The Viking Ship Museum, Roskilde

Jørgen Dencker

デンマークの水中(海事)考古学は1958~1962年にロスキルダフィヨルドで5隻のヴァイキング 船が発見・調査されたことに始まる。この5隻の船を展示するため、1969年にロスキルダでヴァイ キングシップ博物館が新設され、それ以降、この地がデンマークの海事考古学の中心地となった。

今日, デンマークの80,000平方キロの海に眠る水中文化遺産は5つの博物館にゆだねられて おり,それぞれ管轄するエリアが決められている。これは,デンマークの陸の大きさのおよそ2倍に 匹敵する。しかし,このエリアは8人の水中考古学者によって支えらている。ヴァイキングシップ博 物館に4人と残りの4つの博物館にそれぞれ一人配属されている。水中文化遺産の保護は地方 分権的に感じられるが,文化庁(The Agency for Culture)がガイドラインを設置し統括している。

文化庁がデジタル版の遺跡台帳を管理。およそ2万件の水中遺跡のうち,2000件が沈没船,20 00件が石器時代の遺跡として登録されている。また,ヴァイキングシップ博物館には紙媒体のデ ータベースも存在する。

1962年,博物館法(Act of Museum)が制定され,150年よりも古い沈没船が保護の対象となった。 その後改正を重ね,現在では保護の対象は100年とされ,また,石器時代の遺跡なども保護の対 象となった。特に重要な変化は,1984年の改定の際に工事会社が海底工事などで遺跡が破壊 される可能性がある場合,サーヴェイ,1次(非破壊)調査の費用を会社負担することが決められ, 続いて発掘調査や記録,保存処理も原因者負担となった。

つまり、5つの博物館が行っている海事考古学調査の実に80~95%は工事・開発に伴う調査となっている。このほかに、スポーツダイバーや漁業(釣り)の際に発見・報告されたエリアの確認調査、環境の変化による緊急調査、学術調査などがある。工事に関連した海事考古学調査のマネージメントは関係省庁や関連事業などとのトラブルなど困難であると思われるが、一般的に問題はなくスムーズで有効なシステムとなっている。

開発事業が行われる際には、原因者によって探査機器を用いたサーヴェイがおこなわれ、博物館 がこのデータのチェックを行う。このデータを基に、博物館は更なる詳細な探査を提案することが できる。この探査では遺跡の範囲の確認や沈没船や石器時代の遺跡などその遺跡の特徴、劣化 (保存)状況を調べる。この結果を踏まえ、博物館と文化庁が協議を行い、調査計画と見積もりを 提出する。発掘が行われるかは、最終的には文化庁が決定を下す。

Marine Archaeological Structure, Law and

Site Management in Denmark

30/1 2015 The Viking Ship Museum, Roskilde Jørgen Dencker













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The total Danish sea territory is 80.000 km2 - twice as big as the land area.





Marine archaeological field work based on:

- Information from sports divers, fishermen etc.
- Rescue excavation due to erosion (natural or man made)
- Research excavations
- International cooporation some EU-funded
- Off shore construction work

Construction work

Because of a strong and restrictive Act on Museums protecting the under water cultural heritage 80-95% of the marine archaeological field work is connected to off shore constructions – especially in the eastern part of Denmark.

Checking the construction areas for both submerged Stone Age sites, wrecks, sailing blocades etc.

- Bridges/tunnels
- Harbours
- Dredging of shipping routes
- Cables (electricity, telecables etc.)
- · Gas pipelines
- Extraction (sand, gravel)
- Off shore wind farms

The Danish Act on Museum

1963 – the first law was defined one year after the excavation of the five Vikings Ships in Roskilde Fjord.

The Minister of Culture realized that it was impossible to stop extensive oyster extracting in Roskilde Fjord destroying wrecks and other cultural remains at the sea floor. So a quite strict protection was made that early.

It protected ship wrecks and artefacts lost more than 150 years ago.

Since then The Act on Museums has been changed in 1976,1984, 1989, 2001 and 2013.

Important is the Act from 1984 because the 150 year limit was changed to 100 years and the Sumerged Stone Age Sites were now specific mentioned etc.

Important was also that the Act now gives guidelines how construction companies have to act – and pay for marine archaeological investigations

• SO TODAYS ACT:

- Submarine Heritage lost more than 100 years ago is protected in the sea, lakes and rivers
- Includes: Stone Age settlements, shipwrecks, old ports, sailing blocades, sea fortifications etc.
- In special cases, the Danish Agency for Culture may decide that wrecks of aeroplanes and ships from World War I or II are also to be protected, even if they were lost less than 100 years ago.
- Anyone who becomes aware of submarine heritage while diving, fishing e.g. have to notify this to the Danish Agency for Culture or the local museum.
- In connection to construction work at sea the five museums with marine archaeological responsibility has to be consulted (off shore wind farms, bridges, new harbours, electricity cables, extraction etc.

Construction work: The Hearing Process Sevelopers, entrepreneurs and contractors developing projects have to have these approved by the authorities/stakeholders. Stakeholders: Ministry of Transport, Danish Maritime Authority, Danish Energy Agency, Danish Agency for Nature, Danish Costal Authority (authority of first instance). Before October 2009 cases were sent to Danish Agency for Culture. After October 2009 cases are sent directly to the relevant Museum (the 5 museums). The Museum checks the project/theactivity against "Fund and Fortidsminder" (the Central Register), against their experience and local knowledge, and against models (concerning Stone Age Sites). If the Museum judge their might be a risk of cultural heritage being destroyed by the construction work we ask the Agency to demand a preliminary investigation. If the Agency agree with the Museum a letter is send to the stakeholder, who forward the demands to the construction company who are asked to contact the Museum. The Museum will now ask the construction company to conduct the needed geophysic survey with side scan sonar, multibeam, sub bottom profiler and magnetometer. The Museum have to make a budget and project description for checking the survey data. Having checked the survey data another budget and project description has to be made on forject description has to be improved by the Agency. Now the construction company can choese to pay the costs, stop the work or change the avert of work. Normally he accept to pay.

Preliminary investigation/real excavation

- If something is found during the preliminary investigation (wrecks, Stone Age sites), that will be destroyed by the construction work, and it has a certain cultural and scientific quality a real excavation has to be conducted – paid by the construction company
- If it's possible to protect the cultural heritage against damages from the construction work in situ preservation should be a possibility (Valletta Convention 1992) – paid by the construction company.
- If a wreck has to be raised the construction company has to pay for the documentation and basic preservation or reburial/redeposition.
- The constuction company do not have to pay for a publication (as they have to in Sweden)

Geophysic survey Construction company have to deliver useable data for the Museum who will check the data localising anomalies which have to be checked and reconstruction/mapping the Palaeolithic landscape for pointing out the most potential places for finding Stone Age Sites







ROV: many canons and exposed wooden artefacts on the seabed. It looks old and have to be checked by diver.



Step 3: check by diver

• 24 meter depth















GEOPHYSIC SURVEY

The data can also be used avoiding wrecks or other objects protected by law.

This can be the case concrning electricity or other cables, pipe lines etc.

In connection to off shore wind farms cultural sensible areas can be avoided already in the lay out phase.

In these cases the preliminary investigation stops after step 2: the ROV check and interpretation of the ROV data.













Thin string and green leaves, 7.000 BP

The preservation conditions on some of the Danish submerged stone Age Sites are unbeliveable fantastic. Organic material is preserved: wood, bone, antler etc. giving us totally new information of our ancestors.





Please be aware of that in 2017 it's 150 years ago that the official diplomacy between Japan and Denmark was established.

This will be celebrated in some way in the two countries.

This might be an opportunity for marine archaeology to establish some agreement/cooporation /exchange at a certain level between Japan and Denmark.

We heard about this only one week ago so we don't know more for now.

But both you and we should be aware of the possibilities and suggestions and ideas would be welcome.

Let's stay in contact.

DOMO ARIGATO



