

Medieval Lighthouses

Part 10 -The Southern North Sea

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Before 1700, navigational lighting along the southern coast of the North Sea—from the Flemish and Holland coasts to the Elbe estuary—developed earlier and more intensively than in the northern Baltic, yet remained largely fire-based and non-optical in character.

From at least the thirteenth century, coal or wood fires were maintained on towers, church structures, dunes, or purpose-built platforms to mark harbour entrances and hazardous shoals near major commercial hubs such as Bruges, Antwerp, and Hamburg, as well as along the English east coast. These lights were typically administered by local governments, harbour authorities, or merchant

corporations, reflecting the dense traffic and high economic stakes of North Sea trade, particularly within the Hanseatic and Anglo-Flemish networks. Although some lights occupied masonry towers - most notably in Flanders and eastern England - the technology remained primitive, relying on open braziers or coal fires. The flat, shifting coastline, mobile sandbanks, and frequent storm surges drove emphasis on harbour lights and leading fires rather than long-range coastal beacons. By the late sixteenth and seventeenth centuries, increasing state involvement and the strategic demands of naval warfare prompted greater regularisation and documentation of lights.



Germany

In medieval German coastal regions too, lights were fire towers (often called *Leuchtfeuer* or *Bakenfeuer*) that were simple elevated platforms or stone towers where open fires were lit to guide ships or mark dangerous areas. Sometimes church towers were adapted with an iron basket on top for a fire. Fuel was peat, brushwood or coal. Lights were maintained by local communities or guilds, often under feudal obligation. Sometimes they doubled as watchtowers for spotting enemy fleets or pirates. As we saw earlier on p120 many were built under common law, operated under a local lord's lease or under a city council's supervision in free cities like Lübeck or Hamburg. Merchants or guilds sometimes paid a *Leuchtgeld* (light fee) to maintain the fire tower.

In the southern North Sea (*Nordsee*) access to ports like Emden, Bremen or Hamburg was generally via wide tidal estuaries with shifting sandbanks that needed channel markers. *Nordsee* ports often needed movable beacons because of the dynamic sandbanks. Fires were sometimes on wooden tripods (*bake*) that could be relocated. Fire towers were often built near the mouths of rivers such as the Elbe, Weser or Ems to show the correct entrance through tidal flats. Many lights were managed by Hanseatic city councils or local lords. Hamburg's early beacons along the Elbe in the 13th century were maintained by guilds under council oversight. Emden and Greetsiel had *Bakenfeuer* on dunes marking river mouths.

On the other hand, Baltic Sea (*Ostsee*) ports such as Lübeck, Rostock or Stralsund were accessed through narrower inlets on rocky coasts and archipelagos. *Ostsee* ports tended to have more permanent fire towers on stone foundations since the coastal features were more stable. Lights were sometimes seasonal, possibly combined with fortified harbour towers or church towers. Lights were linked to the Hanseatic League cities of Lübeck, Wismar as part of a system of organized navigation aids and often integrated into defensive watchtowers to warn of enemies from the sea. Lübeck's medieval harbour watchtowers with fire baskets were documented in 1226. Rostock's church towers used as night beacons with tar-fires.

The images on this page are of Heligoland, an island about 40-50 km from the nearest shore. Part of Germany now, it has also belonged to Denmark and Britain. In its early occupation, it showed beacon fires to assist mariners. After the Napoleonic Wars Britain acquired Heligoland from Denmark in 1807 and commissioned a lighthouse in 1811, built on the southern cliff of the main island. A masonry tower, fitted with an oil lamp and parabolic reflectors was installed, operated under the supervision of Trinity House though administered locally. When Germany purchased Heligoland from Britain in 1890, the old lighthouse was still active but considered outdated. In 1902, the German Imperial administration replaced it with the tower shown here equipped with a modern Fresnel lens and a stronger paraffin lamp. The old British tower was dismantled.





LEFT: The Ochsenturm bei Imsum (literally, the Ox tower by Imsum) is a genuine structure from medieval times. It marked the entrance to Bremerhaven and Bremen and dates from the early 14th century.

Ochsenturm

A medieval lighthouse known as Ochsenturm near Imsum is close to the mouth of the Weser and the port of Bremerhaven. Also called the Imsumer Turm it is built on a slight elevation inland but is clearly visible from the river Weser, marking the entrance for ships heading up-river to Bremen. It was built around 1300–1330 of medieval brick construction and is one of the oldest surviving lighthouses in northern Europe. Its style is of a typical North German *Backsteingotik* (brick Gothic), circular in plan with a conical top that is now truncated. On top of the tower there was a wooden platform or iron basket where open fires of peat, wood, or coal were lit at night and served to guide ships safely through the shifting sandbanks of the Weser estuary toward Bremen. Its position inland was deliberate: on clear nights the fire was visible far over the tidal flats. The Ochsenturm belonged to the Archbishopric of Bremen which controlled the Weser navigation rights in the Middle Ages. Ships using the Weser paid *Leuchtgeld* (light dues) that funded the upkeep of such beacons. The actual tending of the fire was often contracted to local farmers or fishermen who lived near the tower. In the late Middle Ages and early modern period, it continued as a landmark even after more modern lighthouses were established closer to the river mouth. By the 19th century, new fixed lights at Bremerhaven made it obsolete as an active beacon, but it survived as a landmark because it was robustly built in brick. The Ochsenturm still stands today as a genuine medieval lighthouse.



ABOVE: This old tower on the German island of Borkum was built in 1576 but not lit until 1817. However, as a navigational aid for the entrance to the River Ems and the Hanseatic town of Groningen the site had been earlier used for beacon fires.



ABOVE: Two dramatic structures pierce the skyline on the western end of the Nordsee coastal island of Wangerooge. The importance of the site is undoubted but the precise history of structures to carry lights here is confused. On the left is the old Westturm and on the right the modern Ostturm.

Wangerooge

Wangerooge has had several important lights over time because the island lies on the approach to the Jade estuary, the port of Wilhelmshaven, and the Weser and Elbe shipping lanes. Wangerooge is a low, shifting island with dangerous sandbanks. For centuries it has been critical to mark safe channels for ships heading to Bremen and Bremerhaven via the Weser, to Wilhelmshaven via the Jade, and to Hamburg via the Elbe.

16th–17th centuries: archival material from the Oldenburg and Jever regions to which Wangerooge belonged mention *Bake* and *Feuerbaken* on the island's western dunes where the west tower, the *Westturm* now stands. These were simple wooden frameworks or baskets raised on poles where fires could be lit. They were maintained by local pilots and financed through the *Lotsenwesen* (pilotage system) or by the feudal Jever lordship. They were not permanent masonry towers but movable constructions because of continual movements of the sand that formed the island.

The precise history of the Westturm itself is unclear. The first structure of 1597 was built as a daymark. Some claim there is no evidence it functioned as a medieval fire beacon. Yet Wangerooge is known for simple wooden beacons on the dunes that were moved as the coastline shifted. They would have been tended by local pilots and, as elsewhere, financed through pilotage fees.

In 1856, with increasing traffic to Bremen and Wilhelmshaven, the Prussian authorities built the brick Westturm lighthouse. Today the it is preserved as a historic monument and youth hostel, whilst the newer Ostturm is an active navigational aid. In the 19th century the tower was built and painted red with a white gallery and combined a light with a daymark and also served as a landmark for pilots. The lighthouse used coal-oil lamps and later Fresnel lenses. It was decommissioned in 1969 when the new tower took over. The new Wangerooge (Ostturm) was built to replace the old west tower. At 67 m in height it is one of the tallest on the Nordsee coast, is made of reinforced concrete and is cylindrical, with a red/white pattern.



ABOVE: Brandaris is the oldest medieval lighthouse in the Netherlands, dating from 1594. An earlier tower built here in 1323 may not have been lit, but was certainly a beacon aid and a fundamental part of navigation safety for the Hanseatic League.

Brandaris on Terschelling

The port city of Kampen was a member of the Hanseatic League that financed and built the first Brandaris tower on the island of Terschelling around 1323. Its function was to improve maritime navigation through the Vlie, a key sea channel and shipping lane to major Hanseatic cities like Kampen, Zwolle, Deventer, and Zutphen via the Zuiderzee. Strong tidal currents, sandbanks, and poor visibility made navigation dangerous, especially at night so a stone daymark and beacon fires were essential here. Although the 1323 tower didn't have a lantern as such, fire beacons called *fjoer* were regularly lit encouraged by the same maritime interests. Whilst Terschelling was not itself a Hanseatic town, the Brandaris tower functioned as an early navigational aid tied to their merchant activity. This makes it one of the oldest Hanseatic-linked lighthouse installations in Northern Europe. The present structure is the oldest in the Netherlands and it is fortunate to have escaped destruction in wartime.

Hindeloopen

Hindeloopen received city rights in 1225 and in 1368 it became a member of the Hanseatic League. Since the 12th and 13th century, shippers of Hindeloopen undertook journeys to the North and Baltic Sea Coasts. The strong overseas connections with foreign countries and infrequent contact with the hinterland were probably the reasons for the developing of the Hindeloopen language; a mixture of West Frisian, English, Danish, and Norwegian. A small white harbour light today (not shown) is a unique structure that deserves to be identified as a lighthouse, but in the past, the location of the town on the east side of the Zuiderzee was important enough for it to have a fire tower about which little is known. However, it was very likely to have been in the same style as others in the region. As we reach the end of this part of the southern North Sea, we are aware of the extensive use of fire towers to assist mariners at night. Over a period of five centuries, there existed a network of such installations.



ABOVE: The medieval lighthouse at Petten, as shown in an engraving of 1643. Similarities with the structures at Brielle and Katwijk are obvious.

Two Important Channels

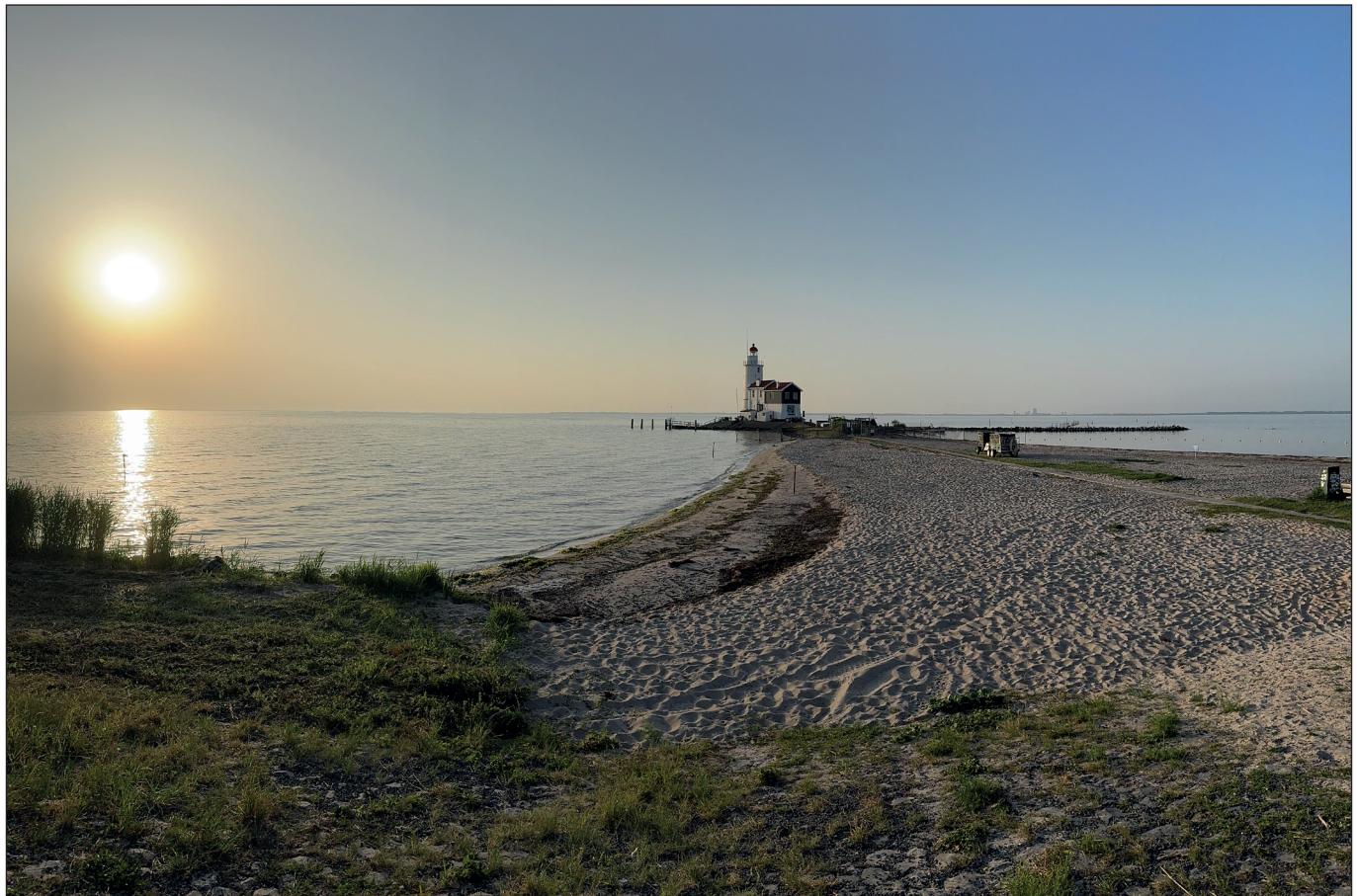
For centuries, ships leaving the North Sea bound for Amsterdam needed to find the entrance between the island of Texel in the north and the tip of North Holland at den Helder in the south, and thence into the great waterway of the Zuiderzee - now the IJsselmeer. As they approached the shore, a featureless, dune-filled landscape lay before them so it was obvious that navigation marks were necessary. But two channels were important gateways - one running parallel to the coast called Schulpenaat that led into the second that was the narrow gap between the land and called Marsdiep.

The most significant locations from where to show lights were at Egmond, Petten, Callantsoog and Huisduinen. At first, daymarks led the way, followed in later times by fire lights at these sites. A further light existed on Texel. We are fortunate to have a striking image of the lighthouse at Petten that bears all the features we have noted at other sites. Unfortunately, no trace of this structure exists. It is possible that pairs of lights were used to indicate the best courses to steer, but we have no firm evidence of this.

There is some confusion in the literature concerning a light at Callantsoog, probably because

of the lighthouse built in modern times high on the extensive dunes at Grote Kaap. It seems likely that a medieval light would have existed in the small village of Callantsoog, though, once more, there is nothing that remains here. With lights showing at Huisduinen and on the island of Texel, assistance was provided for navigators seeking the Zuiderzee.





ABOVE: A site on the route to Amsterdam was here on a narrow sand spit. This tower of 1839 replaced the earlier fire tower. The Paard van Marken (Horse of Marken) shown above is a lighthouse on the peninsula of Marken, on the IJsselmeer, built in 1839 by J. Valk.

To Amsterdam ...

As we travel northeast along the coast of the southern North Sea, we begin to realize just how important beacons were to those living in these low-lying water-dominated lands. This intimate association with the sea was to make them into a powerful maritime trading nation and one of the world's leading sea powers.

In the Middle Ages the area was a patchwork of counties, bishoprics, and duchies - Holland, Zeeland, Utrecht, Friesland, Brabant, etc. ruled by the Holy Roman Empire. By the 15th and early 16th centuries, these were gradually united under the Burgundian Netherlands and later the Habsburg Netherlands (Charles V, then Philip II of Spain). Amsterdam's extraordinary development as a trading and financial powerhouse in the late Middle Ages made it the most important and internationally known Dutch city. In these times IJmuiden did not exist as an entry port to Amsterdam; the harbour and lock complex only date from the 19th century.

Instead, Amsterdam's link to the sea was through the Zuiderzee, a large shallow inlet of the North Sea. Ships sailed around into the Zuiderzee via the Vlie or other entrances between the Frisian islands. From there they approached Amsterdam through a maze of shallow waterways, notably the IJ - the tidal bay on which Amsterdam was located. These waterways were shallow and shifting. Larger ships generally had to unload part of their cargo into smaller vessels ("lightering") to reach Amsterdam. Navigation depended on natural channels marked by fire beacons.

Durgerdam is a historic dike village just northeast of Amsterdam, right on the IJ (the old tidal inlet that led into the Zuiderzee). It was an important point on the inland approach from the Zuiderzee into Amsterdam's harbour. Like other villages on that route, it maintained beacons and fire towers to help ships find the safe channel at night. The adjacent Hoek van 't IJ (corner of the IJ) was the critical turning point where the main channel from the Zuiderzee met the IJ leading directly to Amsterdam.



ABOVE: An island at the southern end of the IJsselmeer was the site for a fire tower showing the turning to Amsterdam.

Because of shoals and sandbanks a fire beacon was kept there. Later, in the 19th century, there was a proper lighthouse known as Hoek van het IJ Light that succeeded the earlier beacons. The old fire tower at Durgerdam was thus part of a chain of guiding marks on that crucial approach and would have been within sight of or at least coordinated with the light/beacon at Hoek van 't IJ. The series of vuurbakens (fire baskets) along the dikes allowed the alignment of two visible fires (a leading line) to stay in the safe channel. In archival sources, Durgerdam and Hoek van 't IJ are often mentioned together. By the 18th/19th century, these open fires were replaced with lantern lights mounted on posts or towers. The Hoek van 't IJ light became an official maintained light under the Rijkswaterstaat system, but the Durgerdam beacon eventually disappeared as navigation improved.

De Ven is on the coast of North Holland near the IJsselmeer, a low-lying stretch of land near Hoorn and Enkhuizen, important harbour towns for ships approaching Amsterdam before the



ABOVE: The site of this lighthouse at De Ven was important in assisting ships past the dangerous shoals and sandbanks on route to Amsterdam.

Afsluitdijk closed off the Zuiderzee. In the 17th century the Dutch built a stone fire tower on the dike here. A series of towers helped ships line up their course, from the Wadden Sea or North Sea into the Zuiderzee, past Hoorn and Enkhuizen, then south-west toward Amsterdam. De Ven was one of several lighthouses indicating the route; the others were at Paard van Marken, Hoek van 't IJ and Durgerdam. In 1819 the De Ven lighthouse burned down with only the outer walls still standing and a dark hiatus followed. The lighthouse was finally rebuilt in 1834 and the lantern was given a Fresnel lens. The light was extinguished in 2009 but later reinstated with a different characteristic.

Also known as Vuurtoreneiland, or 'Lighthouse Island', the first lighthouse built at this location at the Hoek van 't IJ dates back to 1699: it was a 19-metre-high square tower built from brick, topped by a lantern with an oil lamp. In 1892, this building was replaced by the current octagonal tower made of cast iron and steel. The lighthouse received the status of national monument in 1981.



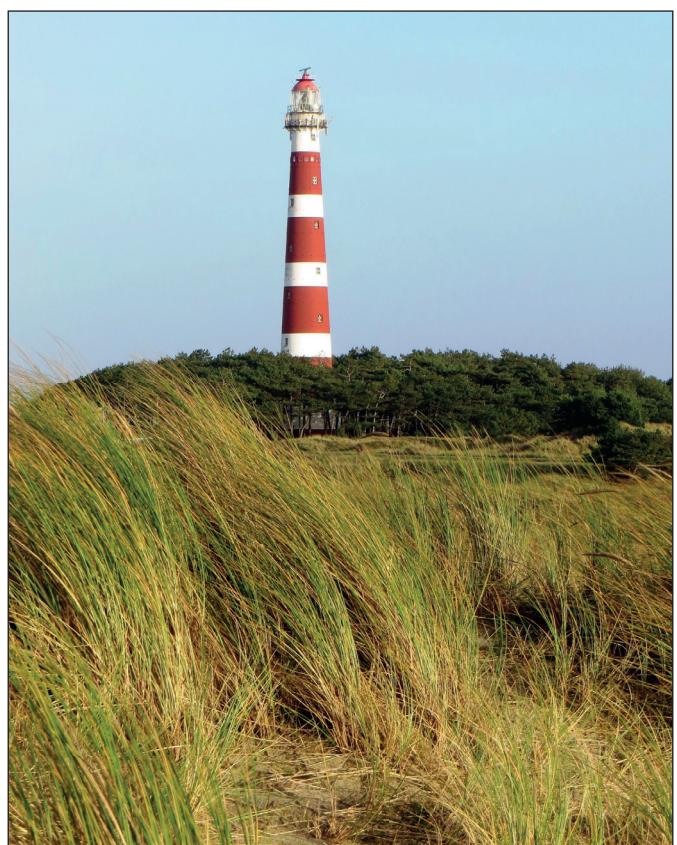
ABOVE: Two harbour lights today mark the entrance to the harbour at the busy town of Stavoren. Records of a medieval light being shown nearby were at Hindeloopen just north of here where today nothing remains. BELOW: The town of Urk was an obvious location for a light on the eastern side of the Zuiderzee and today a lighthouse with a private dwelling alongside can be found on the shore.





Above: Two of the Frisian Islands are Texel (above) and Ameland (below). As at so many other locations along the coast of the Netherlands, Frisian lights before 1700 functioned less as long-range coastal beacons than as localised navigational signals. Today, the contrast is stark with its population of tall structures.

Navigational lighting in the Frisian Islands formed a distinctive intermediate tradition between the harbour-focused lights of the southern North Sea and the more random lighting in the Baltic. Along islands such as Ameland and Texel, open coal or wood fires were maintained on dunes, timber scaffolds, or tower-like structures to mark shifting tidal inlets, anchorage roads, and approaches to the Zuiderzee. These lights were closely tied to pilotage systems and were generally administered by local communities, pilot organisations, or regional authorities. The Wadden Sea environment was constantly changing, characterised by migrating sandbanks, tidal flats, and storm-driven coastal change. It discouraged masonry construction and favoured adaptable, elevated fire platforms whose position and operation could be adjusted as channels shifted. While some structures acquired quasi-permanent forms by the sixteenth and seventeenth centuries, the effectiveness of the light relied on fuel intensity and elevation rather than lantern enclosure or lens systems.





ABOVE LEFT: This lighthouse is at Egmond-an-Zee and called JC van Speijk.

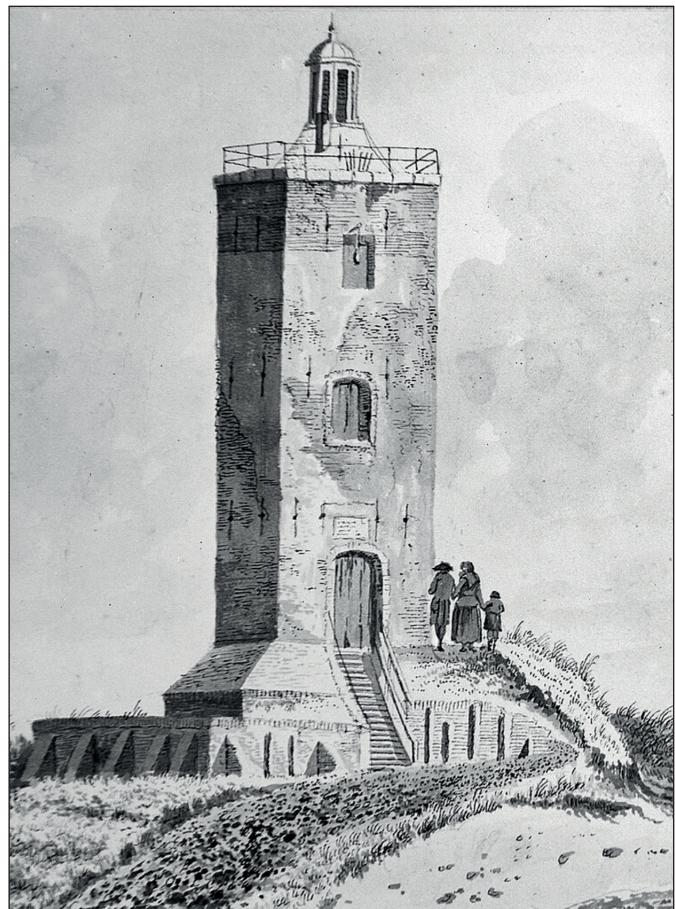
ABOVE RIGHT: The modern lighthouse at Grote Kaap can be confused with references to Callantsoog.

BELOW: The lighthouse closest to the entrance to the Schulpengat is here near the town of Huisduinen. This modern lighthouse is called Lange Jaap at Kijkduin. Its equivalent in medieval times may have been at a nearby site in Huisduinen.





ABOVE: At Noordwijk we find a modern lighthouse close to the site of a medieval fire tower of 1444 which no longer exists.



ABOVE: Katwijk - like Noordwijk - was a site selected for a coastal fire tower, portrayed in an engraving of the 18th c. and BELOW as it is today.

Katwijk and Noordwijk

We are finding out how the Dutch coast had a system of “vuurtorens” (fire towers) or “vuurbakens” (fire beacons). At Noordwijk, there was an early structure built in 1444. This was a masonry tower on the dunes near the old village church. It is considered one of the oldest recorded fire towers in Holland. A basket or brazier with burning peat or wood was hoisted each night to guide ships, but it also served as a lookout for fires, shipwrecks, and pirates or enemy ships. Records from the 15th and 16th centuries mention maintenance expenses for the vuurtoren. The tower was repaired multiple times and probably dismantled or replaced in the 19th century when modern lighthouses took over along the coast. Some sources say the old tower was integrated into the church’s property or stood very near it, on a dune called the Vuurtorenberg. The medieval tower was replaced with the current lighthouse in 1921–1923. A similar history occurred at Katwijk where a tower still exists.







ABOVE: As we look north, the Katwijk medieval lighthouse was used in conjunction with the tower of an adjacent church to its north.

LEFT: From the lighthouse gallery today, we see the church clearly.

BELLOW: Now looking south, this image shows the same church viewed from its north. The top of the Katwijk tower is visible to its left.





ABOVE: The structure at Brielle known as the Stenen Baak (Steenne Beaken). Its position gave it a good overview of the waterway leading to Rotterdam.

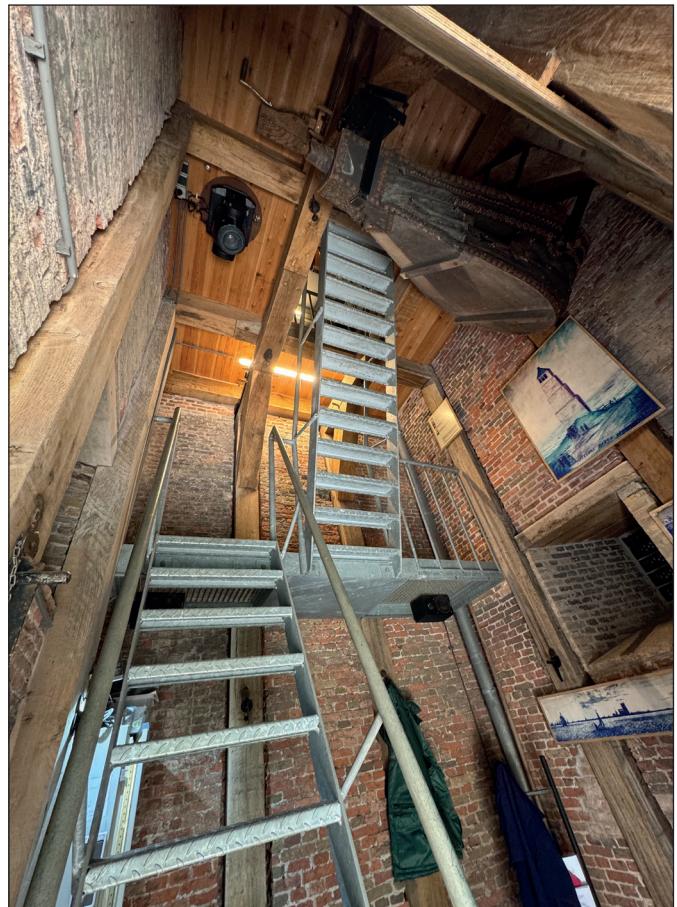
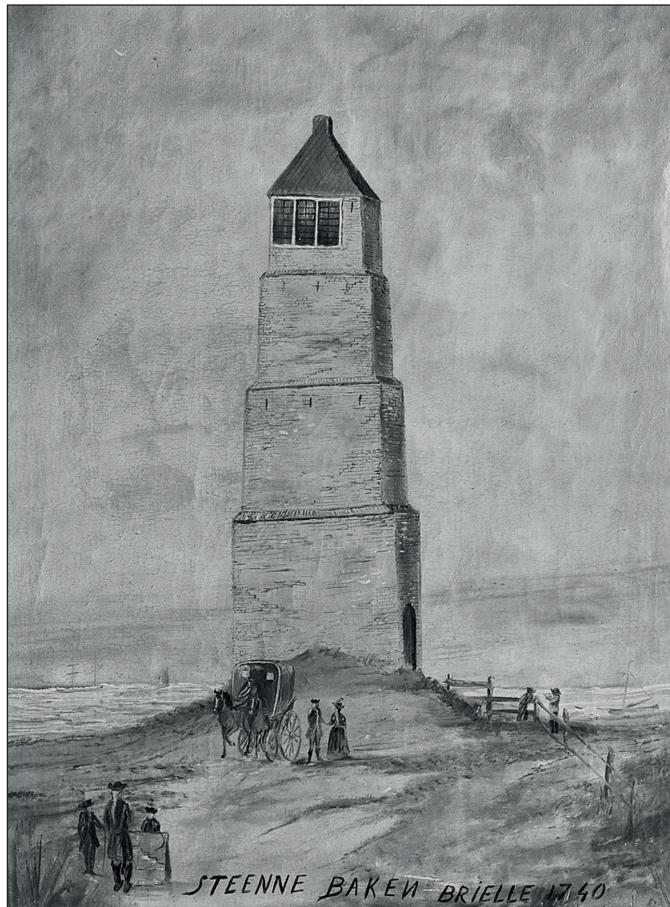
BELOW LEFT: The rear of the 15 m high tower with the entrance open to visitors.



Stenen Baak At Brielle

The old lighthouse of Stenen Baak has already been referred to (see p38) as the important beacon showing the way into Brielle and thence to Rotterdam. This tower of 1650 still exists as an important reminder of the period leading up to the development of the modern lighthouse. The well-restored structure has three internal levels, each with an excellent display of artefacts.

During our period of study, Rotterdam was quite insignificant compared to Amsterdam. In the 17th century Amsterdam was the richest port in Europe and clearly dominated Rotterdam. However, by the late 18th century, Amsterdam had stagnated as Rotterdam grew steadily with river trade. By the 19th century, after the Nieuwe Waterweg (1872) was completed, Rotterdam surged ahead in deep-water capacity and throughput so that by the early 20th century Rotterdam had overtaken Amsterdam in cargo volume and became the Netherlands' leading seaport. From 1962 to 2004, Rotterdam became the world's busiest port, a title Amsterdam never held.

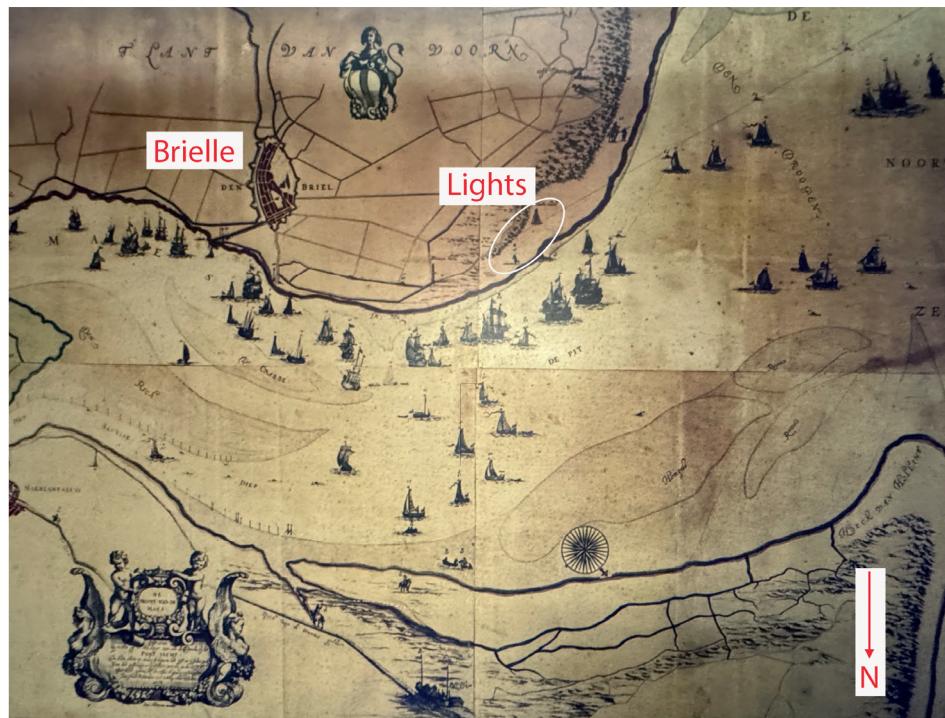


ABOVE LEFT: A reproduction of a piece from ca 1740 in the Tromp Museum in Westvoorne.

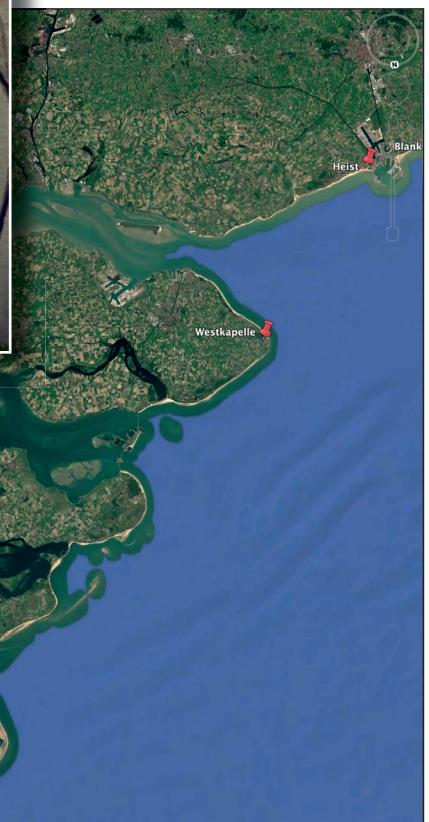
ABOVE RIGHT: Access to the upper floors is gained by steel ladders.

BELOW: A typical bellows - about a metre long - that was used to maintain the brightness of the fire.





ABOVE: On the left of this old engraving is the Stenen Baak lighthouse on an open shore of the North Sea (Noort Zee) amidst what appear to be dunes. A secondary leading light is visible on the right of the image. Compare this with the maps below.



ABOVE: This map shows how Brielle (Den Briel) was once adjacent to a wide estuary. The satellite image (RIGHT) shows the changes because of land reclamation at the entrance to Rotterdam. Both of the two structures in the top image are marked on the old map. NOTE both of these maps have north at the six o'clock position.

The lighthouse at Hoek van Holland





ABOVE: The original structure of the lighthouse at Westkapelle was as a church tower, but it was converted into a lighthouse in 1818.

Westkapelle

Westkapelle is the first solid landfall on the northern banks of the river Scheldt, and the success of Antwerp as a trading centre depended on this route. The impressive size of this structure, built around 1450-1470 as a church tower, suggests that it was used, at least sometime in its long history, for the display of a light, but this cannot be precisely verified until after the conversion to a lighthouse in 1818. This highlights the difficulty we have in being sure of the uses of such structures in these times. There is a very strong tradition of fires being lit all along these coasts and the significance of certain locations in the history of maritime history is undeniable. There are references in medieval pilot guides describing the Westkapelle church tower as a crucial sea mark. Some guides mention "*licht of vuur op den toren*" being shown occasionally, but such temporary or local signals are typical of the times before lighthouse functions were clearly defined.



ABOVE: This lighthouse was once isolated amongst sand dunes, but is now difficult to access amidst a screen of thick bushes and trees.

West Schouwen

The Dutch coastline has many inlets around the islands that break up this fragmented country. Each of these islands has a point that is closest to the North Sea where modern lighthouses have been built and from where medieval fires were almost certainly shown. The southern set of islands are large, inhabited and now incorporated into the mainland by remarkable links. Farther north, the islands are much smaller and so it was never sensible to repeat this strategy. The West Schouwen lighthouse (also called Westerlichttoren) is built on the island of Schouwen-Duiveland, in the province of Zeeland. It is very tall and round and white with an unusual red spiral band running up and down the tower. It is entirely enclosed within a community of exclusive properties, each with its own perimeter of fences, tall hedges and trees. Such artificial changes to the landscape since the medieval period make it very different from then, when fires were lit amongst dunes, as they were all along this coast.



TOP: Without a recognizable feature on the shore, how would a navigator know where he was when all of the coast looks the same?

ABOVE LEFT: The lighthouse at Ouddorp is typical of the more intricate designs used in the lighthouses of the Netherlands, but always to be found amidst the sand dunes that characterize these coasts.

CENTRE RIGHT AND BOTTOM RIGHT: The lighthouse at Ouddorp is a modern replacement for a much earlier light shown from the top of a church tower at the nearby village of Goeree or Goedereede. The similarities with the structure at Westkapelle are striking.





ABOVE: Breskens lighthouse guards the entrance to Antwerp in Belgium, which lies about 80 km inland from the North Sea. Ships reach it via the Scheldt estuary, which flows into the North Sea near Vlissingen (Flushing) in the Netherlands. The vast stretches of featureless, sand (BELOW) indicate how hard it must have been for navigators to find their bearing into the estuary and fires lit ashore helped greatly.



The Unusual Geography of the Netherlands

As is often the case, descriptions of the earlier history of places leads to confusion and complications because of changes that have occurred over many years. This is especially true of the Netherlands, a modern country that has certainly seen changes to its political structure, but uniquely to its geography. Since the great ice sheet retreated, Holland was a broad lowland region along the North Sea coast, north of the Rhine–Meuse estuaries. In the early modern period it was divided into North Holland and South Holland (though collectively still called “Holland”). It was flat, with great expanses of sandy dunes separating the sea from good agricultural peatlands.

Zeeland was a province made up of islands and peninsulas at the delta of the Rhine–Meuse–Scheldt, southwest of Holland and since the Dutch word for sea is *zee*, its naming is clear. Much of the land is today reclaimed, often remaining below sea level with towns strung out along tidal channels and estuaries.

In the 17th century both Holland and Zeeland were counties in the medieval Low Countries, ruled at different times by local counts, then by the Burgundians, and later by the Habsburgs. In the Dutch Revolt (1568–1648), Holland and Zeeland



were the two leading provinces of the Union of Utrecht (1579). They provided much of the money, ships, and leadership of the Dutch Republic. They had separate provincial estates (assemblies), but often acted together in maritime affairs.

Holland was dominated by Amsterdam, Rotterdam, Delft, Hoorn and Enkhuizen. Amsterdam in particular became the commercial hub of northern Europe. Holland's long sandy coast required a chain of vuurbaaken (fire beacons) to guide oceangoing ships and to signpost the way amidst a featureless landscape.

Zeeland was based on Middelburg, Vlissingen (Flushing), Veere. Its position gave it control over the Scheldt estuary and access to Antwerp until 1585. Zeeland ports were major naval bases and privateering centres. Because it was made up of islands, many church towers doubled as seamarks; later, some became early lighthouse sites (e.g. Westkapelle). Thus Holland was the richest, most urbanised, commercially dominant province of the Dutch Republic, with a broad coastline facing the North Sea. Zeeland was a looser cluster of islands at the delta, heavily seafaring and militarily strategic, controlling approaches to the Scheldt and the Channel. Together they were sometimes called the “maritime heart” of the Republic.

There is no clear agreement about when or where fires were first used to assist navigators. When we bear in mind the many factors that were involved it is very likely that those engaged in navigation would have sought such support from those ashore, especially those with particularly well developed skills at sea such as the Dutch people. It could be argued that in the peculiar geographic conditions prevailing along these undistinguished coastlines, the people of the many islands in both north and south Holland were some of the first to use fire lights in an organized fashion. And, in any case, the first aids were the many church towers that sprung up with the arrival of Christianity. This is a particularly complex part of the story that so far has been poorly documented.

LEFT: A map of the delta of South Holland showing the many islands and inlets that led to the important ports of the Netherlands. Rotterdam was reached via Brielle. Amsterdam was reached by a northern route via the Schulpengat Channel and the Marsdiep (see p183).



ABOVE: The growth of the port of Zeebrugge made the High and Low lights of Heist redundant and they ceased to shine in 1983.



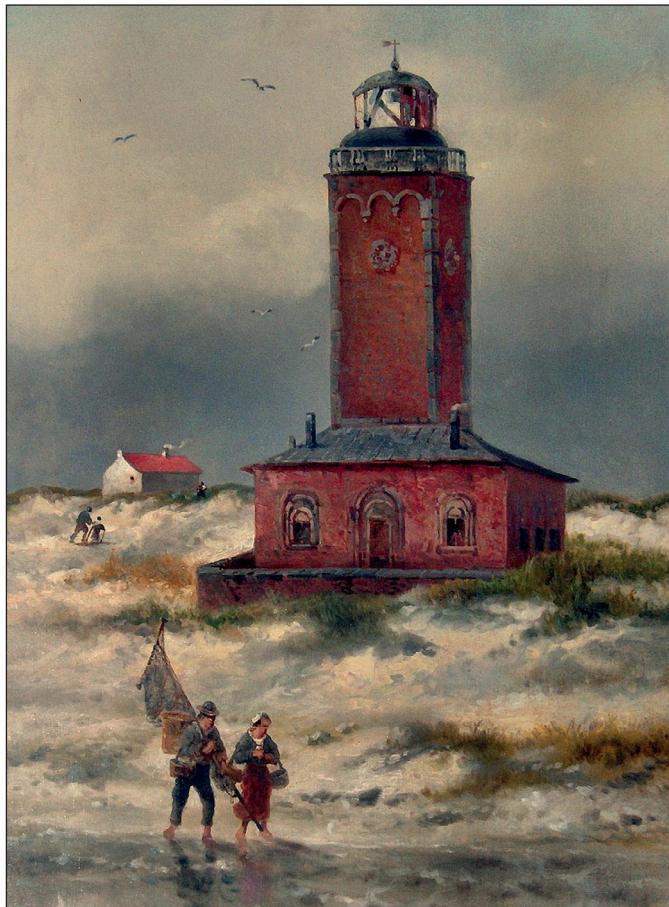
ABOVE: The small low light at Heist is situated 300 m northwest of its high partner, seen on the left. Both are now replaced by the tall red and white structure.



The Church Tower

As today's tourist travels along the coasts of the low countries, there are many opportunities to think that the high points of old structures such as this church tower may once have shown a light in the tradition of the Ecclesiastical lights that we have already discussed at length. Sometimes, as is evident here, there is a separate tower incorporated in a corner of the main tower, a further indication of its dual purpose (see p104).

A previous chapter has described the close links between the Christian church and the showing of lights to assist mariners. This was a tradition that covered many centuries. Church towers and spires were natural daymarks because of their height and were used by seamen from the earliest times. It is obvious that, in instances where lights were perceived to be necessary, it was by far the simplest solution to show them from existing structures. There will be many little-known instances of this.



ABOVE: An early lighthouse built at Knokke-Heist is shown in this 19th century painting. It was built on the site of a medieval *vierboet*.

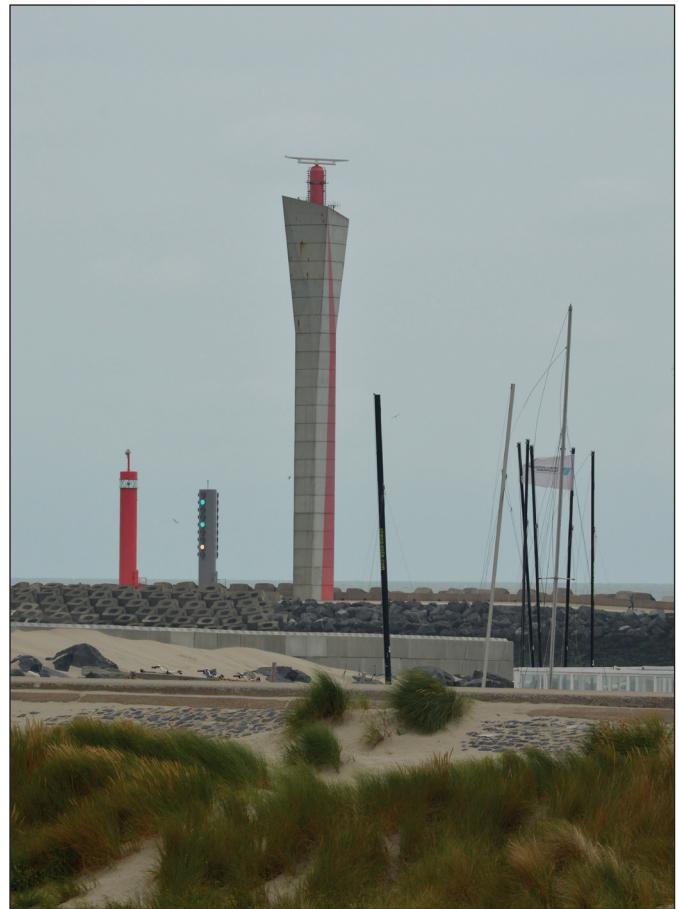
Heist (Knokke)

Naturally, even in medieval times, the showing of lights was subject to regulation by the landowners and at the time in the 13th century when a light was established at Heist, control came under a system of Feudal Administration. The coast around Heist belonged to the *heerlijkheid Dudzele* (lordship of Dudzele) which held jurisdiction over fishing rights, moorings, and beacons. The *vierboet* was not simply maintained by the town for free but was part of a law of "banal rights" (a kind of common law called *banaliteiten*) of the local lord. A beacon was a service for which the lord could exact dues. The lord granted a concession or lease (*pacht*) to a guild, most often the *visserijgilde* (fishermen's guild), who then had the right and duty to keep the fire lit. Historical notes record that the beacon was leased by the lord of Dudzele to the brethren of the fishermen's guild, who paid him a fixed yearly sum. Alongside the payment of rent, the guild was obliged to keep the fire burning on nights of fishing



ABOVE: Despite its exotic appearance, the lovely high tower at Heist is basically a repaired version of a 20th century tower damaged in WWII.

or return, to supply fuel (initially bundles of straw or wood; later coal), and to ensure that someone was appointed as *vuurbode* (fire-keeper). The fishermen recovered this cost by pooling contributions from members of the guild, or charging a small *lichtgeld* (light fee) per fishing boat. We know that similar arrangements were in force in Flanders, for example at Blankenberge and Nieuwpoort. The lease lasted several years and was renewed by contract. The beacon could not be moved or extinguished without permission. In case of failure - an example being that fire goes out causing loss - the guild might face fines. The first masonry lighthouse was built near Heist in 1867–1872. Upgrades with improved lenses and kerosene systems were installed in the 1920s. The old tower was damaged in WWII and a new reinforced concrete tower was constructed in the 1950s. Today, the tower is fully automated and remotely monitored by the Belgian maritime authority (MDK-Kust) as it assists traffic into nearby Zeebrugge, a container port and ferry terminal.



ABOVE: At Oostende in Belgium (ABOVE LEFT) we find today one of the tallest (60 m) lighthouses on the entire southern North Sea coast. It needs to be tall because of the extensive flat dune-laden landscape (BELOW) and the modern harbour now has a variety of modern aids (ABOVE RIGHT).





ABOVE: At Nieuwpoort on the short Belgian coast a modern lighthouse represents a medieval lighthouse that stood here from 1284 until 1914.

The Vierboet - Fire Tower

The word derived from Dutch or Flemish clearly is a combination of a fire and a building, in this case a stone tower and the location at Nieuwpoort in Belgium was used for a very old stone tower that provided occasional light to the River Ijzer, (Yser) a significant waterway for traders operating in Belgium and northern France. In the western sphere of the Hanseatic League, it would have been frequently used by ships trading in those goods. It is here that we focus on an important feature of medieval lighthouses and that is the occasional or temporary nature of these aids. The construction of a tall, very visible structure on these low-lying coasts with few obvious geographical features was an obvious and much used feature. The structures almost always bore the capacity for a fire to be lit on top but this showing of a light was not considered necessary during all hours of darkness, every night. To exclude the structure from a list of medieval lights would be a disservice to pharology.



ABOVE: This 19th c lighthouse at Blankenberge fell victim to wartime damage and no longer exists, replaced by a very modern successor.

Blankenberge

Unfortunately, nothing remains here from a long tradition of Flemish fishermen adopting *vierboet* structures to assist their homeward journeys. The coastline has been subjected to erosion that has damaged the possibility of archaeological finds. Various structures and techniques have been documented here, starting in 1337. Early descriptions are of a makeshift fire pole in the dunes to the east of the town, held upright by chains and anchored with stones. At its top sat a square lantern containing a clay pot of burning tallow or fat fuelled by a rope or linen wick. By 1526 city council records confirm the erection of a more substantial stone tower, a *vierboet* that used straw as its fuel. This method resulted in frequent damage from unintended fires yet the local supporters were diligent in repairing their asset. The maintenance and operation were overseen by a guild of fishermen who financed it through levies, occasionally supplemented by municipal funds.



ABOVE: The Tour du Leughenaer in Dunkerque was finally given a lighthouse lantern in 1814 after being used as an occasional fire tower since around 1450.



ABOVE: The Phare du Risban (1843) in Dunkerque is on the site of an earlier tower (1685) destroyed by storm damage in 1825

The Low Countries

Travelling towards Calais we traverse the extensive southern North Sea, an area of low-lying land with prolific landscapes that slowly became increasingly inundated as the sea levels rose around it. However, we also find that the peoples who lived here between 500 BCE and 1000 CE engaged in active land management such that they contributed greatly to the sculpture of the landscape. In the medieval period, much of this was done by the Frisians (see p69), a people who combined agriculture with trading across waterways such that they became pre-eminent in the art of seafaring. Beacon fires were used extensively on a casual basis for from the sea one entrance between the islands looked much like another. It is not possible to be precise about the locations of these casual, intermittent light aids, many often being moved as sands moved too, but we can be confident of them being set up during periods when the known trading centres were active, especially during the Hanseatic period, if not before.

Dunkerque

Whilst never a formal trading centre for the Hanseatic League, the French town of Dunkerque (Dunkirk) benefitted from the activities associated with it and played a significant part in the early adoption of visible structures in medieval times. Passengers using the modern ferries who are not caught up with disembarkation procedures can enjoy a most interesting view as they enter the port. Two important structures can be identified. The first is the Tour du Leughenaer that has been fortunate to survive the intense destruction that occurred during the wars of the 20th century. An octagonal design, it echoes other early towers. A clear member of our group of ill-defined medieval lighthouses, it was given a permanent role as a lighthouse in 1814, suggesting that it could have fulfilled the role in earlier times too. This lovely tower was superseded by a newer purpose-built lighthouse in a fort called Risban in 1683, only to meet its end in a storm in 1825. It was not until 1843 that the current tower was built to replace it.



ABOVE: The Tour du Guet (1229) in Calais may have shown an occasional beacon fire but was always intended to be a medieval watch tower.



ABOVE: The beautiful Calais lighthouse (1848) was a deliberate replacement of the Tour du Guet when the French were in their peak phase of expansion.

In The Real World

This chapter has given much attention to northern Europe because, in many cases, the progression of setting up these navigational aids, if not actually inspired by the Hanseatic League's activities, was surely accelerated by them. As European trade grew from around 1000 onwards, the awareness of the need for safer navigation increased in parallel such that, when the formation of the Hanseatic League boosted that activity - both on land and at sea - there was a parallel increase in the provision of beacons of all kinds, whether lighted or not. On the previous pages I have presented two stories, one for the eastern waters of the Baltic and other associated areas of the Skagerrak and Kattegat that join them, and the other the southern region of the North Sea. I have followed a path from east to west in which I take the locations and structures where lights are thought to have been shown. However, throughout this presentation, it must be borne in mind that in most cases there is no certainty. To conduct an analysis based upon our present knowledge of

the structures and use of lighthouses is in poor judgement. Firstly, the technology for the creation of light was entirely about fire, a crude method at best. To be effective at night, fire greater than that from a single candle or basic oil lamp needed constant re-supply of fuel and human effort to keep them active. In these centuries this was neither expected nor generally possible and so structures that might have been used as navigational aids at night were usually both intermittent and inefficient. This in no way diminishes their contemporary value for they were excellent day marks and if a navigator found a light showing at night it was usually a bonus. An excellent example is the Tour de Guet (1229) in Calais, a very well known historical monument that we might expect to have fitted into our list of medieval aids, but was used as a watch tower until it was first given a 'modern' oil light in 1818. It was replaced by the present lighthouse in 1848. We cannot be certain that it was never used for a beacon fire.