 cockles or 60,000 sandhoppers. They all find enough to eat because the sea water and the tidal flats both contain a lot of organic material. Living or dead organic matter washes back and forth on the tides.

The burrow of lugworm goes about 30 centimetres under the ground. The worm takes sand and digested organic matter into its U-shaped tube. The 'clean' sand is passed out as a spaghetti-like cast. In the Wadden Sea there are about 30 times as many lugworm as there are people in the world.



Schlicktreibs © Frank Hecker

ZONES IN THE NATIONAL PARK

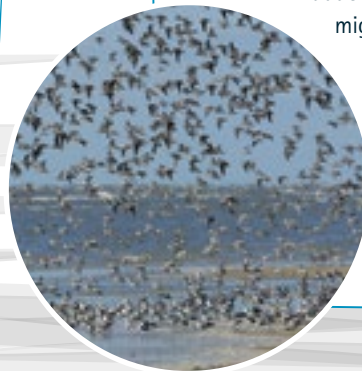
In Germany, the Wadden Sea is protected as a National Park and divided into zones. In Denmark and the Netherlands there are also different zones in the Wadden Sea protected areas. These are different to some extent, but in one they all agree: there are core zones, also known as zone 1. A core zone is an area which no one may enter. Here, nature has priority and should be left entirely alone. In the core areas there are sandbanks where common seals rest, or resting and breeding grounds for birds.



MIGRATORY BIRDS

Every year around ten million wading birds and waterfowl use the Wadden Sea as a resting place and 'filling station'. They land, rest, feed to build up their energy reserves and then fly on. Arrive - rest - eat - keep flying is their motto on the way to their breeding grounds and again on their way back. Therefore, the

Wadden Sea is also called a 'hub' of bird migration. Without the Wadden Sea many migratory birds would not have enough fat reserves for their long flight. Right in the middle they would run out of energy. Typical migratory birds in the Wadden Sea are Brent Goose, Dunlin and Knot.



NURSERY

Many North Sea fish hatch from the egg in the Wadden Sea or come into the mudflats as very young fish. That is why it is also called the 'nursery' of the North Sea. In particular it is Plaice which develop in the Wadden Sea, but also many Herring and Sole. The shallow water is warmer than the open sea and the highly fluctuating water levels keep big fish away. Without predators, but with plenty of food, the young fish grow quickly.

For many birds, common seals and grey seals, the Wadden Sea is also a nursery. At the end of May the approximately one-month breeding season of the female common seal begins: they give birth at low tide on sandbanks in the mudflats. Before the first flood comes their young must learn to swim.



WHICH HOLIDAY TYPE ARE YOU?

People go on holiday for different reasons. Often people have the same holiday location but for very different interests. Research and marketing describe holiday types to better respond to developments in tourism. Imagine that you could take your pick of any holiday. What would be your dream holiday?

1 WHAT WOULD YOU GET UP EARLY FOR?

- A** For a good wind and great waves for surfing. Or for a long jog.
- B** For sunrise on the beach, when the air is so nice and salty.
- C** For a walk, where I can watch some birds.
- D** For the breakfast table, where friends and family are already waiting for me.

2 WHAT'S THE MOST IMPORTANT THING FOR YOU ON HOLIDAY?

- A** Lots of exercise.
- B** To pamper myself.
- C** See many animals.
- D** Activities with the family.



© Ecomare / Oscar Bos

3 WHAT DO YOU LIKE TO EAT ON HOLIDAY?

- A** Light food, so I can get moving immediately.
- B** Special meals in expensive restaurants.
- C** Local cuisine, preferably on the move.
- D** Doesn't matter, the main thing is to be together.

4 WHAT IS A GREAT HOLIDAY HIGHLIGHT FOR YOU?

- A** To set a new bike or surf record.
- B** A visit to a beauty spa.
- C** To see a real grey seal.
- D** Time to talk with friends.



© Olga Meier-Sander / pixelio

5 WHAT DO YOU DO WHEN IT RAINS?

- A** I am already wet from the surf.
- B** I go for massage.
- C** Continue hiking – the rain will pass!
- D** I organize a games afternoon.

6 WHERE WOULD YOU STAY ON A DREAM HOLIDAY?

- A** In a youth hostel or a sports hotel.
- B** In a 4-star hotel, all inclusive.
- C** In a tent or a hut.
- D** In a holiday home with a large living room.

7 WHAT DO YOU DO DURING THE JOURNEY?

- A** Arm wrestling or weight training
- B** Sleep for a few hours.
- C** Check the camera and backpack.
- D** Play 'categories game' (city, land, river).

TASK 1

Tick the answer to each question which best describes you. Total up which letter you most frequently ticked. On the next page you will find the answer to which holiday type you match up to. If you have the same total for more than one letter, you are both holiday types.

HOLIDAY TYPES IN THE WADDEN SEA

A

SPORT

On holiday you would prefer to do as much sport as possible. You find sitting inside really boring. You can be found surfing on the beach, sailing on the North Sea, or on a bike. You would love to go jogging on an island where there are few or even no cars. You prefer bicycle rental to room service. You know the zones of the National Park by heart, so that you always know where kite surfing or land sailing are allowed.



© Rainer Sturm / pixelio



© Julien Christ / pixelio

B

HEALTH SPA

On holiday you cannot be comfortable enough. You put great emphasis on doing something good for body and soul – preferably in a luxury hotel. By the North Sea you like the sea air, the sound of the sea and the wide open view. Pure relaxation! You like to try new spa services like beach yoga, fasting cures or Ayurveda. Apart from long beach walks and shopping you don't move from your hotel room.

C

NATURE

Nature is not just a beautiful backdrop for you, but the main reason for a trip to the Wadden Sea. You are curious and want to get to know at least one new plant or animal species on holiday. The camera is your constant companion and even in the rain you venture out of the front door. The wading birds make getting wet no problem. Most of all you love to go by boat to the seal banks or visit the Brent Goose Days in the Wadden Sea. On your next holiday you definitely want to find a starfish.



© Martin Stock

D

FAMILY

Most of all you love to be with your family or a group of friends. At last you have some time for talking and joint activities. When it rains, you organize a visit to the pool for everyone and on the beach you book a beach chair for the whole holiday. You already know the museum in your holiday destination, but you definitely still want to visit the National Park House. You want to spend the next holiday on a holiday farm.



© Rainer Sturm / pixelio

A DESTINATION FOR ALL

HOLIDAY IN THE WADDEN SEA WORLD HERITAGE SITE

Put your feet up in a beach chair and enjoy the sound of the surf. A shell-studded sand castle defends against the tide. Walk barefoot through the mudflats at sunset. But that's not all!

For over 100 years the North Sea coast has been an increasingly popular holiday destination with its mudflats and islands. Why? Because the sea breeze refreshes body and mind! Whether sporty or leisurely along the dikes, whether cycling or 'climate-walking' on the promenade overlooking the sea: here you can improve your health and fitness without great effort. And if maybe you want a bit more movement, you can try something else: swimming, surfing and beach volleyball are just some of the sports where you can do in or near water.

■ Health spa for body and soul

The modern hotel industry on the North Sea meets all desires: enjoy the varied regional cuisine, some places with star chefs. Relax in the pool and sauna or have a massage. Try the spa specialty of the North: thalassotherapists treat your skin and soul with seawater, algae and mud. Of course there are also holiday homes and camp sites of all sizes and locations!



However, the unique landscape of the Wadden Seas must not remain just a backdrop: its naturalness and breadth can be experienced at any time on, in or near the water, on a bike or on foot. Immerse yourself in the flora and fauna with a tour of mudflats and salt marshes. The numerous information centres of the Wadden Sea give you background information and interesting stories about its protection as a National Park and why it is recognised as a World Heritage Site.



■ The little ones are not forgotten

The beach is a mega sandbox par excellence - including a natural water playground and mussel treasures. In addition, animal parks and amusement parks offer things to marvel at, play with and learn about. There is also the lure of children programmes in which the next generation can learn a lot about the environment.

Parties, concerts, cinema, lectures and readings are part of the diverse cultural programme for both locals and visitors.

As diverse as the life in the Wadden Sea National Park, so varied is the offer for you. There is a lot to offer between mudflat, beach and dune.

TASK 2

-  Make a list of activities of North Sea holidaymakers.
-  Write a list of the infrastructure that is necessary for it (e.g. hotels, roads, beach chair rental)



Do the first and second part of this task and note which holiday types from Task 1 use which infrastructure. Comparisons: which holiday type needs the most infrastructure? What is the difference between the infrastructure?

ARE THE MUDFLATS ONLY MUD?

Every year mudflat guide Klaus Hansen leads hundreds of visitors through the mudflats. For many it is a very special experience for which they have to wait until the seabed is exposed. What seems boring at first glance turns out on closer inspection to be a teeming habitat. Imagine that you are out with Klaus. From time to time some of Klaus' statements are lost on the wind.

SO, AND THIS IS A _____-CAST!
THE WORM IS ABOUT 30 _____ DEEP,
SAFE FROM BIRDS AND FISH. HIS HOLLOW LOOKS LIKE
A 'U'. SAND COMES IN ONE OPENING, AND THE LUGWORM
PASSES IT OUT OF THE OTHER. BUT IT IS MERELY SAND,
EVEN VERY CLEAN: THE LUGWORM HAS DIGESTED THE
'DIRTY' _____ STUFF.



TASTY, ISN'T IT? FOR BIRDS THAT'S
LIKE A BUFFET! EVERY YEAR AROUND 10
MILLION MIGRATORY BIRDS COME HERE, FOR
EXAMPLE, _____, DUNLIN AND KNOT.
THE WADERS AND WATERFOWL SERVE THEMSELVES HERE
FOR THE ONWARD FLIGHT TO THE COASTS FURTHER
SOUTH, TO AFRICA - BECAUSE SO MUCH FOOD IS
FOUND COMPARED TO ANYWHERE ELSE, THE WADDEN
SEA IS ALSO CALLED A '_____
...FOR MIGRATION'.

IN THE _____
THERE ABOUT 30 TIMES AS MANY
LUGWORMS AS PEOPLE IN THE WORLD.
UNDER THE SQUARE METRE ON WHICH I STAND
THERE COULD BE HUNDREDS OF THEM. OR
300 _____ OR 60,000
CRUSTACEANS. I'LL START DIGGING ...

... AND
THIS IS A TIDAL CREEK.
IN THERE OUR ANIMAL FRIENDS SIT
AT LOW TIDE, NOT ON DRY LAND. MANY FISH
HAVE THEIR OFFSPRING HERE - THE MUDFLATS
ARE SAFE FROM LARGER FISH BECAUSE OF THE
HIGHLY CHANGEABLE _____
THAT'S WHY THE WADDEN SEA IS CALLED
THE _____ OF
THE NORTH SEA!



WELL, SO THAT'S OUR MUDFLATS.
IN A FEW HOURS THE LAND WILL AGAIN BE
UNDERWATER. BUT THE WADDEN SEA EXTENDS RIGHT UP
TO THE DIKE. THE BEACH AND THE _____ ARE
ALSO INCLUDED. THEY ARE SO SALTY THAT ONLY SPECIALLY
ADAPTED PLANTS SUCH AS THE _____ CAN GROW.
WE WILL HAVE A CLOSER LOOK AT THEM AT THE END
OF THE TOUR ... LET'S GO!



TASK 3

Fill in the gaps in the text. For help with the answers, have a look at the texts from the fact sheets 'On the seabed', 'Migratory birds', 'Nursery' and 'Wadden Sea natural area'.

WHERE ACTUALLY IS THE WADDEN SEA?



TASK 4

- Using an atlas, draw the country borders on the map.
- Write the names of the countries on the map. Also mark these popular resorts on the map: Ameland, Fano, Schiermonnikoog, Rømø, Texel, Sylt, St. Peter-Ording, Cuxhaven, Norderney, Hallig Hooge, Ribe and Husum.

- The World Heritage Site area consists of several protected areas. Mark the five protected areas on the map:
 Schleswig-Holstein Wadden Sea National Park
 Lower Saxony Wadden Sea National Park
 Hamburg Wadden Sea National Park
 Danish Nature and Wildlife Reserve Wadden Sea
 Dutch Wadden Sea Nature Reserve

AWARD WINNING? WHY?

WORLD HERITAGE SITE: CONSERVATION OSCAR FOR THE WADDEN SEA

Whether for screenplay, supporting actor or film music, whoever gets an Oscar in Hollywood is respected around the world for their unique performance. Likewise with the title 'World Heritage Site', which is awarded for unique and well-protected nature.

In 2009, UNESCO declared the Wadden Sea to be such a 'superstar' of natural areas. There are only about 230 World Heritage Sites (as of 2015). Each is unique, all are protected and many are very famous. The award of World Heritage Site is a great honour, but also means a great responsibility to protect what is, after all, a place unique in the world.

The Dutch-German-Danish Wadden Sea is the world's largest contiguous area of tidal mudflats. It is only a few thousand years old and thus still very young for a landscape. Wind and waves make constant change.



© Ralf Roletschek / wikipedia

All living organisms have to adapt to these ever-changing conditions, which more than 10,000 animal

and plant species have managed to do. The many animals and plants of the mudflats provide food for approximately 10 million migratory birds, making the Wadden Sea indispensable for the preservation of global biodiversity.

In Germany, the Wadden Sea is strictly protected as a National Park. In Denmark the Wadden Sea is also a National Park, and in the Netherlands a large Nature Reserve. Thus, the protection and preservation of the Wadden Sea is secured for the future.

WORLD HERITAGE SITES AROUND THE GLOBE

The Great Barrier Reef (Australia) is the largest 'structure' in the world built by living creatures. Corals have created a landscape of sea and reef islands, which is larger than Great Britain. It is home to whales and sea turtles, countless fish and many other marine animals.



© Richard Ling / wikipedia

The Serengeti (Tanzania) is one of the last great wilderness areas in Africa. It is home to many of the animals that you know from zoos and books, for example, elephants, zebras, giraffes, lions, wildebeests and hyenas.



© Kivanc / wikipedia



© Chen Siyuan / wikipedia

The Grand Canyon (USA) is huge. At 450 kilometres, it could cut across Germany and divide it into two. The Colorado River has spent millions of years carving this giant canyon from the rock.

TASK 5

Write at least five things that are special about the Wadden Sea World Heritage Site.

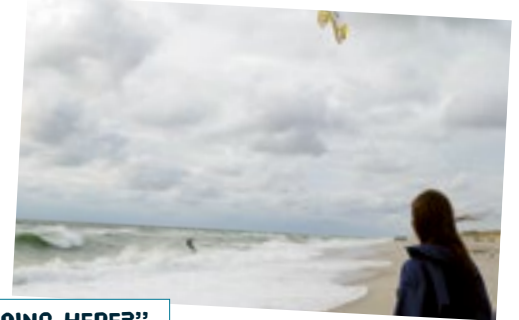
Write a short text for someone who has never heard of the Wadden Sea. Explain what the Wadden Sea is and what it is so special about it that it was named a World Heritage Site.

Use the text about World Heritage Site around the globe to orientate yourself.

Declaring a natural area as a World Heritage Site creates a lot of attention and possibly attracts more tourists to it. Think about what problems could be caused and write three examples.

MARC SHOULD SURF/KITE SOMEWHERE ELSE - WHY?

Marc has found a place for kite surfing. He builds his kite on the beach – the kite which is to pull him on his surfboard across the water. The weather is perfect, he is looking forward to the start. He is approached by Lea, a young woman with a clipboard under her arm and binoculars around her neck.



LEA: "HI. GOOD DAY FOR KITING?"

MARC: "OH YEAH! AND WHAT ARE YOU DOING HERE?"

LEA: "BIRD COUNTS. I'M DOING A VOLUNTARY ECOLOGICAL YEAR HERE."

MARC: "COOL."

LEA: "SAY ... COULD YOU KITE SOMEWHERE ELSE?"

MARC: "SURE. I DISCOVERED THIS BEACH HERE WHILE JOGGING AND IT'S JUST PERFECT. AM I DISTURBING YOU?"

LEA: "NOPE, I DON'T CARE. BUT THE ANIMALS DO."

MARC: "REALLY? BUT I DON'T MAKE ANY NOISE, NO MESS ... I TAKE MY RUBBISH AWAY AND EVERYTHING."

LEA: "THAT'S GREAT, YOU'RE MORE CONSIDERATE THAN MANY OTHERS. BUT THE KITE IS STILL A PROBLEM."

MARC: "WHY'S THAT? IT FLIES HIGH ABOVE THE WATER?"

LEA: "YES, BUT THE BIRDS THINK IT'S A PREDATOR AND THEY PANIC. THEY BURN UP A LOT OF ENERGY AND MAYBE THEY WON'T BE ABLE TO START THEIR FLIGHT SOUTH THEN."

MARC: "OH RIGHT, I DIDN'T KNOW THAT. SO KITE SURFING IS PROBABLY FORBIDDEN HERE?"

LEA: "YEAH. WE ARE RIGHT IN A PROTECTED AREA, IN THE WADDEN SEA NATIONAL PARK. ANYTHING THAT DISTURBS ANIMALS AND PLANTS OR HARMS THE LANDSCAPE IS PROHIBITED HERE. IN THIS ZONE YOU CAN'T SURF, BUT A FEW KILOMETRES AWAY THE NATIONAL PARK AUTHORITY ALLOWS KITE SURFING."

MARC: "WHAT DO YOU MEAN BY ZONE?"

LEA: "THE NATIONAL PARK IS DIVIDED INTO DIFFERENT PROTECTION ZONES. THE CORE ZONE - SOMETIMES CALLED ZONE 1 OR EVEN THE QUIET ZONE - CANNOT BE ENTERED, OR MAYBE JUST ON PATHS."

MARC: "ALL RIGHT, I BETTER GET OUT OF HERE THEN. TOO BAD THAT I DIDN'T KNOW THAT BEFORE."

LEA: "THANK YOU - ALSO ON BEHALF OF THE BIRDS. CAN I HELP YOU WITH YOUR CHUTE?"

MARC: "GREAT, THANKS!"



Alle 3 Fotos © Schutzstation Wattenmeer




A YEAR FOR THE ENVIRONMENT

If you want to work in the environment for a few weeks, or longer, after school then you can work voluntarily in many information centres, conservation organisations, or even in the National Park Administration.

TASK 6

 Write about why Marc cannot kite surf on the beach.

 In addition, explain the importance of the core zone in the Wadden Sea National Park. To find out what a National Park really is, have a look at the fact sheet.



Research the differences between a National Park and a World Heritage Site. For information, see the fact sheet.

Migratory birds threaten kite surfers

Conflicts of interest around the Wadden Sea

St. Peter-Ording. Conservationists are calling for restrictions on the Kitesurf World Cup to protect migratory birds. The organizers should tighten regulations and controls. But they fear lost revenue, as do representatives of the local economy.

The World Cup has taken place since 2006 and today is the biggest kite surf event in the world. In 2014 there were 122 surfers from 26 nations at the start and there were 215,000 spectators. The associated programme has really grown: 20,000 square metres attract many stalls and shops, BMX and skate shows, a kite exhibition as well as daily concerts and parties. The visitors also benefit the region, which lives mainly from tourism.

But: the whole thing takes place in the National Park, a high-level protected area and part of the Wadden Sea World Heritage Site. Therefore environmentalists have good reason to complain: the loud music late into the night, the abuse of dunes as a campsite and toilet, kilometres of traffic jams, as well as heavy lorries and construction vehicles that roll across the National Park before and after the event.

Ultimately, the World Cup is only a highlight of the conflict of interest: despite a ban, the kites repeatedly endanger birds by coming too close to their resting and breeding areas. With speeds up to 100 km/h, these sportsmen race across the water with their kites and perform acrobatic stunts. This panics the birds, and they may lose their offspring or use so much energy that they



will not survive the journey to their wintering grounds.



The legal provisions are unclear, the interests many. A solution is not in sight, despite numerous constructive suggestions from both sides. But mudslinging doesn't happen on the mudflats - the negotiations are generally carried out in good spirit.



© Martha Hoppe

TASK 7

-  Explain the heading of the newspaper article.
-  In pairs or in groups, discuss the article and write your opinion: should the Kitesurf World Cup continue to take place? Make at least two arguments for or against.

-  Solve the first two parts of this task.
-  Write a letter to the editor about the article. A letter to the editor is a written expression of opinion about a subject. It agrees with, contradicts, supplements, or corrects what was in an article and is then published in the newspaper in the following days. Write a letter to the editor, expressing your opinion.

CLIMATE-FRIENDLY TOURISM – WHAT IS THAT SUPPOSED TO BE?

■ For many people, holiday time is about switching off your brain and doing some exercise. Unfortunately, the environment is often heavily affected. Most people only take a few weeks of holiday a year, and many people in the world don't even have any at all. Nevertheless, tourism generates about 5 per cent of total greenhouse gases (such as CO₂), which speed up climate change. The subsequent faster rising sea levels could permanently flood the North Sea mudflats, salt marshes and even whole islands. Climate protection is thus also Wadden Sea protection. Not every holiday generates the same amount of greenhouse gases. Here are four examples of leisure travel and what climatic impact they have.



© Photo Toak Kit, Ameland

HOLIDAY FOR EVERYONE

It's the highlight of the year for Lara (11), Finn (9) and their parents: every August they go on holiday by car for 16 days to Norddeich. Almost every day they go to the beach, with swimming and picnic things in the boot of the car. But visiting festivals, adventure parks and day trips are also on the family programme. In between, the four of them relax and eat in the apartment, or from time to time in a restaurant. Back at home in Hamburg the family remains relaxed for a while – and they all look forward to the next summer holidays.

CARBON DIOXIDE PER PERSON

TRAVEL THERE AND BACK: 30 KG
ACCOMMODATION: 60 KG
FOOD: 17 KG
ON-SITE ACTIVITIES: 6 KG
TOTAL HOLIDAY: 113 KG



FIRST CLASS HOLIDAY

Emma Weinhuber (29) relishes having a holiday that is all about her – without stress. Twice a year she likes to be pampered on Sylt in an expensive spa hotel, enjoying beach saunas, massages and the light cuisine of Sylt chefs. In the evening she lounges on the beach, enjoys peace, ocean waves and sea air. After four days it is a direct flight back to Munich, business class of course. In her luggage she almost always has new ideas for her business – and a new souvenir for her desk.

CARBON DIOXIDE PER PERSON

TRAVEL THERE AND BACK: 407 KG
ACCOMMODATION: 60 KG
FOOD: 47 KG
ON-SITE ACTIVITIES: 0 KG
TOTAL HOLIDAY: 514 KG



© Günter Menz / fotolia

CLIMATE PROTECTION ON HOLIDAY - HOW DOES THAT WORK?

TIP

If you want to protect the climate, use the 'climate footprint'. You can compare how much carbon dioxide is produced during a holiday - for example, road journey, air travel, food transportation or the operation of buildings. In choosing your holiday, you can contribute to climate protection.



© Olga Meier-Sander / iStock

HOLIDAY TIME = ADVENTURE

When the holidays start, it is clear for Jasmin (26) and Emre (25): let's get out of Kassel, pure greenery, anywhere. The main thing is freedom! This time, they end up with Jasmine's old VW van on a campsite near Cuxhaven. There they enjoy summer, nature and food fresh from the farm. Hot meals are only available on the camping stove, there are hiking and cycling trips every day. And Jasmine's old VW van has a break too - except for a trip to the Natural History Museum. After eight days they head south again. And they are sure: at some point they will come back to the North Sea.



CARBON DIOXIDE PER PERSON

TRAVEL THERE AND BACK: 80 KG
ACCOMMODATION: 0 KG
FOOD: 0 KG
ON-SITE ACTIVITIES: 3 KG
TOTAL HOLIDAY: 83 KG



© Fotomare / Syntex Dijkken

ENERGY BURNING HOLIDAY

Marc (17) gets a kick from sport. Since last summer, kite surfing has been the big thing for him. Therefore, this year he is travelling from Dresden by train to St. Peter-Ording, where the World Cup is taking place. For eight days he rides the waves. And when the tide is out, jogging and cycling are his thing. His budget hotel is almost only for sleep; in the evening he eats in fast food restaurants or has takeaways. After the holiday his savings are exhausted - but where are there holidays and part-time jobs?!

CARBON DIOXIDE PER PERSON

TRAVEL THERE AND BACK: 100 KG
ACCOMMODATION: 42 KG
FOOD: 30 KG
ON-SITE ACTIVITIES: 0 KG
TOTAL HOLIDAY: 172 KG



CLIMATE FRIENDLY

Compared to other destinations, the Wadden Sea is pretty good. On average, each Wadden Sea holidaymaker produces 15 kg of CO₂ per day and 150 kg per trip. Tourism throughout the Wadden Sea region contributes 1.5 million tons of CO₂ to climate change. But a holiday in Wadden Sea could be more or less climate-friendly - depending on the design.

TASK 8

Think about what climate-friendly tourism is. Write about at least two aspects of it.

TASK 9



For each one of the four trips, circle which factor emits the most carbon dioxide (CO₂).



Choose a holiday example and write about how the holiday could be done in a more climate-friendly way. You can get suggestions if you compare the holidays.



Compare the figures for CO₂ emissions of all the holidays. Put a holiday together which produces as little CO₂ as possible. Describe how the arrival and departure, the accommodation and the on-site activities could be done.

HOW DO VISITORS AFFECT THE LIVES OF THE LOCALS?

■ Six coastal inhabitants are interviewed and talk about the experiences they have had with tourists.

RØMØ 650 INHABITANTS
1.9 MILLION VISITORS A YEAR

SCHIERMONNIKOOG 940 INHABITANTS
280,000 VISITORS A YEAR

HALLIG HOOG 108 INHABITANTS
90,000 VISITORS A YEAR

HUSUM 22,500 INHABITANTS
4.0 MILLION VISITORS A YEAR

My wife and I have witnessed many changes in tourism. Since 1954 cottages have been heated with natural gas on Schiermonnikoog which has greatly extended the season. In 1962 the port was built, making arrival and departure much easier. In the past, the tourists came for a week. Today, many only stay for a couple of days to find some peace. Life on the mainland has become faster and more exhausting. Good for the economy here!

Sieger R., (77), Schiermonnikoog (Netherlands)

On Rømø there are 'tourist seasons': in summer, the island is full of happy people having a holiday. Shops and ice cream parlours come to life then. When the season is over, it returns to peace and quiet. That's a good balance. My husband and I are glad we have work here all year. With many jobs in the tourism field the income is neither high nor stable.

Tanja R., (38), Rømø (Denmark)



I'm doing my voluntary ecological year with WWF. I love it when tourists come to me, praise what we do and find it great how I promote our work. Unfortunately, there are some tourists who do not take us seriously, especially in the summer when so many are here. But the more people who are enthusiastic about the Wadden Sea, the more there are standing up for the National Park.

Annemarie G., (20), Husum (Germany)



I rent out two holiday homes and explain to visitors about the Wadden Sea and its animals - one of the best jobs that I know. To live here is almost like a holiday. Only in the summer it gets a bit crowded when up to 800 people a day visit our little Hallig. Then I sometimes wish that it was less. But if they like it here then maybe they will come again sometime as an overnight guest!

Katja J., (40), Hallig Hooge (Germany)



I was born here on the island. It's nice and quiet and there is a lot of wildlife. In summer, tourists come and then everything's going well. We can meet new people and make good money. In a few years I'd like to have a part-time job at the hotel where my father works. But when I grow up I think I will go to the mainland. There are just more people there.

Job N., (16), Schiermonnikoog (Netherlands)





I have lived in the Wadden Sea since I was a child. We cycled at high tide to swim in the sea and played in the dunes. Today I live in Ribe. At low tide you can go from here by car or tractorbus right across the mudflats to Mandø, a small island. In spring and autumn tourists come to Ribe to see the 'Black Sun': thousands of starlings flock there and make incredible formations in the sky.

Mette L. G., (74), Ribe (Denmark)



TASK 10

 Choose one of the six interviewees. How is their daily life different to yours? Name at least three differences.

 Read through all the interviews. Work out the differences and similarities between life in the Wadden Sea and your life.



Look at the comparison of tourist and population numbers. Which places have the most tourists per population? Calculate the proportion and consider how tourism affects the lives of the local population in these places.

WHICH PROFESSION WOULD YOU PREFER MOST?

■ People who live on the Wadden Sea very often have professions that are connected with tourism. They offer services that the visitors are willing to pay money for, such as excursions, accommodation or special activities. The professions listed on this worksheet show only a few areas where people can work in the North Sea. There are many more!

MUD-FLAT GUIDE

TRACTOR DRIVER

CARRIAGE DRIVER

BIKE RENTAL

HOTEL BOSS

KIOSK OWNERS

TOUR GUIDE

WAITER

BEACH CHAIR RENTAL

CRUISE BOAT CAPTAIN

CHEF

BIRD WARDEN

PHOTOGRAPHER

SAILING INSTRUCTOR



WATER POSTMAN


NATIONAL PARK RANGER

LIFE-GUARD

ICE-CREAM SELLER

TASK 11

-  Which profession would you want to have in the Wadden Sea, and why?
-  What offer would you come up with for the tourists in the Wadden Sea? Complete the last part of the task.

 Think about whether your offer for tourists has an impact on the environment. Write down how you can adapt your tourism offer so that it is good for nature, good for visitors and residents, and also economically successful at the same time.

TOURISM AND NATURE PROTECTION – CAN THEY WORK TOGETHER?

Every year tourism brings billions of Euros into the German, Danish and Dutch Wadden Sea regions. Without the numerous tourists, many locals would not have work and would not make any money. However, many people visiting a very sensitive natural area means that it has to be well protected.

To make this possible, tourism experts and conservationists from all three Wadden Sea countries got together and considered how they could create sustainable tourism. They came up with some sensible thoughts:

- ▶ Tourism and nature protection should go hand in hand. Everyone who works in tourism should ensure that the Wadden Sea is preserved.
- ▶ All interested parties, such as nature conservation, tourism and the local people, should benefit from having the World Heritage Site.
- ▶ The people who live in the Wadden Sea or visit it should know that they are in a particularly valuable landscape.
- ▶ The tourism industry should inform visitors about the World Heritage Site and advertise it.

To make that happen, certain things need to be done...

FIRST STRATEGIC GOAL

To ensure all stakeholders have a transnational understanding and appreciation of the values of the Wadden Sea World Heritage.

SECOND STRATEGIC GOAL

To ensure stakeholders take responsibility for and contribute to the protection of the 'Outstanding Universal Value' through involvement in tourism management and product development.

THIRD STRATEGIC GOAL

To ensure the tourism sector provides consistent communication and marketing and promotes the high quality tourism offers of the Wadden Sea World Heritage Destination.

FOURTH STRATEGIC GOAL

To ensure nature conservation, tourism and local communities benefit from World Heritage Status.

TASK 12



Texts in official documents are sometimes awkwardly worded. First read through the four strategic objectives and then the four statements in the text. Assign a statement to each strategic objective.



Think about what measures could achieve the goals of the tourism strategy. Write at least one measure for each goal. Look again at the various holiday types and consider if the measures differ depending on the type.



The tourism strategy has been worked out jointly by the three countries in which the World Heritage Site Wadden Sea is located. Think about why each country has not considered tourism in the Wadden Sea individually. In addition, people from tourism and people from nature conservation have worked together. Think about what challenges there are when people work together from different countries or different sectors of work.

TASK 13



Create a promotional poster for a holiday in the Wadden Sea, which one of the holiday types of learning station 1 would like. Use as much information as possible from the stations and tasks that

you previously worked on. How can the holiday which you are advertising be particularly climate-friendly and compatible with nature?

WHAT YOU CAN DO TO PROTECT THE WADDEN SEA

BECOME A JUNIOR RANGER

Take part together with other junior rangers conservation tasks in the Wadden Sea or other protected landscapes.

You'll become an expert on landscape, flora and fauna – at best right there where you live. Many states offer Junior Ranger programmes in national parks. Info you can find on the Internet under the key word "Junior Ranger".



CALCULATE YOUR ECOLOGICAL FOOTPRINT

For journeys there are climate footprints. An ecological footprint is for your life in general. You can calculate yours online, compare it with the average and find out what would happen if everyone lived like it. Maybe afterwards you will even want to reduce your footprint? Here is a calculator: <http://footprint.wwf.org.uk>

GET YOURSELF THE WWF EXPLORER BOOKLET „THE MUDFLATS ARE FULL OF WONDERS!“

Discovering the World Heritage Site and National Park Wadden Sea" (available in German, Dutch and Danish). The title alone tells you where it's about: if you want to know more about the mudflats, the WWF booklet will help you. In the pocket-sized 44 pages you will find information, advice, stickers and much more. You can get it in National Park Houses and Environmental Centres or on the Internet: www.naturentdecken-shop.de/WWF-Produkte

DISCOVER NATURE WITH YOUNG PANDAS - THE WWF PROGRAMME FOR CHILDREN

Many national WWF organizations offer programmes for children: As a YOUNG PANDA you can help us in joint activities to protect animals and their environment. For example, you can learn interesting facts about endangered animals and current conservation issues in the monthly members' magazine, and you can take part in exciting nature adventure camps. Information about YOUNG PANDA can be found at www.young-panda.de and national WWF websites.



PLAY FAIR IN THE NATIONAL PARK

In order to protect nature in the National Park you should follow a few simple but important rules. Even better: also convince your family, friends and classmates. The rules can be found in information centres, protection stations and on the internet.

Nationalpark Wattenmeer



DO ONE-YEAR'S VOLUNTARY SERVICE

Once you're out of school you can take part in the context of voluntary service. Many states offer appropriate programmes such as the Voluntary Ecological Year or the Federal Voluntary Service in Germany. There are places everywhere, both in the countryside and in the city – and of course the Wadden Sea. Info: www.foej.de and www.bundesfreiwilligendienst.de and on the Internet with the keyword "Volunteering for Conservation".



WWF YOUTH PROGRAMME - TEENAGERS HELPING TO SAVE THE WORLD

Many national WWF organizations offer programmes for young people: under the slogan "Active for our Earth" you take part in joint activities with other members to help protect endangered species and their habitats. You can visit Youth Camps – or join in with the WWF youth online community. Info can be found at www.wwf-jugend.de and on national WWF websites.



CHOOSE NATIONAL PARK PARTNERS

Some people are especially committed in their work for the National Park. That's why they are allowed to use its logo. So you can easily recognize excursion boats, tour guides, accommodation and restaurants that are National Park Partners. If you use it, you are helping the environment and nature.

SHOP WITH AWARENESS

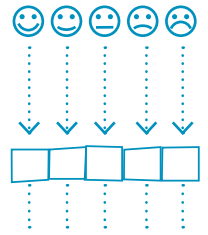
Where and how food is produced makes a big difference to its environmental impact. It is better to get products from regional and organic farming – preferably both at once. Pay attention to labels at farmers' markets, in shops and restaurants, or just ask.

TAKE CARE WHEN BUYING FISH

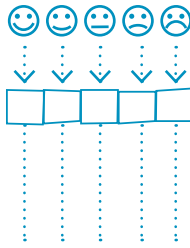
Some fish species are overfished, and many other animals are captured then just left to die. Shopping guides from WWF and other organizations can help with your choice – whether at home or on holiday. By the way: locally caught fish is usually better than fish that has been transported long distances.

LEARNING CHECK

CHECK YOUR KNOWLEDGE



A HOW CONFIDENT ARE YOU?



B WHERE IS THE WADDEN SEA?

I can point to a map of Northern Europe and see where the Wadden Sea is located.

I know which three countries the Wadden Sea covers.

C WADDEN SEA NATURE

I can name different animals that live in the Wadden Sea.

I know why so many birds come to the Wadden Sea.

I know what a lugworm eats.

I know why so many young fish grow in the Wadden Sea.

D LIFE IN THE WADDEN SEA

I can give examples of how my own life is different to life in the Wadden Sea.

I can explain the advantages and disadvantages for the people of the Wadden Sea of having millions of visitors there every year.

I know where most of the money is made in the Wadden Sea and what sectors there are.

I know why some people in the Wadden Sea are for and some people are against mass events such as the Kitesurf World Cup.

E WADDEN SEA PROTECTION

I know why water sports without engines are also banned in special protected zones of the National Park.

I know an example in which nature in the Wadden Sea is used in an economic way, without harming it.

I know another example in which economic interests and protection of the National Park cannot be reconciled.

I know what organizers and participants should be aware of at a major event, especially if they want to preserve nature.

I can name at least three ways in which students can get involved in the environment.

F WADDEN SEA WORLD HERITAGE

I can explain what a World Heritage Site is.

I know the reasons why the Wadden Sea is recognized as a World Heritage Site.

I know how to use the internet and an atlas to find more World Heritage Sites.

Apart from the Wadden Sea I know at least two more World Heritage Site and know which continent they are on.

I know why the World Heritage Site title is important for the protection of the Wadden Sea.

G HOLIDAY PLANNING

I know what is particularly important for me on holiday.

I can name several reasons why people look forward to their holidays.

I know several holiday types.

I can give advice on what one can do on a Wadden Sea holiday.

I know why a holiday in the Wadden Sea is more climate-friendly than halfway around the world.

I can explain what a climate footprint is and how to use it.

With someone whose holiday type I know, I can tempt them with a climate-friendly trip to the Wadden Sea.



© Vanell / photocase.de



© Ecomare / Syste Dijkse



© Segmenet Marbra / pixello



© WWF



© Ecomare / Salko de Weir



© Gunter Menzl / fotolia



© Shutterstock

THERE IS A PLACE – WHERE HEAVEN
AND EARTH SHARE THE SAME STAGE

Photo: Derf Westerkamp



OUR
WADDEN SEA
WORLD HERITAGE

Experience and help preserve a natural wonder
www.waddensea-worldheritage.org



WADDEN SEA
WORLD HERITAGE



© Martin Stock

PROWAD – Protect & Prosper, www.prowad.org



**The Interreg IVB
North Sea Region
Programme**

*Investing in the future by working together
for a sustainable and competitive region*



European Union



The European Regional Development Fund