

We protect the coasts of Schleswig-Holstein



LKN.SH 

Agency for Coastal Defence,
National Park and Marine Conservation
Schleswig-Holstein



Schleswig-Holstein Agency for Coastal Defence, National Park and Marine Conservation (LKN.SH)

Schleswig-Holstein is a country of water: 536 km of Baltic Sea and 466 km of North Sea coast characterize our state, together with about 30,000 km of rivers and more than 300 lakes. For us Schleswig-Holsteiners and our guests, that is highly attractive. But it also obliges us to take precautions. For example, more than 350,000 people live potentially at risk of flooding in the coastal lowlands, which account for one quarter of our state.



We protect the coasts of Schleswig-Holstein,
for people and for nature.

Dr. Johannes Oelerich | Director

We also deal with the nature of our State in a precautionary and responsible way. The Wadden Sea National Park stands out here as a World Natural Heritage. But Schleswig-Holstein also has many other places of great natural value.

The Schleswig-Holstein Agency for Coastal Defence, National Park and Marine Conservation (in German: Landesbetrieb für Küstenschutz, Nationalpark und Meeresschutz, LKN.SH) works for our state's water. We implement legal regulations and strive for the best solutions - for man and nature.



Headquarters in Husum, oil spill response ships during an exercise, a beach on the Baltic Sea - just a few facets of the State Agency.



We are Schleswig-Holstein's service provider

- for coastal defence on the North Sea and the Baltic Sea and flood defence along the rivers
- for nature conservation and sustainable development in the National Park Schleswig-Holstein and the Wadden Sea and Halligen Biosphere Reserve
- for defence against threats from shipping accidents
- for the protection of groundwater, rivers, lakes and coastal waters
- for the state-owned lakes and hydrological measuring service
- for the storm surge and flood warning service
- for the operation of state-owned harbours
- for the maintenance of naval ports
- for sustainable tourism in the National Park and World Heritage Site



Our Team

Around 725 employees, including

- 290 coastal defence workers
- dozens of engineers and technicians, administrators and geographers, mechanics and electricians and designers and sailors, biologists and excavator drivers

Our organization

- State agency of the Ministry of Energy, Agriculture, the Environment and Rural Areas of Schleswig-Holstein
- 28 sites with headquarters in Husum
- Around 110 million Euro annual turnover



Our mission

We safeguard the lives and property of the people in the coastal lowlands along the North Sea and the Baltic Sea, and we protect the Wadden Sea with its natural dynamics.



Landesbetrieb
Nationalpark u
Schleswig-Holst

Sachlich richtig

Landesbetrieb
für Küstenschutz,
Nationalpark und Meeresschutz

Service and Administration | Department 1 | 69 EMPLOYEES

We provide the operational infrastructure. This includes the individual workplaces as well as the information and communication technology. We manage the business premises as well as the workshop areas with the dry dock, or the lighthouse keeper's houses in Westerhever. As internal service we operate post rooms, registries and archives. Despite digitization, filing (a total of more than a thousand metres) is still indispensable, and century old archives remain important sources of information on specific issues.

The Service and Administration department manages and advises our employees who each year receive more than 1,500 seminar days for further training. Part of the organisational responsibilities includes the coordination of health and safety management systems for the entire State Agency. In business accounting all transactions are recorded by financial accounting and recorded in a cost and activity accounting. Every year, the financial and economic planning for around 110 million Euro is prepared and carried out. The administration of property assets includes several thousand hectares of land and water. The division also includes the legal department, which works on the legal affairs of the entire State Agency.



We cover the personnel, financial and material needs of the Agency - no more and no less.

Hans Jörg Kruse | Head of Department



Hydrology and Coastal Defence (Groundwork) | Department 2 | 67 EMPLOYEES

We measure water levels at 55 gauges in the North Sea and the Baltic Sea, 340 gauges in lakes and rivers, as well as approximately 1,200 groundwater observation wells throughout Schleswig-Holstein. Discharge is measured at 145 inland gauge locations. In the North Sea and the Baltic Sea the sea state and currents are continuously recorded at 30 measuring points.

The recorded data are processed and stored in information systems for various users. Prompt and reliable warning against storm surges and river floods is provided. Morphological changes on the beach and the seabed as well as mean and extreme (storm) sea levels are documented and analysed. Thus, secure sea dyke heights can be calculated and coastal defence concepts can be developed. The results are published, among others, in technical plans.



We perform fundamental work; we document and analyse changes along the coasts, in the inland waters and the groundwater. Our goal is sustainability

Birgit Matelski | Head of Department

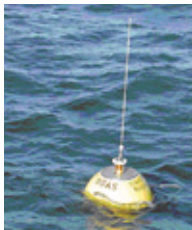


With aircraft and ships, gauges, measuring buoys or by hand with a contact meter, water levels, currents and wave heights are measured - at sea, in lakes, in rivers and in groundwater.



Above and below water

- each year, we survey 400 km² coastal areas with laser scanning and aerial images, with 2 surveying vessels, 2 surveying boats and 3 survey teams.
- each year, we gather approximately 360 million measured points.
- we detect ground level elevation and analyse morphological changes or sand loss, for example in the Wadden Sea or on the Island of Sylt.



A mobile acoustic profiler measures the flow rate of a stream, a wave buoy the height of ocean waves.

We cooperate

- with many state and federal agencies, research centres and universities

and inform

- every fifteen minutes about the flood and storm surge situation in North Sea and the Baltic Sea, as well as water levels in inland areas:
→ www.hsi.schleswig-holstein.de
- with our technical plans in detail about coastal risk management on the North Sea and the Baltic Sea:
→ www.schleswig-holstein.de/kuestenschutz



National Park and Marine Conservation | Department 3 | 95 EMPLOYEES

The Schleswig-Holstein Wadden Sea is one of 16 national parks in Germany. Here the seabed meets the horizon. Every year more than one million tourists experience the attractions of the National Park. The National Park is not only an ecological flagship, but also a major tourist attraction and an important economic factor for Schleswig-Holstein.



The National Park idea can be summarized in four words:

Let nature be nature.

Dr. Detlef Hansen | Head of Department and Deputy Director

The Schleswig-Holstein Wadden Sea National Park is

- the largest national park between the North Cape and Sicily.
- a hub of bird migration for millions of waders and shorebirds.
- a habitat for hundreds of plant and animal species that occur only in the Wadden Sea salt marshes.
- a UNESCO World Heritage Site together with the Wadden Seas of Denmark, the Netherlands and Germany.
- a UNESCO Biosphere Reserve together with the Halligen.



The Wadden Sea is an attraction: for migrating and breeding birds - and also for the guests who visit our Multimar Wattforum in Tönning.



We protect the National Park and

- participate in international environmental monitoring programmes and research projects,
- monitor the area with our rangers,
- develop protection concepts,
- balance interests and regulate human use,
- promote sustainable tourism,
- inform the public,
- promote the experience of nature,
- operate National Park Houses and a large National Park Centre at the Multimar Wattforum in Tönning.

Our goals are

- to guarantee, to the greatest possible extent, the undisturbed evolution of natural processes ,
- the preservation of biodiversity,
- the sustainable development of the region.



The National Park in figures

- Size** 4.400 km²
- Extent** North to south 127 km, east to west 46 km, excluding inhabited islands and Halligen
- Habitats** 67% shallow sea, 30% intertidal areas, 2% salt marshes, 1% beaches and sandbanks

Protection zones

- Zone 1: 37% (public access / shipping only allowed in certain areas)
- Zone 2: 63% (public access / shipping allowed)

Number of species

2,300 plant and 4,200 animal species

Visitors Every year around 2 million overnight and 13 million day-trippers

National Park Partners

150 businesses, individuals and organizations

www.nationalpark-wattenmeer.de

www.nationalpark-partner-sh.de

www.waddensea-worldheritage.org



Nationalpark
Wattenmeer





Water Management, Coordination, Marine Pollution Response | Department 4 |

60 EMPLOYEES

In order to improve the ecological status of inland and coastal waters and to maintain groundwater as a drinking water resource, the EU introduced the Water Framework Directive (WFD) in 2000; it requires all countries to bring their waters up to a good condition. Nutrients and pollutant inputs should be reduced and the natural state of rivers should be restored.



With management plans and measures, we bring our waters into a better state. When accidents occur and threats are imminent we act immediately. As a harbour and coastal protection authority we put ourselves at the service of the people of Schleswig-Holstein.

Thomas Langmaack | Head of Department

As a coastal protection authority we are responsible for the supervision and approval of construction and utilization of the coasts of North Sea and the Baltic Sea as well as along the Elbe. In addition, we are the harbour authority for the harbours of Husum, Tönning, Friedrichstadt, Büsum, Brunsbüttel and Glückstadt.

Schleswig-Holstein's coasts are situated on the main shipping routes of the North Sea and the Baltic Sea, as well as the Elbe and the Kiel Canal. About 150,000 ships and countless pleasure boats travel these waterways every year. As a consequence, unfortunately, more than 100 shipping accidents occur each year. We organize oil spill response and the response to pollution with other chemicals in our waters.

We are improving the state of inland waters and ground-water

- In 33 defined regions that cover all of Schleswig-Holstein, water and soil associations, farmers, fishermen, anglers, conservationists, local communities and authorities are jointly planning and implementing practical measures.
- We coordinate processes, provide professional assistance and facilitate the use of State, Federal Government or EU resources.



We are prepared for floods

- For flood risk management, we have developed hazard and risk maps. Management plans are being developed.
- By using flood barriers and locks we can reduce the risk of flooding.

... and other threats

- Procedures and activities are defined in emergency plans, which can involve more than 600 institutions and numerous individuals.
- For all hazardous situations, an emergency centre is operated in Husum.
- Within two hours, the LKN professionals form an emergency task force.
- A special information and management system supports them.
- Someone is always available on-call.
- Every year more than 70 exercises and training events are carried out.

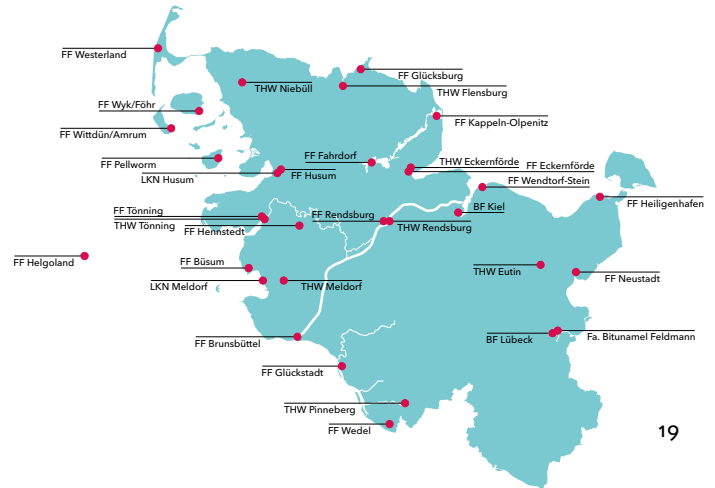
... and are well equipped

- 8 ships
- 21 multipurpose boats
- 36 containers for spilled oil
- 4 amphibious vehicles
- 2,600 m of long and 3,000 m of short oil booms
- Oil absorption equipment, pumps, trailers, skips, barrels, power generators, pressure washers and other specialized equipment



We cooperate with

- 20 volunteer fire brigades, 2 professional fire brigades, and 8 local units of the Federal Technical Relief Agency are contractually involved in oil spill response.
- the Central Command for Maritime Emergencies in Cuxhaven.
- other emergency response authorities which will be advised by our experts in the event of a flood.





Coastal Defence and Harbours: New Building, Maintenance and Operation | Department 5 |

435 EMPLOYEES

More than 350,000 inhabitants of Schleswig-Holstein live in coastal areas of potential flood risk. Based on the „Master Plan for Coastal Risk Management“, which is updated every ten years, we are investing 25-30 million Euro per year for measures to ensure that our coastal region is a safe place to live in. With qualified construction companies, every year we strengthen 5-10 km of sea dykes, build coastal protection, harbour and barrage systems, and

protect the islands of Sylt and Föhr through sand nourishment. About half of these capital expenditures are state funds, 37% from the federal government, and 13% from the EU. The maintenance of existing sea defences and protection schemes is financed entirely by the state and annually requires about 23 million Euros.

We adapt our safety standards to current knowledge (including climate change) and develop new concepts for coastal risk management in the 21st century. For example, future dykes will have a shallower slope and a wider crown, so that they can easily be strengthened with a cap in the event of further and/or stronger sea level rise.



We love the sea, but we also need to protect ourselves against it.
Frank Barten | Head of Department

Sea defences, harbours and flood barriers only fulfil their tasks if they are in good condition. It is not only on the islands and Halligen that experienced and willing employees are required who know the local conditions and can act immediately during storm surges.

With four construction companies in the North Sea and the Baltic Sea, we ensure that dykes and revetments, embankments on the Halligen and flood barriers are regularly maintained and that the harbours remain navigable. We work with 10 of our own ships.

Heavy equipment is used for the work, which is kept ready for use by professionals in our workshops in Husum and Meldorf harbour. Despite the use of modern machinery, there is also a lot of manual work: erecting and maintaining brushwood groynes in the mudflats, disposing of debris from the dykes or, in special cases, salvaging animal carcasses and oil residues.



We keep Schleswig-Holstein sea defences in good condition

- 360 km of State sea dykes on the North Sea, 70 km on the Baltic Sea and 50 km of regional sea dykes
- 80 flood barriers and sluices
- 800 km of surfaced paths and roads
- 480 km of groynes
- 50 km of revetments on the Halligen
- 15 km of dams on mudflats



We are well equipped

- 300 vehicles (tractors, excavators, mowers, light railway locomotives, lorries, cars)
- 300 pieces of equipment and machines
- 10 ships, 42 work boats and 28 barges
- The logistics operation stockpiles 4,500 articles and annually procures 180,000 stakes and 260,000 faggots for groynes, 12,000 tonnes of stone and 4,000 pairs of gloves.



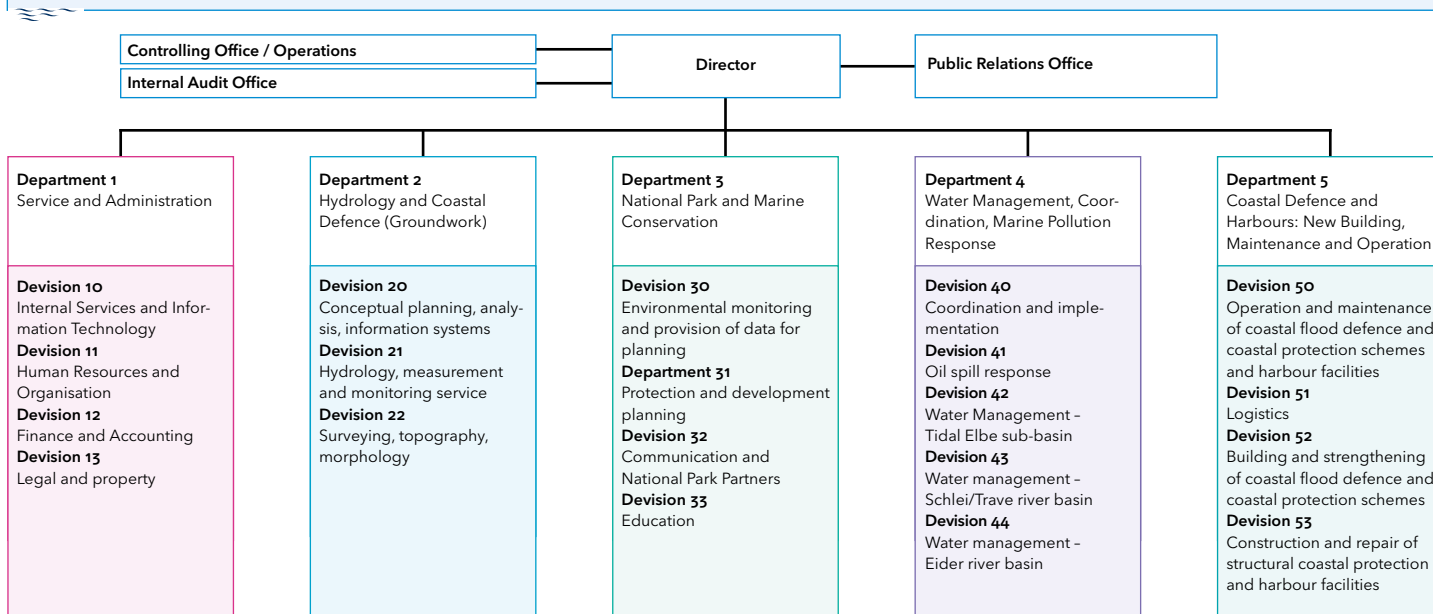
We are a hands-on division

- 300 employees in 5 construction teams maintain the coastal flood defence and protection schemes in good shape ("ready for use in storm surges").
- 34 craftsmen working in our workshops (metalworking, turning, forging, painting workshops, carpentry, iron-, chromium- and nickel- construction, electrical workshops, small engines).
- 30 sailors work on our ships and supply our construction sites with material and equipment and participate in survey work, environmental monitoring or combating oil spills.
- 17 employees procure, store and transport materials, vehicles or equipment.

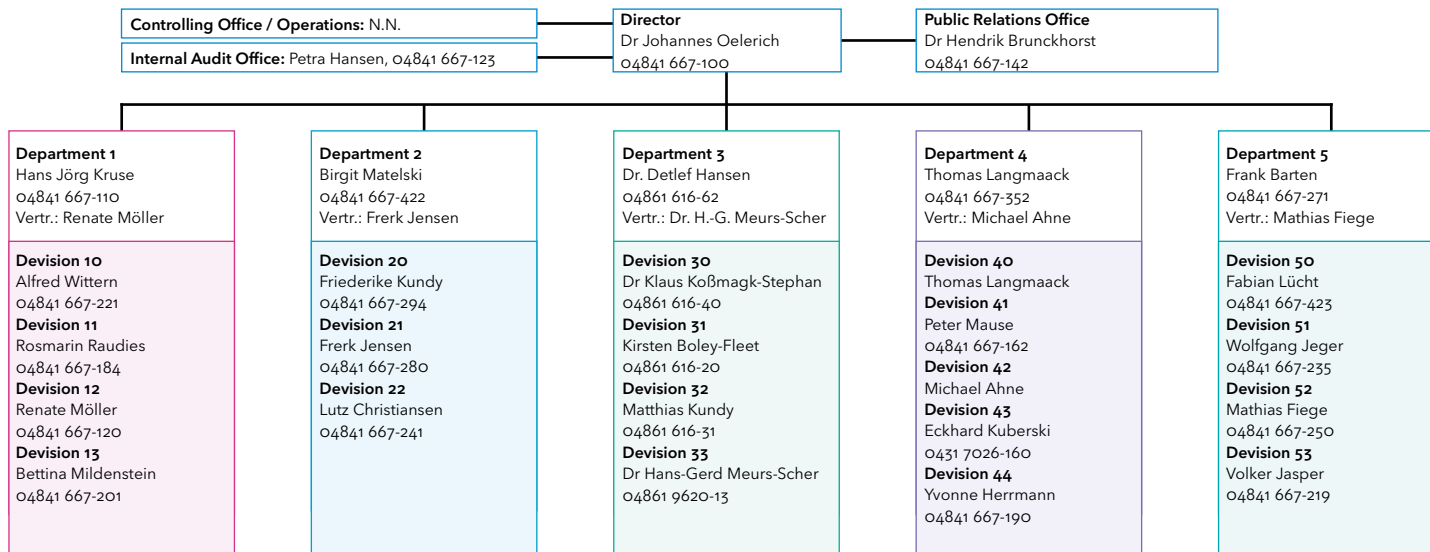
In addition, we operate the state-owned harbours in Husum, Friedrichstadt, Tönning, Büsum, and Glückstadt. Since 2014, the maintenance of harbour facilities in Schleswig-Holstein naval ports is one of our tasks.



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