TRANSPORDIAMET

RIIGILAEVASTIK

As of 17.07.2024, Estonia has 1,915 navigational aids, of which 55 are lighthouses, 237 are beacons, 33 are day beacons, and 1,590 are navigation buoys.

NARVA-JÕESUU LIGHTHOUSE

Geographical coordinates: 59° 28.0864'N; 28° 02.4220'E.

The Narva-Jõesuu lighthouse is located on the northern coast of Estonia, on the western bank of the mouth of the Narva River. The lighthouse serves as a landmark for ships and marks the historic Narva harbor, which developed at the intersection of the road from Tallinn and the river connecting the Baltic Sea with the Peipsi Basin.

HISTORY AND INFORMATION OF THE LIGHTHOUSE

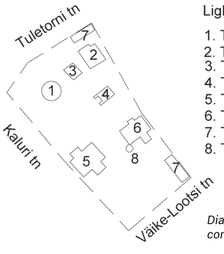
- **In the 13th century**, the Narva settlement's harbor emerged at the intersection of the road from Tallinn to Novgorod and the Narva River, which connects the Baltic Sea with Lake Peipsi. Today, this harbor place is known as the town of Narva-Jõesuu (German: *Hungerburg*, Russian: *Усть-Нарова*).
- The first indirect records of a navigational light at the mouth of the Narva River date back to the **17th century** when Narva was an important center for Swedish east trade.
- **In 1808**, a limestone lighthouse, 57 feet (17.4 meters) high, was completed. In its 12-sided lantern room, at a height of 72 feet (22.0 meters), light was provided by a lighting device equipped with 24 spherical copper reflectors and seven hemp oil lamps, with a visibility range of 14 nautical miles.
- **During the Crimean War from 1853 to 1856**, service buildings in the lighthouse complex were damaged by British and French cannon fire, but the lighthouse itself remained intact.
- **In the mid-19th century**, pilot and maritime rescue stations were established at the river mouth, and wooden leading line markers were built on the right bank of the river at the mouth.
- **By 1866**, a semaphore signal mast was erected near the lighthouse for maritime communication, storm warnings, and indicating the water level at the river mouth.
- **In 1886**, the tower was built up to 24 meters high, as it had been buried in drifting sand on the seaward side. The lighthouse was painted white, and a new lantern room was installed with a seven-lamp catoptric lighting device, with a visibility range of 10 miles.
- **By 1903**, the catoptric lighting device had been replaced with a third order dioptric lighting device, with a visibility range of 10 nautical miles.
- **In 1911**, the river mouth and sea channel were dredged, removing 10,000 cubic fathoms (about 100,000 m³) of sediment.
- **In 1914**, the incandescent lamp used in the lighthouse provided a light intensity of 14 nautical miles.
- **In the 1927** "Handbook of Maritime and Pilotage Affairs," Johan Mey wrote: "Navigation lasts an average of 9 months, the sea opens here around mid-April and freezes in early November. The prevailing winds are from the SW quarter. In 1924, 168 ships visited the Narva-Jõesuu harbor."
- **In 1929**, coastal fortifications and a 150-meter-long breakwater made of cobblestones and boulders, extending 50 meters into the sea, were built at the river mouth. The breakwater was destroyed during World War II.
- **In 1941**, during World War II, the Narva-Jõesuu lighthouse and its service buildings were destroyed by Soviet forces.
- **In 1957**, a new 31-meter-high lighthouse made of concrete structures was built near the ruins of the old lighthouse. It was painted with alternating red and white stripes. The black painted lantern room was equipped with EMN-500 lighting equipment powered by electricity, with a 500 W incandescent lamp. The light, 34 meters above sea level, illuminated up to 17 nautical miles.
- **In 2000**, the lighthouse was connected to a remote monitoring system.
- **In 2001**, the Narva DGNSS reference station started operating, providing navigational corrections for ships in the Gulf of Finland at a frequency of 295.5 kHz.
- **Since 2011**, a Sabik omnidirectional LED lantern E8277.W-LB, with a maximum light intensity of 24,000 cd (one candela (cd) is equal to the light intensity of one burning candle) and a total power consumption of 150 W, has been in use. The light's visibility range during the dark hours is set at 15 nautical miles on the nautical chart.

Sources:
Peeter Peetsalu "History of Maritime Culture",
Jaan Vali "History of Estonian Lighthouses",
Johan Mey "Handbook of Maritime and Pilotage Affairs".

NAVIGATION AID FACTS

Navigation aid number: 001
Surface elevation above sea level: 7.1 m
Aid elevation above the surface elevation: 30.3 m
Light elevation above sea level: 36.0 m
Light characteristics: LFl(2) W 12s Long flashing light

Description of the flashing period: 2+3+2+5=12 s
Fixed mark information in the Navigational Marks Database:
https://nma.transpordiamet.ee/aton/2455

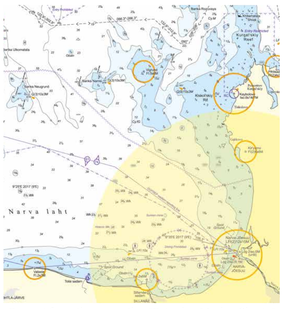


Light Station 1938.y. (ruined)

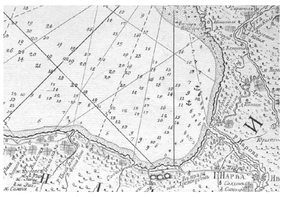
1. The lighthouse
2. The building of maritime communication / sauna
3. The kerosene cellar
4. The vegetable cellar
5. The overseer's residence
6. The port office
7. The shed
8. The well

Diagram of the lighthouse complex with the lighthouse complex destroyed during World War II

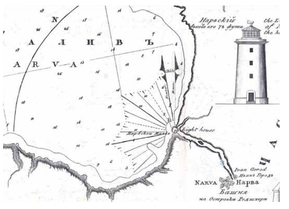
Narva-Jõesuu anchorage in 1927 with the lighthouse and range markers



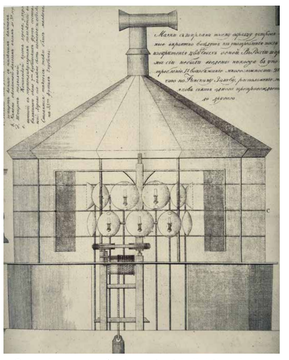
Excerpt from the map atlas "Estonian Marine Charts" from 2022, with the lighthouse's light sector included



Excerpt from A. Nagajev's 1757 map atlas



Excerpt from L. V. Spafarjev's 1820 map atlas



Curved copper reflector catoptric lighting device

Postage stamp from 2022, designed by Roman Matkiewicz

Excerpt from the year 1870 pilot book

Narva-Jõesuu lighthouse in the early 20th century

Narva-Jõesuu lighthouse in 2019, photo by T. Vilu

EST

ENG

RUS

EMN-500 light system bulb changer in Fresnel dioptric lens, photo by V. Laitus

ASA-500 lantern and NL-300 backup lantern on top, photo by V. Laitus

Currently used LED lantern Sabik E8277.W-LB, photo by T. Vilu