

THE MARITIME MUSEUM HELSINKI ANNUAL REPORT 1976

radius of 300 metres diving is absolutely forbidden, with exception of constructional work by the Board of Navigation, sea-rescue operations or archaeological fieldwork by the Board of Antiquities. This scheme did not require an amendment of the revised law of 1963, as "prohibited areas" were within the scope of the provincial govts. These authorities are in a position to protect important archaeological sites — dry or underwater — by additional decrees, completing common law. A first example on this scheme is the prohibited area declared by the Provincial Govt. of Kymi in September 1976. This area covers the Russian frigate "Nicholas", sunk in 1790 in the battle of Ruotsinsalmi = Svensksund.

It is not the intention of the Board of Antiquities to extend this scheme to every wreck reported or known within Finnish territorial waters. As the antiquarian position of wrecks may be measured along a considerable scale, only the most important should be protected in the way described. Wrecks are usually classified in 3 categories according their antiquarian importance. Only first rate wrecks, marked by "three stars", will successively be protected in the way described. The number of these wrecks amounts to 6 only.

The Varmådan wreck

By Olli Tappola

The headland of Porkkala always was an important position in the history of the Bay of Finland. During every epoch the impact of the dominant headland was felt in war or piece alike, taking a toll in wrecks. Close to the crossing of four important channels is a rocky islet, the Varmådan. This name was applied to a wreck located in 1974, later dated to the 17-th century. The task of an underwater investigation was entrusted by the Bureau of Maritime History (Board of Antiquities) to the "Teredo-Navalis" Club, collaborating with the Bureau.

An uninterrupted run of underwater activities in important archaeological sites requires fare-

sighted planning of fieldwork. At the present stage ambitious large-scale excavations should be carried out in summer holidays, enabling amateur-divers to assemble in necessary numbers. The progress of work should flow according plans. Only safe and foolproof methods should be considered, to be developed for future use. The Varmådan-project may be seen as a testfield for large-scaled operations.

The wreck lies in a creek composed of three rocks, in 6—9 metres, of water, with a list to port. Only the sternpost, frames of the starboard side of the forecastle and planking from here forwards are visible. In the port hull-side, collapsed and lying on the bottom, four openings — gunports? — are observed. Visible too are structural members of the forecastle and (obviously carved?) details of the cutwater. Between the stern- and fore-castles remains of deckbeams and longitudinal carvels are seen. The stoneballast has shifted to port and covers the port innerplanking.

The max. length between stem- and sternposts at decklevel is 31,60 metr. Max. breadth along the deckbeams was found to be 7,10 m., measured 18 m from the stern and located by the ships stove. The approximated length of the keel is abt 29 m. The planned documentation of the wreck in its present state is not yet completed. Only loose objects incidentally found were recovered: a coin from the reign of queen Christina (1634—1654) — 1/4 öre-, minted 1636, a gunball O 105 m/m, a horsemans spur, a sharpening stone, wooden blocks, a mallet and a considerable number of wheels to guntrucks.

Documentation work started in winter-conditions — diving from the permanent ice — by photographing and measuring certain marks fixed to hull-structures.

These activities aims at the construction of a reliable grid for a mosaic photomap. This furthers the understanding of fixed members of the hull, and will act as a foundation for continued research.

When measuring the vertical differences of the mentioned fixed marks the tool used was an ordinary level, a rod of 4 m length, and a

Even in winterconditions diving is signalled by hoisting the proper flag. Within the Baltic area the intern. flag A signals diving-operations. Photo L. Jolkkonen.



measuring tape/plumbline descending from a float. The rod, kept horizontally by the level, is maneuvered by a diving assistant. One end of the rod touches the initial fixpoint while bearing over the mark in question, where the floating ballasted measuring-tape is brought in to cross the rod. The difference is then easily read.

The grade of accuracy is depending on prevailing conditions; of importance are visibility and good knowledge of the site (and thus of the fixpoints to be measured.)

Inaccuracies observed in these vertical (height-) differences are normally $\pm 1\%$ of actual distances measured. These minor faults lack importance, and do not affect the practical value of the method. Vertical differences were measured with an airfilled plastic hose; this method works with good visibility but requires a certain lot of experience.

Even a long capillarytube was tested, but this device froze when submerged in water. The number of fixpoints should be sufficient and constitute a network, enabling the checking from two fixed points. This adds to the building of the photo-map.

Underwater conditions hamper the visualization of largesized fragments and structures. A picture achieved by photographing helps the understanding of such assemblies.

Underwater measuring corrects faulty observations, caused by the lack of an horizon. By drawing sketches of structural assemblies, achieved by measuring under water, difficult structures may be observed "three-dimensionally". This may solve the correct place for lacking members, or the correct dimensions of pieces missing.

During measuring-operations in winter conditions facts and numbers were transmitted by cable-telephone to a clerk, working on the ice and operating a tape-recorder. The use of a cable-telephone doesn't complicate matters as a safety-line is compulsory when diving from openings in the ice.

Experiences from diving in wintertime are generally good. General conditions during actual diving do not differ. Thereagainst low temperatures affects service-conditions and the surface-staff. The importance of service to

equipment used is increased in below-zero temperatures. Activities require heated shelters for dressing, meals and service. Compared to openwater conditions winter-diving brings in permanent and easier arrangements as to the handling of gear and engines. Transports are carried out by cars or snowscooters to the actual spot on the ice, with a fresh opening cut. The Varmådan operations will go on through the winter of 1977. Documentation and the removal of mud will continue, while objects and structures will receive attention.

The open air museum and the museum-vessels

By Chr. H. Ericsson

The Island of Hylkysaari (swed. Vrakholmen), located in the Northern harbour area of the Finnish capital, originally served the Govt. Board of Navigation as a depot for heavy stores, later developed in a factory area for the manufacturing of dissous-gas. In 1973 the staff of the Maritime Museum in being moved in on the now desolate island where a fourstored house, once housing pilot-families, was rebuilt and transformed into a museum-building.

Ambitious plans drafted by the Board of Navigation called for more than a mere museum; the entire island was to be transformed into an open air museum with exhibitions of boats, aids to navigation, engines and gears, and finally actual ships. The island was, in fact, large enough to house a lot, but the plans called for considerable economical strength, a numerous working staff and technical means. Nothing of this was at hand at the initial stage, but yet outdoor activities had to start.

This is not to present a plan for the outdoor museum developing step by step, but to mention the existence of two old ships bound to serve as annexes to the museum, but still in the "payroll" of the Board of Navigation.

In the snug harbour of the Museum the guest observes the black riveted hull of the icebreaker